# Gardening in Small Spaces

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# Where Can We Grow Plants?

# In Ground

- Can grow almost anything
- Must have (or make it yourself) 'good', well-drained soil
- Close to water
- Tiller
- Soil is free

# What Can I Grow?

- Herbs
- Almost any vegetable
- Blueberries
- Strawberries

# Containers

- Plastic
- Terra cotta
- Metal
- Wood
- And many others


F1 Salad Bush
ALL AMERICA SELECTIONS WINNER

# Growing More with Less Space

## Intensive Gardening

Conventional gardens, planted in rows about 3 feet apart, have been popular for many years because they can be planted and easily cultivated with a farm tractor or a rototiller. However, because of the wide spaces between rows, such gardens are not very space efficient. Gardeners with limited land area may want to plan an intensive garden.

Intensive gardens employ space-saving techniques such as wide-row planting, raised beds, intercropping, succession planting, vertical training and planting in stairstep arrangements. Extending the growing season using plant protectors is another technique of intensive gardening. Lettuce, radishes and other cool-season crops can be grown early in the spring or late in the fall with such protection.

Keep in mind that some intensive techniques may require more time, labor and money than conventional techniques. Also, closely spaced plants use more water than widely spaced plants, and competition for water may reduce yields during times of drought.

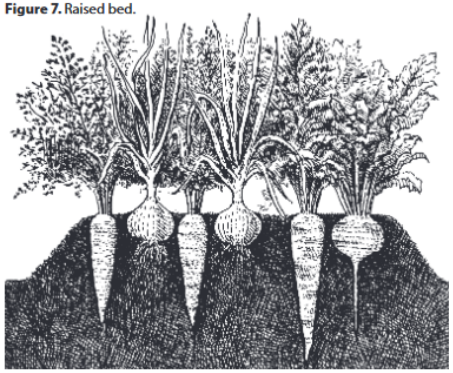
In wide-row planting, vegetables are planted in wide rows between narrow pathways as opposed to single rows with wide spaces between the rows. The vegetables are spaced so that they will just touch one another at maturity. This method of gardening may reduce weed problems, although hand weeding will be more difficult. Since less soil remains bare than in conventional gardens, usually less erosion occurs.

Be aware that vegetables prone to certain diseases should not be planted too intensively. Tomatoes, for example, will suffer less from disease if moving air dries their leaves. When placed too closely, plant leaves retain moisture longer, and disease organisms thrive and are easily spre

### Raised Beds

Raised beds increase p
cellent root developmer
en the soil and mix it wi
paring the Soil"). Then,
and permanent paths be
soil. Combining raised
as wide-row planting, in
the greatest yields in a g
in raised beds often per
so will dry out faster th

**Figure 7.** Raised bed.



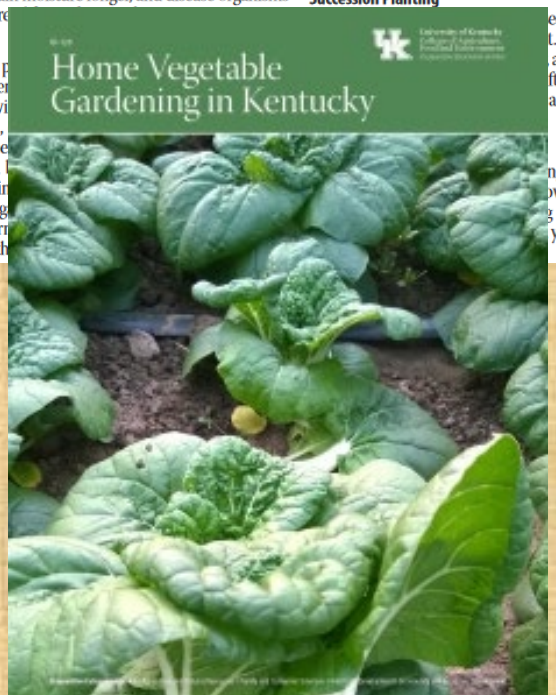
- Also, try sowing radish seeds with carrot seeds. The radishes germinate quickly, marking the row of slowly sprouting carrots. Radishes are harvested within a few weeks, long before they interfere with the carrots.

Many other intercropping ideas will develop from your own gardening experience. Remember, however, that yields of certain vegetables may be reduced when crowded.

### Succession Planting

eed or transplant immediately
t. For example, when you har-
a Swiss chard or New Zealand
fter harvesting an early crop of
a fall crop of broccoli, spinach

ng plants upright rather than
w vine crops, tomatoes, peas
trellises, or in cages. Besides
you will also have cleaner fruit




# Home Vegetable Gardening in KY ID–128

**Table 9.** Container vegetable recommendations.

| Season/ Light Req. | Spacing/ Container Size | Varieties | Days until Harvest |
|---|---|---|---|
| **Bean (green, bush type)** | | | |
| Warm<br>Full sun | 5 - 6" apart<br>8 - 10" deep | Romano Bush | 50 |
| | | Blue Lake Bush | 58 |
| | | Tendercrop | 54 |
| **Beets** | | | |
| Cool<br>Tolerates partial shade | 2 - 3" apart<br>24" x 36" x 8" | Kestrel | 53 |
| | | Red Ace | 53 |
| | | Merlin | 55 |
| | | Detroit Supreme | 59 |
| **Broccoli** | | | |
| Cool<br>Full sun | 15" apart<br>12" x 48" x 8" | Green Comet | 55 |
| | | Emperor | 60 |
| **Cabbage** | | | |
| Cool<br>Full sun | 12 - 24" apart<br>10" deep | Fast Vantage | 65 |
| | | Stonehead | 70 |
| | | Market Prize | 76 |
| | | Super Red 80 | 82 |
| **Carrots** | | | |
| Spring, Fall<br>Partial shade | 1½ - 3" apart<br>24" x 36" x 10" | Ya Ya | 56 |
| | | Sugarsnax | 68 |
| | | Little Fingers | 65 |
| **Collards** | | | |
| Cool, Fall<br>Full sun | 6" apart<br>8 - 10" deep | Champion | 60 |
| | | Georgia/Southern | 80 |
| | | Vates | 80 |
| **Cucumbers** | | | |
| Warm<br>Full sun | 12 - 16" apart<br>12" x 48" x 8" | Sweet Success | 55 |
| | | Sweet Burpless Hybrid | 55 |
| **Eggplant** | | | |
| Warm<br>Full sun | 1 per 4 - 5 gal container | Orient Express (Japanese type) | 58 |
| | | Dusky | 61 |
| | | Blackbell | 70 |
| | 12" apart<br>10 - 12" deep | Fairy Tale | 50 |
| **Kale** | | | |
| Cool, Fall<br>Partial shade | 6" apart<br>12" x 48" x 8" | Dwarf Blue Curled | 55 |
| | | Vates | 57 |
| **Lettuce** | | | |
| Early spring, Fall<br>Partial shade | 4 - 6" apart, leaf;<br>10" apart, head<br>12" x 48" x 8" | Kentucky Bibb | 54 |
| | | Buttercrunch | 75 |
| | | Royal Oakleaf | 50 |
| | | Red Sails | 45 |
| | | Burpee's Iceburg | 85 |

**Table 9.** (continued)

| Season/ Light Req. | Spacing/ Container Size | Varieties | Days until Harvest |
|---|---|---|---|
| **Peas** | | | |
| Cool<br>Full sun | 4 - 6" apart<br>8 - 10" deep | Little Marvel | 62 |
| | | Sugar Ann | 55 |
| | | Cascadia | 58 |
| **Peppers** | | | |
| Warm<br>Full sun | 14 - 18" apart<br>½ - 4 gal | Carmen | 75 |
| | | King Arthur | 59 |
| | | Gypsy Hybrid | 65 |
| | | Hot Anaheim | 77 |
| | | Hungarian Wax | 65 |
| | | Jalapeno | 65 |
| **Radishes** | | | |
| Early spring, Fall<br>Full sun to light shade | 1" apart<br>Any size, 6" deep | Cherriette | 26 |
| | | Cherry Belle | 30 |
| | | Icicle | 28 |
| | | Cherry Bomb | 25 |
| **Spinach** | | | |
| Spring, Fall<br>Full sun to light shade | 5" apart<br>Any size, 6" deep | Tyee | 42 |
| | | Melody | 43 |
| | | Bloomsdale Long-Standing | 48 |
| **Summer Squash** | | | |
| Warm<br>Full Sun | 1 per 5 gal container | Black Magic (green zucchini) | 44 |
| | | Gold Rush (yellow zucchini) | 50 |
| | | Burpee Hybrid (green zucchini) | 50 |
| | | Sunburst (yellow scallop) | 52 |
| **Swiss Chard** | | | |
| Spring, Summer, Fall<br>Partial shade | 4 - 5" apart<br>Any size, 6 - 8" deep | Bright Lights | 55 |
| | | Rhubarb Chard | 60 |
| | | Fordhook Giant | 60 |
| **Tomatoes[2]** | | | |
| Warm<br>Full sun, at least 6 hrs/day | 1 per 4 - 5 gal container | Lizzano | 65 |
| | | Terenzo | 56 |
| | | Tumbler | 49 |
| | | Superb Super Bush | 75 |
| **Turnips** | | | |
| Cool<br>Partial shade | 3 - 4" apart<br>24" x 36" x 8" | Hakurei | 38 |
| | | Purpletop Globe | 55 |
| | | Seven Top | 42 |
| **Zucchini** | | | |
| Warm<br>Full sun | 1 per 5 gal container | Spineless Perfection (green) | 45 |

ID-248

University of Kentucky
College of Agriculture, Food and Environment
*Cooperative Extension Service*

# Gardening in Small Spaces

*Rick Durham, Horticulture; Brad Lee, Plant and Soil Science; and Ashley Osborne, 4-H Youth Development*

Gardening, in one form or another, is a popular hobby in the United States. Taking part in gardening activities helps promote healthy habits, including spending time outdoors, being physically active, and consuming homegrown fruits and vegetables.

Although most would agree that gardening is a worthwhile endeavor,

- Better root growth from amending native soils or utilizing soilless mixes typically results in higher yields from plants grown in raised beds.
- Raised beds require less stooping during weeding and watering, making gardening easier for those with limited mobility.
- Raised beds allow for more efficient

has a low pH (3.5–4.0) and requires addition of lime for most crops. Used in moderation, peat is considered by some as a renewable resource; however, its regrowth rate is slow at 1 mm per year.

- **Coir pith.** Coir is the fibrous out of a coconut that is used t rope and mats. A byproduc

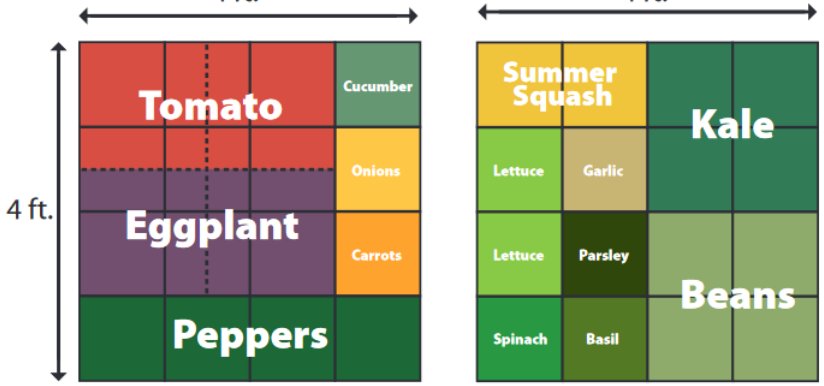



**Figure 1.** Example of vegetable spacing in a raised bed garden*

* As you plan from year to year, remember to move plants around if possible. In this example, each year the plants grown in the first bed (e.g., t eggplant, peppers) can be moved to the second bed and plants grown in the second bed (e.g., summer squash, kale, lettuce) can be moved to prevent build up of certain pests.

** Early plants are grouped together for crop succession and smaller plants are placed on the outer areas of the garden to avoid shading.

help reduce disease. Factors that may increase disease pressure include disease present on plants growing during the previous year, disease susceptible cultivars being planted, or the garden area lacking exposure to morning sun to quickly dry dew and evening rains.

Raised bed gardens are ideal for succession planting. Succession planting allows a garden space to be used throughout the growing season, in spring, summer, and fall. For example, a plant that is harvested in spring is immediately replaced by a seed or transplant to be grown and harvested in summer. Vegetables such as spinach, lettuce, cabbage, and broccoli, grow well in spring and can be planted relatively early (late March or early April). These crops are often harvested by mid-May when summer vegetables, such as tomatoes, beans, peppers, and squash are planted. Some (many of the same cool-season crops that were grown in the spring garden). Preparing for three gardening seasons and planting in succession will achieve the most intensive and efficient use of your garden space. For additional information on when to plant consult Home Vegetable Gardening in Kentucky (ID-128).

Training plants to grow vertically also allows for intensive and efficient gardening. This approach saves space and often results in higher quality produce. Examples include tomatoes and vine crops. Tomatoes can and should be staked or caged to support vertical growth. Vine-crops such as cucumber, squash, and even melons can be trained to a trellis rather than allowed to sprawl across the ground. In the case of squash and melons, both of which have large fruit, individual fruit may need to be held up by a sling of plastic mesh or nylon hose for additional

not grow tomatoes (and rel such as potatoes, peppers, an in the same bed for more t three years. Give the planti break from tomatoes (and rel for a couple of years by movi another bed, growing them in or not growing them at all. T will prevent pests from buil high numbers that will eventu the performance of your pl Figure 1. An alternative to thi tion practice is to remove and soilless or amended soil mix to three years when the sam being grown in the same spa

### Care and Maintenance

One of the benefits of rai that the plants are elevated walkway and less stooping is r maintenance and harvest of

ing may be especially noticeable in fall and spring. If the raised beds are high (> 24 inches) you might consider adding a large uncomposted organic component in the bottom of the bed. Before adding amended soil or soilless mix, up to two thirds of the raised bed height could be filled with the leaves, straw, grass clippings, newspaper, or wood chips (or a mixture of these components). Use a layer of grass clippings or some other compostable organic layer to separate the blended mixture of native soil and organic amendments from the bottom two thirds of raw organic material. The bottom two thirds of the raised bed will

*The following vegetables will grow in an area receiving 4 to 6 hours of direct sunlight a day (however, best yields may be realized in full sun).*

| | | |
|---|---|---|
| *Carrots* | *Lettuce* | *Radishes* |
| *Cauliflower* | *Onion* | *Spinach* |
| *Swiss chard* | *Parsley* | *Winter squash* |
| *Cucumber* | *Peas* | |

**Table 1.** Cost comparison of material to construct the frame of a 4 foot x 4 foot x 12 inch raised bed

| Item Description | Cost Per Item ($)* | Quantity | Adjusted Cost |
|---|---|---|---|
| **Pressure Treated Lumber 4' x 4' x 12" Raised Bed** | | | |
| 2" x 12" x 8' Pressure Treated lumber | 13.97 | 2 | 27.94 |
| 4" x 4" x 8' Treated post for corner bracing | 8.17 | 0.5 | 4.09 |
| Galvanized 1/4" x 3" lag screw | 0.63 | 16 | 10.08 |
| Galvanized 1/4" flat washer | 0.12 | 16 | 1.92 |
| **TOTAL** | | | **44.03** |
| **Pressure Treated Lumber 4' x 4' x 12" Raised Bed** | | | |
| 5/4" x 6" x 8' Pressure Treated lumber | 5.37 | 4 | 21.48 |
| 4" x 4" x 8' Treated post for corner bracing | 8.17 | 0.5 | 4.09 |
| Galvanized 1/4" x 3" lag screw | 0.63 | 32 | 20.16 |
| Galvanized 1/4" flat washer | 0.12 | 32 | 3.84 |
| **TOTAL** | | | **49.57** |
| **Composite Decking 4' x 4' x 12" Raised Bed** | | | |
| 1" x 5.5" x 8' composite deck material | 17.97 | 4 | 71.88 |
| 4" x 4" x 8' Treated post for corner bracing | 8.17 | 0.5 | 4.09 |
| Galvanized 1/4" x 3" lag screw | 0.63 | 32 | 20.16 |
| Galvanized Steel 1/4" flat washer | 0.12 | 32 | 3.84 |
| **TOTAL** | | | **99.97** |
| **Cedar Board 4' x 4' x 12" Raised Bed** | | | |
| 1" x 6" x 8' Cedar board | 18.57 | 4 | 74.28 |
| 4" x 4" x 8' Treated post for corner bracing | 8.17 | 0.5 | 4.09 |
| Galvanized 1/4" x 3" lag screw | 0.63 | 32 | 20.16 |
| Galvanized Steel 1/4" flat washer | 0.12 | 32 | 3.84 |
| **TOTAL** | | | **102.37** |
| **Concrete Block 4' x 4' x 12" Raised Bed** | | | |
| 16" x 8" x 8" Concrete block (Hollow for base) | 1.35 | 12 | 16.20 |
| 16" x 8" x 4" Concrete block (Solid for top cap) | 1.34 | 12 | 16.08 |
| **TOTAL** | | | **32.28** |

*Costs obtained September 2016

# Raised Beds

- Any vegetable or fruit
- Improves drainage
- Warms quicker
- Easier to work in??


# Self Sufficient Me

Winter cover crops and kale

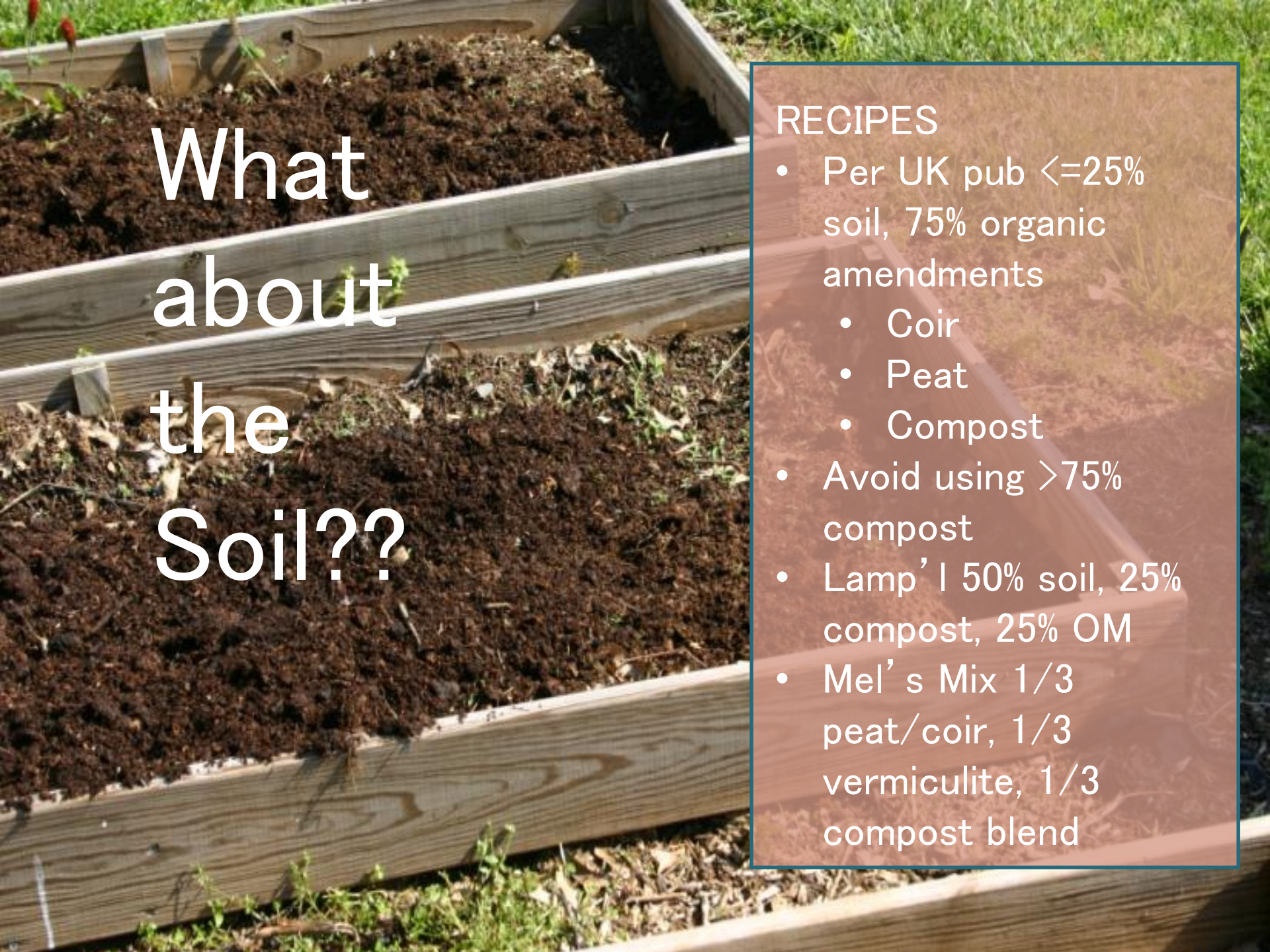
UK Arboretum

Atlanta Botanical Garden amphitheater of vegetables



Rake in leaves or
add straw

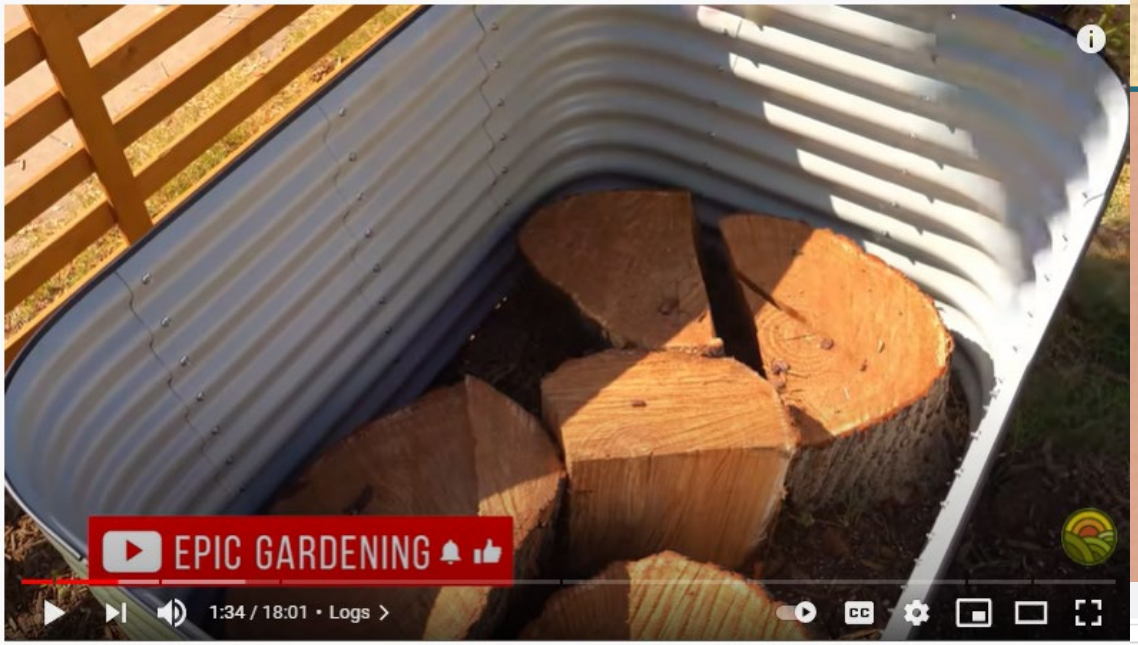
Add more compost as
needed



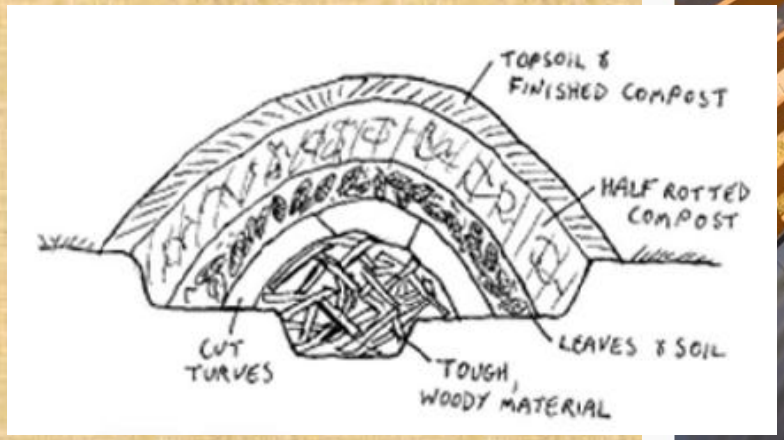
# What about the Soil??

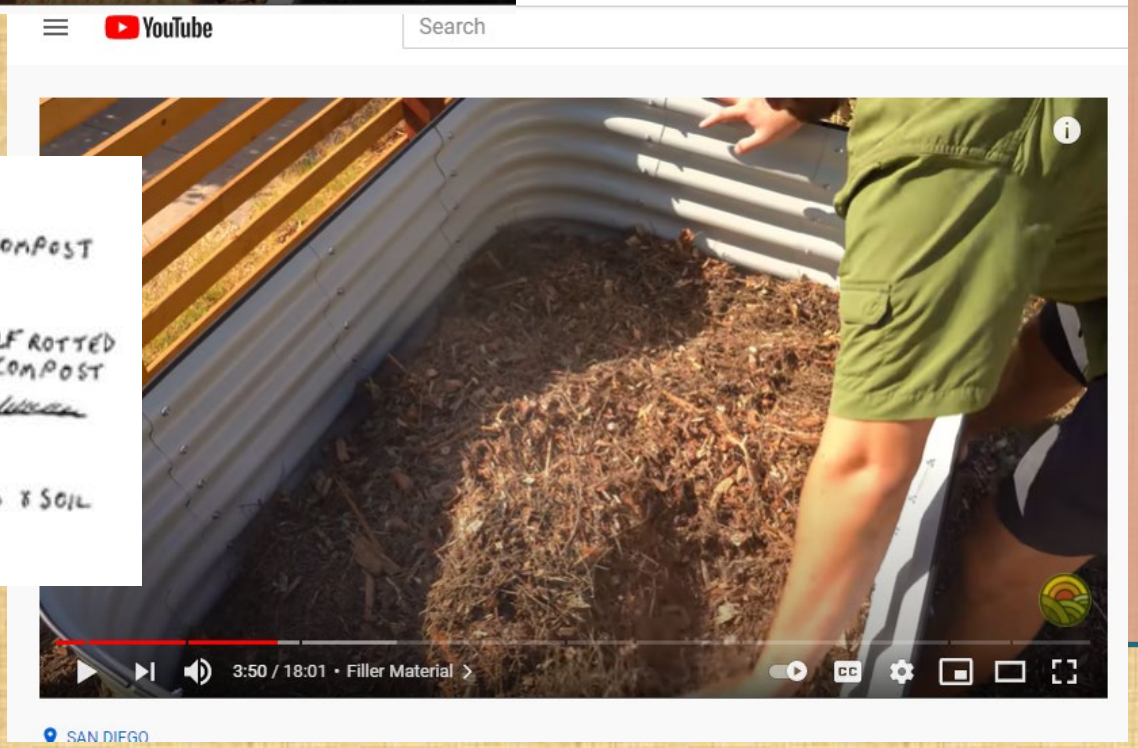
RECIPES

- Per UK pub <=25% soil, 75% organic amendments
  - Coir
  - Peat
  - Compost
- Avoid using >75% compost
- Lamp'l 50% soil, 25% compost, 25% OM
- Mel's Mix 1/3 peat/coir, 1/3 vermiculite, 1/3 compost blend

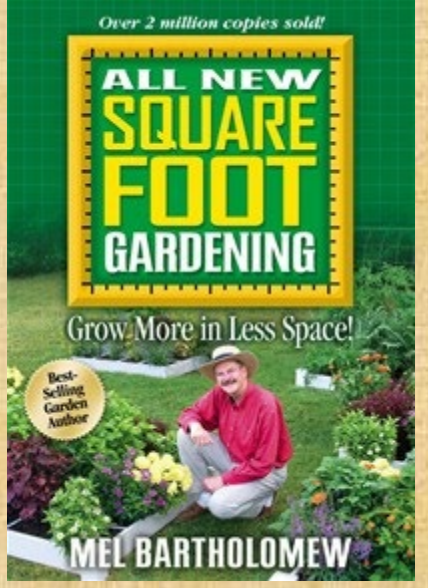



- Incorporate hugelkultur techniques if bed is about 30+ inches deep



# Square Foot Gardening




- Principle #1: uses 20% space to grow same amt compared to traditional rows

# Square Foot Gardening

- Principle #2: only need 6” of mix to grow plants in

# Square Foot Gardening

- Principle #3: 4' X 4'
  - – can easily reach across and tend

- ✓ 1 cabbage
- ✓ 1 broccoli
- ✓ 1 cauliflower
- ✓ 4 heads romaine
- ✓ 4 heads leaf lettuce
- ✓ 16 onions
- ✓ 4 heads salad lettuce
- ✓ 4 bunches chard
- ✓ 9 bunches spinach
- ✓ 16 carrots
- ✓ 9 beets
- ✓ 16 radishes
- ✓ 1 pepper
- ✓ 1 tomato (dwarf or determinate varieties)

# Square Foot Gardening

- Important to make the squares

# Square Foot Gardening

- Materials needed to make the beds
  - Plastic or recycled plastic lumber
    - Lasts forever but more $$ up front
  - Untreated lumber*
    - Will need replacement but cheaper up front
  - Concrete blocks
    - Can get these for free, lasts forever
  - Straw bales
    - Weed free bales

* Black locust, osage orange, catalpa, cedar, sassafras, bald cypress

GROWING for the FUTURE

KENTUCKY STATE UNIVERSITY COOPERATIVE EXTENSION | FACT SHEET

2019

Information from the KYSU Cooperative Extension Program

# What Wood is Safe to Use in My Garden?

By Dr. Leigh Whittinghill, Assistant Professor of Urban Agriculture

## Pallets

Pallets are readily available and versatile. They can be used to make horizontal or vertical gardens or repurposed as many other things. When selecting a pallet for use, there are a few things you should consider:

- First, look for the International Plant Protection Convention (IPPC) logo. The IPPC developed the International Standards for Phytosanitary Measures No. 15 (ISPM 15). This is a standard that requires all solid wood packaging material to be treated and marked to prevent the spread of disease and insect pests. If you can't find this logo, it is best to avoid using the pallet because you will not have clear information

# Square Foot Gardening

- Materials to go in the bed
  - Sphagnum peat moss
  - Compost (from 3 to 5 different manufacturers)
  - Vermiculite
- 1:1:1 mixture by volume
- Weed mat


SFG dedicated to fingerling potatoes

Be sure to do a better job of keeping a weed-free swath around the bed

Garlic

Broccoli & cabbage, spinach on corners, kale in others

Weed-free area around the bed

Spinach on ends, kale in middle 2

Broccoli & cabbage spaced 1 plant per square

Potatoes 4 per square

High rise (also called top hat) below

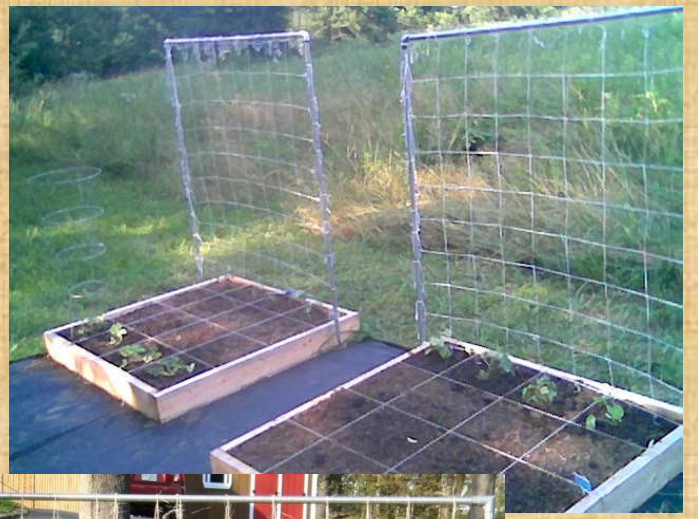
Potatoes in grow bags and sq ft garden

Potatoes in SFG prior to harvest


2012 temps over 100°F
SFG produced more yield

# Square Foot Gardening - Critters

# Square Foot Gardening - Trellis



# Kitchen Garden Planner

## Use square-foot gardening techniques to create a raised bed garden

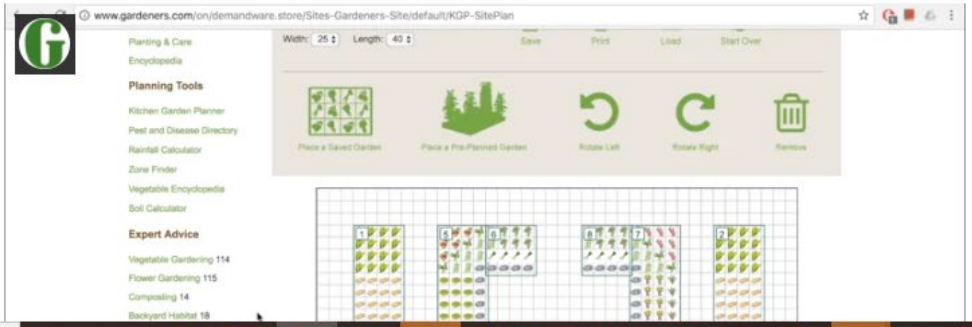
With our free online planner, you can get the blueprints to a super-productive vegetable garden, based on square-foot gardening techniques instead of traditional rows.

Click the **Pre-Planned Gardens** to get a quick start. Choose from 26 options, including many designed just for elevated raised beds.

To create your own garden, click **Plan Your Own Garden**. Just drag and drop crops to the planting grid and the planner fills in the number of plants.

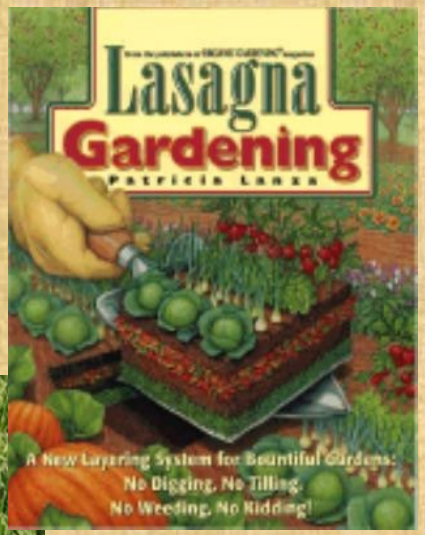


## Video: How to Use the Kitchen Garden Planner



# Lasagna Gardening

- Layering of organic materials




Cardboard, newspapers, grass clippings, compost, shredded leaves, etc....

Lasagna Gardening by Patricia Lanza

Mulch: 2-3" Wood Chips, Straw

4-6" of Cured Compost, Topsoil or Garden Soil

Browns

Greens

Browns

Greens: Veg Scraps, Manure, Grass Clippings, Worm Casings, Hay, Compost, Coffee Grounds

Browns: Straw, Fall Leaves, Shredded Paper, Pine Needles, Wood Chips

Wet Sheets of Cardboard or Newspaper

Soil Amendments: Gypsum, Peat Moss, Bone Meal, Blood Meal, Coconut Coir, Rock Dust, etc.

Make layers until it's about 12–18" tall

Let it cook either over the winter (earthworms will mix everything) or..

Water, cover with plastic in early spring & let it cook for a month or so

Keep weeds controlled around your bed

Most lasagna gardens have some sort of edging

Use same materials for edging as for square foot gardens

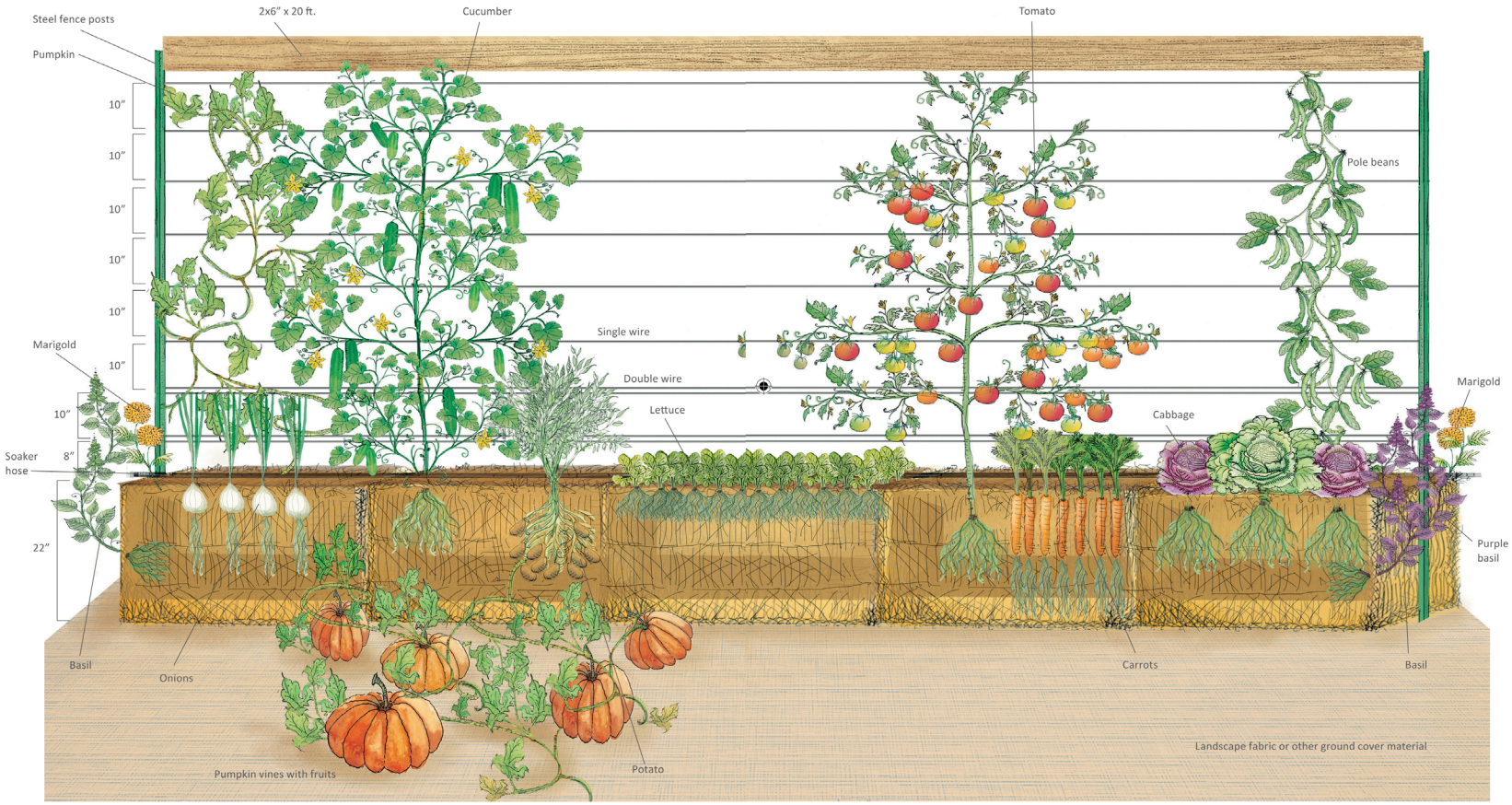
# Straw Bale Gardening

Beth Wilson

Pulaski County Horticulture Agent

College of Agriculture,
Food and Environment
Cooperative Extension Service

## Cross-section of a Straw Bale Garden (5-Bale)



# What is straw bale gardening?

- It's a method of raising vegetables, herbs, and flowers planted directly into a straw bale
- You can also use hay, alfalfa, oat, or rye bales
- Straw is more common and generally cheaper and has less weed seeds
- Bales bound with poly twine work much better than bales with jute

# Advantages?

- Bales are 2 feet tall, which makes them more accessible for gardeners who have trouble bending over
- The garden isn't permanent and can be moved
- Used bales can be used as mulch or composted

# Advantages

- NO DIGGING!!!
- Poor or no soil not a problem
- Bales can be placed on pavement
- An inexpensive way to make a raised bed
- Less weeding
- Less soil disease problems

# Disadvantages

- Requires more watering
- Time conditioning the bales
- Fertility can be an issue
- Bales may not hold up the entire season (twine)
- Depending on bale source and number needed can be expensive

# Source/Cost of Bales

- Can be obtained from local farm stores
- Best method, directly from a farmer, generally will be cheaper too
- Average cost for just a few bales $5.00 each
- Choose bales with poly twine that are baled tight
- You don't need grade A bales

# Getting Started

- Bales have to be conditioned before planting
- Be sure bales are turned so that the cut end of the straw is pointing up, this allows water and fertilizer penetration
- Make sure the bales are where you want them, after they get wet they are very heavy!

# Bale Conditioning

- Water the bales daily for three days to make sure water penetrates thoroughly
- Keeping the bales wet is very important
- On days 4, 5, and 6, sprinkle the top of each bale with ½ cup of urea or ammonium sulfate and water in each time…or use a water soluble fertilizer at the label recommended rate…you can also do a variation of this…. 19-19-19
- Organic options include: 2 cups of blood meal, fish emulsion, Milorganite, compost/manure tea (may take 2-3 weeks for bale to heat up and cool down with this option)

# Bale Conditioning

- Days 7, 8, 9, cut the amount of fertilizer applied in half and continue to water daily
- On day 10 stop adding fertilizer but continue to moisten the bales daily
- Day 11, feel the top of the bale for heat, an easy way is to push a meat thermometer into the bale…..if its over 99 Degrees F….continue to keep the bales moist until the temperature comes down
- Generally bales are ready to plant around day 12

# Planting Methods

- Pockets or Holes: Create pockets or holes in the bale by removing straw
- Fill the holes with potting medium or compost….I like medium with fertilizer already added which will give your plants a boost
- The number of holes depends on what crops you plant (more on this later)

# Planting Methods

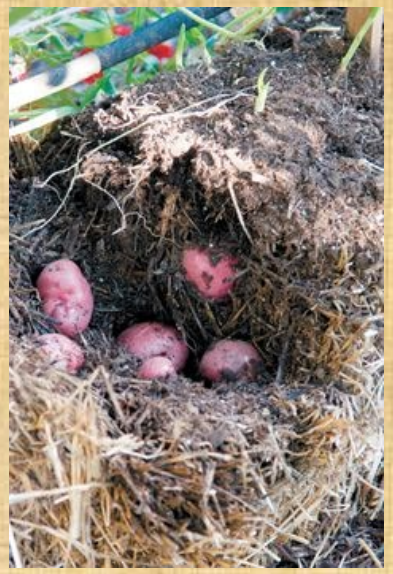
- Flat straw bed:  Spread potting medium or compost on top of the bale…3-4 inches is enough
- In both methods the planting medium is essential to get the plants off to a good start so they can root into the bale

# Seeding and Transplanting

- Transplants or seeds can be planted with either method
- Flat beds work best for seeding things like lettuce, beets, and radish etc. that will have closer spacing
- Larger seeded plants like watermelon, cucumber, zinnia, and sunflower can be planted with either method but pockets or holes saves potting medium
- With transplants the pocket type works best, it gets the roots down in the bale for a good start

# Planting Guide

- The number of plants a bale can support depends on the ultimate size of the plants and the length of time they take to mature
- Tomatoes: 2-3 plants
- Peppers: 4 plants
- Squash: 2-3 plants
- Zucchini: 2-3 plants
- Vining melons and cucumbers: 4 plants
- Broccoli, Cabbage, Cauliflower: 4 plants
- Smaller plants such as radish, beet, lettuce etc. plant like you would in the soil (follow packet directions)

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# Keeping The Bales Upright


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# Watering

- Watering is the key to success on straw bales, water runs through the bale quickly
- Soaker hoses can be used but water must drip right against the plant
- Manual sprinkling works best but avoid wetting the leaves
- Milk jugs with small holes can be filled and set next the plants, water will drip out slowly and water the plants
- It would be very difficult to over water plants in straw bales

# Fertilization

- Adequate nutrition is critical to success in straw bale gardening
- Nitrogen gets tied up in the bale and can become low as will phosphorus and potassium…..water once per week with a water soluble fertilizer
- Signs of nutrient deficiency:

1. yellowing leaves = nitrogen deficiency
2. Purpling leaves = phosphorus deficiency
3. brown edging of leaves = potassium deficiency



# Fertilization

# Weed Control

- Very little!
- If you use wheat straw there will be some wheat seed germination but it is easily pulled out
- If using hay there will be a lot more weed seeds that will grow from your bale and later it will be in your compost or mulch
- Avoid using compost or manure unless you know it is weed free

# Pest Control

- Ground dwelling pests such as grubs, cut worms, fusarium and verticillium wilt we be little to now problem
- Bales are generally used only one season and helps to keep pest life cycles disrupted
- Still have cabbage worms though!

# Placement of Bales

- Depends on what you grow….sun for sun loving plants, shade for shade loving…or tiered

# Season Extension?

# Recycling Bales

- In Kentucky bales will last only one season but you can get more than one crop in on a particular bale
- Used bales can be used as mulch or composted for future use
- Avoid using bales for mulch around the same plant families that were growing in them previously


Melons

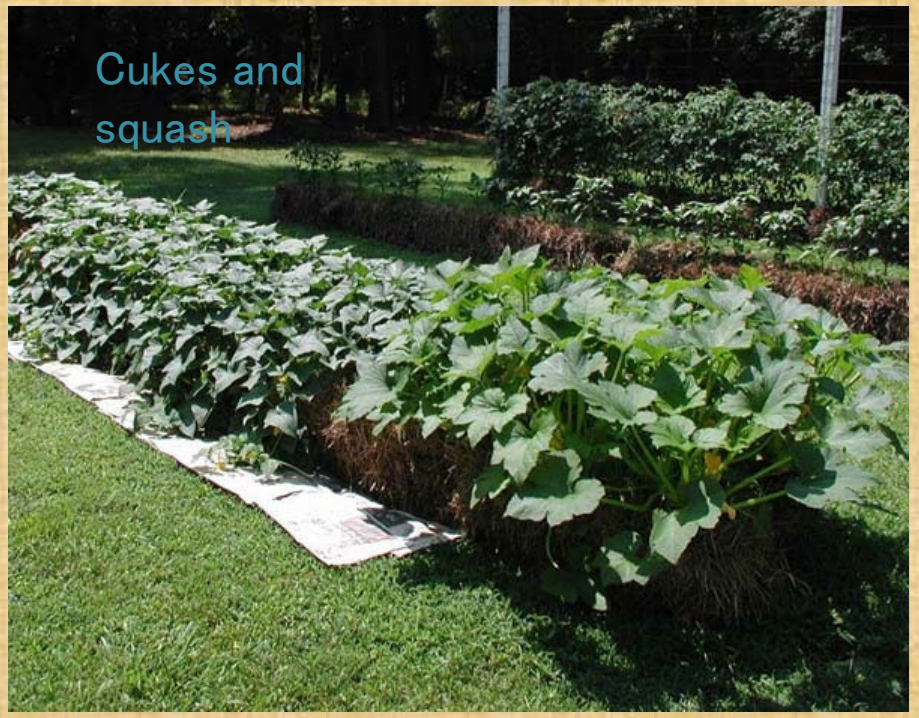

Potato
es

Cuke, Squash, Pepper

Cuke, Squash, Beans

## Strawberry Tower

Tomatoes with trellis



Nothing wrong with some flowers….


BEFORE AND AFTER

# Questions?

**University of Kentucky**
College of Agriculture,
Food and Environment
*Cooperative Extension Service*