

The 7 P's of Gardening
By: Michael J. Goodwin
(michael@gardenofedenresources.com)
Revised 2-4-17

Doctrinal Overview: "We will see the day when we will live on what we produce." Pr. Marion G. Romney

D&C 78: 14 That through my providence, notwithstanding the tribulation which shall descend upon you, that the church may stand independent above all other creatures beneath the celestial world;

The focus of this article will be on vegetable and herb gardening – using natural and sustainable methods.

Why do you garden?

1 - Planning

The soil is a living organism. There are over 1000 living things in a teaspoon of live soil (bacteria, molds, insects, worms, algae, etc.) The more you deviate from nature, the more you have to fight nature!

Size of garden (start small)

Planting timing (frost tolerant, cool tolerant, heat loving, heat hating, ...)

Companion planting (some plants help other plants by repelling harmful insects, attracting beneficial insects, etc.)

Method – flat-lander, raised beds, containers, double dug, bio-intensive (living mulch) (French Intensive culture, Alan Chadwick, John Jeavons, SPIN, Metro Farming, City Farming, Urban Agriculture, ...)

Ordering seed and nursery stock (only once per variety, if open pollinated)

Seedlings (buy or start your own?)

Ground work – soil conditions (rocky, ...) and soil type (sandy, clay, silt loam, ...)

Location – trees (competition for sunlight, water and nutrients), building shade, drainage

pH of water and soil – (Parts Hydrogen, H₂SO₄ is an acid where NaOH is a base, H OH is neutral (water), lime vs sulfur, baking soda vs vinegar) Scale is 1 to 14 with 7 being neutral = water, 6 is 10 times more acidic than 7, 8 is 10 times more alkaline than water.

Tilth – friability of the soil, looseness ("Clay on sand in money in the land, sand on clay is money thrown away")

Humus – organic matter, high CEC (Cation Exchange Capacity)

SEED AND PLANT SELECTION:

1 seed for 1 vegetable - onion, carrot, cabbage, beet, radish, turnips, rutabagas, etc.
1 seed for many vegetables - tomato, pepper, broccoli, squash, beans, cucumbers, melons, etc.

Methods of planting:

Transplants: Start seeds indoors for transplants to place in the garden later.

Direct seeding: Seed is directly seeded into the garden soil.

Three items to consider when selecting crops to plant:

1 – Carbon: for the compost pile: wheat, corn, oats, barley, rye, ...

2 – Calorie: Peas, dry beans, potatoes, garlic, onions, ...

3 – Vitamin, Minerals and Enzymes: tomatoes, squash, green beans, peppers, lettuce, cabbage, ...

Food calorie producers:

Food Item ----->	Potatoes	Pinto Beans	Spring Wheat
Calories/#	279	1583	1497
Sq Ft/#	.5	10	10
Sq Ft/2400 cal/day	1570	5475	5840

Potatoes produce the most calories in the smallest area of land.

Types of seed:

Open pollinated seed: only have to be purchased one time as the seed can be saved from year to year.

Hybrid seed: a cross between two different parents, offspring will not grow true to variety.

GMO – genetically modified organism: seed has had its chromosome structure changed by man to produce offspring un-natural. Offspring can be planted but might land you in a heavy law-suit as they are patented and owners are aggressive in prosecuting violators. Usually sold by Seminis, Dow and Monsanto.

2 - Preparing

compost production

tillage - rototilling, forking, etc.

Addition of organic matter:

Organic matter in the soil helps greatly with water absorption, keeping soil loose, naturally decomposing matter into plant food.

Compost application: use as a side dressing or sheet composting.

Mulch acquisition (“He who buys hay, buys land”), untreated grass clippings, hay, straw, leaves, etc. Watch for weed seeds in hay and straw. Mulch keeps top surface of the ground cool and weed free.

Plant residue from previous year if not diseased: tomatoes love to be planted in composted tomato residues.

Cover crops and green manure – cereal rye grass roots and root hairs can exceed 5000 miles from just one plant. Useful for penetrating soil to gather nutrients and bringing them to the surface and puts a lot of organic matter into the soil when tilled in - (www.sare.org/publications/covercrops/covercrops.pdf)

Green manure plants are usually legumes that capture atmospheric nitrogen and puts it into the soil when tilled in and allowed to decompose.

Cover crops keep the ground 'covered' in winter, preventing erosion of soil.

Double crops or succession gardening, following early crop with another different crop in the same season.

Mineral content (long term – slow breakdown = rock phosphate, greensand, granite dust)

Soil fertility: Major nutrients: (N (alfalfa meal, legumes, manure) P (rock phosphate, wood ashes), K (wood ashes, crushed granite)

Minor nutrients: Ca, Mg, S

Micronutrients, also called trace elements: B, Cl, Co, Cu, Fe, Mn, Mb, Na, Ni, Zn.

Note: for our area, wood ashes contains too much lime for healthy plant growth.

Stale Seed Bedding: essentially early tilling of a designated grow area. As weeds grow up, they are tilled under. This can be done several times and exhausts the majority of weed seeds in the area so there is less cultivation later when the crop is planted.

Growing transplants:

3 rules to watering:

1 - use a well drained medium

2 - water thoroughly at each watering

3 - water just before signs of water stress appear - color, etc. Not wilting!

Proper drainage requires 3 feet of garden depth. In containers, this cannot be accomplished without adding a drainage medium such as perlite, vermiculite, etc.

Hardening of transplants: gradually expose to wind and full sunlight to strengthen.

3 - Planting

row vs intensive (hex pattern - living mulch

seed depth - 2-3x diameter of seed

initial watering

warm water irrigation

soaker hose

drip irrigation
sprinkling
tillage

4 - Protecting

Plant protection is needed from insects, diseases and other critters.

Natural items to use:

Garlic spray, pepper spray and kaolin clay for insects

Reduce dryness, cultivation, and weeds through mulch

flame weeding - Propane torch

competition from trees, etc.

sunlight - 6 to 8 hours daily for most plants

tomato cages and support/trellises for vertical gardens

animals: deer, rabbits, raccoons; rodents - wood chucks (Fox Urine)
(blood meal, green hose lengths)

5 - Picking and post harvest handling

ripeness

collection containers

purpose – canning, table use, dehydration, ...

removing field heat

ethylene producers – tomatoes, honeydew melons, bananas, temperate climate tree fruits: apples, peaches, pears, plums, ...

ethylene sensitive – beans, potatoes, cucumbers, okra, summer squash and zucchini, and sweet potatoes, lettuce, beets, carrots, radishes, Brassicas, corn, peas, onions, mushrooms, turnips and rutabagas

ethylene neutral – eggplants, pineapples, watermelons, peppers, oranges and grapefruit, cherries, grapes, lemons, cranberries, other berries.

6 - Preserving the Harvest

pressure canning

boiling water bath canning

dehydration

root cellars

pickling

freezing

7 - Propagating and Perpetuating

annual – plant is killed by winter

biennial – plant produces seed in second year, then dies

perennial – plant grows year after year and is not winter-killed.

Seed saving and storage: seed stewardship

Bystrom Cherry Tomato – counted 89 seeds in 1 tomato, probably hundreds of tomatoes per plant.

Root and tuber cuttings, root division – potatoes, horseradish, chives, rhubarb, comfrey, ...

Local famous pioneer seedsman, R.H. Shumway, Condon Brothers of Rock River Valley

Where do we go from here?

Get started NOW, DO IT!

Buy Fresh – Buy Local

Know your Food, Know your Farmer, (Know your Seedsman!)

Happy Gardening!