Alternative Vegetable Gardening

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http://tiny.cc/tm7sx
Edibles!

Epcot, April 2010
Edibles!

New York Botanical Garden – June, 2010
Lots of people want to grow food, but not everyone can or will dig up the yard.
Soil / Site Issues

- Poor soil
- Soil pests
- Trees
- Limited space
- Deed restrictions
- Love the lawn!
Human Issues

GROW DAMMIT!
Alternative Gardening Demo
UF Plant City Teaching Gardens
Alternative Veggie Gardens

Above the ground;
In some type of container;
In soil-less media;
All other veggie rules apply.
Growing Media

- Perlite
- Vermiculite
- Gravel
- Sand
- Sawdust
- Bark
- Rockwool
- Coco Fiber
- Compost
- Combinations of these
- Commercial soil mixes
- Water + nutrients
Alternative Gardening

**Sunlight**
Minimum of 5-6 hours

**Pests**
Scout frequently
# Alternative Gardening

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
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<tbody>
<tr>
<td>• Avoid soil</td>
<td>• Expensive – some</td>
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<tr>
<td>• Good results</td>
<td>• Assembly required – some</td>
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<tr>
<td>• Portable – some</td>
<td>• Water intensive</td>
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<td>• Can garden on hard spaces</td>
<td>• Limited growing space / yields</td>
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<td>• Less physical</td>
<td>• $$$ Payback?</td>
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<td>• Great for kids and “challenged”</td>
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Small-scale Containers

- Pots – plastic, clay, glazed
- Buckets, baskets, barrels, bags
- Grow boxes
- Vertical systems
Containers

• 1 gal – herbs, small veggies
• 5 gal minimum – big veggies
• Provide drainage
• Stake / support
Hanging Containers

Topsy Turvy™

Heavy! – Need strong support.
Other Containers

Barrels

Baskets

Buckets
Grow Bags

Plastic, mesh or felt bags. Some have handles; some come pre-filled with media.
“Lay-flat Bags”
Plastic bags filled with soil-less media

Lettuce
Dwarf Cucumbers
Onions
Herbs
Soil Bags
Grow Boxes

- Various sizes
- Use potting (soil-less) mixes
- Have a reservoir of water
- Fertilize one time (2 cups granular fertilizer)
- Keep cover on until you’re ready to replant
- Vining plants need support
EarthBox®

GETTING STARTED

Fill Tube
Screen
Rear Cutout
Water Reservoir
Overflow Hole

http://www.earthbox.com
EarthBox®

1. 
2. 
3. 
4. 
5.
Grow Boxes

Tomatoes on a rope
http://www.earthbox.com
Vertical Growing System

- Very space efficient
- Reduced disease - better air flow and less soil splashing
- Easy to harvest
**Vertical Growing System**

- Great for ‘cut and come again’ crops such as:
  - Leafy greens
  - Herbs
  - Edible flowers
Vertical Growing System

- Commercial kits include:
  - poles
  - styrofoam pots
  - media
  - fertilizer
  - drip irrigation
  - pump, timer

Transplants and nutrient tank not supplied
Vertical Growing System
Examples of Commercial Products

- [http://vertigro.com/](http://vertigro.com/)

...and others
Low Cost Vertical System

http://edis.ifas.ufl.edu/hs1186
Large-scale Containers

Concrete blocks

- Raised beds
- Hay bales
Raised Beds
Raised Beds

Construction
4’ wide
6-18” high, 24” for wheelchairs
Pressure treated lumber?
The American Horticultural Therapy Association

http://www.ahta.org
Raised Beds
Easy Garden Box™

1. 2. 3. 4.
Raised Bed Brackets
Hay Bale Garden
Hay Bale Garden
Filtrexx Garden Soxx™
Filtrexx Garden Soxx™
Raised Beds

2008 Victory Garden in San Francisco
Soil Recipe

Sample Mixture

For each bushel of soil-less media

• 1.25 cups dolomite

• 1 cup 8-8-8 fertilizer w/ micronutrients
Controlled-release Fertilizers

• Ex: Osmocote and Dynamite
• Choose products that include micronutrients
• Select release rate based on crop (i.e. 3 month, 6 month, etc.)
Hydroponic Gardening
Growing plants in water and dissolved nutrients - no soil

- Potato Box
- Floating Gardens
Potatoes in Perlite
Clean & easy harvest

Round II – Sweet Potatoes
Floating Gardens
Plants “Float” on Styrofoam Bed with Roots in Nutrient Solution
Plants “Float” on Styrofoam Bed with Roots in Nutrient Solution
Floating Garden Construction

- 2’x8’ boards used to construct 4’x8’ frame
- 6 mil plastic lining
Add Simple PVC Structures for Cold or Deer/rabbit Protection
Use any un-drained container at least 6” high
What Can You Grow?

Lettuces, mustard greens, mizuna, kale, basil, green onions, Swiss Chard, cucumber, watercress. Others?
Mix Nutrient Solution

2 tsp 20-20-20 (w/micros) or equivalent soluble fertilizer

+ 1 tsp Epsom Salt

...per gallon of water
Drill Holes in Styrofoam

- 1 1/2 inch styrofoam
- Drill or cut holes 12” apart
- Diameter of holes = size of net pots or cups
3” net pot = 35 cents

Plastic Cup

Styrofoam Cup
Place Transplant into Cups

Bottom of cup should extend no more than 1/8” below styrofoam
Floating Garden

35-gallon Plastic Garden Pond
Floating Garden

Go to http://vfd.ifas.ufl.edu/ for a "how to" video and more info

Building a Floating Hydroponic Garden

The Aztecs and Incas used the Spanish conquistadors to build floating gardens, and now 500 years later you can impress your friends and neighbors with your own. A floating hydroponic garden is easy to build and can provide a tremendous amount of nutritious vegetables for human use. And best of all, hydroponic systems avoid pest problems commonly associated with soil. This simple guide will show you how to build your own floating hydroponic garden using materials locally available at a cost of about $50.00 (Figure 1).

Construction Steps

- Build a rectangular frame using 2 by 4-inch or 2 by 6-inch treated lumber. The frame should be 1 foot, 1 foot wide by 4 feet, 4 feet long. The frame is made of wood and can be used as the main structure for the system. The size can be varied to suit personal needs.
- Line the frame with 6 mil polyethylene film long enough to contain the nutrient solution. Carefully cut the film to size, which could potentially be polyethylene film.
- Secure one end and sides of the liner to the top edge of the frame with 1 by 2-inch framing strips or lumber using wood screws or nails.
- Place a 5 by 5-foot sheet of 1/2-inch thick styrene insulation in the frame. Make sure the edges have sufficient room to allow the garden to move up and down. If necessary, adjust the frame to make it square with the styrene sheet. The styrene sheet will serve as a floating platform in the wooden frame you have constructed.

Figure 1: Lettuce in floating garden system.
Choosing Varieties

- Select proven varieties
- Try dwarf/“mini” veggies
- Choose pest-resistant varieties
Transplants: Store-bought or Home-grown?

**TRANSPLANTS** = Faster start

**SEEDS** = More choice
“Bio-sponges”
(sphagnum moss and composted bark)

120 - $12
Park Seed Co.
Ready for a break?
Thanks!

DISCLAIMER

Many other products exist. Mention of a company's name/product is not intended to be an endorsement or a preference over other products.