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Be Waterwise Gardener
Summit®
...responsible solutions.

TOO MUCH OR NOT ENOUGH WATER IS A COMMON CHALLENGE FOR GARDENERS

- And these extremes are greater than in the past

THE NEW USDA HARDINESS MAP

- The Zones reflect the AVERAGE, not the extreme winter temperatures
- What does it mean?
  - USDA Updates Key Map
  - New Hardiness Map
- First map from the Arnold Arboretum in 1927

ADAPTING TO THE EXTREMES

RESOURCES

- Drought Monitor
- Drought 2023
- Drought Fall 2024
- Long Term Drought Impact on Trees & Shrubs
- Increasing Heat
- 7 Steps to Managing Water in Your Landscape

DEALING WITH DROUGHT & EXTREME HEAT

- The impact of drought conditions and extreme heat can be reflected in our plant's health and longevity for years to come
  - Heat Wave in the Garden
  - Heat Stress on Plants
  - Poor Fruit Set - Blame it on the Weather
- Look for heat and drought tolerant plants like ninebark, lilac, Hypericum, roses, many prairie plants, juniper, pines…
- Group moisture loving plants to conserve water and time spent watering
- Monitor rainfall in your yard
- Alway water thoroughly and only when needed
  - Water early in the day whenever possible
    - Less water is lost to evaporation and slower wind speeds to divert the water off course
    - But if the plants need water - apply whenever you can
- Avoid overhead watering that wastes water and increases the risk of disease
- Apply water directly to soil whenever possible
  - Soaker hoses
    - Backflow preventers
    - Max 100' in length
    - 12-18" apart on sandy soil
    - 18-24" apart on loam and clay soil
  - Drip
    - Check manufacturer's recommendation for spacing and calculate flow
- Knowing when to water
  - Check the soil 4-6" down - moist, but crumbly
  - Get to know your plants
    - Wilting may be moisture stress or the plant's response to the heat
    - Regularly check plants in the morning for moisture stress
    - Watch for subtle changes in leaf color before wilting occurs
- Watering
  - New plantings
    - Often enough to keep roots and surrounding soil moist, but not wet
    - Gradually reduce frequency to encourage robust roots
  - Established plants
    - Most need 1"/ week
    - Calculating an inch of water
      - .62 gallons of water provides 1" water to one square foot

        - Square feet of the garden x .62 = gallons needed to apply 1" to the garden
        - Time (in seconds) how long it takes to fill a bucket with 1 gallon of water
        - Fill time (seconds) divided by 60 (seconds) = rate of water applied / minute
        - Gallons needed divided by gallons per minute = minutes of watering
        - Or, check soil moisture 6-8" deep and time needed to moisten the soil to that depth
    - When applying water with a sprinkler
        - Set out several straight sided cans
        - Record pressure used and time needed to provide 1" of water
- Trees need 10 gallons / inch per DBH (diameter at breast height, 4.5') applied throughout the area under the canopy
    - Evergreens need the same amount applied 3-5' beyond the drip line
- Lawn
    - Allowing lawn to go dormant
        - Limit time on the lawn and ***do not fertilize or use herbicides*** on a dormant lawn
        - Extended drought - water 1/4" every 3 or 4 weeks
    - If you water, water thoroughly when needed
        - Screwdriver test or watch for footprints left behind
        - Water Saving Strategies for Northern Lawns
        - Water Saving Strategies for Southern Lawn
- Do not fertilize drought stressed plants

CONSERVE WATER AND REDUCE HEAT STRESS

- Resources
- Rain Barrels
    - Capture water to use for ornamental plantings and containers
    - Selecting a Rain Barrel
    - Installing Rain Barrels
    - Using the water
- Collect shower warm-up water
- Collect and use dehumidifier water if not cleaned with harsh chemicals
- Mulch - keep away from tree trunks, shrub stems and off the crowns of flowers and veggies
- Provide temporary shade

DEALING WITH PERIODS OF HEAVY PRECIPITATION

- Note problem areas and research possible solutions
- Wait for soil to drain and dry before addressing damage
- Remove the debris and contaminants from the plants
- Discard edible parts of veggies and fruit covered with flood water - unsafe to eat
- Check plants for damage and prune as needed
- Righting fallen trees
    - Set upright and stake for no more than 6-12 months
- Watch for immediate and delayed signs of stress
    - Trees and shrubs best chance of recovery
    - Perennials less so
    - Annuals most adversely affected
- Impact on soil
    - Check soil for compaction / erosion
    - Take a soil test as flooding can impact soil structure and nutrient levels

About Melinda

Nationally known gardening expert, TV/radio host, author & columnist Melinda Myers has over 30 years of horticulture experience and has written over 20 gardening books, including Can't Miss Small Space Gardening, the recently revised Midwest Gardener's Handbook, and Jackson and Perkins' Beautiful Roses Made Easy. She hosts the nationally-syndicated "Melinda's Garden Moment" program airing on radio stations throughout the U.S. Melinda also hosts the internationally distributed Great Courses "How to Grow Anything" DVD/Instant Video series, including the latest Food Gardening for Everyone DVD set. She is a columnist and contributing editor for Birds & Blooms magazine, and writes a nationally-distributed gardening column. She appears regularly as a guest expert on national and local television and radio shows.

Visit Melinda's website,
melindamyers.com

- Consider planting a cover crop and / or amend to help repair the soil
- After the Flood

MANAGE WATER ON YOUR PROPERTY

- Be proactive
  - Note problem areas and research solutions
  - 10 Ways to Prevent Flooding
- Plant trees
  - Intercept rainfall
  - Absorb water from soil and transpire into atmosphere
  - Help water infiltrate, instead of running off the soil
  - Trees take up and store carbon
- Plant meadows and gardens that help absorb water
- Plant a rain garden
  - Create gardens to capture stormwater runoff
  - Locate 10-30' from the house
  - Prepare planting bed and soil
  - Use plants suited to flooding and drought
  - More details in the WI Department of Natural Resources Rain Gardens: A Guide for Homeowners and Landscapers
  - How to Select Plants for a Small Rain Garden
- Install a Dry Riverbed
- French Drain
  - Used to collect runoff flowing down a slope or from a gutter system
  - Diverts the water around or away from a building, driveway, walk or other area
  - Can help reduce erosion, mud and runoff
- Raise garden above flood water level
- Use permeable pavers and mulches for walks and sitting areas where plants are not an option or desired

HEALTHY LANDSCAPES AND PLANTS ARE MORE RESILIENT

- Keep a journal to record what is working and what is not
- Improve and preserve the soil
  - Add organic matter
    - Helps manage stormwater
    - Improves soil's ability to absorb stormwater
    - Improves drainage in heavy soil
    - Increases water holding ability of fast draining soils
  - Vertical mulch to amend and aerate soil in existing gardens
    - Cover soil surface with compost
    - Use auger bit on drill to aerate and incorporate compost into the soil
  - Topdress with compost
  - No Dig Methods
    - Cardboard and Compost
      - Measure and mark your garden bed
      - Cover the surface with non-shiny cardboard
        - Remove any staples and tape
      - Cover the cardboard with 5" (12+cm) of organic matter
      - Plant seeds and transplants into the compost
      - Every year, spread an additional 2" (5cm) of compost
      - Accessing sufficient compost may be a challenge
        - Lack of space to make enough of your own
        - Source that is free of invasive weeds and jumping worms

- Deep Mulching
  - Cover garden with an 8" (20cm) layer of hay, straw or plant trimmings
  - Pull the mulch aside to plant seeds and transplants
  - Poor and compacted soil may need additional organic matter
    - Incorporate organic matter before implementing this method
  - Some gardeners had problems with voles, slugs and cold soil
- Lasagna Gardening
  - Make the outline of the garden bed
  - Cut the grass and weeds very short
  - Cover area with newspaper or cardboard
  - Cover this with compost
  - Make a 4-8" layer of compostable plant debris
  - Cover this with a layer of compost
  - Sprinkle with a low Nitrogen fertilizer, like Milorganite, over this
  - Repeat until the bed is 18-24" high
- Hugelkultur Gardening
  - The bottom layer is logs and branches
    - No cedar, black locust or black walnut
  - Fill voids with leaves and twigs
  - Build lasagna garden on top of this

- Make Your Own Compost
  - Check municipality for any regulations
  - Select a convenient location
    - Where raw materials can easily be added
    - Where compost can easily be harvested
    - Access to water, if needed
  - When composting in sun
    - Pile heats up and dries out faster
  - When composting in shade
    - Pile stays cooler and moister, so decomposition slower
  - Bins are used to contain and hide compost pile
    - Tumblers make turning the pile easier
    - Dual bins help speed up the process
  - Place compostables in pile and let them rot
  - More work invested, the sooner you have compost
  - What to compost
    - Greens (Nitrogen rich)
      - Manure
      - Vegetable clippings
      - Fruit and vegetable kitchen scraps
      - Herbicide-free grass clippings
      - Seaweed or kelp
    - Browns (carbon rich)
      - Fall leaves
      - Straw and hay
      - Coffee grounds
      - Evergreen needles
      - Cornstalks and corn cobs
      - Non-glossy paper and cardboard
    - Do not compost
      - Meat
      - Fat
      - Dairy
      - Perennial weeds
      - Invasive plants
      - Annual weeds with flowers or seeds
  - Building the pile
    - Add twigs or elevate pile if drainage is an issue
    - The first layer - 8-10" (20-25cm) of greens and browns
    - Cover with finished compost or soil
    - Sprinkle 3 cups of Milorganite or other fertilizer over this
    - Repeat the layers until the pile is at least 3' (1m) high and wide
    - Moisten to consistency of a damp sponge
    - Turn the pile after temperatures in the center cool
      - Move material from the center to the outside and material on the outside to the center
    - Harvest and use when crumbly and dark
- Keep the soil covered year-round with mulch and / or perennials
  - Reduces the risk of soil erosion and compaction
  - Keeps soil cooler than bare soil

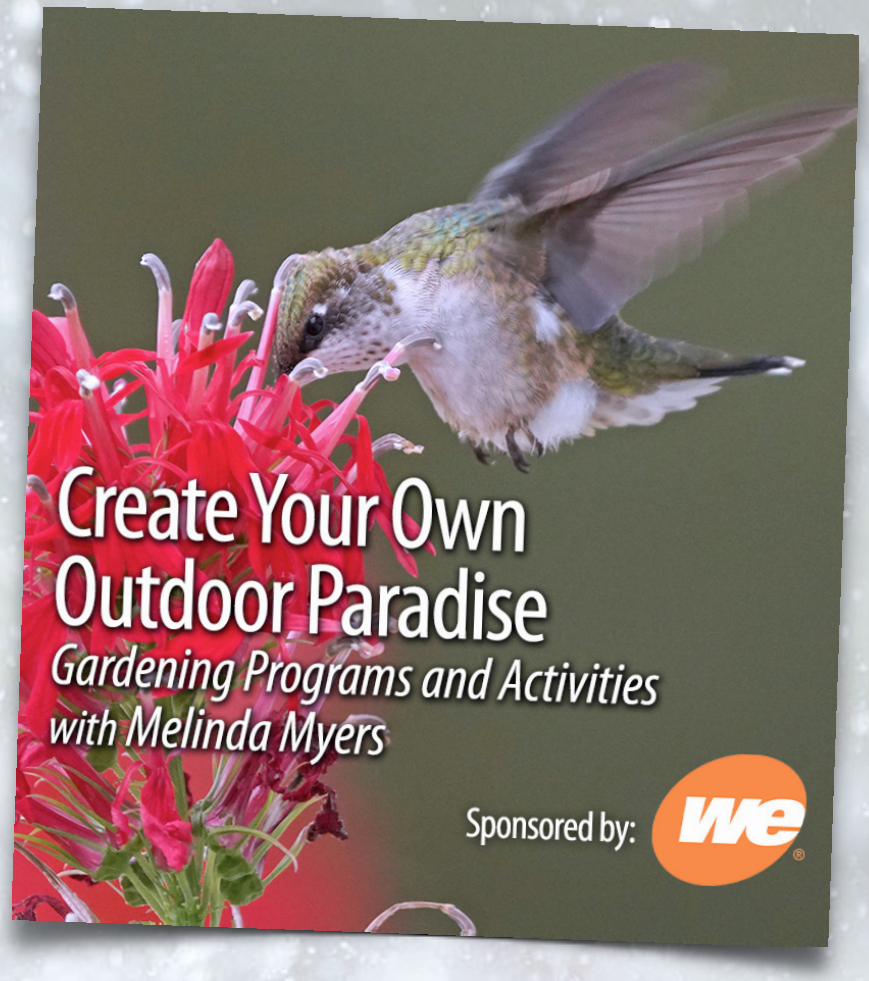
- Keep the soil filled with roots year-round
  - Roots release sugars and other compounds that support soil microbes
  - As old roots decompose, they add organic matter to the soil
  - Roots provide pathways through soil for stormwater
  - Help remove pollutants from stormwater before entering groundwater
  - Consider using cover crops in vacant gardens
- Select plants suited to the soil, sunlight and climate
  - Look for plants that tolerate extremes
  - Grow plants that make a difference

FROST-FREE SEASON IS LONGER, BUT BE PREPARED FOR THE UNEXPECTED

- Late spring ice and snow storms (May 10, 1990 and Jan. 12, 2024)
  - Preventative pruning, consider **hiring a certified arborist**
- Check soil temperatures before planting
- Warm soil with clear plastic or row covers
- Protect plants with frost blanket and cloches

PROTECT OUR WATER

- Grow a healthy and sustainable landscape
- Sweep clippings, fertilizers and chemicals off walks and driveways
- Shovel first and use minimal plant friendly deicing salts when needed
  - 1 tsp of salt permanently contaminates 5 gallons of water



UPCOMING APPEARANCES & WEBINARS

Check often as more appearances and webinars continue to be added.

March 21st - 30th
REALTORS Home & Garden Show

Webinar March 26th
Succession Planting and Crop Rotation

Webinar March 27th
Rain Garden Q&A

Webinar April 2nd
Container Gardens for Sun and Shade

Webinar April 10th
Reinvigorate Your Rain Garden

April 12th
Pasquesi Home & Gardens

April 26th
Ebert's Greenhouse Village

Webinar May 7th
Vertical Gardening

May 10th, 10th, 11th, 17th, 18th
Ebert's Greenhouse Village

Webinar May 15th
7 Steps to Managing Water on Your Property

Webinar June 4th
Attracting Hummingbirds

June 8th
Ebert's Greenhouse Village

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Melinda's Garden Moment AUDIO TIPS

Melinda's Garden Moment VIDEO TIPS

FREQUENTLY ASKED QUESTIONS

MONTHLY GARDENING CHECKLISTS & MORE

BE SURE TO SIGN UP FOR MY E-NEWSLETTER TO GET TIMELY GARDENING TIPS AND A CHANCE TO WIN

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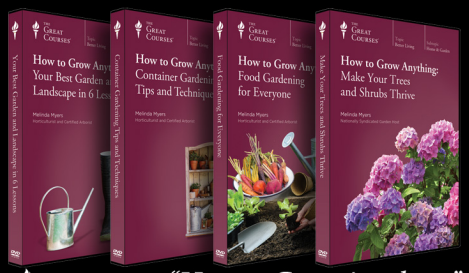

THE GREAT COURSES "How to Grow Anything"

DVD SERIES

Food Gardening for Everyone

Make Your Trees and Shrubs Thrive

Your Best Garden and Landscape

Container Tips and Techniques

BOOKS

Midwest Gardener's Handbook

Small Space Gardening

Midwest Lawn Guides

Minnesota & Wisconsin Getting Started Garden Guide

Month-by-Month Gardening in Minnesota & Wisconsin

Michigan Getting Started Garden Guide

Month-by-Month Gardening in Michigan

Month-by-Month Gardening in Iowa

Birds & Blooms Magazine

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