

Horticulture Tips

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Oklahoma Cooperative Extension Service
Division of Agricultural Sciences and Natural Resources
Oklahoma State University

GARDEN TIPS FOR JULY!

David Hillock

Vegetable Garden

- Make fall vegetable garden plantings in late July. Fact Sheet [HLA-6009](#) gives planting recommendations.

Lawn

- Brown patch disease of cool-season grasses can be a problem. ([HLA-6420](#))
- Meet water requirements of turfgrasses. ([HLA-6420](#))
- Fertilization of warm-season grasses can continue if water is present for growth. ([HLA-6420](#))
- Vegetative establishment of warm-season grasses should be completed by the end of July to ensure the least risk of winter kill. ([HLA-6419](#))
- Mowing heights for cool-season turf grasses should be at 3 inches during hot, dry summer months. Gradually raise mowing height of bermudagrass lawns from 1½ to 2 inches.
- Sharpen or replace mower blades as needed. Shredded leaf blades are an invitation to disease and allow more stress on the grass.

Tree and Shrub

- Control bermudagrass around trees and shrubs with Poast, Fusilade, or Glyphosate herbicides. Follow directions closely to avoid harming desirable plants.

Fruits

- Continue insect combat and control in the orchard, garden, and landscape. ([EPP-7306](#), [EPP-7313](#), [EPP-7319](#))
- Check pesticide labels for “stop” spraying recommendations prior to harvest.
- Harvest fruit from the orchard early in the morning and refrigerate as soon as possible.

Flowers

- Divide and replant crowded hybrid iris (Bearded Iris) after flowering until August.

General Landscape

- Water plants deeply and early in the morning. Most plants need approximately 1 to 2½ inches of water per week.
- Providing birdbaths, shelter and food will help turn your landscape into a backyard wildlife habitat.

- Insect identification is important so you don't get rid of the "Good Guys." ([EPP-7307](#))
- The hotter and drier it gets, the larger the spider mite populations!
- Expect some leaf fall, a normal reaction to drought. Water young plantings well.

July Irrigation

David Hillock

Adequate soil moisture is essential for good crop growth. A healthy plant is composed of 75 to 90% water, which is used for the plant's vital functions, including photosynthesis, support (rigidity), and transportation of nutrients and sugars to various parts of the plant.

There are several options for applying water to plants. These include a watering can, a garden hose with a fan nozzle or spray attachment for containers, small gardens or individual plants and portable lawn sprinklers, a perforated plastic soaker hose, drip or trickle irrigation, or a semi-automatic drip system for lawns and gardens.

Your careful use of irrigation techniques will help local streams and will ultimately benefit larger bodies of water in your surrounding area by reducing fertilizer and pesticide run-off and by conserving water.

Some Basic Techniques and Principles for Watering

Adjust the flow or rate of water application to about one-half inch per hour to avoid causing run-off. To determine the rate for a sprinkler, place small tin cans at various places within the sprinkler's reach, and check the level of water in the cans at 15 minute intervals.

When using the oscillating type of lawn sprinkler, place the sprinkler on a platform higher than the crop to prevent water from being diverted by plant leaves. Try to keep the watering pattern even by frequently moving the sprinkler and overlapping about one half of each pattern.

Do not sprinkle foliage in the evening. Wet foliage overnight may encourage disease. Morning watering is preferred.

Perforated plastic hoses or soaker hoses should be placed with holes down (if there are holes), along one side of the crop row or underneath mulch. Water will slowly soak into the soil.

Frequent, light watering will only encourage shallow rooting, causing plants to suffer more quickly during drought periods, especially if mulches are not used. On the other hand, too much water, especially in poorly drained soils, can be as damaging to plant growth as too little water.

Your lawn can use an inch or more of water per week in hot, dry weather. The lawn should be watered when the soil begins to dry out, but before the grass actually wilts. Loss of resilience can be observed; footprints will make a long-lasting imprint instead of bouncing right back.

Critical watering periods for selected vegetables are:

Asparagus	Spear production, fern development
Broccoli, Cabbage, Cauliflower	Head development
Beans, Peas	Pod filling
Carrot	Seed emergence, root development
Corn	Silking, tasseling, ear development
Eggplant, Tomato	Flowering, fruiting
Cucumber, Melon	Flowering, fruit development
Lettuce	Head development; moisture should be constant

Tomato Blossom-end Rot

David Hillock

This is a common physiological disorder. A small water soaked spot appears near the blossom end of affected tomatoes and enlarges, darkens and becomes sunken and leathery. Fruits are most commonly affected when they are a third to half grown. Blossom-end Rot (BER) often occurs on developing fruit when plants have grown rapidly during the early part of the season and then are subjected to prolonged dry weather. Other factors that increase BER are heavy applications of nitrogenous fertilizers, a widely fluctuating water supply and hot, dry winds. The exact nature of this disease is still debated, but involves an imbalance in amount of calcium in the fruit.

Control - On soils known to be deficient in calcium, use agricultural lime and avoid overfertilizing with commercial fertilizer. Use gypsum as a supplement to liming on calcium-deficient soils. Provide an even supply of water to the plants and avoid any water stress (mulching encourages even soil moisture and temperatures; irrigate during hot, dry periods). Plant in well-drained soil. Within one foot of the plant, do not cultivate deeper than 1 inch. Protection from exposure to wind is beneficial, also. Affected plants can also be sprayed with a commercially-available calcium preparation. ([EPP-7627 Common Diseases of Tomatoes, Part 3: Non-Infectious Diseases](#))

Is My Potato Producing Tomatoes??!

David Hillock

By now your potato plants should be growing vigorously and may even be producing flowers and fruit. Because both the potato and tomato are in the family *Solanaceae*, the fruit look very similar, but rest assured that your potato plants are not beginning to produce tomatoes. Remember that the potato is not a fruit but a tuber (or underground swollen stem). The fruit you may be seeing on the above ground portion of your plant, a small green fruit, is the real fruit that occasionally forms on potato plants when conditions are favorable. Inside the fruit you can find true potato seed, but saving and planting them will be a waste of time and effort. If they do germinate, the result is usually small, weak plants that may produce only a few, small potatoes, if any. (Source: *The Vegetable Book: A Texan's Guide to Gardening* by Dr. Sam Cotner)

Composting with Red Wiggler Worms

Laura Payne

Composting with Red Wiggler worms (*Eisenia fetida*) is an ideal way to create compost for your garden. In a month's time these little creatures can breakdown your table scraps and create a highly nutritious addition to your garden. Red Wigglers feed on your table scraps topped with shredded paper. You can grow these worms in Tupperware containers or buckets. Keep the worms moist and cool, ideally between the temperatures of 65 – 85 degrees. Place a thermometer in with them so you can monitor the temperture.

Monitoring Insects in the Garden

Laura Payne

Insects play many different roles in our gardens. Some insects are beneficial and yet others can be detrimental. Monitoring your garden is the only way to detect what's eating your plants. Here is a list of different traps that are used for different purposes. Some are used to monitor insect populations, while others can help control pests.

- Traps for Monitoring
 - Pheromone Traps (oriental fruit moth)
 - Sticky Cards

- Traps for Pest Control
 - Double-sided Sticky Tape for Scales
 - Cucumber Beetle Trap
 - Ladd Apple Maggot Trap (monitoring or trapping)

Cowpea and its Many Names and Uses

Lynn Brandenberger

Cowpea is one of many names that this amazing crop goes by. Names also include southern pea, blackeyed pea, pinkeyes, crowder, and pinkeye purple hull pea, etc. The scientific name for this crop is *Vigna unguiculata*. Cowpea is a warm season legume native to Africa that is well adapted to high summer temperatures, dry weather, and has numerous uses. Not only can it provide peas for snapping, shucked peas for cooking and dry peas for storage-rehydration and cooking, but its other plant parts are used numerous ways. On its native continent its leaves are used in salads, as forage and dry peas are ground into flour for baking. As with most



legumes it contains decent amounts of protein and several essential amino acids, and high levels of folate a key vitamin for the healthy development of infants.

If you have doubt as to its ability to deal with hot weather take a look at the 2011 report (<http://www.hortla.okstate.edu/industry/vegetables/pdf/11vegreport.pdf>) on the cowpea trial last summer. In spite of record high temps and low rainfall it made a crop and would have been harvested if it had not been eaten by deer.

There are two basic growth habits for cowpea. The determinate types were developed by plant breeders primarily for the processing industry so they have concentrated flowering and fruit set with a bush type growth habit that facilitates machine harvest. They can also be used for fresh market since they set most of their pods in the top of the plant which makes hand harvest much easier. That said if you want continual harvests, these types will need to be planted in succession plantings over the summer to provide that. Some cultivars for determinate types are Early Scarlet, Arkansas Blackeye # 1, Elite, and Epoch.

Indeterminate types are primarily made up of more traditional cultivars. These flower and fruit over a long period of time and lend themselves well to one planting that is harvested over several weeks. The main drawback to indeterminate types is the vining growth habit which greatly increases the amount of time it takes to hand harvest. Some cultivars for indeterminate types are Coronet, Pinkeye Purple Hull BVR, California Blackeye, and Mississippi Silver.

For more information about this amazing legume check these references:

- E-995 Oklahoman's guide to growing fruits, nuts, and vegetables
- HLA-6029 Southern Pea Production (<http://www.hortla.okstate.edu/resources/index.htm>)

Growing Tomatoes Not for the Faint of Heart

Lynn Brandenberger

About this time each year we begin to receive lots of calls about problems with tomato crops. Either there is something wrong with the leaves or the fruit, or both! Tomatoes are subject to a number of disease problems and in fact there are numerous fact sheets and references dedicated just to tomato diseases. Here at OSU John Damicone our Extension Plant Pathologist who works on vegetable crops has three excellent fact sheets on tomato diseases, EPP 7625, 7626, and 7627 covering everything from fungi to bacteria, to viruses, and non-infectious diseases. These fact sheets are available at: <http://www.hortla.okstate.edu/resources/index.htm>. That said most other crops are doing well to have one disease fact sheet much less three. This should give farmers some clue that possibly growing tomatoes is not for the faint of heart.

This spring has been mild and summer is approaching without the blast furnace start that we had last year, thank goodness! Around the state farmers are generally off to a good start on their tomato crop, but there have been a few problems.

Early Blight: One problem that has been noted is early blight which is caused by the fungal pathogen *Alternaria solani*. Damicone describes it as a leaf spot that can defoliate the plant leaving the fruit exposed and open to sunscald and fruit rot. Unfortunately once any fungal disease is seen it's too late to prevent them. Prevention of tomato diseases caused by either fungal or bacterial pathogens can include both cultural and chemical methods.

Cultural control methods could include any or all of the following:

- Crop rotation with non-tomato relatives
- Crop support i.e. staking, cages, stake & weave
- Mulching soil surface i.e. plastic or organic mulches
- Proper irrigation
 - Drip irrigation to minimize wetting the top of the plant
 - Timing overhead irrigation for early mornings



Chemical control methods

- Use of preventative fungicide sprays
 - 7-14 day interval between sprays
 - See OSU E-832 "County Agent's Handbook" for fungicide recommendations

Blossom End Rot: The other challenge that should be discussed is blossom end rot i.e. BER. This is definitely a perennial problem that a lot of tomato growers face particularly on the early fruit set. Blossom end rot is not a disease caused by a pathogen, but is a physiological condition brought on by calcium deficiency during fruit development.

It sounds simple enough, but it's really quite complex. You would think that if there's a deficiency in calcium applying a little lime (CaCO_3) or gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) ought to fix it, but it's not quite that simple. Jim Shrefler, OSU Area Horticulture Specialist in SE Oklahoma, spoke about BER at an annual Horticulture Industry Show (2006. Horticulture Industry Show proceedings 25:84-87). He spent the better part of 30 minutes discussing it and when he finished he said that he just got started telling about this very complex problem.



Some of Jim's points are as follows:

- Basic cause includes calcium deficiency in the fruit
- Calcium isn't easy to get into the fruit
- Factors that influence BER

- Low levels of calcium in soil
- Rapid growth of crop
- Too much nitrogen in soil
- Extremes in soil moisture
- Root damage
 - Cultivation
 - Nematodes
- Environmental conditions
 - Low soil temperatures
 - High evapotranspiration
 - High temps & wind
- Preventing BER
 - Soil testing & good nutrient management
 - Management of irrigation and salinity
 - Good mulching practices
 - Using cultivars with less BER problems
 - Using properly grown & hardened off transplants
 - Avoid severe tomato plant pruning

Upcoming Horticulture Events

Plant Materials Conference

August 28, 2012 – Wes Watkins Center – Stillwater, OK

Tree Care Conference

October 3, 2012 – Wes Watkins Center – Stillwater, OK

GardenFest

October 6, 2012 – The Botanic Garden at OSU – Stillwater, OK

Global Horticulture Conference

November 7, 2012 – Wes Watkins Center – Stillwater, OK

For more information about upcoming events, please contact Stephanie Larimer at 405-744-5404 or stephanie.larimer@okstate.edu.