Finding a Spot to Garden

- You don't need a lot of space to have a vegetable garden!
- All you need is a:
  - Patio
  - Deck
  - Balcony
  - Doorstep
  - Windowsill

Benefits of Container Gardening

- Accessibility
- Side-steps soil problems
- Requires little or no land
- Convenient
- Economical
- Efficiency

Selecting Containers

- Be creative!
- Plan for drainage
  - If adding holes, drill four or more ¼" spaced evenly
  - Put ~ ½" coarse gravel or small stones in bottom
- Small containers will dry out more quickly
Recycling Containers

- Scrub them well
- Rinse in a mild bleach solution
  - (9 parts water : 1 part bleach)
Preparing Containers

- For porous containers (clay, wood, cement), soak well in water before filling

The Container Dictates the Environment

- Plants will be more sensitive to temperature extremes
- Overheating can be the end of your container planting
- Thick wood insulates best
- Dark colored containers will absorb more heat
- Light colored containers reflect heat

Choose the Right Container

- Shallow containers (9-12” deep)
  - Beets
  - Leaf lettuce
  - Onions
  - Radishes
  - Spinach
  - Swiss chard

- Medium-depth containers (12-18” deep)
  - 9 to 18 inches
    - Carrots
  - 12 to 14 inches
    - Broccoli
    - Cabbage
    - Cauliflower
  - 14 to 16 inches
    - Peas
    - Peppers
    - Cherry tomatoes

- Deep containers (16-18” deep)
  - Beans
  - Cucumbers
  - Potatoes
  - Summer Squash
  - Tomatoes

Choosing Your Soil

- Media should drain well, but not dry out too fast
- Soilless mixes are a good choice because:
  - Free of disease organisms and weed seed
  - Less likely to compact
  - Hold moisture and nutrients well
  - Lightweight - make containers portable
Potting Mix Recipe

- Shredded sphagnum peat moss 1 bushel
- Vermiculite 1 bushel
- Ground limestone 1 ¼ cups
- Superphosphate (0-20-0) ½ cup or (0-45-0) ¼ cup
- Granular 5-10-5 fertilizer 1 cup

Moisten with water and store in plastic garbage bags or trash (clean!) can. Makes 2 bushels.

‘Organic’ Potting Mix Recipe

- Shredded sphagnum peat moss 1 bushel
- Vermiculite 1 bushel
- Ground limestone 1 ¼ cups
- Bonemeal 10 lbs.
- Bloodmeal 5 lbs.

Moisten with water and store in plastic garbage bags or trash (clean!) can. Makes 2 bushels.

Caring for Your Containers

- Location
  - Most vegetables grow & produce best when grown in full sun (at least 6 hours/day... 8 hours better!)
  - Fruit bearing plants require the most sun (cukes, tomatoes, peppers, eggplant, etc.)
  - Leafy vegetables (greens, cabbage, herbs) tolerate more shade than root crops (radishes, beets, onions)

Caring for Your Containers

- Watering
  - Required frequently! Daily?
  - Water thoroughly and deeply
  - Never let soil dry out completely
  - Overwatering will slowly kill your plants
  - Avoid wetting leaves
  - Water first thing in the morning

Caring for Your Containers

- Fertilization
  - Container-grown plants require more frequent fertilization than field-grown
    - Less soil from which to obtain nutrients
  - Apply a soluble fertilizer every week or two
Caring for Your Containers
• Trellising or Caging
  – Some tomatoes, cucumbers, beans, and greens will require
  – Be sure not to ‘shade out’ other containers

Diagnosing Common Problems in Container Gardens

The Container Doctor
• Symptoms:
  – Plants tall, spindly and unproductive
• Cause:
  – Insufficient light
  – Excessive nitrogen
• The Cure:
  – Move container to receive more sun
  – Reduce feeding intervals

The Container Doctor
• Symptoms:
  – Plants yellowing from bottom, lack vigor, poor color
• Cause:
  – Excessive water
  – Low fertility
• The Cure:
  – Reduce watering interval; check drainage
  – Increase fertility level

The Container Doctor
• Symptoms:
  – Plants wilt with sufficient moisture present
• Cause:
  – Poor drainage and aeration
• The Cure:
  – Use mix containing higher % organic matter
  – Increase # of drainage holes

The Container Doctor
• Symptoms:
  – Marginal burning or firing of the leaves
• Cause:
  – High salts
• The Cure:
  – Leach container with tap water at regular intervals
The Container Doctor

- Symptoms:
  - Plants stunted in growth; sickly, purplish color
- The Cause:
  - Low temperature
  - Low phosphate
- Cure:
  - Relocate container to warmer area
  - Increase phosphate level

The Container Doctor

- Symptoms:
  - Holes in leaves, leaves distorted in shape
- Cause:
  - Insects
- The Cure:
  - Scout your containers!
  - Squash them!
  - Dilute soap solution
  - Use a recommended insecticide

The Container Doctor

- Symptoms:
  - Plants leaves with spots; dead dried areas, or powdery or rusty areas
- Cause:
  - Plant diseases
- The Cure:
  - Remove infected parts
  - Be careful what time/how you’re watering
  - Give your plants more space next year!

The Crops

Eggplant

- Varieties to try:
  - Florida Market
  - Black Beauty
  - Long Tom
  - Fairy Tale
  - Bambino
  - Slim Jim
  - Ichiban
  - Mohican
  - Turkish
- Minimum container size:
  - 5 gallons
  - 1 gallon (cherry)
- Distance between plants:
  - 18-24"
- Days from seed to harvest:
  - 75-100
- Requires fertile soil
- Full sun

Tomatoes

- Minimum container size:
  - 5 gallons (large)
  - 1 gallon (cherry)
- Distance between plants:
  - 18-24"
- Days from seed to harvest:
  - 55-100
- Helps to stake and prune
- Full sun
Tomatoes

- Slicers
  - Bush Early Girl
  - Bush Stealth Hybrid (Shepherd’s)
  - Spring Giant
  - Better Boy
  - Jetstar
  - Bush Celebrity
  - Super Bush (Shepherd’s)
  - Teton
- Roma
  - Salalette
- Hanging Baskets
  - Tumbling Tom
  - Tumbler Hybrid

- Cherry
  - Golden Nugget
  - Sweet 100 Patio
  - Tiny Tim
  - Tommy Toe
  - Patio
  - Pase
  - Small Fry
  - Super Sweet 100
  - Sun Gold
  - Patio Princes (large)
- Grape
  - Golden Sunshine

Hanging Tomatoes

- Upside Down Tomatoes
  - www.upside downtomatoplant.com/

Peppers

- Minimum container size:
  - 2 gallons
- Distance between plants:
  - 12-18”
- Days from seed to harvest:
  - 60-90
- Require hot weather
- Full sun

- Bell
  - Tequila
  - Radish
  - Mohave
  - Lady Bell
  - Bell Bay
  - Volo Wonder
  - Kayotana Resistant Giant
  - Nov Ace
- Hot
  - Apache Chile
  - Cherry Bomb (Johnny’s)
  - Long Red Cyprene
  - Super Chile (Johnny’s, AAS)
  - Prairie Fire (Johnny’s)
  - (Hot) Red Cherry
  - Hot Lemon
  - Red Chili (hot)
  - Numex Twilight

Peppers

- Sweet Specialty
  - Yummy
  - Plazo My Heart (sweet)
  - Gypnu
  - Baby Bella
  - Sweet Banana
  - Balloon (sweet wings, HOT seeds!)

Squash

- Minimum container size:
  - 5 gallons
- Distance between plants:
  - 24-36”
- Days from seed to harvest:
  - 50-60 (summer)
  - 90-105 (winter)
- Bush types work best
- Full sun

- Zucchini
  - Eight Ball
  - One Ball
  - Cue Ball
  - Gold Rush (yellow)
  - Diplomat
  - Senator
  - (Green) Zucco
  - Dixie

- Winter Squash
  - Bush Delicata

- Yellow Squash
  - Papaya Pear
  - Pic-N-Pic
- Early Prolific Straightneck
- Patty Pan
  - Scallopss
Cucumbers
• Minimum container size: 5 gallons
• Distance between plants: 14-18”
• Days from seed to harvest: 45-60
• Vining types will need support
• Full sun

Varieties to try:
- Liberty
- Early Pick
- Crispy
- Salty
- Bush Champion (Burpee)
- Bush Slicer (Shepherd’s)
- Patio Pick
- Patio Pickles
- Albe
- Spacemaster
- Pot Luck
- Salad Bush
- Mexican Sour Gherkin

Melons
• Minimum container size: 5 gallons
• Distance between plants: 18-24”
• Days from seed to harvest: 70-80
• Personal-sized melons
• Full sun

Varieties to try:
- Minnesota Midget
- Snow Leopard
- Savor
- Charantais
- Sugar Nut

Lettuce
• Minimum container size: 1/2 gallon
• Distance between plants: 4-6”
• Days from seed to harvest: 21-35
• Multiple cuttings on leaves
• Partial shade

Leaf Lettuce
• Buttercrunch
• Salad Bowl
• Romaine
• Darla Green Boston
• Ruby
• Bibb
• Garden Babies
• Heatwave Loose Leaf
• Green Ice
• Red Sails
• Black Seeded Simpson
• Buttercrunch
• Oakeleaf
• Gourmet Lettuce Blends
• Mesclun Mixes

Swiss Chard
• Minimum container size: 2 gallons
• Distance between plants: 18-24”
• Days from seed to harvest: About 30 for baby
• Partial shade/full sun

Varieties to try:
- Bright Lights
- Fordhook Giant (white ribbed)
- Lucullus (green ribbed)
- Bionda di Lyon

Spinach
• Minimum container size: 1 gallon
• Distance between plants: 1-2”
• Days from seed to harvest: 40-60
• Partial shade/full sun

Varieties to try:
- Baby Spinach
- Dark Green Bloomsdale
- American Viking
- Melody
- Malabar
- New Zealand Spinach
### Kale
- Varieties to try:
  - Starbor
  - Redbor
  - Winterbor
  - Kale-Dwarf Blue Curled Scotch
  - Dinosaur (Lacinato)

- Minimum container size: 5 gallons
- Distance between plants: 10-15"
- Days from seed to harvest: 55-65
- Excellent in fall & winter
- Partial shade/full sun

### Other Greens
- Arugula
- Pak Choy
- Watercress
- Radicchio
- Komatsuna
- Mizuna

### Broccoli and Cauliflower
- Varieties to try:
  - Green Comet
  - DeCicco
  - Munchkin
  - Happy Rich
  - Graffiti
  - Cheddar

- Minimum container size: 3 gallons
- Distance between plants: 8"
- Days from seed to harvest: 50-70
- Fall or spring
- Full sun

### Brussel Sprouts
- Varieties to try:
  - Jade Cross
  - Long Island

- Minimum container size: 5 gallons
- Distance between plants: 18"
- Days from seed to harvest: 90-110
- Can be harvested after frost
- Full sun

### Cabbage
- Varieties to try:
  - Dwarf Morden
  - Red Ace
  - Early Jersey Wakefield
  - Caraflex
  - Chinese
  - Michihili

- Minimum container size: 5 gallons
- Distance between plants: 12-18"
- Days from seed to harvest: 65-105
- Heavy feeder
- Full sun/partial shade

### Onions
- Varieties to try:
  - Green
  - Beltville Bunching
  - Crystal Wax
  - Evergreen Bunching
  - White
  - White Sweet Spanish
  - Yellow
  - Yellow Sweet Spanish
  - Mini
  - Purplette
  - Gold Coin

- Minimum container size:
  - 1/2 gallon (green)
  - 3 gallons (bulb)
- Distance between plants: 2-5"
- Days from seed to harvest: 65-100
- Need lots of moisture
- Full sun/partial shade
Green Beans

- Varieties to try:
  - Topcrop
  - Greencrop
  - Contender
  - (Pole) Blue Lake
- Minimum container size:
  - 2 gallons
- Distance between plants:
  - 2-3"
- Days from seed to harvest:
  - 45-60
- Succession planting
- Full sun

Lima Beans

- Varieties to try:
  - Henderson Bush
  - Jackson
  - Wonder Bush
- Minimum container size:
  - 3 gallons
- Distance between plants:
  - 3-4" (baby)
  - 6" (bush)
- Days from seed to harvest:
  - 65-80
- Full sun

Edamame

- Minimum container size:
  - 3 gallons
- Distance between plants:
  - 15-30"
- Days from seed to harvest:
  - 75-104
- Harvest immature
- Full sun

- Varieties to try:
  - Black Jet
  - Envy
  - Sayamusume

Beets

- Varieties to try:
  - Little Egypt
  - Early Red Ball
  - Chioggia
  - Ruby Queen
  - Golden
  - Detroit White
  - Bull’s Blood (tops, beets)
- Minimum container size:
  - 1/2 gallon
- Distance between plants:
  - 2-3"
- Days from seed to harvest:
  - 50-60
- Thin plants when 6-8” tall
- Full sun/partial shade

Carrots

- Varieties to try:
  - Short & Sweet
  - Danvers Half Long
  - Tiny Sweet
  - Little Finger
  - Nantes Half Long
  - Thumbelina
- Minimum container size:
  - 1 quart
- Distance between plants:
  - 2-3"
- Days from seed to harvest:
  - 65-80
- Several plantings
- Full sun/partial shade

Radishes

- Varieties to try:
  - Cherry Belle
  - Scarlet Globe
  - (White) Icicle
  - Champion
  - Cornet
  - Sparkler
  - Easter Egg Blend
- Minimum container size:
  - 1 pint (A shoe?)
- Distance between plants:
  - 1"
- Days from seed to harvest:
  - 25-35
- Several plantings
- Full sun/partial shade
Turnips
• Minimum container size:
  – 3 gallons
• Distance between plants:
  – 2-3”
• Days from seed to harvest:
  – 30-60
• Harvest leaves and roots
• Full sun/partial shade
• Varieties to try:
  – Hakurai
  – Toyko Cross
  – Golden Ball

Herbs
• Basil
• Thyme
• Cilantro
• Catmint ‘Wallers Low’
• Dill ‘Compatto’
• Horehound
• Lavender
• Lemon Balm
• Marjoram
• Mint
  (always contain!)
• Nasturtiums
• Parsley ‘Evergreen,’
  ‘Moss Curled’
• Rosemary
  (prostate or creeping)
• Tarragon
• Sage
• Savory (summer or winter)
• Scented geraniums

Companion Planting
• Planting species together that
  provide one or more plants a
  cultural benefit

Potential Benefits
• Attract beneficial insects
• Increased pollination
• Fertilizer
• Shade
• Weed control
• Trellis system
• Increased yields

How does it work?
• Employed for centuries
• Mechanisms behind interactions not
  well understood
• Planting combinations based on
  observations, science &
  unconventional sources

Scientific Basis
• Trap cropping
• Symbiotic nitrogen fixation
• Biochemical pest suppression
• Plant spatial interactions
• Nurse cropping
• Beneficial habitat
• Diversity
The Italian Container
- Basil
- Oregano
- A patio tomato
- A sweet pepper

From www.motherearthsgarden.com

The Fiesta Container
- Cilantro
- Your favorite hot pepper
- Chives
- A patio tomato
- Tomatillo plant

From www.motherearthsgarden.com

The Summer Tea Container
- Lemon balm (plant in its own pot)
- Echinacea
- Bee Balm (Oswego tea)
- Chamomile
- Lavender
- Mint

From www.motherearthsgarden.com

Container Gardening Resources
- Container Vegetable Gardening
  - http://www.ces.ncsu.edu/depts/hort/hil/hil-8105.html
  - http://www.extension.iastate.edu/Publications/PM870B.pdf
- Grow Vegetables in Containers
- Container Gardening
  - http://www.wvu.edu/~agexten/horticult/homegard/cntanegrd.htm
- Vegetable Gardening in Containers
  - http://aggie-horticulture.tamu.edu/extension/container/container.html

Seed Sources
- Johnny’s Selected Seed
  - www.johnnyseeds.com/
- Burpee
  - www.burpee.com/
- Shepherd’s Seed or Renee’s Garden
  - www.reneesgarden.com/hm-gardnr/resource/shepherd.htm
- Seeds of Change
  - www.seedsofchange.com/
- Totally Tomatoes
  - www.totallytomato.com/

Thank you!
Questions?
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