



Basic Vegetable Gardening

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How Do I Grow Vegetable X?

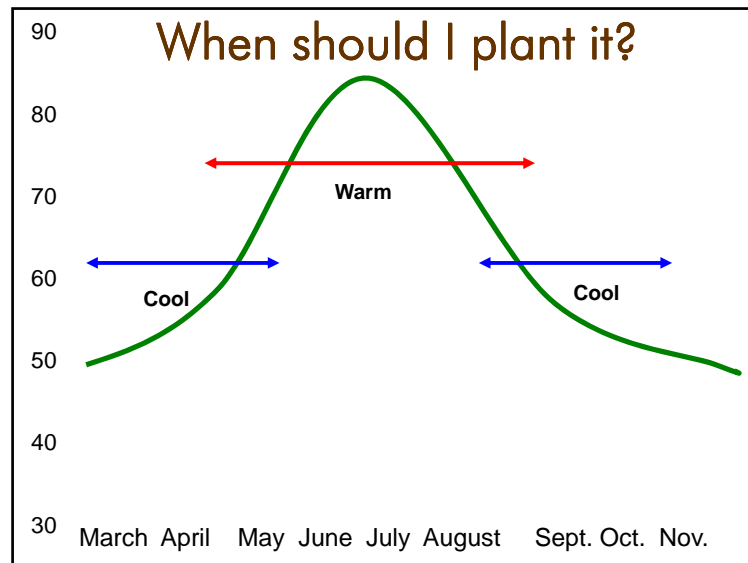
- Where should I plant it?
- When should I plant it?
- Should I plant seeds or plants?
- How do I care for it?

Key Questions to Ask, cont.

- How much space does it need?
- How long before I can eat it?
- What might go wrong?

Where should I plant it?

- Soil Qualities
 - Most vegetables prefer pH of 6.3-6.8
 - Well-drained soil
 - Loose, not overly compacted
- Full Sun!
 - At least 6 hours of sun every day
 - Less sun delays production



When should I plant it?

- Cool season vs. warm season vegetables
- Cool season vegetables:
 - Prefer cooler, moderate temperatures
 - Tolerate frosts and cold weather
 - Can be over-wintered with protection
 - Grow best in spring and fall
 - May bolt, lose quality, or die in the heat

When should I plant it?

- Cool season vs. warm season vegetables
- Warm season vegetables:
 - Need warm temperatures to grow
 - Will grow best during the heat of summer
 - Usually do not tolerate frosts or freezes
 - Usually cannot be over-wintered

When should I plant it?

- | | |
|---------------|-----------------|
| ➤ Cool Season | ➤ Warm Season |
| ➤ Lettuce | ➤ Tomatoes |
| ➤ Radishes | ➤ Cucumbers |
| ➤ Spinach | ➤ Beans |
| ➤ Potatoes | ➤ Peppers |
| ➤ Onions | ➤ Melons |
| ➤ Peas | ➤ Sweetpotatoes |
| ➤ Carrots | ➤ Pumpkins |
| ➤ Asparagus | ➤ Squash |
| ➤ Rhubarb | ➤ Eggplant |

When should I plant it?

- A 50-50 chance of frost: April 17th
- 50% April 17
- 40% April 20
- 30% April 23
- 20% April 27
- 10% May 2

When should I plant it?

- Soil Temperature is MOST important
 - Cool Season - 45° F
 - Warm Season - 55° F
 - Very Warm Season - 60° F
- Measure at 2-3" soil depth in late morning

Should I plant seeds or plants?

- Most vegetables grow from seed
 - Or from transplants
- A few are vegetatively propagated
 - Potatoes – grow from a piece of potato
 - Sweet potatoes – grow from "slips"
 - Asparagus & rhubarb – usually buy crowns

Transplants

- Select short, stocky, dark green plants
- Plant slightly deeper than in the pots

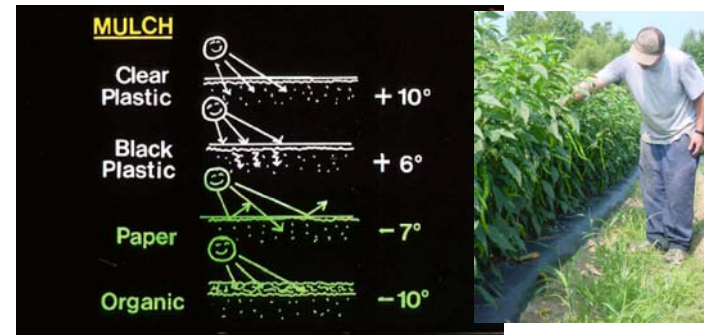


How do I care for it?

- Fertilizing
 - Take a soil test to find out what you NEED!
 - ¼ lb. Nitrogen (N) per 100 sq. ft.
- Macronutrients
 - Nitrogen
 - Phosphorus
 - Potassium

How do I care for it?

- Mulches change the soil temperature



How do I care for it?

- Watering
 - Water deeply and infrequently
 - About 1" of water each week
 - Larger plants may need more, especially in the hot weather
- Drip irrigation is the most efficient



How do I care for it?

- Watering
 - 80% of water and nutrients are absorbed in the top 15-17" of the root zone
 - 1" of water moves 15-17" deep in the soil
 - 1" of water will last 7-10 days depending on conditions

How much space does it need?

- Planning is key!
 - Read the catalogs, seed packets, etc.
 - Vegetable Garden Planting Guide
- Spacing is specific to the vegetable
 - Depends on harvest size
 - Consider bush-type varieties if space limited

Planning a Vegetable Garden

- Plant perennials to one side
- Plant early crops together
- Use staggered or succession plantings
- Give vine crops lots of space
- Use tall crops as a screen

Succession Plantings

- Plant early with the late
- Plant varieties that ripen at different times
- Plant one variety 2-4 times at 1-2 week intervals



Crop Rotation

- Maintains healthy soil
- Breaks insect and disease cycles
- Plant vegetables from different “families”
 - Vine crops
 - Solanaceous crops
 - Greens
 - Root vegetables
 - Legumes

I don't have much space!

- Plant in the Landscape
- Raised Beds
- Square Foot Gardening
- Containers

Plant in the Landscape

- Cool season crops as spring/fall annuals
- Asparagus
- Rhubarb
- Jerusalem Artichokes
- Large plants
- Herbs
- Be Creative!



Raised Bed Gardening

- Improves drainage
- Improved soil
- Space Saver
- Soil warms earlier in the spring



What is a Raised Bed?

- A raised bed is:
 - At least 6-8" higher than surrounding area
 - Edged by wood or other materials



How big should it be?

- You should be able to reach the middle.
 - No more than 4 or 5 feet wide!
- It can be as long as you want
- However, if it is too big, you lose some of the benefits

Early and Late Growing

- Use row covers
 - Light fabric
 - Clear plastic
- Best used on hoops

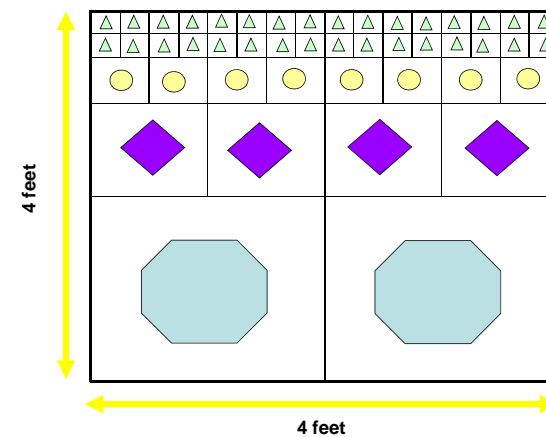


Tall Crops?

- Use a Trellis
- Use Tomato Cages



Square Foot Gardening



Container Gardening Tips

- Choosing Containers
 - Large enough for full-size plants
 - Adequate drainage
 - Free of toxic residues



Container Gardening Tips

- Don't use garden soil!
- Fertilize every 2-3 weeks
- Water thoroughly
- Use varieties developed for containers
- Use cages or trellises as needed



How long before I can eat it?

- Visual ripeness indicators
 - Color
 - Size
 - Firmness
- What size do you prefer?
- Harvest regularly

What might go wrong?

- Why isn't my _____ producing?
 - Give it some time
 - Weather conditions not right
 - Planted at the wrong time
 - Too much nitrogen
 - Not enough sun

Male vs Female Flowers



There are mostly male flowers when flowering begins....



...So there won't be much fruit until female flowers show up!

Solanaceous Crops

- Tomatoes
- Peppers
- Potatoes
- Eggplant



- Warm season crops!
- Usually grown from transplants

Tomatoes

- Wide variety
- Many growing methods
- Plant transplants in May
- Indeterminate vs. Determinate

"Modern" Tomato Varieties

- General characteristics
 - Semi-determinate, compact vine
 - Multiple disease resistance- (wilt, nematode)
 - Uniform ripening genetic trait
 - Meaty, firm fruit
- Heat Tolerance
 - SunLeaper, Sunmaster, Heatmaster, etc.

"Heirloom" Tomatoes

- General Characteristics
 - High genetic variation
 - Less uniform fruit
 - Less firm, less tough, more flavor?
 - May or may not have disease resistance
 - Usually indeterminate

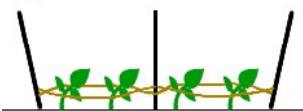
Training Tomatoes

- Tomato Cages
- Tomato Fences
- Florida Weave



Florida Weave

C.



Overhead view:



Septoria & Early Blight

- Leaves with spots
- Leaves turning yellow, then dying from the bottom up
- Use a fungicide to prevent



Blossom End Rot (BER)

- Caused by calcium deficiency in the plant
 - Not a soil deficiency!
- Usually a result of poor watering practices



Lettuces and Leafy Greens

- Cool season crops
- Planted from seed
- Succession plantings!
- Work great in containers
- Can be over-wintered in some cases



Root Crops

- Onions, Carrots, Beets, Turnips
- Cool season
- Grown from seed
- Onions may be grown from sets or plants
- Seeds are small
 - Thin to the proper spacing



Cole Crops (Brassicas)

- Cool season crops
- Broccoli, Cauliflower, Kale, Cabbage, Brussels Sprouts
- Usually planted from transplants
- Set outside in late March



Peas & Beans

- Peas are cool season
 - English, snow, snap
- Beans are warm season
 - Do not like extreme heat
 - Green, wax, purple
 - Shell beans
- Bush types
- Climbing types



Vine Crops

- Melons
- Cucumbers
- Summer and Winter Squash
- Pumpkins

Vine Crops

- Warm Season
- Soil temperature can't be hot enough!
- Let sprawl or tie up
- Traditionally planted in "hills"



Questions?

660-0100

<http://thedemogarden.org/>

<http://www.sedgwick.ksu.edu>