

# Gardening-Some of the Basics

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# Lettuce

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- Cool season crop with production periods in fall & spring
- Leaf types are nutritious having higher levels of vitamins and minerals
- Crisphead (Iceberg) types are very difficult to grow in OK

## Varieties

- Grand Rapids, T.B. R., Prizehead, Red Sails, Waldman's Green, Bibb Buttercrunch, Parris Island

## Soil Preference

- Well drained, pH range of 6.0 to 6.8



# Lettuce

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- Cool season crop best grown with cool day (65 to 70 degrees F) and night temperatures (45 F)
- High temperatures in spring may cause bolting, loose heads and bitter flavor

## Seeding

- High soil temperatures may induce seed dormancy
- Direct seed when soil temperature is 50-80 F
- $\frac{1}{4}$  to  $\frac{1}{2}$  inch deep
- Spaced 12 inches between plants

## Watering

- Requires 12 to 15 inches/season

Harvest 45- to 85 days after planting

# Radishes

- Cool season spring crop that can be grown in the late fall
- Short season crop that lends itself to multiple plantings
- Should not plant following other brassicas (broccoli, cabbage, cauliflower, turnips)

## Varieties

- Champion, Cherry Belle, French Breakfast, White Icicle

## Soil preference

- Well drained light textured sandy loam soils with a pH between 6.0 and 6.5
- Cool season crop best grown in spring and early summer (45 to 80 degrees F)
- Optimum temperature is 50 to 65 degrees F



# Radishes

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## Seeding

- Direct seed in soils  $\geq 40$  degrees F
- $\frac{1}{4}$  to  $\frac{1}{2}$  inch deep
- 1 inch between seeds

## Watering

- Requires 5-6 inches/season
- Needs to be uniform to prevent the roots from becoming tough and fibrous

Harvest 22 to 30 days from planting

Hand pull, wash and cool immediately to 40 degrees F



# Spinach



- Cool season crop with production periods in spring, fall and over-winter
- High levels of vitamins and minerals
- Bolting (flowering) is undesirable and is caused by long days (> 12 hours); important to select bolt-resistant varieties for spring production

## Varieties

- Winter/short day varieties; Evergreen, Fall Green, Wintergreen, F 380, F 415, Samish
- Spring/long day varieties; Baker, Bolero, Catalina, Olympia

## Soil preferences

- Well drained light textures deep sandy loam with a pH between 6.0 and 6.8

# Spinach

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- Cool season crop best grown in spring and fall with cool day (75 degrees F) and night temperatures (40 F)
- Optimum temperatures of 60 to 65 F
- Can tolerate lows down into the teens if the temperature changes slowly (2 to 3 days) but not a drastic drop in hours

## Seeding

- Direct seed in temperatures above 35 F in spring and over the winter, & in temperatures below 90 F in the fall
- $\frac{1}{4}$  to  $\frac{1}{2}$  inch deep
- 12 inches apart

# Spinach

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## Watering

- Requires 12 to 15 inches per season

## Harvest

- 50 -90 days after planting
- Harvest when still young and tender
- Spinach is very susceptible to many herbicides



# Cucumbers



- Extremely sensitive to cold conditions
- Inadequate pollination results in misshapen fruits
- Cucumber beetles can rapidly damage emerging seedlings

## Varieties

- Select varieties with disease resistance
- Slicing: Burpee Hybrid II, Dasher II, Marketmore 80, General Lee, Speedway, Sprint 440 II
- Pickling: Calypso, Fancipak, Regal

Prefers well drained medium textured soils with a pH of 5.5 to 6.8

# Cucumbers

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- Optimum temperature range for growth is 65 to 75 degrees F
- Avoid planting when temperatures are expected below 60 F or above 90 F
- High temperatures reduce successful pollination
- Cool temperature above freezing can cause chilling injury to plants and fruit

## Seeding

- Best seeded in soils above 70 F for rapid germination
- ½ to 1 inch deep
- 9-12 inches between plants

# Cucumbers

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- Requires 8 to 10 inches of water per season
- Water is critical during fruit set and development
- Very susceptible to fungal diseases squash bug damage

## Harvest

- 50-60 days after planting for picking types
- 45 -60 days for slicing types
- Harvest timing should be based on fruit size and color
- Harvest frequency is every 1 to 3 days
- Additional pollinators are needed if less than 1 bee per 10 flowers is observed
- Planting too early may result in reduced germination and poor crop stands
- Trellising improves fruit quality and color
- Use a field rotations of 3 years or more to reduce disease & insect problems

# Squash



- Will not germinate at soil temperatures below 60 F
- Cucumber beetles and squash bugs are major pests

## Varieties

Choose varieties with resistance to virus and powdery mildew

### Summer Squash

Yellow Straight neck-Lemon Drop L, Gold bar, Multipak, Sunray

Yellow Crookneck- Dixie, Goldie, Sunglo

Zucchini- Onyx, president, Senator, Declaration II, Dividend,

Cash Flow

Scallop- Peter Pan, Sunburst, White Bush Scallop

### Winter Squash

Acorn-Ebony, Royal Acorn, Table Ace, Table King

Buttercup- Buttercup

Butternut-Ponca

# Squash

- Prefers well drained sandy and silt loams, heavier soils can be used, Soil pH of 6.0 to 6.8
- Optimum growth with temperature range is 65 to 75 F

## Seeding

- Direct seed when soil temp is above 70 F for rapid germination
- plant 1 to 2 inches deep
- About 3 feet between plants

## Water

- Summer squash have shallow roots, more frequent irrigation with moderate amounts of water

# Squash

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## Harvest

- Summer squash- 40-50 days from planting, 3-7 days from pollination
- Winter squash- 85-110 days from planting, 55 to 90 days from pollination
- Harvest every 1 to 2 days
- Harvest long fruited types when fruit is < 3 inches in diameter

Scallop 3 to 4 inches in diameter

Winter skin is hard and resistant to thumbnail pressure

Does not grow in acid soils

Harvest and discard cull fruit for disease etc..



# Tomato



- Warm season crop with harvest between June and September
- Blossom end rot is caused by calcium deficiency and other environmental factors

## Varieties

Amelia, Celebrity, Classica, Florida 47, Floralina, Mountain Delight, Solar Fire, Solar Set, Sun leaper, Sunny, etc..

- Prefer a well drained medium textured soil with a pH of 6.0 to 6.8

# Tomato

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- Grow best when night temperatures are above 60F and day temperatures are below 90F
- Pollen can be damaged by high temperatures
- Tomato blossoms will not set fruit well if day time temperatures are above 95F or if night time temperatures remain above 70F
- Night temperatures in the 40s or low 50s will allow fruit set but may cause fruit to be catfaced

## Seeding

- Can be seeded (1/4- 1/2 in. deep) but most are transplanted
- Should transplant after all danger of frost is past
- Transplant when plants are 5-6 inches tall, 18-30 inches apart

# Tomato

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## Watering

- Requires 1 to 2 inches of water per week
- Infrequent deep watering will encourage deep rooting
- Water on the leaves increases foliar diseases

## Harvest

About 6 weeks after fruit set

High temperatures and diseases are the factors that normally limit yield

Can be indeterminate (continue to grow and produce fruit)  
or determinate (limited growth and duration of yield)

Should be trellised

# Fertilizing Your Garden Plots

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- These six crops require approximately the equivalent of 75-100 lbs per acre of Nitrogen, Phosphorus and Potassium
- In your 13.5 square foot raised bed this is about  $\frac{1}{4}$  cup- $\frac{1}{3}$  cup of 20-20-20 fertilizer

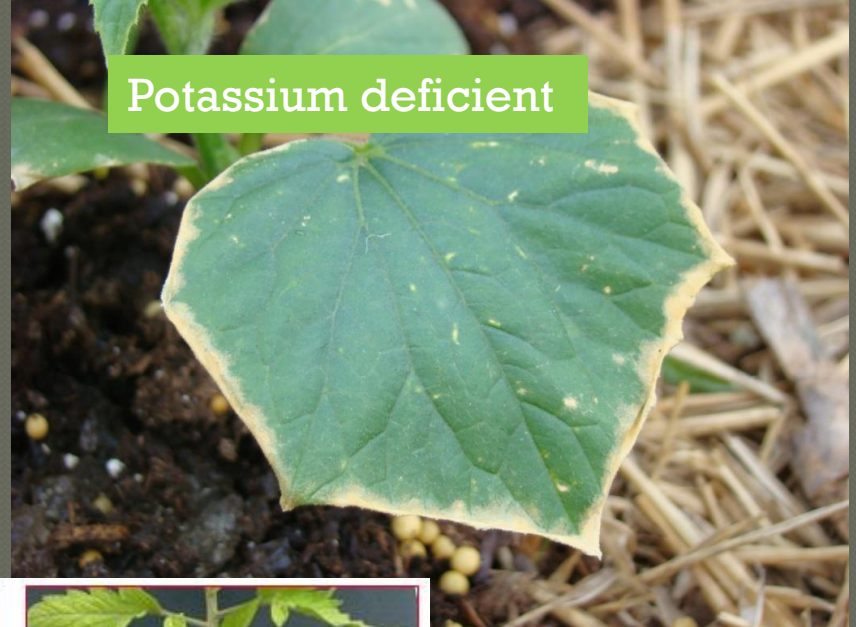


# Nutrient Deficiencies

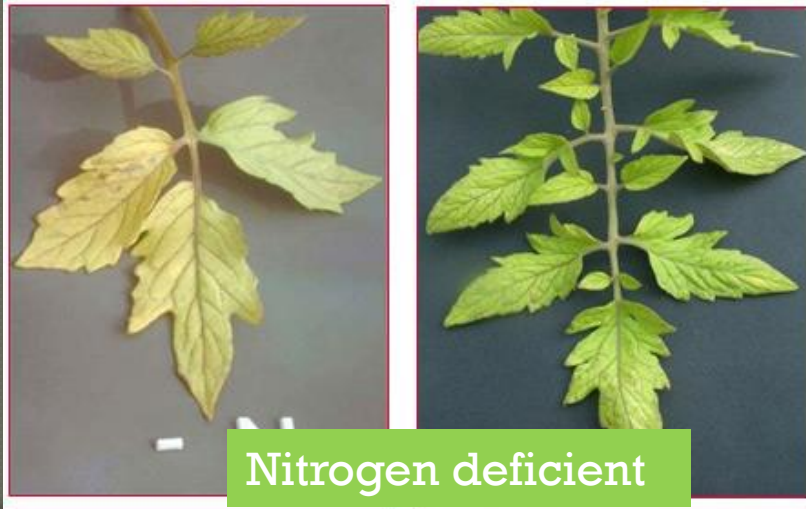
Phosphorus deficient



Potassium deficient



Nitrogen deficient





# Signs of Water Stress

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- Lack of water normally causes the plants to wilt
- If you water and the plants recover within 24 hours then it was probably water stress
- Soil that is too wet can also cause the plants to wilt because the roots suffocate from the excess water pushing the air out of the soil.
- Wilting can also be caused by extreme heat. The plant temporarily shuts down to minimize moisture loss. Normally these plants recover in the evening when the temperature cools.