

Horticulture Tips

May 2014

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

GARDEN TIPS FOR MAY!

David Hillock

Flowers

- Annual bedding plants can be set out for summer color.
- Plant summer bulbs such as cannas, dahlias, elephant ear, caladiums and gladiolus.
- Shake a leaf over white paper to look for spider mites. If the tiny specks begin to crawl, mites are present.

Trees and Shrubs

- Prune and feed azaleas immediately after blooming.
- Insect Alert: ([EPP-7306](#))
 - * Bagworms on juniper and arborvitae. (Late May)
 - * Elm leaf beetles and larvae on elms. (Late May)
 - * Mimosa webworms on mimosa and honeylocust.
 - * Lace bugs on sycamore, pyracantha and azalea.
- Soak new transplants and newly planted trees unless rainfall is abundant.
- Pine needle disease treatments are needed in mid-May. ([EPP-7618](#))

Turfgrass

- Cool-season lawns can be fertilized again. If you did not fertilize cool-season grasses in March and April, do so now.
- Warm-season lawns may be fertilized again in May. ([HLA-6420](#))
- Seeding of warm-season grasses such as bermudagrass, buffalograss, zoysiagrass and centipedegrass is best performed in mid-May through the end of June. The soil temperatures are warm enough for germination and adequate growing season is present to promote winter hardiness.
- Dollar spot disease of lawns can first become visible in mid-May. Make certain fertilizer applications have been adequate before ever applying a fungicide. ([EPP-7658](#))
- Nutsedge plants become visible during this month. Post-emergent treatments are best applied for the first time this month ([HLA-6421](#)). Make certain warm-season grasses have completed green-up.
- The second application of pre-emergent annual grass herbicides can be applied in late-May or early June, depending upon timing of first application ([HLA-6421](#)). Check label for details.

- Vegetative establishment of warm-season grasses can continue. ([HLA-6419](#))

Water Gardens

- Clean out water garden and prepare for season. Divide and repot water garden plants.
- Begin feeding fish when water temperatures are over 50°F.

Fruits and Vegetables

- Plant watermelon, cantaloupe, cucumber, eggplant, okra, sweet potatoes, etc.
- Fruit spray programs should be faithfully continued during the next several weeks. ([EPP-7319](#))
- Late May is the best time to control borers in the orchard. Check for label recommendations and controls.

Repairing Tree Injury

David Hillock

Injuries to trees that expose the wood or kill the bark may allow insects or disease organisms to enter the tree. Proper treatment protects the tree and promotes faster healing. Few trees reach maturity without receiving one or more wounds from a variety of sources. Yet trees have survived for centuries to become the oldest living creatures on earth despite wounding. Some recent work has involved dissecting trees in an effort to understand how they compartmentalize and close an injury. Trees do not heal in the true sense of the word. Injured tree tissue is never repaired and returned to the former state, as is a cut on a person's hand. Trees react by closing the wound and compartmentalizing or isolating the injured tissue from the surrounding tissue.

During compartmentalization enclosure, contents from the injured cells leak onto the uninjured surface where they oxidize and form a barrier to prevent further infection. Then the most recently laid down wood is altered, as is the tissue around the injury. This is accompanied by discoloration, the extent of which depends on the kind of tree, the vigor, kind of wound, location of the wound and the time of wounding. New growth rings are laid down the following spring and new tissue begins to grow over the injured tissue. Over a period of time, the new tissue closes the wound.

Homeowners can help the plant compartmentalize the damage more rapidly than it does in nature. If bark has been crushed or stripped from the trunk, remove the injured bark and shape the wound. Cut away all damaged bark and remove isolated scraps from the wound area. Remove all splintered wood and smooth the surface of the exposed area with a chisel.

Some true injuries result in cavities or hollows within the main trunk or large branch of a tree. For many years gardeners have tried to fill these cavities with bricks, concrete and other materials in an effort to seal the cavity from rain, insects and diseases. Armed with the knowledge of the plant's ability to compartmentalize any wound it is not recommended to fill tree cavities. If water does not drain easily out of the cavity, many arborists will recommend trimming the cavity opening so that water can drain out. Creating a weep hole by drilling into the bottom of the cavity to allow water to drain freely is not necessary and will create a new wound

that may be subject to further decay. Other than these actions, simply keeping the cavity clean of debris and leaves is all that is recommended.

For a year or more after a tree has been struck by lightning, it is often difficult to determine the extent of damage since much of the injury may be internal. Trees that seem badly damaged may live while others apparently only mildly injured may die. If the tree can be saved, remove all shattered parts and damaged limbs; then smooth.

In storm-damaged trees, remove all broken branches and reshape the tree as well as possible at the particular time. Try to encourage new branch development in areas with broken branches. Broken trunks, split crotches or cracked limbs often are mended by restoring the damaged part to its original position and holding it there permanently. Consult professional arborists to install screw rods or cables in trees where this work is necessary.

Help! I Have Tall Fescue

Malarie Gotcher and Justin Quetone Moss

Struggling with your tall fescue? Discover how to manage turfgrass in the shade and a few alternative solutions from Noon to 1 pm, Thursday, May 29, at the Oklahoma County Extension Center Auditorium, 930 N. Portland Ave., Oklahoma City, OK. We will also cover some critical information from OCES Fact Sheet [HLA-6608](#), “Managing Turfgrass in the Shade in Oklahoma”. Don’t forget to bring your lunch! Contact Malarie Gotcher at malarie.gotcher@okc.gov or 405-297-3380 for more information.

Mulch, Mulch, and More Mulch!

David Hillock

Mulch is one of the most common and practical tools a gardener can have. It can be relatively cheap, even free in some cases, come in an array of sizes, shapes and colors, is easy to install, and has many benefits. Benefits of using a mulch, depending on the type used, include: reduced surface evaporation, improved water penetration and air movement, control of soil temperature fluctuations, protection of shallow-rooted plants from freeze damage and frost-heave, improved soil structure and nutrient availability, preventing weed growth, keeping fruits, vegetables, and flowers cleaner, and improved aesthetics of a landscape and addition to property values.

There are two types of mulches, organic and inorganic. Organic mulches include such things as wood and bark chips, straw, grass clippings, and seed hulls. Inorganic or inert mulches include polyethylene film, gravel, and weed-barrier fabrics.

The ideal mulch does not compact readily. It does not retard water and air movement into the soil, it is not a fire hazard, and it breaks down slowly. In addition, the ideal mulch is uniform in color, weed-free, attractive and does not blow away.

Selection – The selection of a mulch should depend on the intended use (Table 2). Appearance is sometimes the goal and either organic or inorganic types would work, but is largely based on personal preferences. When the goal is to improve soil conditions, organic mulches that gradually break down work well. The size of the area in relation to the cost of materials and availability should also be considered (Table 1). If the area is used primarily for annual flowers, it often is more practical to use a temporary organic mulch that can be turned under each fall.

When to Apply Mulches – A mulch is frequently applied soon after the emergence of the crop seedlings or following transplanting. A delay in application of mulch may be desirable if the soil has not warmed sufficiently during the spring.

Mulches used to enhance appearance and control weeds may be applied at any time.

If the mulch will be used to protect fall transplants by keeping soil temperatures above freezing longer into the fall (permitting better root growth), apply soon after transplanting.

If the mulch is to be used to reduce frost-heave and delay spring growth, apply after the ground has frozen. This type of mulch often is used to protect small bulbs such as squill and crocus and to prevent early emergence.

Depth of Mulches – Except where polyethylene film is used alone or in combination with chips, stones, or other material, apply most mulches to a depth of 3 to 4 inches. Apply straw, dried leaves, and similar materials to a depth of at least 6 inches.

Some mulches, particularly straw and loose leaves, may harbor rodents. When using these mulches, do not place closer than 6 inches to the base of woody plants. When these types of mulches are placed next to the plant, rodents living in the mulch will chew the bark of the plants, girdling and killing them.

Preventing Nitrogen Deficiency – As organic mulches decompose, the breakdown organisms use some of the soil nitrogen in contact with the mulch. Consequently, nitrogen deficiency may occur. A sign of nitrogen deficiency is a yellowing, primarily of the lower leaves. When this occurs, add nitrogen fertilizers. Never use a weed-and-feed type of fertilizer in mulched areas.

Table 1: Area covered to a given depth by one cubic yard of mulch.

<u>Area</u>	<u>Depth of mulch</u>
80 square feet	4 inches
100 square feet	3 inches
160 square feet	2 inches
325 square feet	1 inch

Table 2: Types of mulches and their advantages and disadvantages.

Mulch type	Advantages	Disadvantages	General Comments
Organic Mulches			
Cocoa-bean hulls	Long lasting, dark brown color.	Compacts and forms a crusty surface. Harmless if stirred to break crust. Expensive.	Molds may form on surface.
Grass clippings	Readily available.	Must be applied loosely and in thin layers to reduce matting.	Allow grass to dry before applying as a mulch.
Leaves (composted)	Readily available.	Not very attractive. May become matted.	Good soil amendment.
Leaves (fresh dried)	Readily available.	Not very attractive. May blow away. Fire hazard. Wet leaves compact into slimy mats.	Most appropriate in naturalized gardens or shrub masses.
Newspaper	Readily available.	Don't use color inserts or red ink.	Use 3 to 6 sheets thick and cover with organic mulches.
Peat (sphagnum)	Usually available in bulk amounts.	May crust on surface. May blow away.	The only acid-forming peat, but even this is variable with source. Best used as a soil amendment, not as a mulch.
Pine needles	Attractive. Do not compact.	Difficult to obtain in quantity. Can be a fire hazard.	Best for winter protection of fall-transplanted material.
Shredded bark, bark chips, chunk bark	Long-lasting, attractive (chips more attractive than fine shreds).	Cost relatively high. Shredded bark may compact.	Use for informal walkways.
Straw	Readily available.	Blows easily. Highly flammable. Weed seeds often present.	Best used as a temporary mulch around plants needing protection in winter. Anchor with wire mesh.
Wood chips, shavings, pole peelings, recycled shingles.	Long lasting. Readily available.	Texture and color not uniform.	Rustic but usually attractive. Will not compact readily.
Inorganic, inert mulches			
Weed-barrier fabrics	Reduces weeds. Allows air and water penetration. Long lasting if covered with mulch. Easy to apply.	Some may be costly. Most deteriorate in sunlight unless covered with another mulch material such as wood chips.	A good substitute for black plastics.
Gravel, stone.	Available in colors to match or complement the architecture.	Inexpensive. Will not prevent growth of some weedy grasses.	Use black polyethylene beneath to prevent weeds.

Container Planting Tips

Kim Toscano

The success of a container is rooted, quite literally, in a healthy soil. And perhaps the most important thing to consider with soil is not the composition itself, which is certainly important, but drainage. Good drainage is absolutely necessary to growing healthy plants in containers. The first step in providing appropriate drainage is in selecting the container itself. Containers need drainage holes at the bottom to allow excess water to flow out of the pot. If water is trapped and allowed to stand inside the pot, the roots can suffocate and disease is likely to occur. One way to encourage container drainage is to elevate containers by placing them on a brick or block.

Inside the pot, we can further help improve drainage by placing a variety of materials in the bottom of the container. Gravel is commonly used, as are broken pieces of clay pots and small plastic nursery pots. Sometimes, we use large containers for their visual impact, but do not require such a large soil volume for the plants we put in the container. One thing you can do is fill the bottom third of the planter with empty milk jugs or other materials to act as spacers. You will use less soil, which will save money, and the planter will be much lighter and easier to move. A number of products are available for purchase at garden supply stores that can be used to improve drainage and reduce soil volume. These include Better Than Rocks® and Ups-a-Daisy® planter inserts, among others.

Now that we have taken care of drainage, let's add our soil. You will find an endless variety of soil mixes at the garden center, so what do you use? We want to consider drainage, but we also do not want our soil to dry out quickly. Compost makes an excellent media for containers – it is loose, rich, and has high organic matter content good for water retention. You can purchase pre-mixed potting soil, or mix your own with equal parts of sand, a loamy garden soil, and peat moss or perlite. Do not use soil from the garden, it tends to be too heavy for containers and does not drain well. Mixing a slow release fertilizer into the upper layers of soil in the container will allow for easy season-long fertilization.

As for plant material, you can grow just about any type of plant in a container, from annual flowers, to fruits and vegetables, to small trees and shrubs. Mix it up a little, experiment with a variety of combinations. Be sure to consider the conditions in the location you will place the container – is it sunny or shaded? Is there a lot of wind? Such factors can influence plant selection. If you will be planting tender perennials or tropicals, you will also have to decide what you will do with the container during the winter. Some plants can withstand a dormant period in a sheltered location, such as a garage. Other plants need to be brought inside over the winter. Make sure you know what a plant needs before making a purchase.

When selecting plants, consider color combinations, plant textures and form. A good way to plant containers is to fill them on three layers. Fill the vertical space above the planter with upright plants, the surface layer of the container can be filled with low growing herbs, and fill the lower portion of the container with weeping or cascading plants. Sometimes, one plant can fill the bottom two layers, and another the vertical space.

Once you have your container in place, don't forget to water. Because the container has such good drainage, it will be very difficult to over-water it – but the plants will certainly suffer if they do not receive enough water. Water needs will increase as plants grow larger and as the temperature rises.

Fresh Strawberries from the Garden

David Hillock

It won't be too long and the first strawberries will form and begin to ripen in the garden. As a strawberry patch comes into production you will want to harvest every other day. Leave the berries on the plant one to two days after they reach full color. Avoid picking strawberries that have a white tip – these have not reached their full potential and the white tip will not have good flavor. Harvest berries by twisting the stem and fruit from the vine, leaving the green hulls attached to the fruits. It is best to harvest early in the morning when the berries are cool. Store them in a cool place or refrigerator for up to 5 days. Wait to wash your strawberries until just before using them to prevent softening and decay.

Dothistroma Needle Blight of Pine

Jennifer Olson, Assistant Extension Specialist/Plant Disease Diagnostician

Dothistroma needle blight is a serious disease of pine trees in Oklahoma that causes premature needle drop. The disease affects both landscape plantings and pines in windbreaks. Austrian (*Pinus nigra*) and ponderosa (*P. ponderosa*) pines are highly susceptible while Scots or Scotch (*P. sylvestris*) pine is resistant to this disease. When Dothistroma needle blight is left uncontrolled, trees may be weakened and eventually killed.

Symptoms – Although needles are infected in the spring, the symptoms do not develop until the fall. Early symptoms consist of yellow and tan spots that may be bordered by a water-soaked band. As the spots enlarge, the tips of the needles will die while the needle bases remain green. The dead portion of the needle may break off leaving a blunted tip. Needles are often prematurely shed or cast from the tree, especially needles on lower branches since the humidity is greater in the lower canopy. Winter desiccation injury causes symptoms similar to Dothistroma needle blight. However, needles damaged by winter desiccation will show browning of tips to roughly the same point on the needle. The amount of tip browning caused by Dothistroma needle blight is variable.

Disease Cycle – *Dothistroma pini* is the non-sexual stage of the fungus and is the only stage found in Oklahoma. Conidia (spores) are produced in fruiting structures within the spots or bands on the needles. By January, these fruiting structures become visible as small, erumpent black dots along the blighted needles. Fruiting structures mature in mid to late spring and conidia are spread by rain splash through the growing season (May to October). Although infections occur throughout the growing season, symptoms do not become evident until fall. Two seasons are required for the pathogen to complete its lifecycle.

Management – Fallen needles should be removed from the ground and discarded in the trash to reduce inoculum (pathogen propagules) and thereby lower disease severity the next season. Sanitation is not completely effective since some needles may remain attached to branches. Fungicides can be applied for preventative control of Dothistroma needle blight. Newly developed needles are resistant, but become susceptible by mid-summer. Older needles are susceptible throughout the growing season. A copper containing fungicide can be applied once the new needles have almost fully expanded (usually mid-May). A second application seven to ten days later may be helpful especially if weather is cool or rainy. Thorough coverage is essential and hiring a tree care professional to treat large trees is advised. If the disease is severe, several years of meticulous treatment may be required to control Dothistroma needle blight.

To view images of this disease see OSU Fact Sheet [EPP-7331 Dothistroma Needle Blight of Pine](#).

Fall Leaf Lettuce Trial

Lynn Brandenberger and Danielle Williams

Introduction– Americans are eating healthier which includes consumption of fresh salad vegetables such as leaf lettuce. Consumption of leaf lettuce has been increasing during the past few years due to their unique flavors and somewhat higher nutrient content compared to head lettuces. Leaf lettuces have traditionally been grown in Oklahoma by fresh market farms because of problems with growing head lettuces to full maturity in our short growing seasons. The objectives of this trial were to observe leaf lettuce cultivars for quality and yield during the fall growing season.

Methods and Materials – Transplants of lettuce were started in the greenhouse in early August using a soilless growing mix and fertilizing with a water soluble fertilizer at a rate of 100 ppm of N-P-K at each watering. Transplants were hardened off in an outdoor shaded area 3 days prior to transplanting on 9/12. Plants were transplanted into double rows with plants staggered between rows to provide a 12 x 24 inch space for each plant. Lettuce plants were irrigated using drip irrigation with fertilizer being injected into the irrigation water to provide approximately 120 lbs. of nitrogen per acre. Plots were harvested by cutting off whole plants at their base on 10/11 and 10/15 with number of bolting plants, number of plants, and overall yield in pounds being recorded.

Results and Discussion – Bolting (flowering) was observed in a majority of cultivars in the trial (Table 1). ‘Bergmann’s Green’ and ‘Two Star’ were the only two cultivars in the trial that had less than 10% bolting recording 5.7 and 8.3%, respectively. Also ‘Simpson Black Seeded’ had 11.7% bolting, this compares to the next lowest bolters “Green Bay’ and ‘Green Grand Rapids’ which recorded 19.3 and 20% bolting, respectively. All other cultivars had greater than 30% bolting.

Average weight of harvested plants varied from 0.5 to 1.4 lbs. per plant (Table 1). ‘Tropicana’ (1.4 lbs.) produced the largest plants followed by ‘Green Star’ (1.3 lbs.), ‘Simpson Black Seeded’ (1.3 lbs.), and ‘Bergmann’s Green’ (1.2 lbs.).

Average yield was highest for ‘Tropicana’, ‘Simpson Black Seeded’, ‘Green Star’, and ‘Bergmann’s Green’ (Table 1). These cultivars had recorded yields per acre of 19,158, 18,223, 16,617, and 15,851 lbs. per acre respectively. Other cultivars in the trial ranged in yield from 6,392 to 13,976 lbs. per acre.

Conclusions – Taking into account bolting, plant size, and yield ‘Simpsons Black Seeded’, ‘Bergmann’s Green’, and ‘Two Star’ compared well to other cultivars in the study. Although bolting was an issue in the trial, during transplant production there may have been light pollution from adjacent greenhouses and transplants were water stressed at times, all which could contribute to the levels of bolting observed. In conclusion the authors would state that lettuce established by transplants in the fall season shows promise and was a relatively short term crop considering that the crop was ready for harvest 30 to 34 days after transplanting.

Table 1. 2013 Fall leaf lettuce trial at Perkins, OK. Bolting, average plant weight, and yield.

Cultivar	Bolting %	Average plant weight lbs.	Average yield lbs./acre^y
Green Grand Rapids	20.0	0.6 de ^z	8,954 cd
Bergmann's Green	5.7	1.2 abc	15,851 ab
Tropicana	38.0	1.4 a	19,158 a
Two Star	8.3	0.9 bcd	13,976 abc
Vulcan	57.7	0.9 cd	12,357 bc
Green Bay	19.3	0.7 de	8,954 cd
Green Star	30.7	1.3 ab	16,617 ab
Waldmann's Dark Green	41.7	0.5 e	6,392 d
Simpson Black Seeded	11.7	1.3 abc	18,223 ab

^z Numbers in a column followed by the same letter exhibited no significant differences based on Duncan’s Multiple Range Test where P=0.05.

^yAverage yield lbs./acre was calculated using a row spacing of 3 feet between rows.

Figure 1. Fall 2013 Leaf Lettuce Trial, Perkins, OK

		
Green Grand Rapids	Bergmann's Green	Tropicana
		
Two Star	Vulcan	Green Bay
		
Green Star	Waldmann's Dark Green	Simpson Black Seeded

Upcoming Horticulture Events

Herbaceous Plant Materials Conference

July 17, 2014

Wes Watkins Center – Stillwater, OK

Greenhouse Production Conference

September 11, 2014

Wes Watkins Center – Stillwater, OK

GardenFest

September 20, 2014; 10 AM – 4 PM

The Botanic Garden at OSU – Stillwater, OK

The Botanic Garden's Annual GardenFest brings together individuals from across the state with a common interest in gardening and sustainable living for a day of educational workshops, tours and activities for the whole family. It is also a wonderful opportunity to view the beautiful landscapes and innovative demonstrations throughout The Botanic Garden at OSU while experts are on hand to answer questions. Live music and vendors will be featured along with our educational programming.

Global Horticulture Conference

November 6, 2014

Wes Watkins Center – Stillwater, OK

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