



Urbana Park District



Supplemental Guide for New Organic Gardeners

Urbana Park District
Anita Purves Nature Center
1505 N. Broadway
Urbana, IL 61801
217-384-4062

TABLE OF CONTENTS

PLANNING YOUR GARDEN.....	3
PLANNING GUIDELINES:.....	3
GARDENING METHODS.....	4
TOOLS.....	4
PLANT PLACEMENT.....	5
DIGGING IN.....	6
PREPARING THE SEED BED.....	6
WHEN TO PLANT?.....	6
COMPANION GARDENING GUIDE.....	7-8
COMPANION PLANTING PLAN.....	8
GARDENING METHOD EXAMPLES.....	9
RESOURCES.....	10
SEED SOURCES.....	10-11
HALF PLOT TEMPLATE.....	12
FULL PLOT TEMPLATE.....	13

Written by Jean Graves
Edited and updated by Erica Schneider 2/7/13

PLANNING YOUR GARDEN

Each growing season is different and exciting, and brings the opportunity to experiment, learn new techniques, and try new varieties. Therefore, your successes are not measured just by the amount or quality of produce, but by the whole gardening process.

Any garden starts with a plan. Some plans can be as simple as a map showing what was planted where or as elaborate as a garden drawn to scale with lovely colored pictures of the produce. Make a plan to fit your needs and interests. At the end of this manual you will find a plot diagram to help you get started. Before you begin your plan, visit the gardens and locate your plot(s), the manure pile, and the composting area. This may help you decide what and how much to plant.

Planning Guidelines:

1. Read and develop a plan that follows the guidelines of the Meadowbrook Gardens (*page 6*).
2. Plan a map beforehand and draw a map after the plants or seeds are in the ground so you will know where the patches or rows are and what was actually planted there.
3. Use rows, raised beds, one-foot squares, or whatever other planting method that appeals to you. However, leave space to walk so that the soil around the plants will not get compacted. Remember to leave a border around the whole garden according to the garden guidelines.
4. Assume that pests will consume some of the produce and plant a little extra.
5. Plant a little extra if you intend to preserve food for winter. Remember that during the planning time, the temperature is cooler and the hot temperature of summer may not lend itself to the idea of canning in a hot kitchen.
6. Plant vegetables such as beans, corn, carrots, and radishes at successive intervals for a staggered harvest. You may get a more abundant harvest this way in case certain weeks, bad weather or pest related, are more troublesome.
7. Plan for a second or late crop where early crops have been. For example, after a crop of spinach has been harvested in the spring, plant a late crop of potatoes.
8. Interplanting of crops is a useful way to save space. Try planting carrots and radishes in the same row. The radishes will come up quickly and define the row, and then when they are harvested, the carrots will have more space to mature. Eating the young carrots throughout the season will thin them also.
9. Companion gardening is a way of arranging the plants to the mutual advantage of both plants. This can be done to help ward off pests. See the planting suggestions in the pages that follow.
10. Try different varieties of certain types of plants. It is recommended that you buy disease and/or pest resistant varieties when possible.
11. Try planting some herbs or flowers for variety. A summer salad or even canned tomatoes will taste so much better with some freshly grown herbs thrown in.
12. Try planting flowers among the vegetable crops. Some will help drive away pests, and all add a touch of beauty to a garden. Nasturtium and alyssum are both great examples.
13. Make sure your full-grown corn or sunflowers will not shade your neighbor's plot. Plan to plant your taller crops on the side furthest away from your surrounding neighbors. Plant shade tolerant plants near your own corn or sunflowers.

GARDENING METHODS

When planning your garden, you may want to consider one or more of these kinds of gardening methods. See illustrations for examples of these methods.

Traditional Row Gardening

This is the most familiar method of gardening for newcomers. Single, straight rows of vegetables, herbs, and flowers are spaced as recommended on seed packets.

Wide Row Gardening

This method eliminates the pathways between rows by planting one wide row, rather than several narrow rows. This is achieved by broadcasting seeds in rows 6 inches to 5ft wide. The wide row method maximizes the use of space in the garden and reduces soil compaction by eliminating pathways through the garden.

Square Foot Gardening

This method is a modification of the wide row method. Divide your garden into 1ft X 1ft squares. Each square is treated as an individual planting unit.

Raised Beds

This is also known as the French Intensive Biodynamic Method. This method is an extension of the wide row planting, because it encourages the incorporation of organic matter into the planting area. It is recommended to double dig the bed to increase air and water penetration into the sub-layers of the soil.

Double digging is a method that is achieved by digging a 1ft wide furrow and removing 1ft of soil. Then dig down another foot to cultivate the undersoil. Begin another furrow next to the first. The 1ft of soil from the second can be put in the first furrow along with composted material. Continue this furrowing process until the garden is completely dug up. The extra soil from the first furrow can be put in the last furrow.

Once the bed is well prepared, the plants can be planted closer together than with other planting methods, creating a complete cover, which is sometimes called "living mulch". This may retard weed growth and aid in the retention of soil moisture. The garden plot must be returned to a flat condition at the end of the each growing season.

Covered Raised Beds

This method is similar to the raised bed method, but incorporates a different use of the top of the soil. The top of the bed is layered with straw or leaves and the plants are planted just under the mulch. The dug area is only used for root growth. This method is especially good for plants, which develop tubers or underground

stems. Plants that are not very heat tolerant such as potatoes will also benefit by the slowed heating of the soil top.

Vertical Gardening

Vining crops can be grown with the aid of trellises, stakes, and other vertical supports. This is a great space-saving technique, but be careful that the structures do not shade nearby plants or neighbors.

TOOLS

As an organic gardener with the Urbana Park District you have access to wheelbarrows, garden hoses, water, and compost material. However, you will need to supply your own gardening tools. The following descriptive list will help you to decide which tools to obtain. A good selection of sturdy tools not only saves time, but also reduces aches and pains.

SQUARE-BLADED SPADE: The essential digging tool. If kept sharp, it will slice through any soil with ease.

FOUR-TINED SPADING FORK: Ideal for digging and turning over looser soils. Excellent for incorporating manure and other organic matter.

HAND TROWEL: The most important tool for setting in transplants and planting bulbs. A trowel is properly used with a stabbing motion, concave side toward you.

IRON RAKE: Essential for leveling out soil in final preparation of the seedbed.

HOE: Useful for shallow tilling and cutting off weeds at ground level.

PITCH FORK: Helps turn over and aerate soil and mix composted matter into soil.

SHOVEL: Used mainly for scooping soil, not digging. Very useful for moving soil.

HOSE NOZZLE: A nozzle that spreads the water more evenly or allows the water to be dispersed more widely and specifically may be useful.

SHEARS & CLIPPERS: Great for pruning, trimming, and shaping your plants and garden edge.

SOIL TESTING KIT: It is important to test the pH of your soil, because some plants will not grow well under certain pH levels. Kits are available at most places where seeds are sold and several private businesses will even test your soil for a small fee. Your seed packets should tell you what kind of soil your plant needs.

PLANT PLACEMENT

Once you decide on the method/s you will use, it is time to think about the spacing of your plants. Optimum use of the area can be achieved by successive plantings, inter-planting, and companion gardening.

Successive Plantings

This method involves planting on top of other plants at intervals to ensure a constant crop. By grouping quick maturing crops together, and planting small amounts of seed at 2-week intervals, you can get the most space with less wait in-between growing times. Later crops can be placed in the area as the more mature crops end their production. This also keeps weeds from taking over an inactive part of the plot. Make sure not to plant types that are not 'agreeable' to each other.

Companion Gardening

Organic gardeners generally agree that some plants are aided by the presence of others. The following list will assist you with planning based upon generally recognized ideas of companion gardening. You may want to try this technique of gardening to reduce the damage of pests and increase your yields by non-chemical means. The following vegetables, herbs and flowers are listed with both companion and non-compatible plants.

Inter-planting

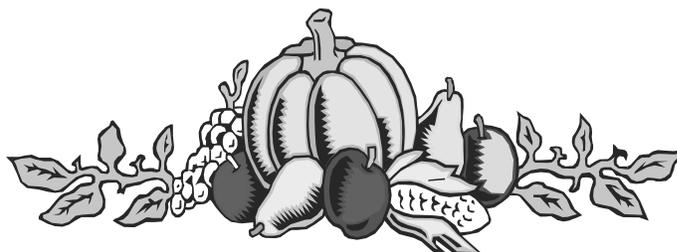
Consider planting two different plants in the same space at the same time. By interspersing different vegetable or flower plants you may be able to achieve better quality and higher yields than if you have planted only one variety in that space. Consider matching the following characteristics:

1. Plants with differing nutrient need (i.e. corn and beans).
2. Plants with root systems that complement each other (i.e. taproot plants like carrots with fibrous rooted plants like lettuce).
3. Plants that are shade loving beneath taller plants which will provide shade; this technique can be used when planting cool-weather crops when it is still very hot. (spinach, broccoli under taller plants)
4. Plants with vertical growth habits along with plants that have a low or vining habit (like corn with pumpkins, beans or squash).
5. Plants with short-term maturity with plants that have a long-term maturity; one will mature and be harvested well before the other (i.e. radishes with carrots).
6. Plants that have pest-repellent properties with those that are vulnerable to pest damage (i.e. marigolds or basil with tomatoes).

How Many Plants Should You Plant?

Crop	Number of plants/person recommended	Average Yield / 1 Plant
Beans	15	.38 lbs
Beets	20	
Cabbage	4	2.7 lbs
Carrots	30	
Cucumber	4	
Eggplant	2	
Kale	3	
Lettuce	12	2.2 lbs
Melons	5	
Peas	50	.25 lbs
Pepper	5	
Potato	25	1.6 lbs
Radishes	10	
Spinach	12	
Summer Squash	2	6 lbs
Tomato	2	6 lbs
Winter Squash	2	6 lbs

If you are planning on preserving or canning, plan on a number of plants based on the number of pounds of food you would like to preserve. "Plan a Great Garden," Organic Gardening, Feb. 1994.



DIGGING IN

Preparing the Seed Bed

Seeds like a loose, easily broken soil in which to germinate. The deeper you dig in the soil, the easier it will be for the roots to penetrate it. The addition of organic matter into the soil also improves soil structure.

A word of caution: Do not be over-eager and work the soil before it is dry enough. Working the soil when it is too wet can destroy the air spaces it contains. To test whether the soil is ready to be worked, take a small clump from about 6 inches deep. Squeeze it in your hand, and then thump the ball that results. If it crumbles and falls apart easily, the soil is ready. If it remains in a ball or is at all gooey, wait a few sunny days for it to dry out. The finishing touch is to rake the area smooth. If you leave too many big clods, they may end up baking into hard soil rocks.

Tilling

It is highly recommended that you work your soil by hand digging. Hand digging ensures a more complete mixing of organic mulch in your soil. If you prefer to have your plot rototilled, please refer to the Meadowbrook bulletin board for phone numbers of people who are offering a rototilling service. The park district does not provide this service. When hiring someone to till your garden, you must be present to show garden boundaries.

When tilling, be careful to search the plot for harmful debris beforehand. Occasionally metal baskets, inadvertently left in the gardens the previous year, can get cut up during the fall plowing. By completely digging and working the soil, you may find inorganic substances, which are unwanted and/or dangerous.

Planting Seed

There are many crop-specific tips and tricks, but let's start with a few good general rules. The size of a seed determines two things--how finely the seedbed must be prepared, and how deep the seed should be planted. Small seeds such as radish, carrot and lettuce need a pulverized seedbed, while larger seeds can withstand rougher conditions. A general rule is to plant the seed no deeper than three times its greatest dimension. After planting, gently firm the soil with your hand, foot or flat surface of an implement.

WHEN TO PLANT?

This question is best answered by weather conditions. The following table will give general guidelines, but use common sense, too. Seeds planted too early in cold,

damp soil may rot before germination. If you can't wait to plant, start the seeds indoors, in a cold frame, or mini-greenhouse made from an old plastic milk jug. Also consider harvest time. Most catalogs or seed packets will give some idea as to the probable length of time between planting and harvest. The gardening season at Meadowbrook begins around the first of March and the crops need to be removed by the beginning of November. Keep this in mind when planting. NOTE: Average frost-free date for our area is April 25th

Early Spring - Cool Season Vegetables

Very Hardy

(plant outside 4-6 weeks before average frost free date)

<u>Seed</u>	<u>Transplants</u>
kale	broccoli
kohlrabi	Brussels sprouts
leaf lettuce	cabbage
onion	onion sets
pea	parsley
rutabaga	potato
salsify	
spinach	
turnip	

Frost Tolerant

(plant outside 2-3 weeks before average frost-free date)

<u>Seed</u>	<u>Transplants</u>
beet	cauliflower
carrot	Chinese cabbage
chard	some herbs
herbs	
mustard	
parsnip	
radish	

Late Spring - Warm Season Vegetables

Tender

(plant outside on average frost-free date)

<u>Seed</u>	<u>Transplants</u>
bean, snap	tomato
corn	
New Zealand spinach	
squash, summer	

Warm Loving

(plant 1-2 weeks after average frost free date)

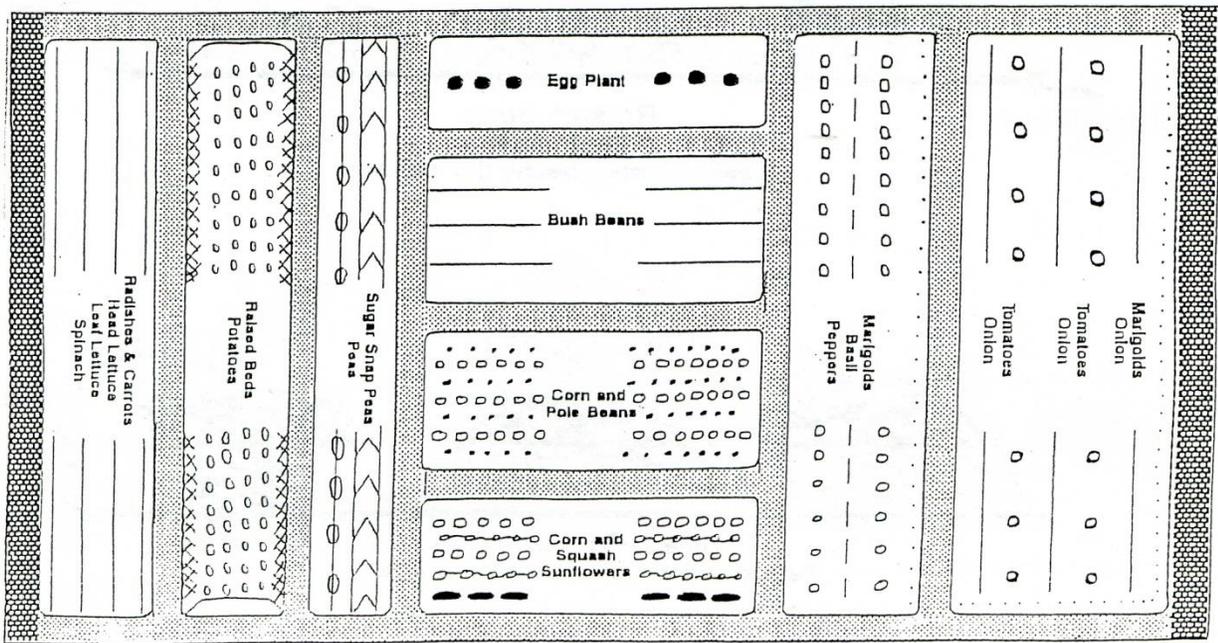
<u>Seed</u>	<u>Transplants</u>
bean, Lima	eggplant
cucumber	pepper
muskmelon	potato
okra	
pumpkin	
squash, white	
watermelon	

COMPANION GARDENING GUIDE:

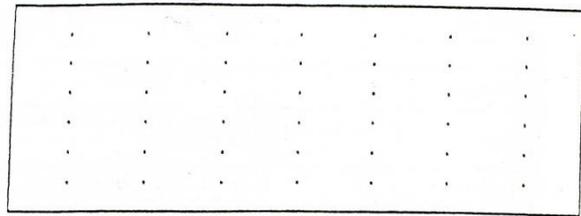
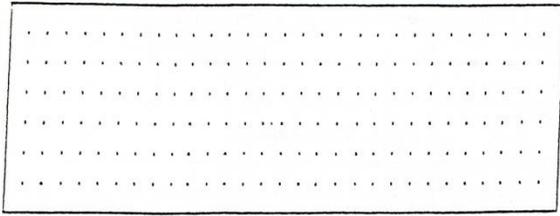
PLANT	GOOD COMPANIONS	DO NOT PLANT NEAR	PESTS REPELLED
Basil	Pepper, Tomato, Marigold	Rue	Basil Repels Flies & Mosquitoes, Thrips
Beans (Bush)	Beets, Cabbage, Carrots, Celery, Corn, Cucumbers, Eggplant, Lettuce, Pea, Radish, Strawberry, Savory, Tansy, Marigold	Onions, Garlic, & Chives	
Beans (Pole)	Carrots, Corn Cucumber, Eggplant, Lettuce, Pea, Radish, Savory, Tansy	Kohlrabi, Sunflowers, Beets, Onions	
Beets	Bush Beans, Onions, Kohlrabi, Lettuce	Pole Beans	
Cabbage Family (Broccoli, Cauliflower, Brussel Sprouts, Kale, Cabbage, Collard, Kohlrabi, Radish, Turnip)	Nasturtium, Dill, Bush Beans, Beets, Celery, Onions, Marigold, Mint, Thyme, All Strong Herbs	Pole Beans, Strawberry, Tomato, Potato Avoid planting competing root plants with radishes or turnips.	Tomatoes repel Diamond Back Moth larvae. Dwarf Zinnias attract Ladybugs. Thyme helps control Flea Beetles & Cabbage Butterfly Larva (caterpillars).
Carrots	Bush Beans, Pole Beans, Lettuce, Onion, Peas, Radish, Tomato, Sage, Chives	Competing root plants, Dill	Onions and chives help control Carrot Rust Flies.
Celery	Bush Beans, Cabbage, Onion, Spinach, Tomato		
Corn	Bush Beans, Pole Beans, Cucumber, Melons, Peas, Squash, Radishes	Tomato	Allow radishes to go to seed to help protect from corn borers.
Cucumbers	Nasturtium, Bush Beans, Pole Beans, Corn, Lettuce, Onions, Peas, Radish, Marigold, Savory	Potatoes, strong herbs	Radishes help control Cucumber Beetles. Nasturtiums repel pests of the cucurbit family.
Dill	Cabbage Family, Lettuce, Onions, Cucumbers	Carrots, tomatoes	Dill attracts hover flies (for pollination) and predatory wasps. NOTE: Dill attracts tomato hornworms.
Eggplant	Bush Beans, Pole Beans, Spinach, Marigold		
Lettuce	Bush Beans, Pole Beans, Carrots, Cucumbers, Onion, Radish, Strawberries		
Garlic	Tomatoes	Peas, Beans	
Leeks	Onions, Carrots		
Lettuce	Onions, Carrots, Radishes		
Melons	Corn, Nasturtiums, Sunflowers, Radishes, Potatoes		
Okra	Tomatoes		

PLANT	GOOD COMPANIONS	DO NOT PLANT NEAR	PESTS REPELLED
Onions	Beets, Cabbage, Carrots, Celery, Cucumber Lettuce, Pepper, Squash, Strawberries, Tomato, Savory	Bush Beans, Pole Beans, Peas	
Parsley	Carrots, Tomatoes		
Peas	Carrots, Turnips, Radishes, Cucumbers, Corn, Beans	Onion, Garlic, Potatoes	
Peppers	Basil, Okra, Onion	Rue	
Potatoes	Marigold, Eggplant, Sweet Alyssum, Horseradish, Spotted Dead Nettle (<i>Lamium Maculatum</i>), Coriander	Pumpkin, Squash, Cucumber, Tomatoes, Sunflower	Sweet alyssum attracts beneficial insects. Potted horseradish, dead nettle or coriander helps repel Colorado potato beetles.
Spinach	Celery, Eggplant, Cauliflower, Strawberry		
Soy Beans	Corn, Black-eyed Peas		
Squash	Radishes, Corn, Onion, Mint, Nasturtium	Potato	Mints deter squash bugs. Radishes can help protect from squash borers.
Strawberry	Bush Beans, Lettuce, Onion, Spinach	Cabbage	
Summer Savory	Beans, Onions		
Sunflower	Corn, Cucumbers	Potatoes, Pole Beans	
Tomatoes	Basil, Chives, Onions, Marigold, Carrots, Nasturtium, Mint, Cabbage, Parsley, Petunias, Cucumber	Corn, Fennel, Potato	Petunias and basil help control Tomato Hornworms. NOTE: Marigolds can attract spider mites and slugs to the area.

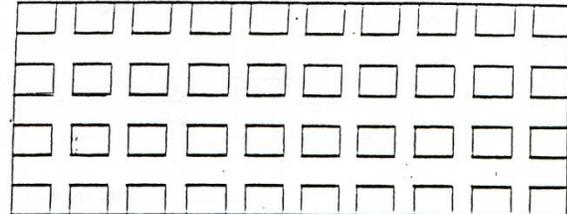
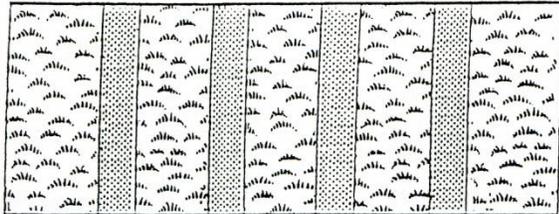
COMPANION PLANTING PLAN



GARDENING METHOD EXAMPLES:

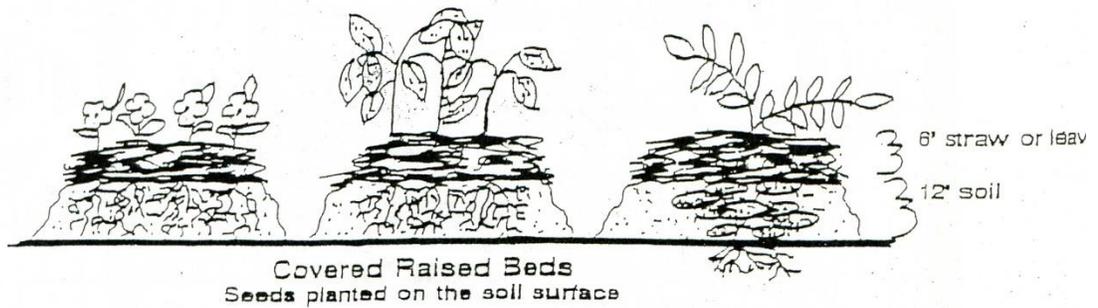
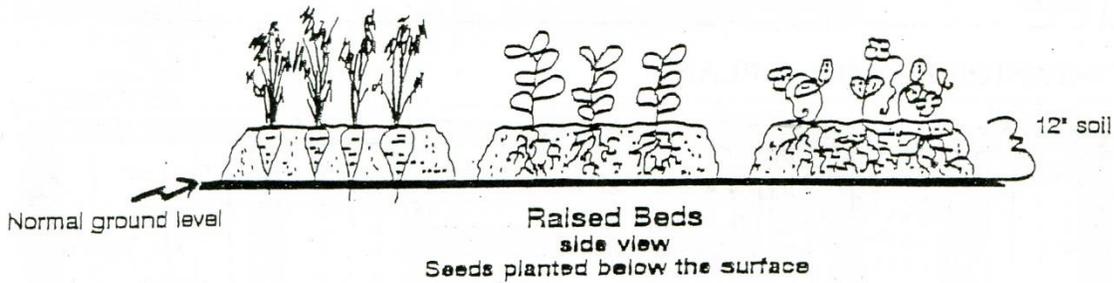


Traditional Row Method



Wide Row Method

Square Foot Method



RESOURCES

In planning and planting your garden there are many local sources for information. Some places to look include:

Anita Purves Nature Center. 1505 N. Broadway, Urbana, 217-384-4062. The Nature Center houses a reference library with an extensive gardening section. These books can be checked out for a small deposit.

University of Illinois Cooperative Extension Service. 801 N. Country Fair Drive, Suite D, Champaign, 217-333-7672. Master Gardeners will assist you in identifying and controlling pests and diseases. They will send you information of specific topics or refer to other places that may help you. Call or walk in. The Cooperative Extension also offers periodic gardening workshops and garden tours. <http://web.extension.uiuc.edu/state/>

Parkland College. 2400 W. Bradley Ave., 217-351-2544. Parkland offers non-credit classes on various gardening topics both as part of their general interest program and their Lifelong Learning Institute (for those over 55). <http://www.parkland.edu/>

WILL, local radio stations, nurseries and greenhouses offer gardening programs. Watch local listings and call local gardening business as the schedules, topic and listings change seasonally and yearly.

Both the Champaign and Urbana Libraries and the Anita Purves Nature Center have large selections on gardening. There are many books that deal with organic and companion gardening. These books can answer lots of your basic questions.

Of all the types of books published each year, gardening books are among the top, at least for quantity. Local libraries are well stocked with very helpful volumes. You will find most of these books around the 635 section. There are books to help with small and large projects and with any method you desire. Many local bookstores carry a wide variety of gardening books as well. Booksellers will often order a special book if it is still in print.

Rodale Press is one of the best and most extensive publishers of organic gardening resources. Two items you may want to start with are:

OG: This magazine is published 6 times a year and is found in many magazine racks and the libraries. It includes articles on a variety of organic gardening topics, such as new and/or interesting varieties, gardening techniques and tips for specific geographic areas, composting, pest control, recipes and much more.

Encyclopedia of Organic Gardening. By the staff of Organic Gardening. Rodale Press, Inc. Emmaus, PA. VERY comprehensive.

SEED SOURCES

Below is a list of reliable seed companies. This list is by no means comprehensive, and many other specialty catalogs are available.

Organic Seed/Plant Sources

Johnny's Selected Seeds

Johnny's Selected Seeds is a mail order seed producer and merchant located in Albion, Maine, USA. Founder and Chairman, Rob Johnston established the company in 1973. Products are vegetable seeds, medicinal and culinary herb seeds, flower seeds. Many organic varieties available. (207) 437-9294. 184 Foss Hill Road, Albion, Maine, 04910.

<http://www.johnnyseeds.com/>

The Natural Gardening Company

The Natural Gardening Company was started with the belief that gardens and landscapes should be models of environmental integrity. One of the USA's oldest certified organic nurseries. Order by phone: (707) 766-9303, Order by FAX: (707) 766-9747, Order by mail: P.O. Box 750776, Petaluma, CA 94975-0776. <http://www.naturalgardening.com/>

New England Seed Company

A provider of quality, chemical-free seed products since 1987. New England Seed Company, 3580 Main Street, Hartford, CT 06120. Phone 800-783-7891, Fax 860-724-1273. <http://www.neseed.com>

Seeds of Change

Offers 100% Certified Organic seeds, plants and foods. Established in 1989, they grow all their seeds on their own research farms. Seeds of Change, PO Box 15700, Santa Fe NM 87506. 1-888-762-7333 <http://www.seedsofchange.com/>

Sow Organic

Provider of open pollinated, certified organic garden seeds. Sustainable genetic varieties. No genetically modified varieties. Ninety percent Oregon grown. Sow Organic, PO Box 527, Williams, OR 97544. Phone (888) 709-7333. Email: organic@organicseed.com

Territorial Seed Company

Founded in 1979 by Steve Solomon. Territorial Seed Company, PO Box 158, Cottage Grove, OR 97424-0061. Phone Orders (541) 942-9547, Fax Orders (888) 657-3131. <http://www.territorialseed.com/>

Other Seed/Plant Sources

Ferry-Morse Seed Company

Since 1856. Ferry-Morse Seed Company, P.O. Box 1620, Fulton KY 42041. Phone (800) 283-3400, Fax 270-472-3402.

Illini FS Farmtown

1509 E. University Ave. Urbana, IL 61802. (217) 384-8308, (217) 384-8300-*Delivery*. E-mail: farmtown@illinifs.com, website: <http://home.illinifs.com/>

Park Seed

The free Park Seed Flower & Vegetable catalog has accurate information and color photography for over 1500 varieties of seeds, plants, bulbs, seed-starting supplies, and accessories. Park Seed Company, 1 Parkton Ave, Greenwood, SC 29647-0001. Phone: 1-800-845-3369, Fax to 864-941-4206. <http://www.parkseed.com/>

Pinetree Garden Seeds

P.O. Box 300, Rte. 100, New Gloucester, ME 04260. Phone (207) 926-3400.

R.H. Shumway's

Lots of heirloom varieties. P.O. Box 1, Graniteville, SC 29829. Phone (803) 663-9771, Fax (888) 437-2733.

Vermont Bean Seed Company

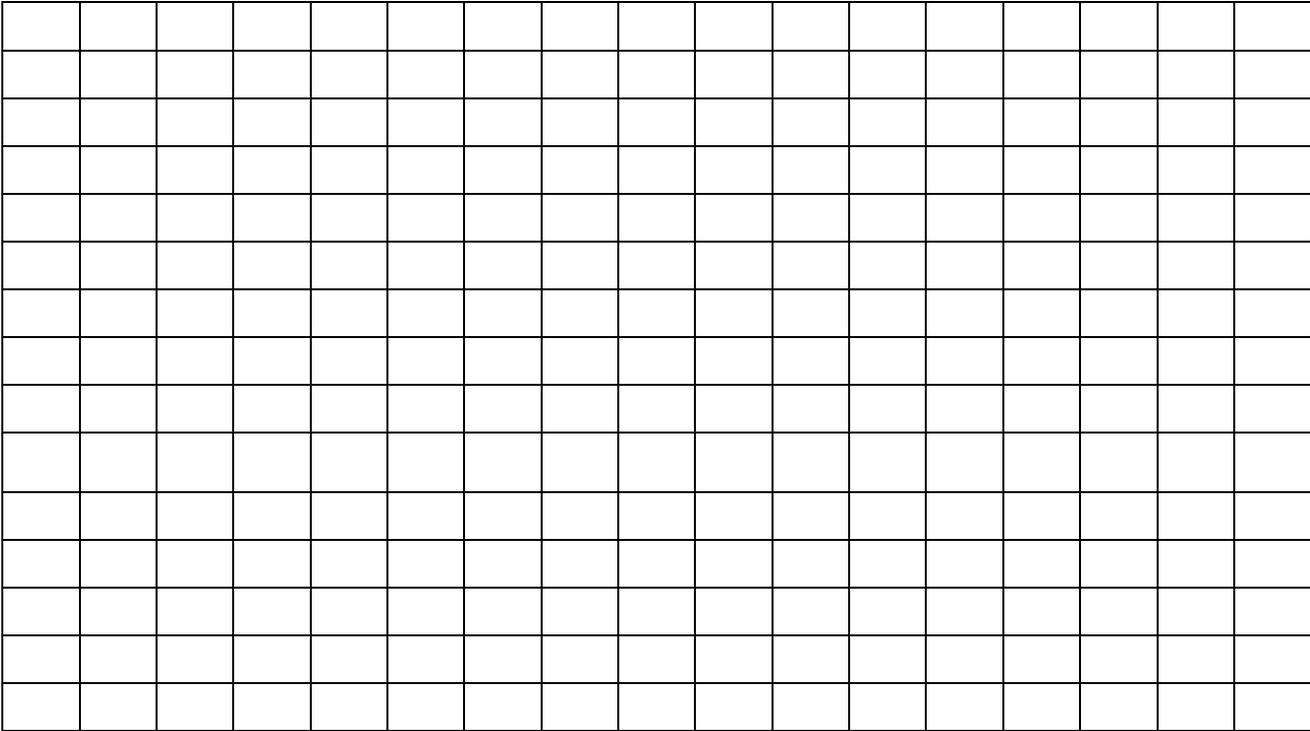
Quality vegetable, flower and herb seeds. Home to the world's largest bean collection. Vermont Bean Seed Company 335 South High Street, Randolph, WI 53956. Phone (802) 273-3400.

W. Atlee Burpee & Co.

Headquartered in Warminster, Pennsylvania. To place an order by phone, call 1-800-888-1447. Customer service: 800-333-5808. <http://Burpee.com>

HALF PLOT TEMPLATE

15 X 17 ft



FULL PLOT TEMPLATE

17 X 30 ft

