The Art and Science of Home Gardening

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Agenda

- A photo slideshow tour of our home garden 2020
- General ingredients to bountiful harvests
- Tips & experiences of important tasks & individual plants
  - Seedlings – germinate from seeds/tubers inside the house
  - Composts – feed the soils that feed the plants
  - Raised beds & self-watering containers – chasing the sun lights in the back yard
  - Trellises, stakes & fencing – lots of options to choose from
    - tomatoes, beans, bitter melons, Asian cucumbers
  - Weather, insects, diseases & wild animals
  - Garlicas, tomatoes, sweet potatoes, leafy greens, blackberries, beans & others
- FAQs
- Q&As
A photo slideshow tour of our home garden 2020
General ingredients to bountiful harvests

- Sun lights – very challenging for most back yards (too many big trees)
- Temperatures – not too cold, not too hot
- Soils – Give them lots of organic composts
- Air flows – allow air to flow through for healthy plants and good yields
- Water – water the plants in the early mornings
- Fertilizers – plants need proper nutrients (N, P, K and minerals)
- Learning the sciences and best practices – lots of knowledge and experiences available on Google & Youtube
- Love, care & patience – provide your plants with good environments & conditions, then wait & enjoy
Seedlings: It all started in mid March inside the house

- Starting from seeds/tubers: Tomatoes, sweet potatoes, eggplants, peppers, basils & cold weather leafy vegetables (kales, bok choys, etc)
- Florescence/LED lights
- Heat pad to help seed germinate
- Special tricks
  - Bitter melon; sweet potato
Composting

- Key ingredients: C, N, air, water & micro-organisms
  - C: leaves, wood mulch, straws, papers, ...
  - N: grass clippings, used coffee grounds, ...
  - Billions of micro-organisms nature provides for free
- Compost piles
  - About 1 cubic yard in size
  - Use mesh-wires or chicken wires
  - Turning vs not turning
  - Ready to use in about 1 year, with shredded leaves & grass clippings (without turning)
- The more, the better
Raised beds & self-watering containers

- Raised beds are easier than containers in terms of water & nutrients retention
  - Difficult to maintain moisteres & nutrients in containers
  - Self-watering solves the problems
- Lumbers vs. wood logs for raised beds (costs & availabilities)
- Two overlapping 5-gallon buckets vs gutter + buckets for self-watering containers for decks
- Potting soils made with composts, peat moss & perlites
Trellises, stakes & fencing

- Tomatoes
  - Twines, cages, wood stakes
- Eggplants, peppers
  - Cages, wood stakes
- Bitter melons, Asian cucumbers
  - Mesh wires, twines, fences
- Pole beans
  - Wood stakes
Weather, insects, diseases & animals

- Weather is unpredictable, and it has a big impact on the health of the plants
  - Low temperatures are harmful during May and early June for the survival of many plants – tomatoes, beans, zucchinis, cucumbers, bitter melons etc.
  - High temperatures are harmful during the summer for the survival of tomato plants – diseases

- Insects
  - Worms eating the plants are easier to deal with – taken them out if you can spot them
  - Insects carrying diseases are difficult to deal with

- Diseases
  - Almost powerless because of not wanting to use chemicals or fungicides
  - The most challenging task in organic gardening

- Wild animals
  - Deer, squirrels, chipmunks, ground hounds, rabbits, birds & something else (unknown)
Garlics –
German White

- Plant into the ground in early Nov
  - Allow two weeks before the ground freezes for the roots to develop
  - Hibernate underground during the frozen winter
- Start sprouting in the early spring (Feb) and growing
- Flower early June & cut the scapes after mid June to grow the bulbs
  - Make garlic scape pesto for spaghetti source
- Harvest the bulbs after mid July when half of leaves turned yellow
- Dry them inside the garage for 1 month or so
- Store & enjoy the bulbs for 6 months
  - Garlic & pepper (jalapeno) source
Tomatoes

- Many varieties (many thousands)
  - Determinate (bushy & short) vs indeterminate (continue to grow in heights, some >10 ft)
  - Heirloom vs hybrid
    - Taste vs disease resistance
- Lots of sunlights & fertilizers
  - Start from seeds indoor in mid March & plant them outside in mid May
- Disease prone in the summer
  - Challenging to keep them healthy & productive for the entire season
- Chipmunks & squirrels like to bite on tomatoes
- Tomato sauce canning
  - Roasted tomatoes, garlics & Basils
Purple sweet potatoes

- Challenging to grow for tubers in NY
  - Soil temperatures are too low for them to grow well in June
- Need quality growth for 4 months
  - Start to grow slips from tubers inside the house in mid March
  - Use clear plastic cover to warm up soil temperature in late April
  - Plant slips in mid May so that they start vigorous growth in June
  - Harvest tubers in mid Oct
- Make ridges on the ground for them to grow nice tubers
  - Containers are not as productive as ridges on the ground
- Congee with purple sweet potatoes, steel cut oats, peas & beans
Leafy greens

- Most leafy greens are cold temperature vegetables
  - They quickly bolt (flowering) once the temperatures are high (≥ 80 F)
  - Best to plant them in spring & fall
  - Kales and Swiss chards can last for the entire season
  - Mustard greens are relatively easier to grow productively
- Kale juices
- Steamed leafy greens + olive oils + peppers + balsamic vinegars
- Sauté them with gingers, plus meats
Blackberry

- Plant once and they come back every year
  - Grow new stems and leaves yearly
  - They won’t flower and bear berries this year
  - The leaves will die out and come back next year
  - Flowers and berries are grown on the 2nd year stems
- Very productive
  - Harvest the berries after they look black but before they are complete ripe
  - Unripe blackberries look red & sour tasting
  - Birds & squirrels like ripe berries
- Make blackberry jam or freeze them and add to kale smoothies
Beans

- Pole beans need trellises for them to climb
- Garden beans are bushy and not requiring trellises
- Don’t tolerate cold temperatures well
- Sauté young beans in the summer
- Collect dry beans for beef stews in the winter
Bitter melons

- Productive & relatively easy to grow
- Need trellises
- Many different recipes
Asian cucumbers

- Disease prone & frustrating to deal with a bacteria infection carried by the cucumber beetles
- Produce a lot if the beetles don’t come too early
- Need trellises
- Crushed fresh cucumbers with garlics, peppers & vinegars and salts
Eggplants and peppers

- Take too many months to grow to maturity from new seedlings
  - Not productive until Oct/Nov
- Move the roots inside the house over the winter and replant them outside next spring
  - Quicker to start flowering and fruiting
FAQs

Q: Is the ROI (return on investment) worth it?

A:

- Probably not in terms of strict economic measures, i.e., $.
  - Expensive inputs: Lumbers, organic fertilizers, tools, garden supplies, such as stakes, poles, & nets, twines, plastic sheets, gutters, 5-gallon buckets, saws, nails, and so on.
  - Uncertainties from uncontrollable weather, diseases, insects & wild animals.
  - Labor costs: bending the bodies, moving heavy composts, preparing the soils & unlimited tasks.

- However, it can be very rewarding in terms of holistic measures (body & mind).
  - The joys of working on the soils, watching the plants develop, enjoying the tastes of the fresh harvests directly from your garden & the year-round supplies grown at your own garden.
  - The therapeutic values of completely immersing yourself in the gardening tasks, reducing stress and calming the mind, i.e., meditation.
FAQs

- Q: Where do you learn all the knowledge & skills?
  - Cornell University Home Gardening Vegetable Growing Guides: http://www.gardening.cornell.edu/homegardening/scene0391.html

- Q: Why do you choose what to grow?
  - A: (a) I try to grow the varieties that will do well in my garden (climate, soil environments and the amount of sun lights available). (b) I try to grow the plants that we like to enjoy.

- Q: How do you cook/preserve your harvests?
  - A: Try difference recipes & learn the preservation methods from Youtube
Questions & comments?