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Welcome to
VICTORY GARDEN 101
Preparing Your Garden Site and Soil

Please mute your microphone and turn your camera off.
Thank you!

Victory Garden 101 Plan

- **Today: Preparing Your Garden Site & Soil**
- Apr. 14 – Basic Garden Planning for Success
- Apr. 21 – Grow Your Own Salad
- Apr. 28 – Tips for Great Tomatoes
- May 5 – Using Your Vertical Space
- May 12 – Water, Weather & Weeds
- May 19 – Common Insect Problems
- May 26 – Common Disease Problems

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Topics for Today:

- Choosing & preparing a garden site
- A little bit about raised beds
- Basics of soil and soil health
- Plant nutrients
- Improving soil health
- Fertilizers
- Quick garden site preparation

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Choosing a Garden Site

- Full Sun – at least 6 hours
- Wind protection?
- Good drainage!
- Water



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Starting a New Garden Site

- Assess existing plant growth:
 - Grass: fescue, Bermuda?
 - Weeds: henbit, nutsedge?
 - Trees & shrubs (roots)

- What do you have available to you?
 - Tiller? Tarps? Herbicides? Shovels?
 - Elbow grease?



Some Possible Steps:

Option 1

1. Mow or scalp
2. Cover with a tarp for 2-3 weeks
3. Till or incorporate amendments

Option 2

1. Mow or scalp
2. Till or incorporate amendments

Option 3

1. Spray with glyphosate
2. (Mow)
3. Till or incorporate amendments

Raised Bed Prep:

1. Start with Option 1, 2, or 3 above.
2. Till lightly.
3. Cardboard layer?
4. Build raised bed and fill with soil / compost mix.



Raised Bed Gardening



- Drainage
- Soil Improvement
- Accessibility

- Soil Warming
- Space Saving
- Season Extension

- Soil Drying
- Soil Cooling (Fall)
- More Watering
- Less Flexibility



Disadvantages of Raised Beds

Dimensions & Height



No more than 4 or 5 feet wide
 Length is variable – use common sense
 Height – at least 6" high, up to 3'



Edging Materials

What Does the Soil Provide?



4 Major Soil Characteristics

Texture

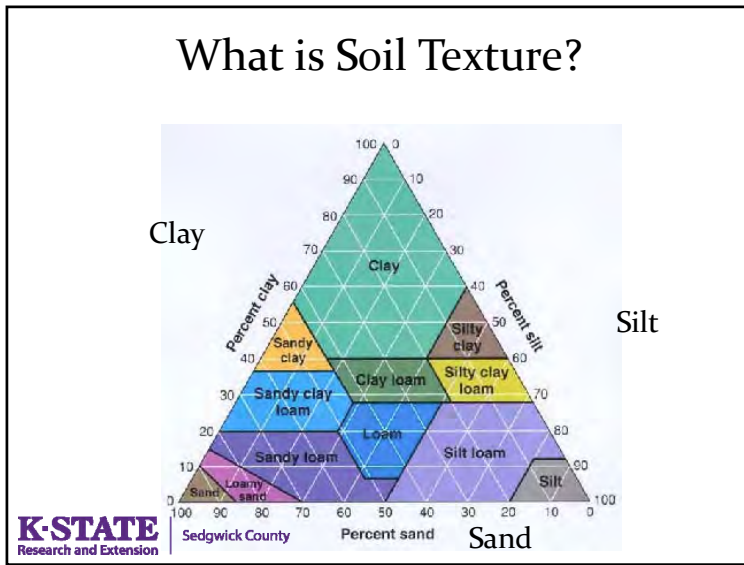
Structure

Chemistry

Biology

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What is Soil Texture?



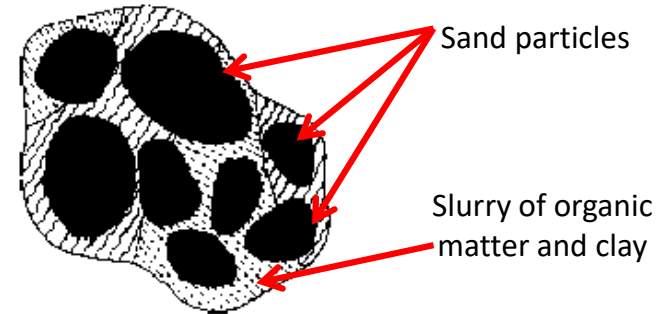
Testing Our Soil Texture



Why Soil Texture Matters

- Water Movement
- Water Holding Capacity
- Soil Temperature
- Soil Aeration
- Soil Erosion
- Nutrient Holding Capacity

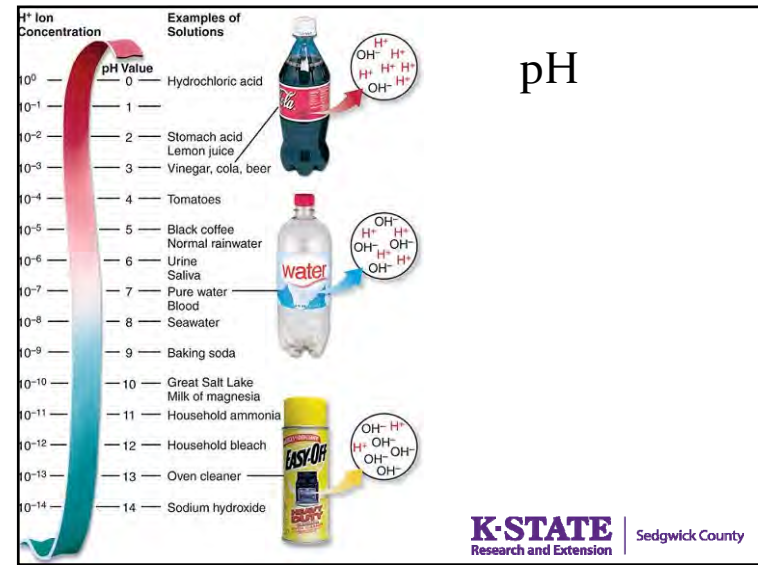
Soil Structure = Aggregates

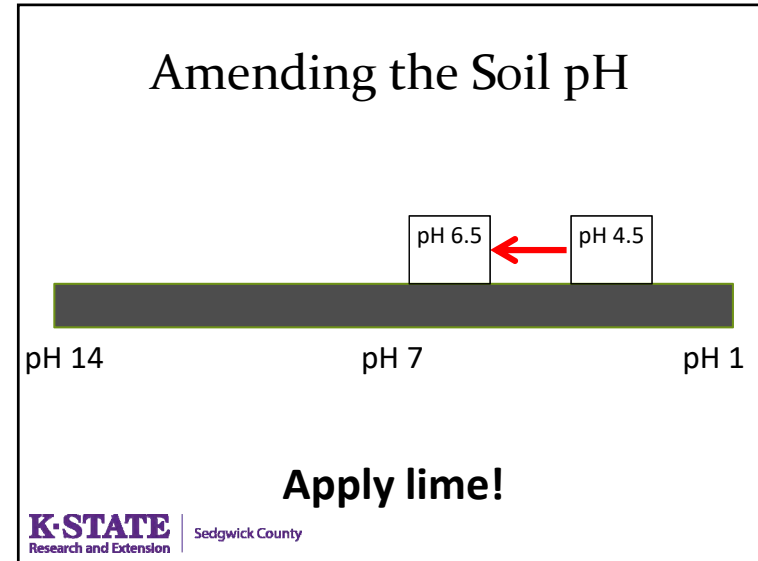
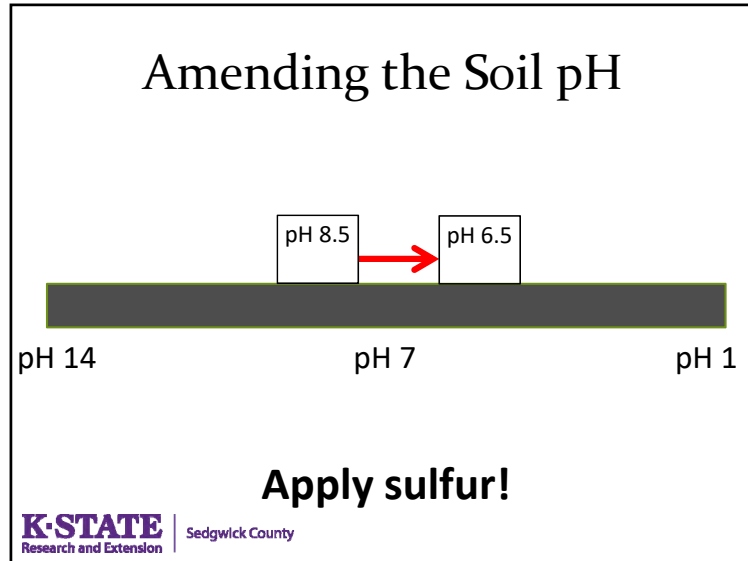


Soil Chemistry

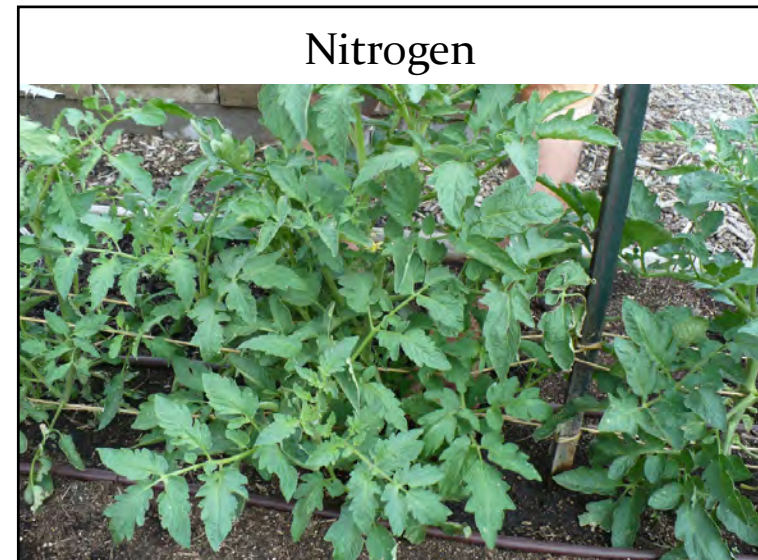
pH – Most edible plants prefer a pH of 6.0-7.0

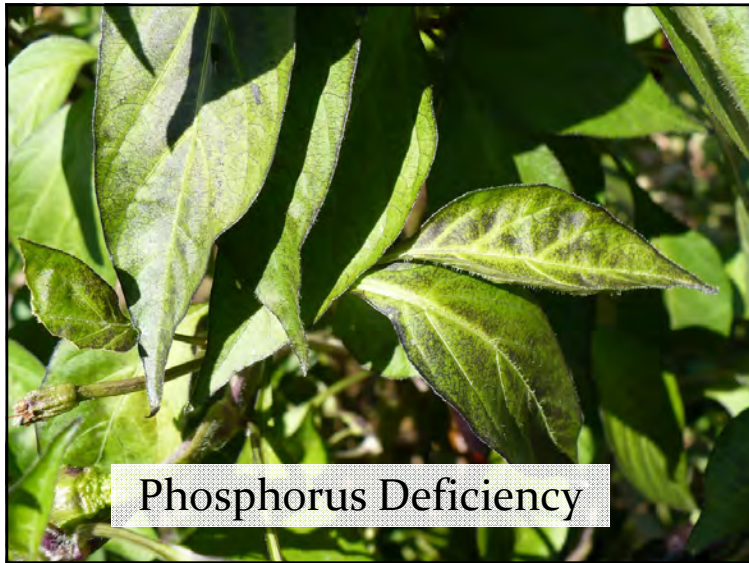
Nutrients – NPK, but a bunch of others too!





- ### Plant Nutrients
- | | |
|--|--|
| <p>Macronutrients</p> <ul style="list-style-type: none"> • Nitrogen (N) • Phosphorus (P) • Potassium (K) • Calcium (Ca) • Magnesium (Mg) • Sulfur (S) | <p>Micronutrients</p> <ul style="list-style-type: none"> • Boron (B) • Chlorine (Cl) • Copper (Cu) • Iron (Fe) • Manganese (Mn) • Molybdenum (Mo) • Nickel (Ni) • Zinc (Zn) |
|--|--|
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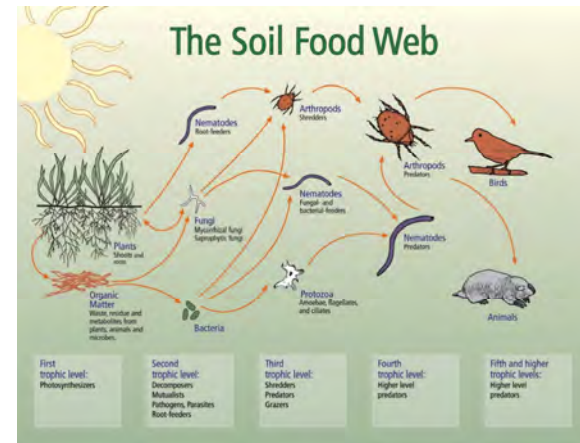


Potassium Deficiency



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Soil Biology



Healthy Soil Biology

- Rhizosphere – an area of concentrated microbial activity close to the root
- Location of peak nutrient and water cycling
- Plant roots exude food (sugars) for microbes
 - Living roots are easiest food source for soil microbes
- Microbes provide nutrients and other compounds to the plant.
- Maintaining living roots in the soil maintains the soil food web.

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How Do We Improve Our Soil?

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Adding Organic Matter



Soil Testing

- Collect 8-10 small scoops of soil, 6" deep
 - Random scoops from the entire sample area
- Mix the samples together, then bag and label about 2 cups of soil.
- Bring to the Extension office.* \$20 for normal test.
 - N, P, K, pH, Organic Matter
 - *Visit <https://www.sedgwick.k-state.edu/products-test/soiltests.html> for current protocols

Sources of Plant Nutrients

Synthetic / organic fertilizers

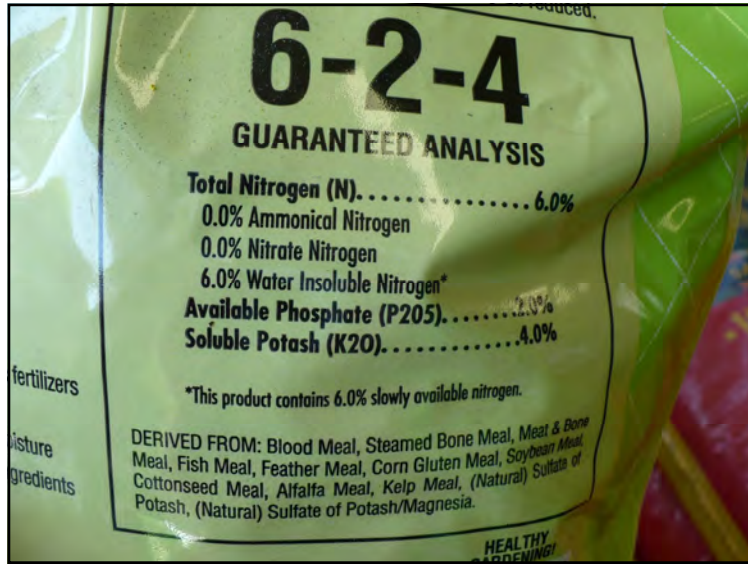
Soil amendments (Compost)

Crop residue / organic matter

Fertilizer Analysis

N	–	P	–	K
Nitrogen		Phosphorus		Potassium
10	–	10	–	10





Tips for Success with Clay Soils

- Avoid working the soil when wet
- Incorporate organic matter regularly
- NEVER add sand
- Use mulch

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Tips for Success with Clay Soils

- Double dig?? No-Till??
- Water slowly, deeply, and infrequently
- Loosen soil to prevent crust



Our Goal:

Maintain or
Improve Soil
Quality

Questions?

- For More Information:
 - Master Gardener Hotline
 - sgemghotline@gmail.com - preferred
 - 316-660-0190
 - M-F, 9-12 and 1-4
 - Walk-In Clinic (not right now, but eventually)
 - Extension E-Newsletter
 - Text: EXTENSION to 42828
 - Horticulture Information Center:
 - <http://hnr.k-state.edu/extension/info-center/>

Social Media

- Facebook Page:
<http://facebook.com/sedgwickextension>
- Instagram: @ksresedgwickco
- The Demo Garden blog:
<http://thedemogarden.org>