

Victory Garden 101: Water, Weather & Weeds

Notes Page

Weather

- Cool & Rainy
- Summer Heat
- Humidity
- Overnight Temperatures
- Using Shade
- Fall Cool Down

Watering Principles

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

Watering 101

- Shallow rooted (<24")
 - Broccoli
 - Cauliflower
 - Cabbage
 - Corn
 - Potatoes
 - Lettuce
 - Radishes
 - Spinach
 - Turnips
- Moderate Rooted (24-36")
 - Beans
 - Peas
- Deep-Rooted (>48")
 - Beets
 - Carrots
 - Cucumbers
 - Summer Squash
 - Peppers

Periods of Critical Water Needs

- Germination: all seedlings
- Pod development
 - Beans, peas
- Head development
 - Broccoli, cauliflower, cabbage
- 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 – Learn how to check your soil moisture

Deeply and Infrequently

- Allowing surface soil to dry between irrigations promotes deep rooting.

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

Timers and Clocks

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)

Water Infiltration

Watering Sandy Soil

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

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
- 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

“One year’s weed equals seven years’ seed”

Getting To Know Your Weeds – Summer vs Winter

- Summer Weeds
 - Begin growing in May
 - Love heat
 - Grow all summer
 - Bloom in the summer
 - Die/slow down in the fall
- Winter Weeds
 - Begin growing in the fall
 - Love cool, mild weather
 - Grow slowly all winter
 - Bloom in the spring
 - Die in late spring

Getting To Know Your Weeds – Annual vs Perennial

- Annual Weeds
 - Grow from seed every year
 - Timing is important to control
 - Usually easy to prevent
- Perennial Weeds
 - Grows from the same plant (roots) every year
 - Can also grow new plants from seed

- Can be more difficult to control

Getting To Know Your Weeds – Broadleaf vs Grassy

- Broadleaf Weeds
 - Leaves are not grass-like
- Grassy Weeds
 - Leaves are grass-like!

Strategies for Prevention

- Mulch!
 - Black Plastic
 - Landscape Fabric
 - Straw
 - Leaves
 - Newspaper
- Cover Crops
- Water & fertilize Carefully
- 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

- Tillage
- Flaming
- Hoeing & Hand Weeding!
 - Know the root systems
 - Don't just pull off the tops
 - Tiny weeds can be cut off just below the soil
- Choose the Right Tool!
- Consider the Weather
 - Go for the deep roots after a soaking rain!
 - Weed shallow-rooted plants when it's dry
- Herbicides
 - Sethoxydim (Poast)
 - Young grasses only
 - READ THE LABEL!
 - Round Up
 - Vinegar & Oils
- If All Else Fails...Mow them down for now!

Prioritize your Weed Challenges!

- 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?
 - 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>

References & Resources for Additional Learning

Find Your Local Extension Office & Resources:

Kansas: <https://www.ksre.k-state.edu/about/stateandareamaps.html>

Other States: Do an internet search for “*your state* extension” or “*your county* extension.” It is usually affiliated with the land grant university in your state.

Horticulture Information Center: <https://hnr.k-state.edu/extension/info-center/>

Kansas Mesonet Soil Temperature Map: <http://mesonet.k-state.edu/agriculture/soiltemp/>

Kansas Garden Guide: <https://bookstore.ksre.ksu.edu/pubs/s51.pdf> (Pages 24-29)

Vegetable Garden Planting Guide: <https://bookstore.ksre.ksu.edu/pubs/mf315.pdf>

Publications & Fact Sheets:

Common Weed Seedlings of the North Central States:

<https://cdn.shopify.com/s/files/1/0145/8808/4272/files/NCR607.pdf>

Kansas Weed ID (Powerpoint slides): <https://www.agronomy.k-state.edu/documents/weed-management/ppt-ks-weed-id.pdf>

Drip Irrigation for Community Gardens: <https://bookstore.ksre.ksu.edu/pubs/MF3124.pdf>

Watering Raised Beds, Berms, Containers & Houseplants: <https://bookstore.ksre.ksu.edu/pubs/MF2805.pdf>

Watering Vegetable and Flower Gardens: <https://bookstore.ksre.ksu.edu/pubs/MF2804.pdf>

Basic Principles of Water Management: <https://bookstore.ksre.ksu.edu/pubs/MF2799.pdf>

How to Clean and Sharpen Garden Tools: <https://bookstore.ksre.ksu.edu/pubs/mf3288.pdf>

How to Select Quality Landscape and Garden Tools: <https://bookstore.ksre.ksu.edu/pubs/mf3390.pdf>

Videos:

Save Water: Irrigation for Gardens: <https://kansashealthyyards.org/all-videos/video/save-water-irrigation-for-gardens>

Watering Your Garden: Tips for Success: <https://kansashealthyyards.org/all-videos/video/watering-your-garden-tips-for-success>

Cleaning Extends the Life of Garden Tools: <https://kansashealthyyards.org/all-videos/video/cleaning-extends-the-life-of-garden-tools>

Efficient Water Use in the Garden: <https://kansashealthyyards.org/all-videos/video/efficient-water-use-in-the-garden>

Investing in Tools: <https://kansashealthyyards.org/all-videos/video/investing-in-tools-small-to-large-gardens>