

# Vegetable Garden Tips for the Texas High Plains



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## Reasons to have a vegetable garden:

Good exercise,  
Therapeutic,  
Healthy,  
Brings families together,  
Vegetables taste better than store bought,

but the most important reason is...





# The Homemade Salsa!

Just say  
"No" to  
Store-  
bought  
salsa!

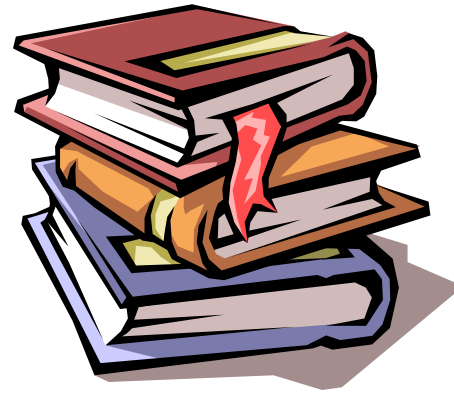


# Planning a Vegetable Garden

- Use common sense
- Don't expect miracles.
  - Every good thing takes a little work.
  - Don't hesitate to ask the experts or search online for information.



# Planning a Vegetable Garden



- Develop a good plan:
  - Create a blueprint of what you want to grow.
  - Find the best location for your needs.
  - Use the landscape and backyard to your advantage.

# Example of a Garden Blueprint

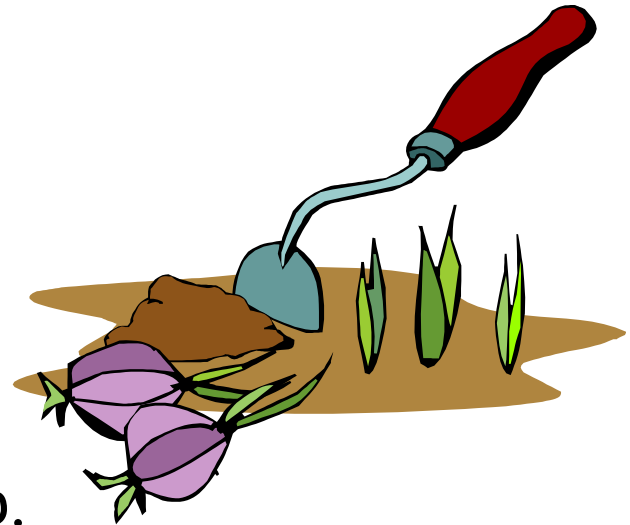
(based on 15 x 75' rows, 3,750 sq. ft.)



Row #	Crops to be Planted	No. of Plants Needed	Planting Date	Anticipated Harvest Date	Follow-up Crop	New Planting Date
1	Turnips	Seeded	March 27	May 31	Snap Beans	June 5
2	Collards	Seeded	March 27	May 31	Snap Beans	June 19
3	Mustard	Seeded	March 27	May 31	Blackeyes	June 5
4	Cabbage	100	March 31	July 10	Blackeyes	June 12
5	Onions	200	March 31	July 15	Blackeyes	June 19
6	Blank					
7	Tomatoes	24 (Caged)	May 15	Until Frost	None	
8	Blank					
9	Cantaloupe	50	May 15	Until Frost	None	
10	Blank					
11	Squash	50	May 20	Until Sick!	None	
12	Blank					
13	Chile Peppers	25	May 31	Until Frost	None	
14	Blank					
15	Okra	Seeded	June 15	Until Frost	None	

# Planning a Vegetable Garden

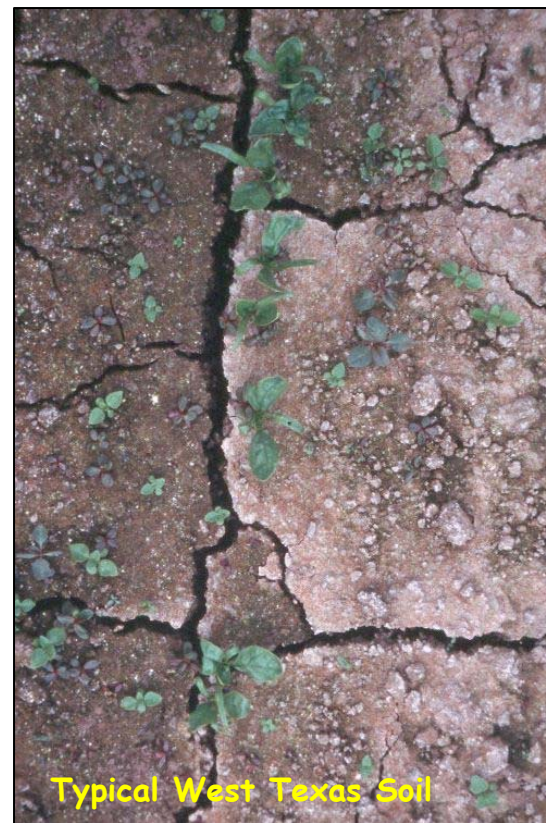
- Know before you plant
  - Soil and water needs.
    - pH, fertility, soil properties, water quality, etc.
  - Planting requirements by crop.
    - Space (pumpkins vs. beets)
    - Nutrition (corn vs. snap beans)
    - Hardiness and maturity (cabbage vs. peppers)
  - Anticipated pests and their control.



# Know Your Garden's Soil

## Check soil pH and fertility

- Ideal pH = 5.5 - 7.0.
  - Best range for nutrient availability.
  - Lower pH by adding peat, compost, manure, sulfur, ammonium sulfate
- Need a well-drained soil.
- Loamy, not cloddy or compact.
- Soil requirements can vary for individual vegetable crops.
- Consider the soil a "living entity".





# Use Your Garden Space Wisely

What does the right spacing do?

- More efficient use of garden's nutrients & moisture.
  - Too crowded - increased risk of diseases.
  - Too far - a waste of space.
- Improves weed control -
  - Less time hand weeding.
  - Natural shading for weeds.
- Allows for maximum yields and uniform





# Vegetable Families

Legumes -	Peas, beans (same family as alfalfa & clover).
Goosefoot -	Spinach, beets & chard.
Mustards -	Cabbage, collards, Brussel sprouts, kale, cauliflower, broccoli, kohlrabi, turnip, cress, radish.
Parsley -	Carrots, parsley, celery, parsnip.
Nightshade -	Tomato, potato, eggplant, pepper.
Squash -	Squash, pumpkin, watermelon, cantaloupe, cucumber, gourds.
Composite -	Lettuce, chicory, endive, escarole, salsify, dandelion, Jerusalem artichoke.
Lily -	Onions, garlic, leek, chive, asparagus.
Grass -	Corn

# Get a Quality Start!

## Seed sources to use:

- Reputable catalogs.
- Reputable local retailers.
- New varieties.
- Heirloom varieties.

## Saving your own seed:

- Hybrids will not be same as what you purchased.
- Disease potential.
- Pick when mature.
- Store properly.

\*\*\* Keep accurate records each year!



# Starting Seed Indoors

## General Requirements

- Good light source (window, grow lights).
- Soil-less mix best or if possible use excellent, clean garden soil (avoid clay soils).
- Use seeding flats or peat pots/pellets.
- Save trays yearly, but sterilize before reusing.
- **Don't over-water!!!!!!**





# Transplanted Vegetables

## Easy to grow

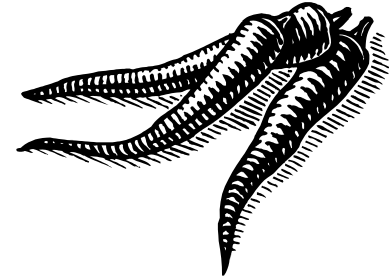
Broccoli  
Cabbage  
Cauliflower  
Eggplant  
Lettuce  
Chinese cabbage  
Sweet potato (slips)  
Onions  
Tomatoes  
Peppers



## Require care

Beets  
Celery  
Chard  
Melons  
Squash  
Cucumbers  
Spinach  
Parsley

# Starting Seed Outdoors



## General Rules of Thumb

- Follow temperature and moisture requirements.
- Don't plant too deep or too shallow.
- Watch for compacted soils and poor seedling emergence (especially after heavy rains).
- Don't over-water - your seed may float away!
- Keep seed away from direct contact with any fertilizers.

# Seeding Temperatures

## Cool Season Crops

Beets

Broccoli

Cauliflower

Cabbage

Carrots

Celery

Lettuce

Parsley

Peas, English

Radish

Spinach

Turnips

## Optimum Germination Range (°F)

50 - 85

50 - 85

50 - 85

50 - 85

50 - 85

50 - 85

50 - 65\*\*

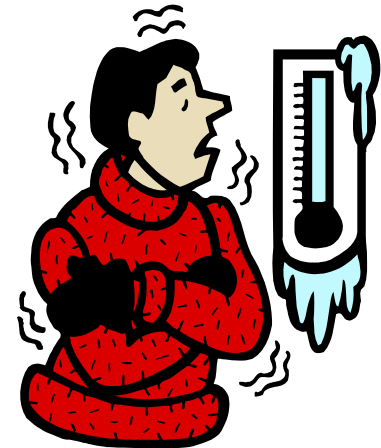
50 - 85

50 - 85

50 - 65\*\*

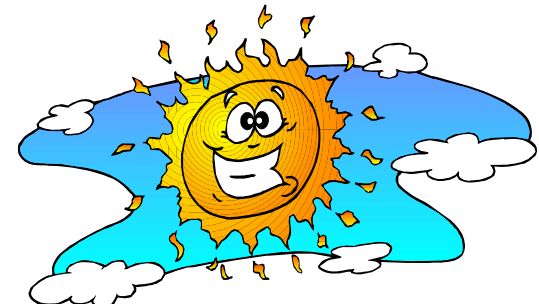
50 - 65\*\*

50 - 65\*\*



# Seeding Temperatures

<u>Warm Season Crops</u>	<u>Optimum Germination Range (°F)</u>
Beans	65 - 85
Chard, Swiss	65 - 85
Corn, Sweet	65 - 85
Cucumber	65 - 85
Eggplant	65 - 85
Melons	65 - 85
Okra	65 - 85
Onions	65 - 85
Peppers	65 - 85
Sweet potatoes	65 - 85
Squash	65 - 85
Tomatoes	65 - 85





# Seeding Depths

<u>Crop</u>	<u>Planting Depths (")</u>
Beans	1 - 1.5
Beets	1
Crucifers	0.5
Carrots	0.5
Sweet Corn	1 - 2
Cucumber	0.5
Garlic	1 - 2
Onions	0.5
Southern peas	2 - 4
Potatoes	4
Squash	1 - 2
Watermelons	1 - 2



General rule: 4 times the length of the seed

# Seedling Emergence

<u>Crop</u>	<u>Days to Emergence</u>
Beans	5 - 10
Beets	7 - 10
Crucifers	5 - 10
Carrots	12 - 18
Sweet Corn	5 - 8
Cucumber	6 - 10
Tomato	6 - 12
Onions	7 - 10
Southern peas	6 - 10
Spinach	7 - 12
Squash	4 - 6
Watermelons	6 - 8



Note: These times are under good growing conditions!  
Your results may vary.

# Seed Space Requirements

<u>Vegetable</u>	<u>Spacing (in)</u>
- Snap beans	4 - 6
- Cabbage	15 - 18
- Onions	2 - 4
- Carrots	2 - 3
- Lettuce (head)	10 - 12
- Lettuce (leaf)	4 - 6
- Peppers	12 - 15
- Potatoes	10 - 12
- Melons	18 - 24
- Pumpkins	24 - 36
- Summer squash	18 - 24
- Sweet corn	15 - 18
- Tomatoes	18 - 24



# Setting Transplants Outdoors

- Some Requirements
  - Make sure transplants are acclimated (hardening).
  - Need lots of well-developed roots.
  - Follow temperature and moisture requirements.
  - Don't transplant too deep or too shallow (root wicking).
  - Use a starter fertilizer.
  - Keep plants away from direct contact with concentrated fertilizers.
  - "Transplant shock" is expected!





# Hardening Transplants

- A form of physiological preconditioning that enables the plant to withstand adverse transplant conditions in the field.
  - Withhold water
  - Decrease fertilization
  - Lower temperatures
  - Increase lighting



# Crop Growth Aids





# Plastic Mulches and Row Covers

Weed control, rapid growth, frost protection



Upstate New York



Utah State University, Photo by Dr. Dan Drost



Lubbock, TX



# Plastic Covers and Windbreaks

Early & Late Season Protection





# Colored Plastic Mulches









# Organic Mulches - Cover Crops

What can they do?

- Control erosion (wind, water)
- Suppress weeds
- Add organic matter
- Keep fruit off the soil



Don't forget to recycle your waste!



# Types of Cover Crops

Barley  
Buckwheat  
Clovers  
Fava Beans  
Oats  
Winter Rye  
Hairy Vetch  
Winter Wheat  
Others





# Raised Beds vs. Planting Flat

## Why?

- Warms up soils quicker.
- Reduces soil compaction.
- Drains away excess water.
- Better control of soil types, fertilizer, weeding, compost, mulches, etc.
- Creates a pleasing geometry.





# Raised Beds at South Plains Food Bank Farm





# Growing plants in containers



Calamondin citrus



Habanero peppers

## Reasons:

You have a small area - (apartment, patios, hanging baskets, etc).

You only want a few plants.

Perennial plants are not cold tolerant.

Easy to move them around, inside and outside.

# Feeding Your Vegetables

## Watering

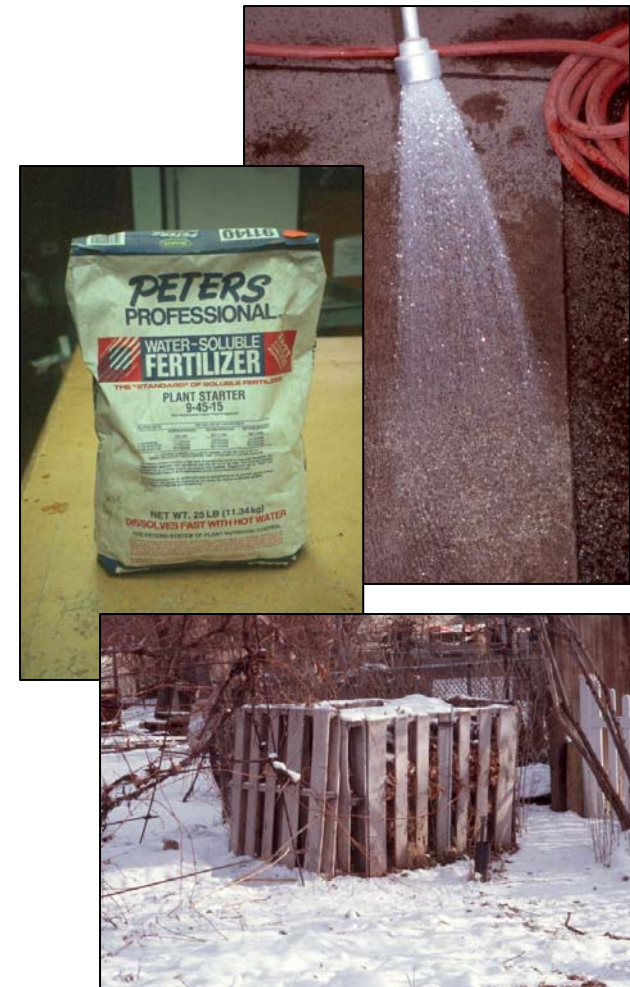
- Over-watering increases diseases.
- Make sure water is good quality.

## Fertilizer / Nutrients

- Too much = potential leaf burn.
- Too little = plant stress/lower yields.

## Compost / Organic matter

- Adding it to the soil improves water holding capacity and crop nutrient uptake.



# Feeding Your Vegetables

## Biostimulants

- Products that add living or dead beneficial microorganisms and root stimulation products to soils at the root zone.
- Keep accurate records to see if they really work.
- Algae/seaweed
- Bacteria
- Compost
- Fish emulsion
- Fungi
- Humic acids



# Vegetable Nutrient Requirements

- **Heavy Nitrogen Feeders**

- Asparagus, beets, broccoli, Brussels sprouts, cabbage, cantaloupes, cauliflower, celery, collards, corn, cucumber, eggplant, endive, kale, kohlrabi, lettuce, okra, parsley, pepper, pumpkin, radish, rhubarb, spinach, squash, sunflower, tomato, watermelon.

- **Light Feeders**

- Carrot, garlic, leek, mustard greens, onion, parsnip, potato, rutabaga, shallot, sweet potato, Swiss chard, turnip.

- **Soil Builders (good for rotation)**

- Broad beans, lima beans, snap beans, clover, peas, peanuts, soybeans, southern peas (black-eye).





# Honey Bees

They're your best friend and are needed for pollination of many vegetables and fruits.

Beware of Africanized Bees!

For more information on Africanized bees in your area, contact your local County Extension Agent.





And remember to have fun!

Have a Happy  
and  
Successful  
Gardening  
Season!

