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WELCOME TO
VICTORY GARDEN 101
Water, Weather, and Weeds!

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

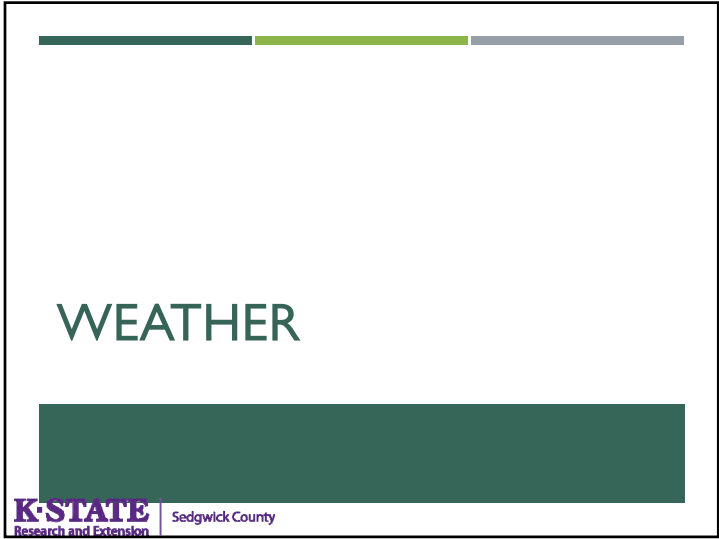


VICTORY GARDEN 101 PLAN

- Apr. 7: 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
- **Today – Water, Weather & Weeds**
- May 19 – Common Insect Problems
- May 26 – Common Disease Problems

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WEATHER

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COOL & RAINY



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SUMMER HEAT



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HUMIDITY



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OVERNIGHT TEMPERATURES



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USING SHADE



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FALL COOL DOWN

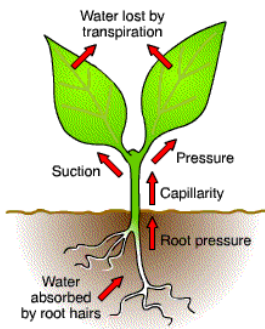


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WATERING PRINCIPLES

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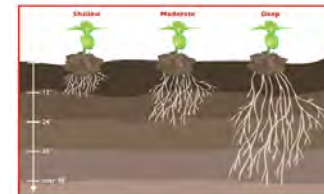
WATERING 101



- Moves nutrients
- Required for photosynthesis
- Water transported by transpiration
- Driven by evaporation into the atmosphere

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WATERING 101



Always water the
ROOT ZONE

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SHALLOW ROOTED (<24")

- Broccoli
- Cauliflower
- Cabbage
- Corn
- Potatoes
- Lettuce
- Radishes
- Spinach
- Turnips

MODERATE ROOTED (24-36")

- Beans
- Peas
- Beets
- Carrots
- Cucumbers
- Summer Squash
- Peppers

DEEP-ROOTED (>48")

- Asparagus
- Tomatoes
- Sweet Potatoes
- Pumpkin
- Winter Squash
- Watermelon

PERIODS OF CRITICAL WATER NEEDS

- Germination: all seedlings
- Pod development
 - Beans, peas
- Head development
 - Broccoli, cauliflower, cabbage

PERIODS OF CRITICAL WATER NEEDS

- Root enlargement
 - Carrot, onion, potato, radish
- Flowering to early fruit set
 - Corn, cucumbers, squash
- Early fruit development
 - Melons
- Uniform all season
 - Tomatoes, eggplant, peppers

ONE INCH PER WEEK?!

- Rule of Thumb
- Varies with soil, plants, weather

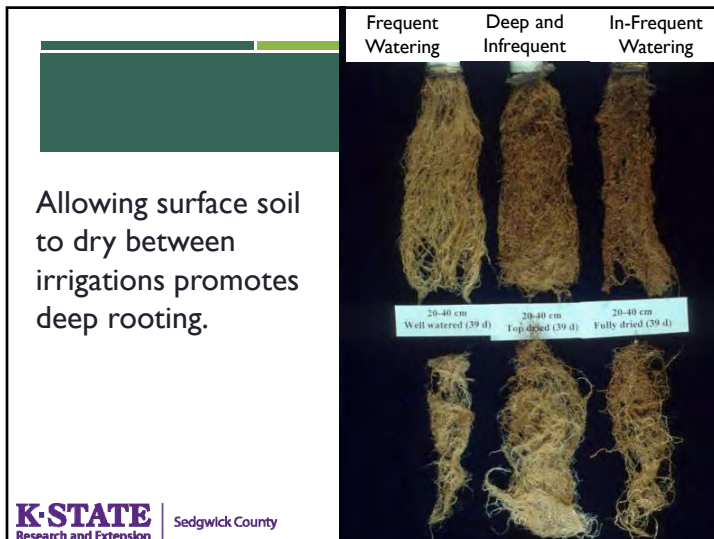
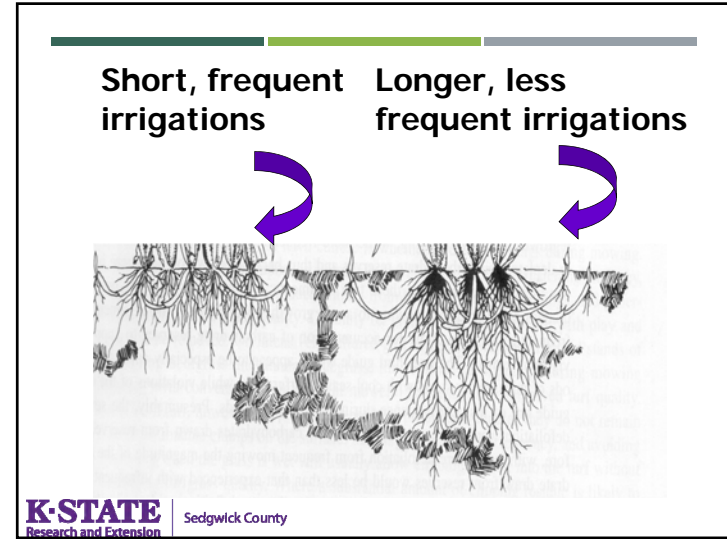
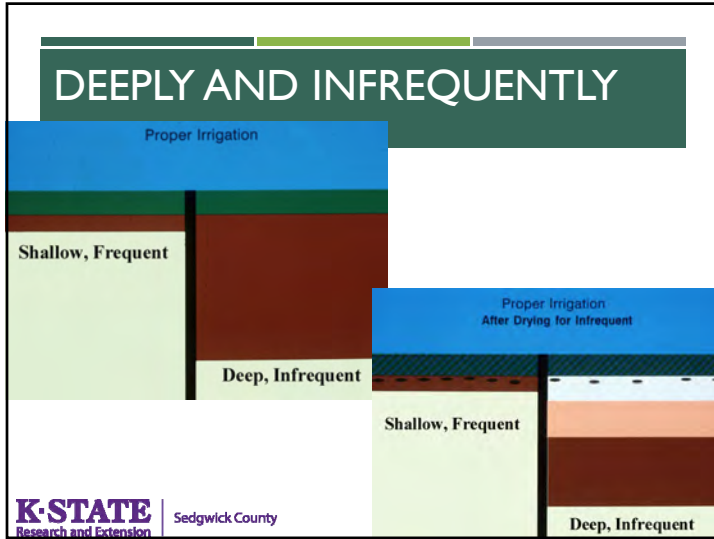
WHAT DOES “ONE INCH” MEAN?

- One inch = 623 gallons per 1,000 sq. ft.
- One inch = 62 gallons per 100 sq. ft.
- One inch = 6 gallons per 10 sq. ft.
- One inch = 0.6 gallon per 1 sq. ft.
- One inch = 1 gallon per 15”x15” square

THE SOIL PROBE

How deep is it going?





TYPES OF IRRIGATION

- Flood or furrow
 - Not typical
- Overhead / Sprinkler
 - Direct-sown crops
 - Frost protection
 - Cover crops
- Drip / Trickle
 - Low pressure vs high pressure
 - Not a "soaker hose"
 - Most efficient system

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TIMERS AND CLOCKS

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CALIBRATION

- Overhead: use catch cans
- Hand watering: use a 1 or 5 gallon bucket
- Drip: Catch can or number crunching
 - ½ gal. per hour per emitter (<1 sq. ft per hour)
 - 1 gal. per hour (15" x 15" per hour)

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WATER INFILTRATION

	Sandy Soil	Loam Soil	Clay Soil
Available Water (gal/cu. ft)	½ gal	1 gal	1 ½ gal
Depth 1" water penetrates	24"	16"	11"
Water infiltration per hour	2"	¾"	¼"

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WATERING SANDY SOIL

- Can apply water quickly
- Dries out quickly
- May need frequent watering in heat

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WATERING LOAM SOIL

- Can apply water moderately quickly
- Holds water fairly well
- Water 2-3x per week in the heat

WATERING CLAY SOIL

- Must apply water slowly
- Mulch to prevent crusting
- May only need water 1-2x per week, even in heat
- Key is to promote infiltration!

TIPS FOR CONSERVING WATER

- Loosen the soil/mulch surface to keep it receptive to water absorption
- Check irrigation system regularly for leaks, etc. (maintenance, maintenance, maintenance)
- Keep your garden free of weeds (competitors)
- Reduce evaporation from (bare) soil - Mulch

TIPS FOR CONSERVING WATER

- Avoid watering during windy weather (overhead)
- Water early in the morning when humidity is highest to reduce evaporation
- Locate the garden away from trees that might compete for water

WEED CONTROL IN A FOOD GARDEN

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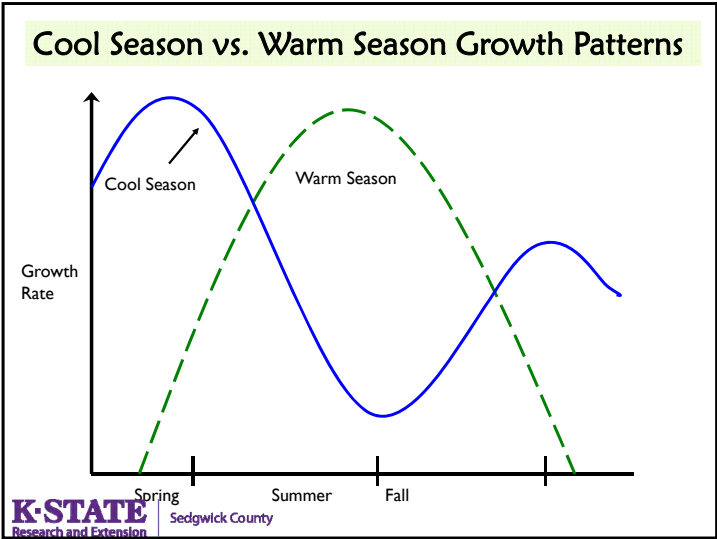
- Getting to Know Your Weeds
- Methods of Preventing Weeds
- Methods of Controlling Weeds

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GETTING TO KNOW YOUR WEEDS

<p>Summer Weeds</p> <ul style="list-style-type: none"> ■ Begin growing in May ■ Love heat ■ Grow all summer ■ Bloom in the summer ■ Die/slow down in the fall 	<p>Winter Weeds</p> <ul style="list-style-type: none"> ■ Begin growing in the fall ■ Love cool, mild weather ■ Grow slowly all winter ■ Bloom in the spring ■ Die in late spring
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GETTING TO KNOW YOUR WEEDS

<p>Annual Weeds</p> <ul style="list-style-type: none"> ■ Grow from seed every year ■ Timing is important to control ■ Usually easy to prevent 	<p>Perennial Weeds</p> <ul style="list-style-type: none"> ■ Grows from the same plant (roots) every year ■ Can also grow new plants from seed ■ Can be more difficult to control
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GETTING TO KNOW YOUR WEEDS

<p>Broadleaf Weeds</p> <ul style="list-style-type: none"> ■ Leaves are not grass-like 	<p>Grassy Weeds</p> <ul style="list-style-type: none"> ■ Leaves are grass-like!
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STRATEGIES FOR PREVENTION



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MULCH!

- Black Plastic
- Landscape Fabric
- Straw
- Leaves
- Newspaper



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COVER CROPS



WATER & FERTILIZE CAREFULLY



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MINIMIZE TILLAGE

- Only turn the soil when you have to!

FILL YOUR GARDEN SPACE



HERBICIDES

- Pre-Garden
 - Glyphosate
- Trifluralin (Treflan, Preen, etc)

USING TRIFLURALIN

- Prevents some annual weeds
- **MUST READ LABEL CAREFULLY!**
 - When to apply
 - Incorporation
 - Rate varies with soil type

STRATEGIES FOR CONTROLLING WEEDS



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FLAMING




Red Dragon Vegetable Red Flamer



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HOEING & HAND WEEDING!

- Know the root systems
- Don't just pull off the tops
- Tiny weeds can be cut off just below the soil



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CHOOSE THE RIGHT TOOL!



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CHOOSE THE RIGHT TOOL!



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CONSIDER THE WEATHER

- Go for the deep roots after a soaking rain!
- Weed shallow-rooted plants when it's dry

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HERBICIDES

- Sethoxydim (Poast)
 - Young grasses only
 - READ THE LABEL!
- Round Up
- Vinegar & Oils

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IF ALL ELSE FAILS...

Mow them down for now!

PRIORITIZE YOUR WEED CHALLENGES!

Problem Weeds
Location in the Garden
Time of Year

PROBLEM WEEDS



STRATEGIES FOR PROBLEM WEEDS

- Always deal with them ASAP
- Manually remove pieces from the garden
- Use herbicides to assist (as desired)

LOCATION IN THE GARDEN

- Within the rows
 - Within rows of seedlings, small plants
 - Within rows of larger plants
- Perennial areas
- Between rows
- Under established trees
- Edges of the garden

TIME OF YEAR

- Minimize competition
- Is it going to seed?
- Is it still small and easy to control?

TIME OF YEAR

- Are you done for the year?
 - Mow it off
 - Till it under
 - Don't let seeds drop!

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>
- Facebook Group: <https://www.facebook.com/groups/victorygarden101/>
- Instagram: @ksresedgwickco
- The Demo Garden blog:
<http://thedemogarden.org>