



Vegetable Gardening Made Easy

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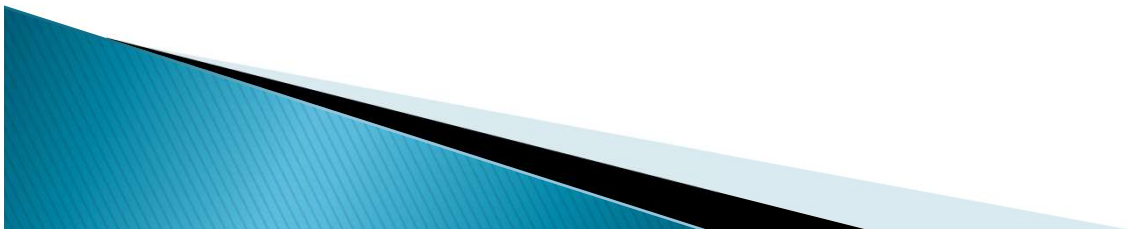
Overview

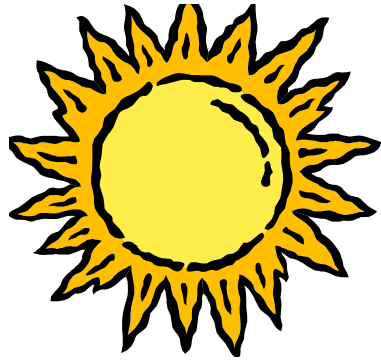
- ▶ Basic vegetable gardening facts
- ▶ Raised bed gardening
- ▶ Popular vegetables
- ▶ Composting
- ▶ Pest and disease control



Introduction

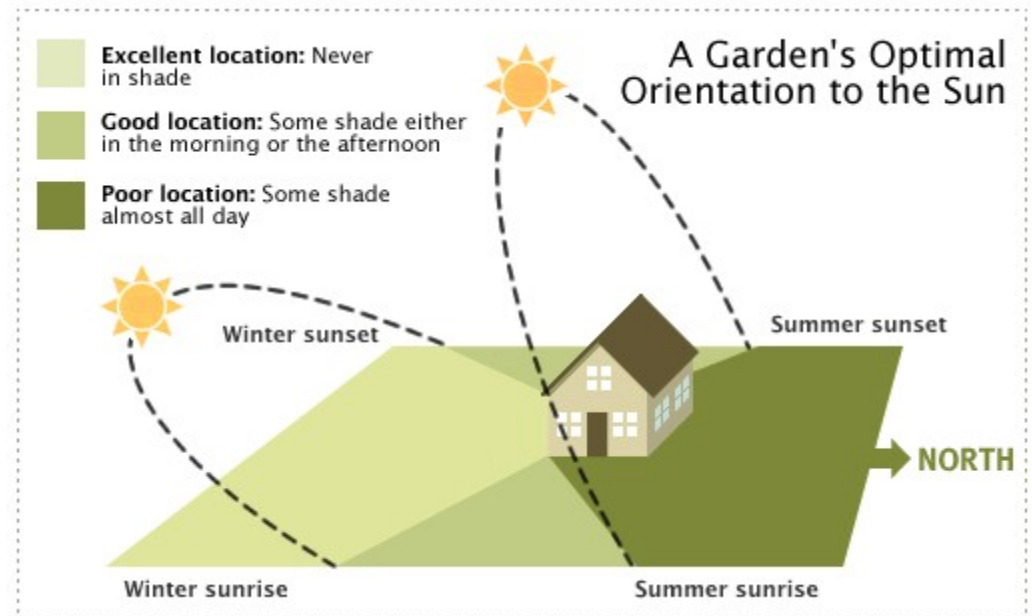
- ▶ ~1 million veg gardens in Florida
- ▶ Spring most popular
- ▶ Summer least popular
- ▶ Fall/winter great time
- ▶ Average size: 300 - 600 sq ft
- ▶ Retail value: \$ 1.80 per sq ft
- ▶ Major problems: infertile soils, pests, and disorders related to weather





Site Selection

- ▶ Full sun (> 5-6 hours/day)
- ▶ Near house & water source
- ▶ Away from competing tree roots
- ▶ Well-drained soils



Garden Planning

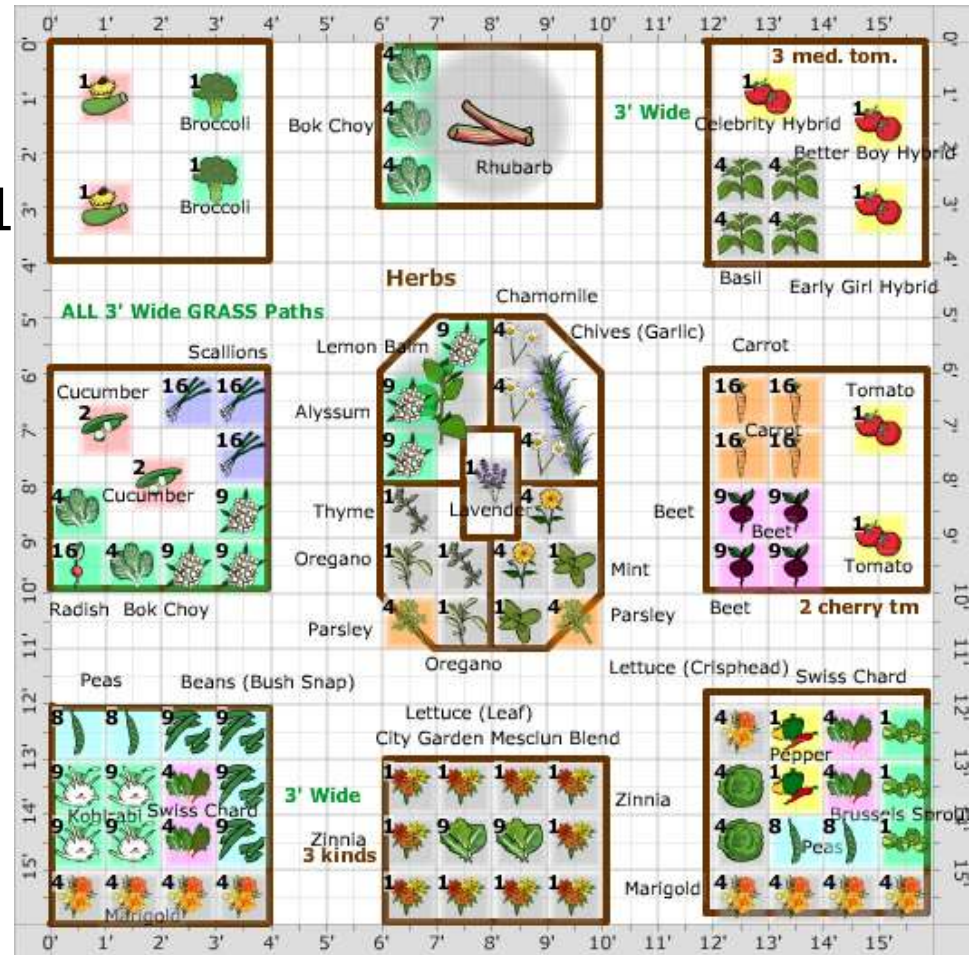
Considerations

- ▶ Which vegetables do you like?
- ▶ What will you do with any surplus?
- ▶ Do you have the right tools?
- ▶ Labor? Money?



Garden Design

- ▶ Start with "Florida Vegetable Gardening Guide"
- ▶ <http://edis.ifas.ufl.edu/vh021>
- ▶ Draw a plan on paper



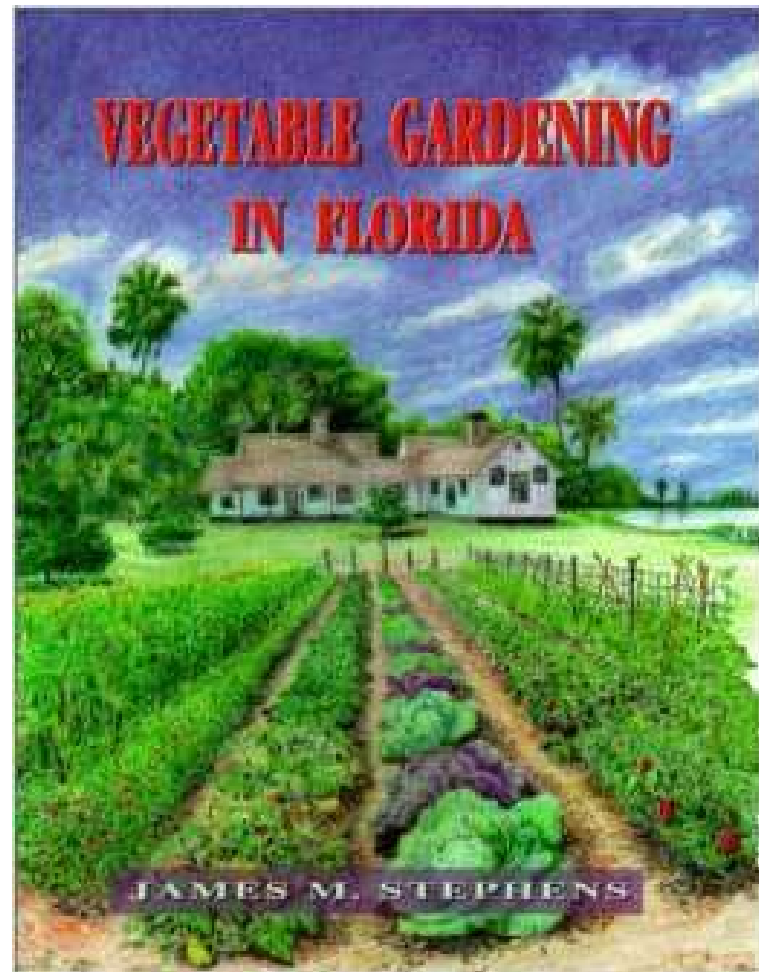
Garden Planning - Crop Arrangement

- ▶ Group by family (for crop rotation)
- ▶ By planting/maturation dates
- ▶ By plant size (tall, medium, short)
- ▶ Similar spacing (ex: diff beans/same row)
- ▶ Herbs and long season crops together



A Great Resource...

- ▶ Author: Jim Stephens
- ▶ University Press of Florida www.upf.com
- ▶ ~\$17.00







Prepping



Weeding and Watering=Work





Watering

Maybe there is a more efficient way.....



Grow Boxes / Raised Beds

Construction

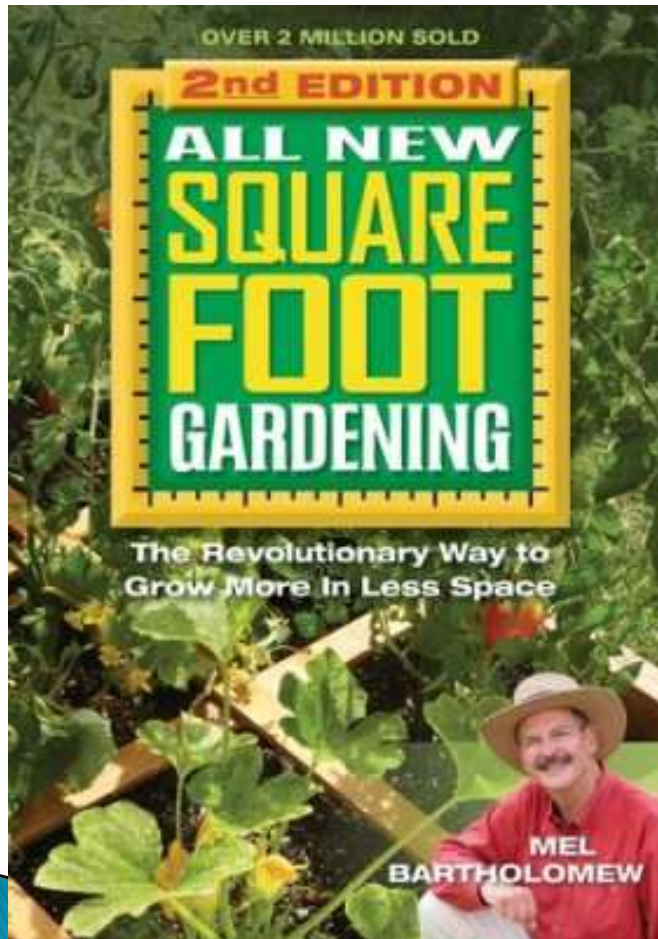
- 4 feet wide
- 4-8 feet long
- 6-12 inches high
- 24 inches high for wheelchairs
- Materials variable
- Lumber: use cedar, cypress, composite or plastic
- In raised bed, you create your own soil





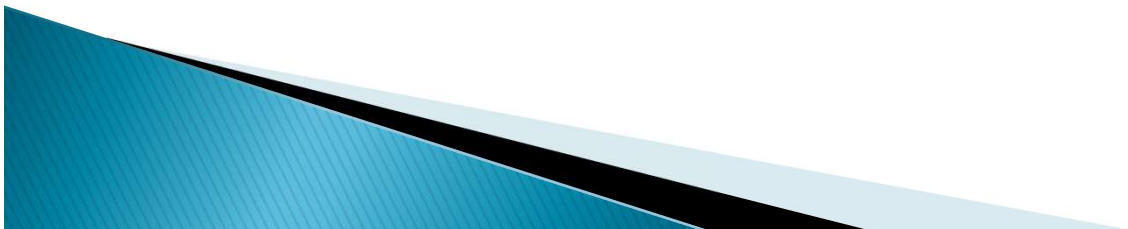


Square Foot Gardening
is a method of raised bed
gardening



What is Square Foot Gardening?

- ▶ A simple, unique and versatile system that adapts to all levels of experience, physical ability, and geographical location.
- ▶ Grow all you want and need in only 20% of the space of a conventional row garden.
- ▶ Save Time, Water, Work, \$\$\$\$

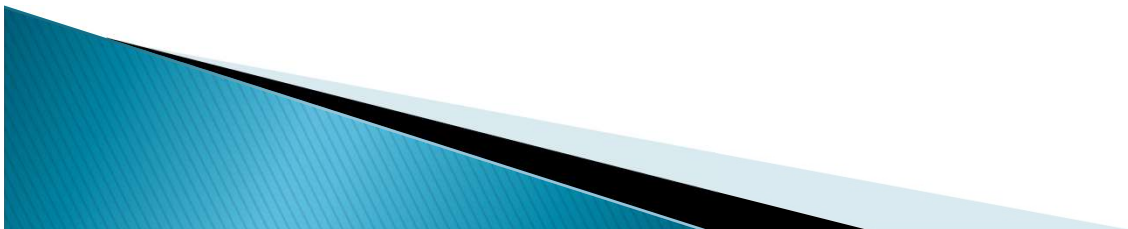


Location Location Location



Garden Set Up

- ▶ Build boxes 4ft square to hold soil 6inches deep
- ▶ Use a weed barrier like cardboard or weed cloth
- ▶ Space boxes 3' Apart
- ▶ Mulch aisles for weeds (pine bark best)



Soil Recipe

- ▶ 4'x4'x6"Box = 8-9 Cubic Ft of Soil Roughly
- ▶ 3 Cubic Ft of "Blended" Compost
- ▶ 3 Cubic Ft of Peat
- ▶ 3 Cubic Ft of Vermiculite



Mel's Mix Soil Recipe

- ▶ 8 spades peat
- ▶ 8 spades vermiculite
- ▶ 2 spades each of Black Hen, Black Cow, Mushroom and Worm castings
- ▶ OR 8 spades of your own compost



You can also purchase pre-mixed soil

- ▶ Bags of potting mix or raised bed soil
- ▶ It takes about 1 cubic yard to fill a 4' x 4' bed that is 6 inches high
- ▶ Add vegetable fertilizer if not Mel's Mix



Local soil (with fertilizer) vs. Mel's mix (no fertilizer)



May 9, 2016

- Four zucchini/squash were planted at the same time in the same locations
- The box on the left had local soil mix with 3 applications of fertilizer
- The box on the right had Mel's mix with no fertilizer



May 21, 2016

Square Foot Grid

- ▶ Make 12" Squares
- ▶ Fasten Grid Strings or Wood Lath



They can be elevated!

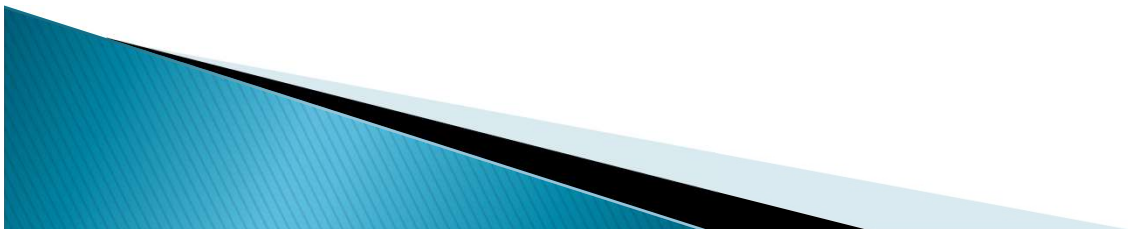


Select Plants

- ▶ Plant a different Vegetable or herb in each square
- ▶ Space Small, Medium, Large Plants:
1, 4, 9, 16 Plants per sq ft



Grow from Seed or from Transplants?



Companion Planting

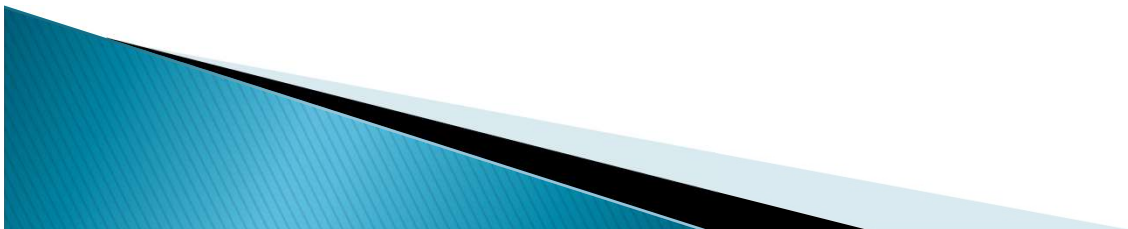
- ▶ In natural ecosystems, plants perform functions that can either help or prevent other plants to grow.

PLANT	GOOD COMPANIONS	BAD COMPANIONS
BEANS	MAIZE, SUNFLOWERS, LAVENDER, CABBAGE, CUCUMBER, STRAWBERRIES, BRINJAL	ONION, GARLIC, FENNEL
BETROOT	BEANS, ONIONS, GARLIC, LETTUCE, CABBAGE	NO BAD COMPANIONS
BRINJAL	CALENDULA, MARIGOLDS, MINT, PEAS	NO BAD COMPANIONS
BROCCOLI, CABBAGE, CAULIFLOWER, KALE	AROMATIC PLANTS, DILL, SAGE, ROSEMARY, POTATOES, BEETROOT, CELERY, GARLIC, ONIONS, GERANIUM	TOMATOES, POLE & RUNNER BEANS, PEPPERS
CARROTS	LETTUCE, CHIVES, LEEKS, ROSEMARY, SAGE, PEAS, WORMWOOD	STRAWBERRIES, FENNEL, CABBAGE
LETTUCE	CARROTS, RADISH, STRAWBERRIES, CUCUMBER, BEANS	CELERY, PARSLEY
MAIZE	SUNFLOWERS, AMARANTH, BEANS, PEAS & OTHER LEGUMES, PUMPKIN, SQUASH, CUCUMBER, MELONS & OTHER CUCURBITS, PARSLEY	CABBAGE, TOMATO, CELERY
ONION/GARLIC	CARROTS, BETROOT, STRAWBERRIES, TOMATOES, LETTUCE, CABBAGE	PEAS, BEANS, PARSLEY, LEEKS
PEAS	LAVENDER, CARROT, TURNIP, RADISH, CUCUMBER, MAIZE, BEANS, GROWS WELL WITH MOST VEGETABLES & HERBS	ONION, GARLIC
PEPPERS	TOMATOES, GERANIUM, BASIL, CARROT, ONION	BEANS, KALE, CABBAGE FAMILY
POTATOES	CORIANDER, MARIGOLD, BEANS, MAIZE, CABBAGE FAMILY, BRINJAL	PUMPKIN, CUCUMBER, SQUASH, MELONS, SUNFLOWERS, TOMATOES
SPINACH	STRAWBERRIES, BROAD BEANS, PEAS	NO BAD COMPANIONS
TOMATOES	BASIL, OREGANO, PARSLEY, CHIVES, NASTURTIUM, ONIONS, CARROTS, CELERY, CALENDULA, GERANIUM, BORAGE	POTATOES, FENNEL, CABBAGE FAMILY
CALENDULA	TOMATOES - REPELS TOMATO WORM!	GENERAL PEST DETERRANT, PLANT THROUGHOUT GARDEN
COMFREY	FAST-GROWING NUTRIENT ACCUMULATOR. PLANT ALONG EDGES & USE LEAVES FOR MULCH	COMPOST ACTIVATOR. USE LEAVES TO MAKE COMFREY TEA FERTILIZER!
CHILE PEPPER	CABBAGE, MAIZE	REPELS CABBAGE MOTH. PLANT ON BORDERS TO KEEP FLYING PESTS AWAY!
MARIGOLD	PLANT FREELY THROUGHOUT THE GARDEN - REPELS SOIL NEMATODES, APHIDS, BEAN BEETLES & MANY MORE	USE MARIGOLD LEAVES TO MAKE AN ORGANIC GENERAL INSECTICIDE SPRAY!
NASTURTIUM	TOMATOES - IMPROVES FLAVOR	REPELS WHITE FLIES & SPIDER MITES
THYME	CABBAGE	DETERS CABBAGE WORM
ROSEMARY	CARROTS, CABBAGE, SAGE, BEANS	DETERS CABBAGE MOTH, BEAN BEETLES & CARROT FLY!
WORMWOOD/ARTEMESIA	AROUND GARDEN EDGES	KEEPS ANIMALS OUT! ALSO REPELS WHITE FLY
YARROW	PLANT FREELY THROUGHOUT THE GARDEN. REPELS SOIL NEMATODES, APHIDS, BEAN BEETLES, AND MANY MORE!	PLANT NEAR AROMATIC HERBS TO ENHANCE ESSENTIAL OIL PRODUCTION

A DIVERSE GARDEN IS AN ABUNDANT GARDEN. HAPPY PLANTING!

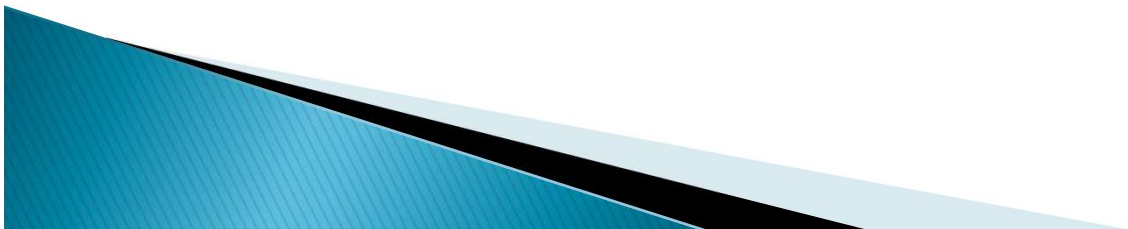
Warm Season Vegetables

- ▶ Bush beans (Feb–Apr)(Aug–Sept)
- ▶ Pole beans (Feb–Apr)(Aug–Sept)
- ▶ Corn (Jan–Apr)
- ▶ Cucumber (Jan–Mar)(Sept)
- ▶ Eggplant (Jan–Feb)(Aug–Sept)
- ▶ Okra (Feb–Aug)
- ▶ Peppers (sweet & hot)
(Jan–Mar) (Aug–Sept)
- ▶ Squash (Jan–Apr) (Aug–Sept)
- ▶ Tomatoes (Jan–Feb) (Aug–Sept)
- ▶ Pumpkins (mid-July)
- ▶ Watermelon (Jan–Mar)
- ▶ Cantaloupe (Jan–Mar)
- ▶ Sweet potato (Feb–Jun)
- ▶ Malabar Spinach



Beans

- ▶ **Snap:** Bush Blue Lake, Contender, Roma, Mascotte Provider, Long Purple Thai
- ▶ **Shell:** Horticultural, Pinto, Red Kidney, Black Bean, Navy
- ▶ **Pole:** Kentucky Wonder, Blue Lake, Kentucky Blue
- ▶ Thai Purple long bean
- ▶ Plant Feb–Apr, Aug–Sept for TG and Christmas
- ▶ 50–60 days to harvest



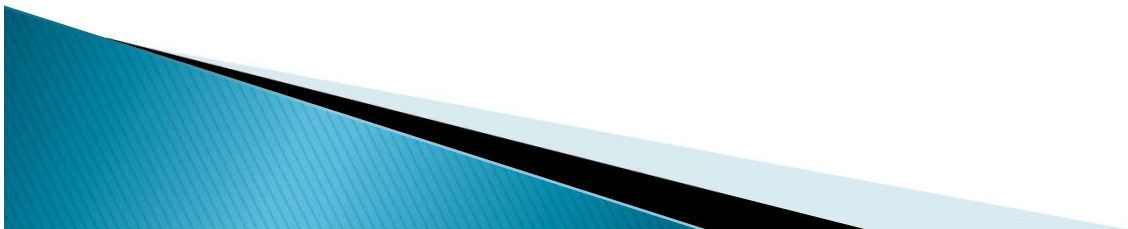
Corn

- ▶ **White:** Silver Queen, How Sweet It Is, Sweet Ice
- ▶ **Yellow:** Sweet Riser, Early Sunglow
- ▶ Plant in Jan–Apr
- ▶ 60–95 days to harvest



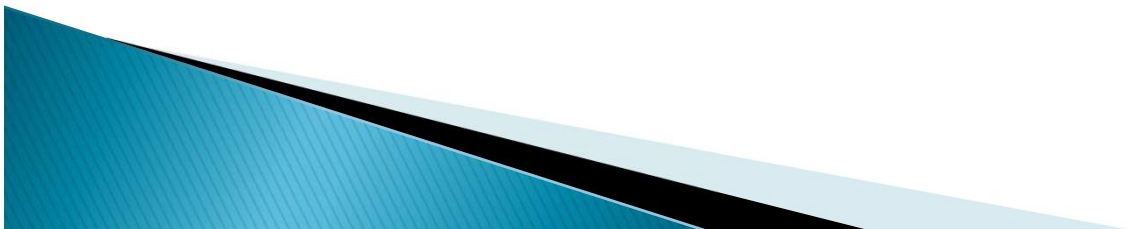
Cucumber

- ▶ **Slicers:** Sweet Success, Poinsett, Ashley, Diva, MarketMore 76, Straight Eight, Space Master
- ▶ **Picklers:** Liberty Hybrid, Eureka, Boston Pickling
- ▶ Plant Jan–Mar, Sept
- ▶ 50–65 days to harvest



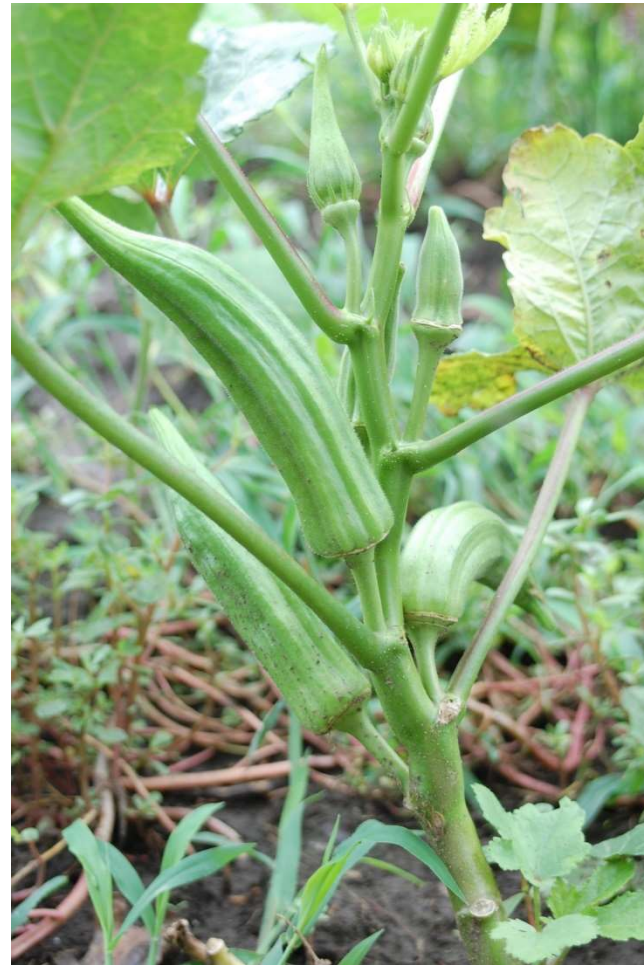
Eggplant

- ▶ Black Beauty, Dusky, Long, Ichiban, Cloud Nine (white)
- ▶ Plant in Jan–Feb, Aug–Sept
- ▶ Days to harvest 90–110



Okra

- ▶ Clemson Spineless, Emerald, Annie Oakley II, Cajun Delight
- ▶ Produces well in warm months.
- ▶ Highly susceptible to root-knot nematodes.
- ▶ Plant Feb-Aug
- ▶ 50–75 days to harvest



Peppers

- ▶ **Bell:** California Wonder, Red Knight, Big Bertha
- ▶ **Other Sweet:** Sweet Banana, Giant Marconi, Mariachi, Cubanelle
- ▶ **Jalapeno:** Early Jalapeno, Jalapeno
- ▶ **Specialty Hot:** Cherry Bomb, Hungarian Hot Wax, Big Chile II, Numex, Ancho, Thai,
- ▶ Anaheim Chile, Long Cayenne, Habanero, Caribbean Red Habanero
- ▶ Plant Jan–Mar, Aug–Sept
- ▶ Harvest in 80–100 days



Squash

- ▶ **Summer:** Early Prolific Straightneck, Summer Crookneck, Early White Scallop
- ▶ **Zucchini:** Coccozelle, Spineless Beauty, Black Beauty
- ▶ **Calabaza**
- ▶ **Patty Pans**
- ▶ Plant in Jan–Apr, Aug–Sept
- ▶ 40–55 days to harvest



Tomatoes

- ▶ **Determinate vs Indeterminate**
- ▶ **Large Fruit:** Celebrity, Heat Wave II, Better Boy, Beefmaster, BHN444-Southern Star, Amelia
- ▶ **Small Fruit:** Sweet 100, Juliet, Red Grape, Sun Gold, Sugar Snack, Sweet Baby Girl, Tumbling Tom
- ▶ **Heirloom:** Green Zebra, Cherokee Purple, Eva Purple Ball, Brandywine, Yellow Pear
- ▶ Plant Jan–Feb, Aug–Sept
- ▶ 90–110 days to harvest



Sweet Potato

- ▶ Centennial, Beauregard, Vardaman
- ▶ Plant Feb–June
- ▶ 120–140+ days to harvest



Cool Season Vegetables

- ▶ Beets (Aug–Feb)
- ▶ Broccoli (Sept–Feb)
- ▶ Cabbage (Sept–Feb)
- ▶ Carrots (Aug–Mar)
- ▶ Cauliflower (Sept–Feb)
- ▶ Chinese cabbage (Sept–Feb)
- ▶ Collards (Sept–Feb)
- ▶ Lettuce (Sept–Feb)
- ▶ Turnips (Jan–Apr) or (Aug–Oct)
- ▶ Mustard greens (Sept–Feb)
- ▶ Arugula/Mesclun (Sept–Mar)
- ▶ Onion bulb (Oct)
- ▶ Onion multi (Aug–Mar)
- ▶ Pea (Nov–Feb)
- ▶ Potatoes (Nov–Feb)
- ▶ Spinach (Sept–Mar)
- ▶ Strawberry (Sept 25–Oct 25)



Beets

- ▶ Tall Top, Early Wonder, Detroit Dark Red, Cylindra, Red Ace, Yellow Detroit
- ▶ Plant Aug–Feb
- ▶ Grow from seed or easy to transplant
- ▶ 50–65 days to harvest



Broccoli

- ▶ Early Green, Early Dividend, Green Sprouting/Calabrese, Waltham, Packman, De Cicco,
- ▶ Broccoli Raab (Rapini)
- ▶ Plant in Sept–Feb
- ▶ Seeds or transplants
- ▶ 75–90 days to harvest



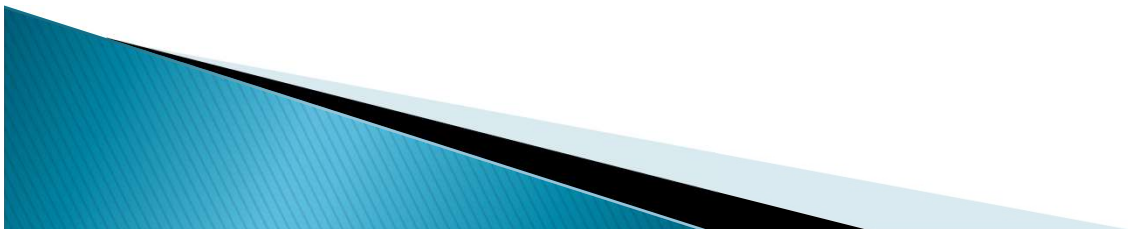
Cauliflower

- ▶ Snowball Strains, Snow Crown, Brocoverde
- ▶ Plant in Sept–Feb
- ▶ Seeds or Transplants
- ▶ 75–90 days to harvest from seed



Cabbage

- ▶ Rio Verde, Flat Dutch, Round Dutch, Wakefield types, Copenhagen Market, Savoy, Red Acre
- ▶ Plant in Sept–Feb
- ▶ 90–110 days to harvest



Carrots

- ▶ Emperor, Nantes, Danvers, Chantenay,
- ▶ Rainbow blend

- ▶ Plant Aug–Mar
- ▶ Seeds work best
- ▶ Very small-care in thinning
- ▶ Can take up to 80 days to harvest



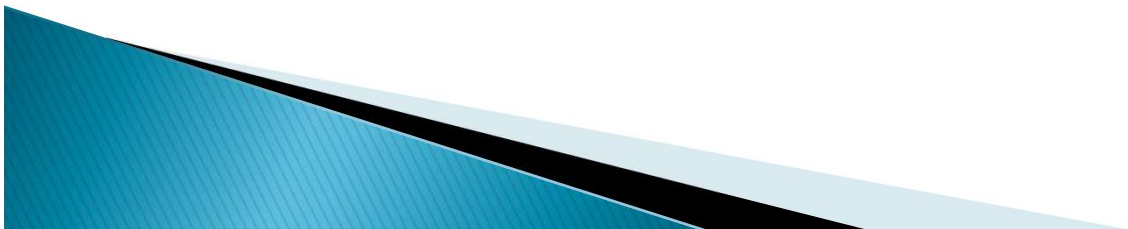
Chinese Cabbage

- ▶ Michihili, Bok Choy, Napa, Baby Bok Choy, Pak-choi, Joi Choi
- ▶ Plant in Sept–Apr
- ▶ Harvest in 70–90 days
- ▶ Seeds or transplants are fine



Collards

- ▶ Georgia, Georgia Southern, Top Bunch, Vates
- ▶ Plant in Sept–Feb
- ▶ Harvest in 70–80 days



Lettuce

- ▶ **Crisphead:** Great Lakes
- ▶ **Butterhead:** Ermosa, Bibb, Tom Thumb, Buttercrunch,
- ▶ **Loose Leaf:** Simpson types, Salad Bowl, Red Sails, New Red Fire
- ▶ **Oak Leaf:** Salad Bowl, Royal Oak
- ▶ **Romaine:** Parris Island Outredgeous, Green Towers
- ▶ Plant in Sept–Feb
- ▶ 50-90 days to harvest



Mustard Greens

- ▶ Southern Giant Curled, Florida Broad Leaf, Tendergreen, Giant Red, Green Wave, Mizuna
- ▶ Arugula or Rocket
- ▶ Mesclun

- ▶ Plant Sept–Feb
- ▶ 40-60 days to harvest



Onions

▶ Onion Bulb

- Granex (yellow)
- Oct
- 120–160 days to harvest



▶ Onion multi

- Evergreen Bunching, White Lisbon Bunching
- Aug-Mar
- 50–75 days to harvest



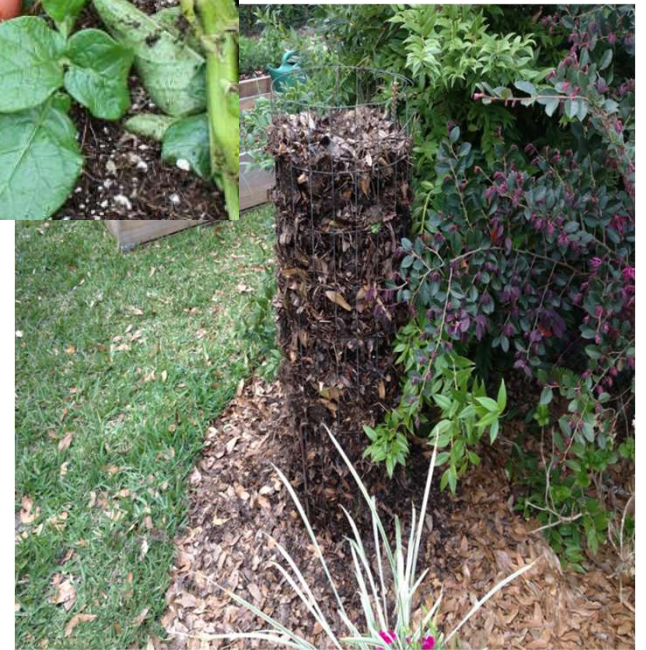
Pea

- ▶ 3 types: snap, shell & snow
- ▶ Wando, Green Arrow, Sugar Snap, Oregon, Sugarpod II
- ▶ Tom Thumb for containers
- ▶ Plant Nov–Feb
- ▶ 50–70 days to harvest
- ▶ Plant Oct for new peas at Christmas!
- ▶ Never plant in same place in consecutive years



Potatoes

- ▶ Red Pontiac, Yukon Gold, Gold Rush
- ▶ Plant in Nov–Feb
- ▶ 85–110 days to harvest
- ▶ Hill as they grow
- ▶ Alternative is potato tower



Spinach and Swiss Chard

- ▶ Melody, Bloomsdale Longstanding, Tye, Space
- ▶ Chard-will go into the heat too
 - Lucullus, Eldorado
 - Bright lights
 - Fordhook giant
- ▶ Plant in Sept–Mar
- ▶ 40–55 days to harvest



Plant Spacing

1 Extra Large Plant per Square

Pepper, Broccoli, Cauliflower, Cabbage, Tomato

4 Large Plants per Square

Lettuce, Marigolds, Chard

9 Medium Plants per Square

Spinach, Turnips, Beans

16 Small Plants per Square

Carrots, Onions, Beets

32 Very Small Plants per Square

Radishes



4 ft x 4 ft
Square Foot Garden



1 Cabbage



9 Green Beans



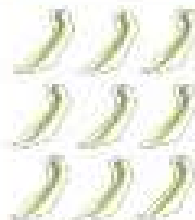
1 Pepper



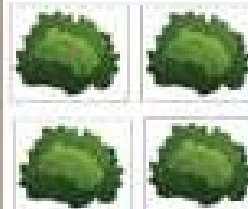
16 Onions



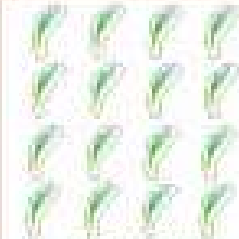
1 Broccoli



9 Green Beans



4 Lettuce



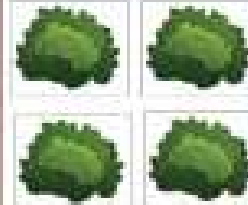
32 Green Onions



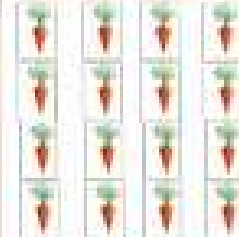
1 Cauliflower



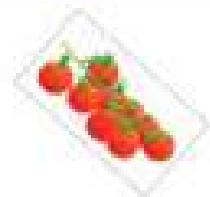
16 Beets



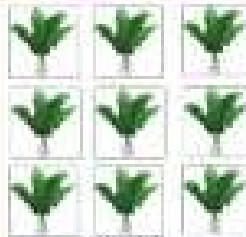
4 Lettuce



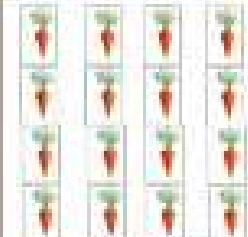
16 Carrots



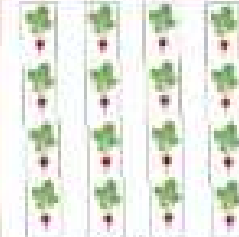
1 Cherry Tomato



9 Spinach



15 Carrots

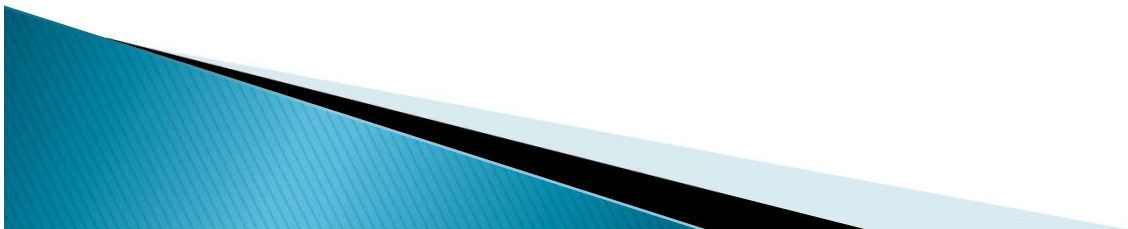


32 Radish



Spacing Florida Style

- ▶ Sometimes we need to adjust the spacing.
 - Zucchini 1 per 4 squares
 - Large Tomato plants 1 per 4 squares



Vertical Gardening

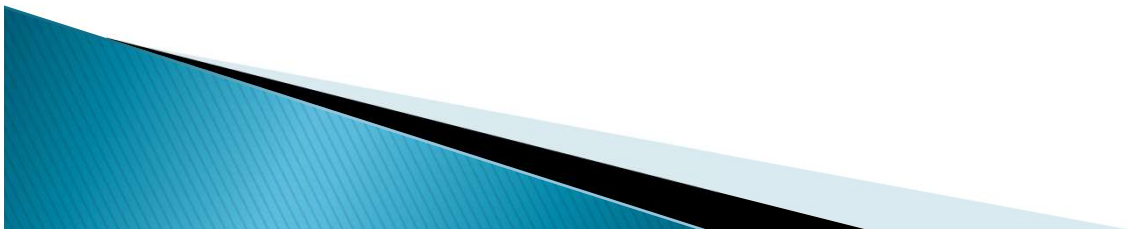
- ▶ Vertical Frames at North End
- ▶ **Don't Shade Garden**
- ▶ Frame or Pipe 4'x7'
- ▶ String or Net or on fence
- ▶ Hanging baskets



Vertical Gardening

Here is how much room you need for each vine crop

Plants Per Square Foot	Plants Per Two Square Feet
Gourd (1)	Melons (1)
Tomatoes (1)	Pumpkins (1)
Cucumbers (2)	Summer Squash (1)
Pole Beans (8)	Watermelon (1)
	Winter Squash (1)



Tomatoes

- ▶ Leave only a single stem-snip suckers
- ▶ Wind them through netting or tie to stakes





Plan for Pollinators

- ▶ Use flowering plants to bring pollinators in:
 - Zinnias
 - Buckwheat
 - Sunflowers
 - Agastache
 - Dill, parsley, garlic chives
 - Salvia
 - Coneflower





Sunflowers can be used as trap crops for stink bugs and leaf-footed bugs



Spray bugs with permethrin at dusk (after bees go to bed) or throw in soapy water

Fertilization

Fertilize every 2-3 weeks if not using Mel's mix

- Organic pelleted chicken manure
- Fish emulsion?
- 10-10-10/8-8-8
- Soil test?



Best to side dress

Water Your Garden

- ▶ Water by hand
- ▶ Or micro-irrigation on timer (find at box stores)



Plan for pest control

- ▶ Most problems can be controlled with an insecticidal soap like Safer Soap
- ▶ Neem oil is also effective on insects and can have a fungicidal effect also
- ▶ Use Bt (*Bacillus thuringiensis*) or manual removal for caterpillars (e.g. Dipel dust)
- ▶ Complete list in Garden Guide
- ▶ Scout regularly
- ▶ Ants can be treated with boiling water.
- ▶ Treat early



Trim off dead stuff

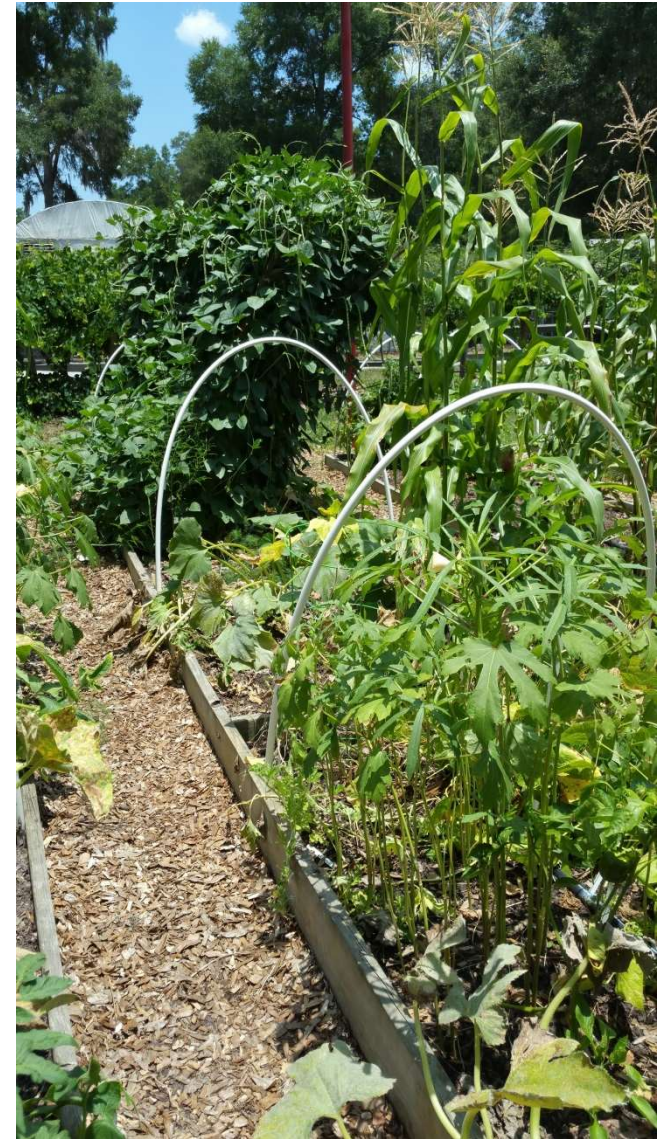


Other pests....



Protecting Your Garden

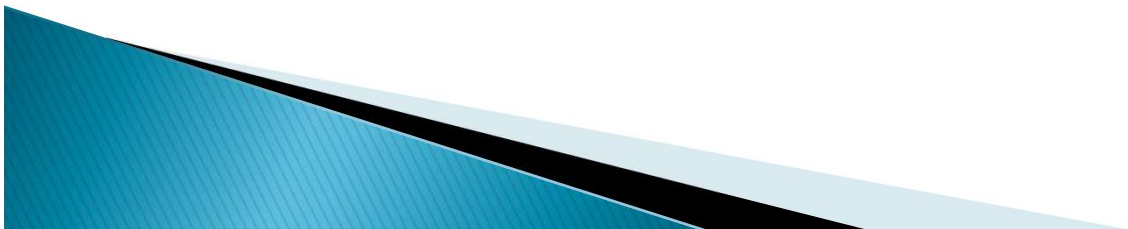
- ▶ Wire Fencing
- ▶ Bird netting
- ▶ Frost Cloth







This is protection from
FROST and FREEZES



Harvest Your Garden

- ▶ Harvest when it looks how you would purchase it
- ▶ Add new compost
- ▶ Replant with new and different crop
- ▶ Keep a record!



Bolting



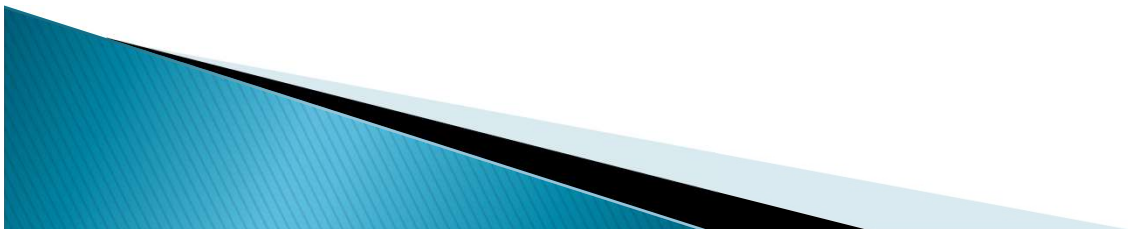
Composting

- ▶ Make your own compost to reduce costs and make garden sustainable



Cost of Square Foot Garden

▶ Lumber (cedar)	\$25.00
▶ 3 Cu Ft Peat	11.50
▶ 3 Cu Ft Compost	51.50
◦ Mushroom (\$4.24)	
◦ Black Kow (\$5.15)	
◦ Black Hen (\$19.99)	
◦ Worm Castings (\$21.99/20 lbs)	
▶ 3 Cu Ft Vermiculite	18.00
▶ Total	\$106.00









Happy growing!

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