



Garden Talk!

for the Heartland Garden Enthusiast

July 2003

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WATERING PLANTS: WHEN & HOW MUCH?

How do I know when to water my plants? How much water do my plants need? How often should I water, and what's the best way to do it? How can I conserve water? These are questions a lot of gardeners have when it comes to watering their plants.

How much water your plants need and how frequently they need it, depends on a number of factors, the weather, soil texture, and the plants themselves. The soil's ability to absorb and retain water is closely related to its composition. Clay soils absorb water slowly and drain slowly as well, retaining water longer than other soils. Sandy soils, in contrast, absorb water quickly and drain quickly. Loam soils absorb water fairly rapidly and drain well, but not too fast. Organic amendments can be used to help clay soils absorb water faster and drain better, and to help sandy soils retain more moisture.

Plants have differing water needs. Plants native to semi-arid and arid climates have features that allow them to survive with little water and low relative humidity. They may have deep root systems, or leaves that are small, hairy, or waxy. The majority of common garden plants, however, are adapted to moist soil and high relative humidity. They usually have broad, thin leaves. Keep in mind that all young plants require more frequent watering than mature plants until their root systems become well established. Many annual flowers and vegetables require regular moisture throughout the growing season if they are to bloom well or produce a good crop.

Weather affects water needs as well. When it's hot, dry, and windy, plants use water very rapidly, and young or shallow-rooted plants sometimes cannot absorb water fast enough to keep foliage from wilting. Such plants need frequent watering to keep moisture around their roots at all times. During cool, damp weather, plants require much less water. Water needs are lower during winter as well, when the days are short and the sun is low on the horizon.

Because soil texture, plant type and age, and weather are all variable, following a fixed watering schedule year-round (or even all summer) isn't the most efficient way to meet your plants' needs. Always test your soil for moisture and look at your plants before you water. To check the soil around new transplants and in vegetable and flower beds, dig down a few inches with your fingers or a trowel; if the top 1 to 2 inches are dry, you probably need to water. Leaves can also tell you when it's time to water. Most will look dull or roll in at the edges just before they wilt.

When you do water, aim to soak the root zone of your plants. As a general guideline, the roots of lawn grasses grow about 1 foot deep; roots of small shrubs and other plants reach 1 to 2 feet deep. While the taproots of some trees and shrubs may grow more deeply into the soil, most roots tend to concentrate in the top 2 to 3 feet. Watering below the root zone only wastes water. To check how far water penetrates in your soil, water for a set amount of time (say, 30 minutes). Wait for 24 hours, then use a soil sampling tube or dig a hole to check for moisture.

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Methods for applying water range from simple hand-held sprayers to hose-end sprinklers, to more complex drip systems and underground rigid-pipe systems. The method or methods appropriate for you depend on how often you need to water, the size of your garden, and how much equipment you want to buy.

Over-watering

Giving plants too much water, especially in clay soils, can cause as many problems as supplying too little. Roots absorb oxygen from the air found in pore spaces between soil particles. During irrigation or rainfall, water displaces the air in these spaces; then, as the water drains away, evaporates, and is taken up by roots, the pore spaces fill with air again. But if water is applied too often, the pore spaces never have a chance to drain. They remain filled with water, and air is not available to the roots. The lack of oxygen makes roots susceptible to various water-mold fungi, which in turn can lead to rot. Over-watering also compacts the soil and literally washes some nutrients beyond the reach of roots.

It's Fair Time!

County fairs are a great way for individuals to show off the fruits, vegetables, and flowers they have been growing, as well as to learn more about the quality and handling of produce. Fairs are held throughout the summer, and it is sometimes difficult to have vegetables at the ideal stage of maturity at the time of the show. Mature produce is desirable and will place over immature or overripe produce, but remember big is not always better. A smaller, slender zucchini squash is more desirable than a squash that is over a foot long and weighs 3 or 4 pounds.

Fruits and vegetables should be placed on a paper plate. Leafy vegetables like lettuce may be placed in a jar of water. Small vegetables such as tomatoes, cucumbers, beans, and peppers are usually shown in groups of 3 to 6. Large pumpkins, watermelons, and winter squash are usually shown as single specimens. Cut flowers should also be placed in a jar of water and are exhibited singly or in groups.

Everyone is encouraged to exhibit their fresh fruits and vegetables as well as cut flowers and potted plants. Refer to the fair book for rules.

Horticultural Crop Judging

How does a consumer choose which apple to buy?...or which pint of berries?...or which poinsettia?...or which bouquet of flowers? Why does one plate of tomatoes receive a blue ribbon and another a red? The ability to evaluate the quality of horticultural crops is important not only from a consumer's viewpoint, but also from a grower's.

So what does it take to win a blue ribbon or have the champion squash? Horticultural crops are evaluated on four main criteria: symmetry, uniformity, proportion, and showiness. Symmetry refers to the equal distribution of mass around a central point, for example the form of a flowering potted Chrysanthemum should appear round when viewed from above. Uniformity refers to the similarity of individual specimens within a horticultural crop class. Size is important, and all fruits, vegetables, and flowers in one exhibit should be uniform in size. There are no extra points for oversized vegetables, and sometimes these may be at a disadvantage. Uniform ripeness, shape, and color are also important. Showiness/Condition refers to the visual appeal of the crop. Cut flowers should be near their peak of bloom and color. All fruits, vegetables, and flowers should be clean and free of blemishes.

All entries should meet the criteria mentioned, however there are some special considerations for individual vegetables. Refer extension guide sheet 6230 for more information or the fair book for the fair in which you are exhibiting.

Physiological Disorders of Tomatoes

- **Cracking** is a physiological disorder caused by wide fluctuations in soil moisture. Tomatoes often start to crack during warm, rainy periods, especially if this weather comes after a dry spell. The tomatoes expand too fast and are most likely to crack when they have reached full size and are beginning to turn color. Some resistant varieties include Early Girl and Jet Star. Be sure to apply adequate moisture throughout the growing season to avoid the problem.
- **Catfacing** is another physiological disorder of tomatoes. Tomatoes develop unusual swelling and streaks of scar tissue. It is caused by abnormal development of the tomato flower at blossom time. Cold weather at the time of blossom set intensifies the deformities. Catfacing is not a disease. It is most common in the large-fruited beefsteak type tomatoes.
- **Blossom-end rot** is a disorder that occurs on the bottom or blossom end of the fruit. It appears as a sunken, water-soaked spot. The spot turns brown or black, and dry and leathery as it grows larger. It is not an infectious disease. It affects both green and ripe tomatoes and is caused by a calcium deficiency, which is usually the result of wide fluctuations in soil moisture.
- **Sunscald** develops when high temperatures retard the development of good color. Tomato fruits exposed directly to the hot sun may scald. Sunscald is localized damage to the tissue often accompanied by discoloration. Good foliage cover is helpful in preventing scalding.

Many of these disorders are quite common. They are not caused by insects or disease and are not infectious. Little can be done for most of them, but the fruit may be eaten if the affected portions are removed. For more information about tomato disorders, contact your county extension center.

Let's Get Growing: Summer Flowers from Grandma's Garden

By Sandra and Sam Fleak, Kirksville Master Gardeners

Some of the old-fashioned plants that many will remember from their grandmother's garden provide colorful flowers in a modern late summer garden. After other perennials have bloomed and many annuals have faded in the late summer heat, some plants that were favorites a hundred years ago such as Rose of Sharon and Phlox still liven up the gardens with bright, colorful flowers. These old garden favorites lived in our grandmothers' gardens because they were easily propagated and thrived with virtually no special care. For the same reasons, these classic plants work well in today's gardens for people who want summer flowers in their landscape but do not have a great deal of time to pamper their plantings.

The old fashioned Rose of Sharon has large flowers that resemble a tropical hibiscus flower. The flower colors range from pure white to pink, light purple, and pink with some varieties having a red center. This woody shrub (*Hibiscus syriacus*, also known as *Althea*) blooms profusely and reliably in the late summer long after many other shrubs have finished blossoming. Rose of Sharon plants originated in China, but have been planted in European and American gardens for hundreds of years. One large mature Rose of Sharon plant may provide hundreds of spectacular flowers during the late summer.

Rose of Sharon does well in full sun but will also grow in light shade and can thrive in almost any soil. These plants can be arranged to form a hedge, used in borders, or planted as individual landscape accents. A gardener can easily share old-fashioned rose of Sharon plants with neighbors and friends because the small seedlings that sprout up around the mature plants can be easily transplanted.

Rose of Sharon shrubs leaf out late in the spring. The shrub produces flowers on the new season's growth. For that reason, prune Rose of Sharon shrubs after the plants are finished blooming in the fall. Except for pruning any frost-damaged tips on young plants in the spring, Rose of Sharon shrubs can be allowed to grow naturally and will reach a height of six to twelve feet. Alternatively, Rose of Sharon shrubs can be pruned to maintain a smaller size or to train the shrub into a single-trunk tree.

Another classic plant that has provided late summer color in gardens for many years is garden phlox (*Phlox paniculata*). This common upright perennial grows from four to six feet tall and produces clusters of showy lavender, pink, or white flowers in the summer. The plants are hardy and are often seen around old homesteads where they have brightened the garden for many years.

Because phlox plants need little attention and produce huge clusters of flowers for much of the late summer, they are a mainstay for a summer perennial garden. If planted in full sun or light shade and in rich, moist, well-drained soil, the plants will require very little care. They will thrive if 5-10-5 fertilizer is applied occasionally.

To renew the plant vigor, clumps of phlox can be divided and transplanted in the fall after growth for the year is finished. Phlox plants are relatively pest free except that deer sometimes find the tender plant tips to be tasty. To avoid powdery mildew on phlox leaves, do not wet the leaves when watering or water early in the day so the leaves are dry before evening.

While the old-fashioned Rose of Sharon and Phlox varieties provide outstanding late summer garden color, modern cultivars can add extra pizzazz to a summer garden. Garden catalogs list many phlox cultivars that vary in size and color from compact two-foot stems to taller plants and flower colors of white, pink, blue, lavender, and red, some with eyes of a contrasting color. Some have variegated foliage to provide a garden accent even before the plants blossom. Some of the modern Rose of Sharon cultivars have flowers that drop off and do not produce seed. Other modern Rose of Sharon cultivars are triploid plants that produce spectacular flowers as large as five to six inches across.

PLANT PROFILE: Bee Balm

Scientific Name: Monarda **Bloom Time:** summer **Size:** 3 ft.
Flowers: round, 2-3 inch wide flowers in moplike tufts at the tops of tall, leafy stems; flowers can be red, purple, white, lilac, and pink **Hardiness:** zones 4-9
Culture: commonly grown as a perennial; needs mostly sun; moist, well-drained soil; leaves are aromatic when crushed; member of the mint family.
Propagation: Plant in spring or fall. Space plants 1 ½ to 2 feet apart. Deadhead to prolong flowering. Propagate by seed or division every few years in early spring, or from early summer cuttings. Bee Balm needs good air circulation to prevent powdery mildew.
Landscape Uses: excellent for planting in beds, borders, or naturalizing in woodland plantings.
Disease & Insect Susceptibility: Powdery Mildew



JULY GARDENING TIPS

ORNAMENTALS

- Continue to pinch mums until mid-July. Pinching after this may delay flowering.
- Deadhead perennials (remove dead flowers) that have finished blooming.
- Prune climbing roses and rambler roses after bloom.
- Spider mites may be a problem during hot, dry weather. Leaves will become speckled above and yellowed below. Evergreen needles appear dull gray-green to yellow or brown.
- Water newly planted trees and shrubs thoroughly at least once a week.
- Fertilize trees and shrubs by July 4. Late fertilizing may cause lush growth that is more prone to winter kill.
- Black Spot may be a problem on roses. Remove and pick up infected leaves and spray fungicides as needed.
- Powdery mildew may be found on lilacs. It is rarely harmful and shrubs grown in full sun are less susceptible.
- Divide irises now.

VEGETABLES

- Blossom end rot of tomatoes and peppers may become a problem. Maintain soil moisture and do not let soils dry out. Place a layer of mulch 2-3 inches thick around plants.
- Keep weeding! Prevent weeds from going to seed.
- Dig potatoes when the tops die. Plant fall potatoes by July 15th.
- Harvest onion and garlic when the tops turn brown.
- Keep cucumbers well watered. Drought condition will cause bitter

fruit.

- Sow seeds of carrots, beets, turnips, and winter radish for fall harvest the last week of July. Also set out broccoli, cabbage, and cauliflower transplants for the fall garden at this time.

FRUIT

- Protect grapes from birds!
- Prune out old fruiting canes of raspberries after harvest is complete.
- Apply second spray to trunks of peach trees for peach borers.
- Early peach varieties ripen now.
- Blackberries will begin to ripen soon.

TURF

- Water lawn frequently enough to prevent wilting. Early morning irrigation allows turf to dry before nightfall and will reduce the chance of disease.
- Monitor lawns for newly hatched white grubs. If damage is occurring, apply appropriate controls, following product label directions.

-Missouri Botanical Garden-

UPCOMING EVENTS

July 8: University of Missouri Turfgrass and Ornamental Field Day, Turf Research Center at South Farms, Columbia, MO. For more information call the MU Conference Center at 573-882-2429.

July 16-17: Master Gardener Train the Trainer, University of Missouri-Columbia. For more information contact Jennifer at the Adair County Extension Center at 660-665-9866.

July 21-26: NEMO Fair, Kirksville, MO

August 2: SMALL FARM FIELD DAY-hosted by Russ Heindselman of LaGrange. Registration at 8 a.m., program starts at 8:30. The morning session will be held at LaGrange Lion's Club, afternoon farm tour at Russ Heindselman. There is no cost for the field day. For more info, contact Russ at 573.655.4639



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