



A GARDENER'S HAND BOOK

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Introduction

For most of history, producing some or all of one's own food was not unusual. But today large agribusiness has taken over most of the world's food production and very little food is even grown on local farms.

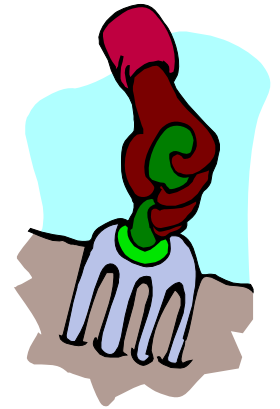
This is generally thought to be a sign of progress. Not many of us would wish to live a subsistence farming existence. Yet as we start the twenty-first century, there is

continuing interest in producing food, even in urban areas. People want to experience the growing cycle, from seed or seedling, to mature flowers or harvested food; to feel that connection with the earth and the satisfaction of providing for themselves and their families.

Whether you are a new to gardening or just looking to add organization to your naturally green thumb we hope this workbook will be a useful tool in your horticultural endeavors.

Planning Your Garden

Do you dream of beautiful, lush, almost carefree garden? If yes, read the following principles on planning, shopping and caring for your garden. They will save you time and money by helping you select the right plant for the right place.



THE PURPOSE OF THIS GARDENING PROJECT

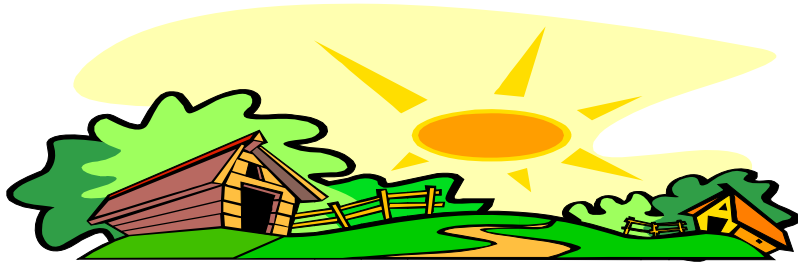
What do you want to accomplish with your garden, now and in the future? Every plant, and group of plants can fulfil a specific purpose that will structure an enjoyable outdoor space. Start by determining what you want to accomplish with your outdoor spaces.

Here are some possibilities:

- Grow fruits & vegetables
- Visual screening
- Attract birds & butterflies
- Segregate outdoor spaces
- Attract aquatic fauna
- Control circulation
- Provide shade
- Prevent erosion
- Easy to maintain

- _____
- _____
- _____

KNOW YOUR SITE



Elements like sunlight, exposure and soil have a definite impact on your plants. Observe your surroundings and make note of characteristics of your garden site.

- Sunny
- Shady
- Partially sunny, a.m. or p.m.
- Windy
- Protected from harsh winter winds from northwest
- Southern exposure - dry and hot
- Northern exposure - shady and cool
- Eastern exposure - strong a.m. sun
- Western exposure - declining heat and sunlight

Microclimatic Elements

- Wall - protected from winter winds
- Large body of water nearby
- Trees protecting from harsh weather
- Tree roots competing for nutrients and moisture
- Corridor of wind
- _____
- _____



KNOW YOUR SOIL

Soil supports plants and provides food and water to help them grow. The nature of your soil impacts the health and look of your garden.

Evaluate Soil Structure

- Loose - good drainage and easy growth for root system
- Compacted, hard surface - prevents oxygen and water penetration
- Poorly drained - water puddles or boggy soil
- Poor water retention - often sandy, soil dries out quickly

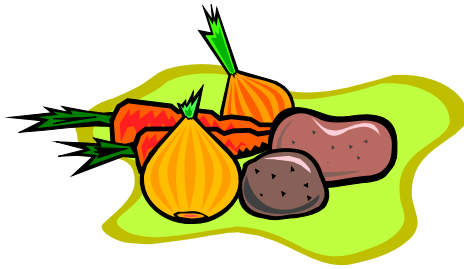
Evaluate Soil Composition

- Rich - dark organic matter full of worms and insects
- Fertile - contains minerals such as nitrogen, phosphorus, potassium and other trace elements
- Soil pH - scale 1 to 10, from very acid (0) to very alkaline (10). Most plants do better in a moderate pH of 6 or 7; you can buy test strips at your local nursery.

SOIL TEST - Throw a handful of topsoil into a glass jar filled with water. Shake it, then let it settle. The big particles of sand and rock will sink to the bottom and the organic matter will float to the surface. Healthy soil contains a minimum of 5% organic matter. A laboratory test is required to determine exact nutrient content. Most problems with soil and structure and composition can be corrected with composting.

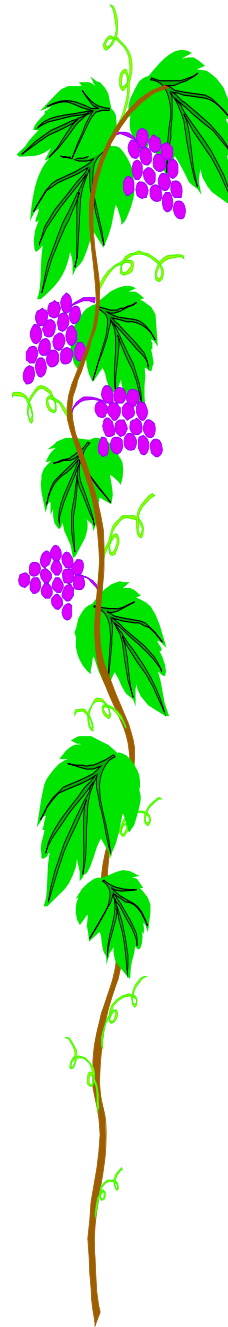
CHOOSING YOUR PLANTS

It is very important to consider the results of your site and soil observations when selecting your plant material. Some plants will thrive in specific soil conditions (like irises in boggy soil or lupines in sandy soil). Choose plants that will thrive in your soil conditions. Choose species and varieties resistant to disease and pests. Don't yield to temptation, select only the plants that fulfill the purpose of your garden project.



Characteristics of plant material required for this project:

- ◇ nutrition
- ◇ color
- ◇ blooming period/harvest time
- ◇ propagation method - clumps, seeds, roots
- ◇ texture
- ◇ smell
- ◇ growth speed
- ◇ cost
- ◇ _____
- ◇ _____
- ◇ _____
- ◇ _____



Garden Planning Tips

- Draw a simple map of your garden plan, and rotate crops each year to prevent the build up of soil borne diseases.
- Add soil amendments, such as compost, to keep soil active.
- Plant from East to West instead of North to South.
- Keep an annual journal and plan of your garden, fertilizing, thinning, planting, and watering instructions.
- Record your successes and failures.
- Take pictures of your garden each year to remind you of how your efforts reap rewards.
- Some packets need full sun, and some need shade. Read your seed packet for detailed instructions.
- Compost retains water and adds nutrients, and is always a good way to enrich your soil. Start your own compost bin from kitchen and garden scraps.
- Buy or borrow a good reference book from a library to help you out.

SHOPPING FOR THIS PROJECT

Now that you have a vision of what you want to create, you're ready to take action. Prepare a list of everything you'll need before you go shopping. Purchase tools best suited to your size and strength.

TOOLS

- digging spade
- digging fork
- rake
- hose - long enough to reach to the farthest corner of your garden
- hoe
- hand fork
- cultivator
- pruning shears



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PLANTS

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SOIL, FERTALIZER, MULCH, COMPOST, ETC.

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CARING FOR YOUR GARDEN



Your garden will thrive if you carefully select suitable plants and if your soil is rich in nutrients. Use compost, mulch and fertilizer to build healthy soil.

COMPOST

Compost is the result of well-decomposed organic material. It provides your plants with nutrients and increases their resistance to disease and pests. It is dark, almost black, light, loose and odorless.

Mulch

Mulch is a covering of organic or inorganic material spread on the ground around plants to prevent evaporation and erosion and enrich the soil.

Fertilizer

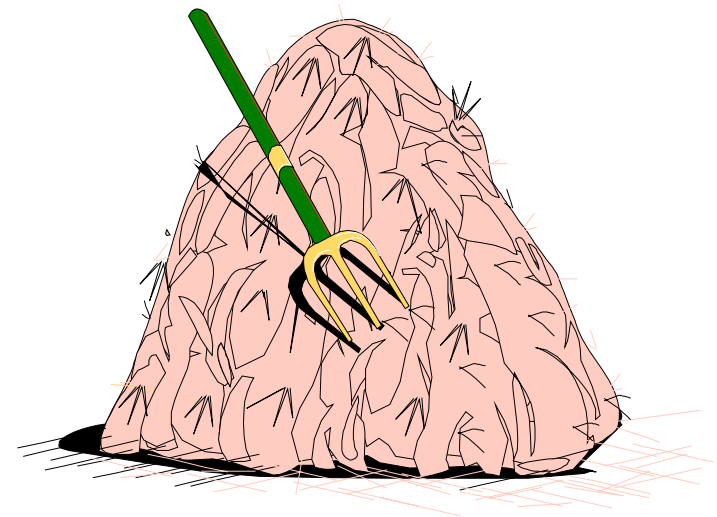
Fertilizer helps to replenish the soil with materials necessary for healthy plant growth.

HOW TO MAKE A COMPOST PILE

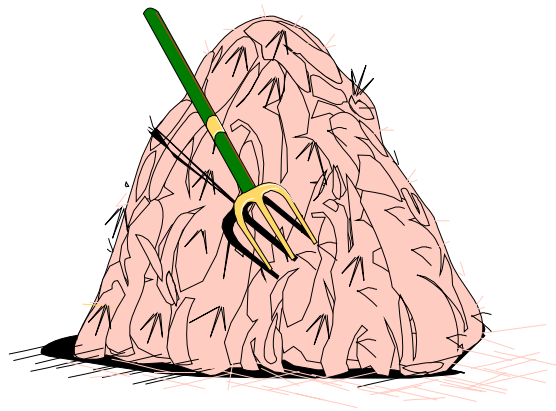
Add organic elements, in layers, alternating with a few shovelfuls of top-soil from the corner of your garden to begin the process of decomposition. Do this consistently over several weeks until you have a heap of about three cubic feet. Let this first pile decay completely and start another one beside it.

Let your compost sit between one to three months before using. To shorten the decay time by half, shred everything into one-inch bits. If you're in a hurry, put your kitchen waste in a blender with water. Pour the solution into a hole in the center of the compost pile. This keeps the pile moist and makes nutrients readily available to micro-organisms.

Your pile is mature once it turns almost black, has a fresh smell of forest ground and is loose. If you find big fat worms and small insects, you're on your way to having a lush garden.



Important Composting Notes



1. Never use meat, bones, grease or dairy products in the compost pile; they attract rodents. Always cover kitchen garbage with soil or bury it in the compost pile.
2. Do not use exotic fruits, such as bananas and citrus fruits in northern climates. They do not decay properly in these soils.
3. If it smells bad, aerate the pile with a garden fork or turn it with a shovel. Make sure the water drains well at the bottom.
4. You can prepare compost tea by diluting some of the organic matter in water and pouring it around your plants.

Compost Bins

Choose a sunny to partially sunny, well-drained, out-of-the-way corner in your garden for your compost bin. Heat accelerates the process of decomposition. A bin secures the environment inside the compost pile, like the water content and heat level. You can purchase compost bins at your local garden center or ask city hall if they provide them at a discount.

To make your own compost bin, consider the following tips.

1. Make sure it is well aerated with holes. A good wire mesh is an easy way to make an efficient compost bin. Simply shape the mesh into a vertical cylinder, closing it with wire.
2. Place your pile directly on healthy ground. Microorganisms need direct access to the compost to start the process of decomposition.
3. Consider how you'll empty your bin once your compost is mature. It should be easy to get the organic matter in and out of the bin.
4. Protect your pile from rain. Nutrients will leach with excessive water.

MULCHING

Mulching is simply covering your garden beds with a layer of organic or inorganic material. Many consider mulch to be the gardener's best friend as it:

- ◆ Conserves soil moisture; may reduce watering as much as 50%
- ◆ Helps plants survive draughts
- ◆ Controls weeds
- ◆ Prevents soil compaction; provides easy infiltration of water and oxygen; keeps the soil loose and facilitates weeding
- ◆ Fights disease: prevents the carrying of fungus from plant to plant
- ◆ Protects root systems: prevents erosion and rapid water runoff.



Consider cost and availability when choosing your mulch

- ◆ Compost: fertilizes plants and warms up soil.
- ◆ Grass cuttings: rich in nitrogen, lay in thin layers.
- ◆ Chopped leaves: mown leaves keep the ground cool in summer.
- ◆ Old sawdust: aged at least a year
- ◆ Peat moss: attractive, inexpensive but may dry out your soil in summer.
- ◆ Pine needles: very effective on weeds, too acidic for neutral soil plants.
- ◆ Seaweed: less attractive but very fertile.
- ◆ Shredded bark, wood chips: attractive and effective.
- ◆ River pebbles or stones: very attractive and effective.
- ◆ Geotextile: synthetic fabric that lets water and air in and out of the soil; will last for years but must be covered with more attractive mulch.

FERTILIZING

Finally, you may want to boost your plants with fertilizer. A work of caution however: fertilizers cannot replace the conditions necessary for a healthy garden. Over-fertilizing will harm your plants. Fertilizers are vitamins, not main meals. Fertilizers provide one or more of three primary nutrients:

NITROGEN - provides lush, green foliage and rapid growth to plants.

- ◆ Too much: plants are vulnerable to disease
- ◆ Too little: slows plant growth
- ◆ Signs: small yellow leaves, small plants

PHOSOPHOROUS - strengthens plant stems, increases resistance to pests and diseases, builds healthy root systems and fosters fruit and flower development.

Always add phosphorus when transplanting.

- ◆ Too much: blocks out the absorbtion of other nutrients and minerals.
- ◆ Too little: the plant does not produce flower or fruit
- ◆ Signs: reddish purple leaves, no flowers or fruit



POTASSIUM - manufactures starch, sugars and proteins in plants; builds strong root systems and boosts immune systems, making plants more resistant to cold, windy winters.

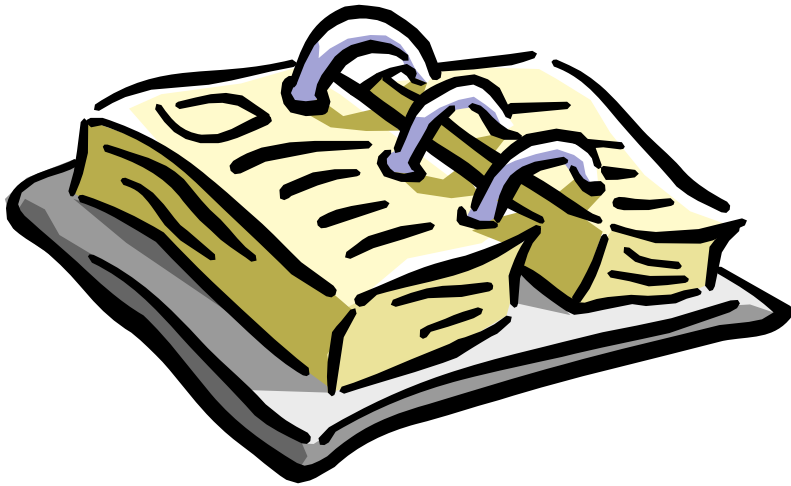
- ◆ Too much: slows plant growth
- ◆ Too little: misshapen flowers
- ◆ Signs: small plants, misshapen flowers

You can buy fertilizer in different strengths and forms, or you can use organic fertilizers.

ORGANIC FERTILIZER	APPLICATION	NITROGEN	PHOSPHOROUS	POTASSIUM
Manure aged/dried	Yearly	√	√	
Compost	Yearly	√		
Blood meal	Yearly	√		
Rock Phosphate	Yearly		√	
Granite dust	Fall			√
Cow Manure	Fall			√
Manure Tea	Weekly	√		
Fish emulsion (5-1-1)	Weekly	√		



Gardening Agenda



February

- Plan your garden
- Place catalogue orders for new garden tools & seeds
- Start seedlings indoors
- _____
- _____
- _____

April or when the ground thaws

- Treat fruit trees, shrubs with dormant oil
- Prune fruit and crabapple trees
- Remove dead branches from trees and shrubs
- _____
- _____
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May

- Start new compost
- Aerate and water compost pile
- Plant perennials
- Transplant or divide mature clumps of perennials; add a transplanting solution rich in phosphorous
- Transplant or divide mature clumps of perennials; add a transplanting solution, rich in phosphorous
- Plant tender summer bulbs
- Spread nitrogen-rich fertilizer into borders and lawns
- Spread a 1-inch layer of compost on flowers and shrub borders
- Prepare vegetable garden beds
- Clean water basin for pond
- _____
- _____
- _____

June

- Seed annuals in vegetable garden
- Transplant seedlings outdoors
- Aerate and water compost pile
- Keep all grass clippings and other organic material for compost pile
- Inspect plants for pests and disease
- Water and weed gardens regularly

July and August

- Harvest crops when appropriate
- Weed and water when necessary
- Aerate and water compost pile
- _____
- _____

September

- Harvest crops when appropriate
- Weed and water when necessary
- Aerate and water compost pile
- _____
- _____

October

- Harvest crops when appropriate
- Weed and water when necessary
- Aerate and water compost pile
- _____
- _____

November

- Harvest crops when appropriate
- Weed and water when necessary
- Aerate and water compost pile
- _____
- _____

December & January

Gardener's Holiday. Merry Christmas & Happy New Year!

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