Raised Bed Gardening

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Raised bed gardening

- Expanded growing season
- Better drainage
- Higher yields
- Maintenance
- Using difficult sites
Raised bed gardening

- Raised beds
  - Can be built on ground or raised for better access
  - Can be made from many materials
Step-by-step raised bed

- Site selection
  - At least 8 hours of full sun daily
  - 4’ path between beds for equipment

- Determine size and till area

- Build frame

- Fill and plant
Preparing area

- Double dig or till

*Diagram showing the process of double digging.*

- Soil from 1st trench moved to far end.
- Manure dug into bottom of trench.
- Spit from 2nd trench turned into the 1st.
- Soil from 1st trench fills final one.
- Process continued across the plot.
Raised bed gardening

- Concrete blocks
  - heavy
  - inexpensive
  - can be laid in place without anchoring
Raised bed gardening

- Landscape blocks
  - expensive
  - easy to use
  - decorative
Raised bed gardening

- **Cedar posts and boards**
  - naturally resistant to decay
  - will persist for several years in the landscape
Raised bed gardening

- Creosote in railroad ties may cause injury or death to plants that come into direct contact with it
- After a few years, the effect diminishes
- Old, discarded ties do not injure plants
Raised bed gardening

- **What size?**
  - Small enough to manage
  - Small enough to reach center of bed
  - 4’ x 8’ works well if using lumber

If bed is longer than 8’, reinforce sides
Raised bed gardening

- Beds should be at least 10 to 12” high

  10 to 12” soil
  + 2 to 3” mulch
  12 to 15” bed

- Kits are available, but it's less expensive to buy the lumber and create it yourself
Raised bed gardening
Creating a raised bed

Penn State Pointers ➤ Construction and Installation of Raised Beds

Secure corners
with wooden reinforcing blocks or metal braces and screws when using boards.

Fill frame
with good-quality lightweight soil mix. Add a generous amount of compost to allow for proper drainage.

Best Materials...
- Stone
- Cinder blocks
- Bricks
- Wood

Do Not Use (Toxic)...
- Treated railroad ties

Till soil
6 to 8 inches deep before building raised bed to promote more root growth.

Do not nail corners.
Ends of boards may split.

Minimum height
12 to 16 inches.

Visit us at "http://aginfo.psu.edu/news/psp/index.html"
Table top gardening

- Raised raised bed
Mulch
Potting soil
Landscape fabric

½” drainage holes

36” to 48”

3”

8-12”

30”

12-18”

20” to 24”
Fill the frame

- Buy media or mix your own

Mix equal parts: native soil and compost

daddypetes.com
Plant

- Root crops grow bigger in lighter soil
  - Carrots
  - Kohlrabi

- Consider mature size
  - Watermelons
  - Canteloepes

- Consider requirements
  - Corn
Season extension

- Protection from frosts / freezes
- Get crops off to an early start
- They work by trapping the sun's heat and warming the soil an extra 1 to 3 degrees
Many garden devices are interchangeable with this system because they all use the PVC pipe foundations for support.
Season extension

- **Row cover**
  - Light-weight woven or sun-bonded synthetic material that allows light and water to penetrate
  - Available in rolls five to six feet wide and in various lengths up to 375 feet
  - Reusable for several years if handled carefully to prevent tears
Season extension

- **Row cover**
  - Excludes squirrels, rabbits
  - Encourages overwintering pests
    - Tomato hornworms
    - Colorado potato beetle
    - Flea beetles
Crop rotation

- Strive for 3 years between crops in same family

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<th>CORN</th>
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<td>Year 3</td>
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Raised bed gardening

- Soil warms faster and dries out quicker than ground soil
- Higher soil temperature and drier in the summer than ground soil
- **Solution: Mulch**
  - Cover soil with a 2” layer of organic material
  - Straw, bark, pine needles
Raised bed gardening

- Pest prevention
  - Monitor regularly
    - Very rarely do problems happen overnight
Raised bed gardening

- Pest control
  - Identify pest
  - Review control measures
  - Use cultural control where possible
  - Chemicals are last resort
    - Choose appropriate chemical
Raised bed maintenance

- Replenish soil as needed

- If using mineral based soil, soil test every 3 years

- Avoid layering different types of soil; always mix
Container gardening
Container choice affects maintenance

- Is the material porous?
- Porous material will lose water faster than non-porous materials
- Containers can be lined with plastic to make the pot resistant to water loss
Heavy containers

- If the container is heavy or difficult to move
  - Place it on a dolly with casters if the plant needs to be moved
  - Or place it in a permanent spot
Fluctuating soil temperatures

- Metal containers temperatures fluctuate more than non-metal ones
- Dark colors get hotter than light-colored ones
  - Root damage
  - Dries out faster
- Smaller pots get hotter than large pots
Drainage Is Critical

- Drainage holes at the bottom of the container critical
- Allows water in the soil to drain freely so adequate air is available for the roots
- Wet soils favor root rot, because they leave little space for air to get to the roots.
Double potting

- Slipping a container inside a slightly larger one
  - to overcome the problem of no drainage hole in an attractive decorative pot
  - to quickly change seasonal displays
  - to combine plants with different environmental requirements
  - to minimize extreme soil temperature fluctuations
  - to keep desirable but invasive plants from spreading
Skip the gravel

- Skip the gravel inside the bottom of individual or pot liners

- **Myth**: a layer of gravel in the pot beneath the soil improves container drainage
Choosing a potting mix

- Don’t use garden soil
- Use potting soil
  - buy or make your own
- Change every other year
- Fill to 1” from rim

Mix equal parts:

PEAT
PERLITE
Potting mix

- To reduce weight and cost of filling large container
- Add "filler" to the bottom of the pot to take up space
- Filler should be inert, able to take up space and not break down over the course of the growing season
- Use landscape fabric over layer of filler, then add media
Herbs and vegetables in containers

- Use dwarf /determinate types
- Usually require full sun (>6 hours sun/day)
- Most herbs can perform well in full sun and partial shade locations
Watering

- Water daily

- Apply enough water to reach the bottom of the container

- Avoid wetting the leaves when watering as this will encourage development of foliar disease.
Fertilizing

- Slow release fertilizer at time of planting
- Water soluble fertilizer weekly at $\frac{1}{4}$ recommended rate