Horticulture Tips
May 2002

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

Garden Tips for May!

David Hillock

Trees and Shrubs

- Prune and feed azaleas immediately after blooming.
- Insect Alert: (F-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, pyrancantha and azalea.
- Soak new transplants and newly planted trees unless rainfall is abundant.
- Pine needle disease treatments are needed in mid-May. (F-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. (F-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. (F-7658)
- Nutsedge plants become visible during this month. Post-emergent treatments are best applied for the first time this month (F-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 (F-6421). Check label for details.
- Vegetative establishment of warm-season grasses can continue. (F-6419)

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.

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^{o} 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. (F 6235).
- Late May is the best time to control borers in the orchard. Check for label recommendations and controls.

Caterpillars "Leaving" a Mess in Your Trees?

Tom A. Royer, Extension Entomologist

As the trees leaf out this spring, they provide a bounteous food source for hungry caterpillars. Spring cankerworm, eastern and forest tent caterpillars are becoming noticeable in oaks and other trees this spring. When numerous, them become a concern to homeowners. The following is a short description of the caterpillars along with a brief life history, and some recommendations for management.

Spring cankerworm is also known as the "inchworm". Caterpillars range in color from green to dark brown to nearly black and measure about 1 inch when full-grown. They have two pair of abdominal prolegs. When disturbed, they often let themselves down on a strand of webbing, and can thus be moved from tree to tree with the wind. They also will stand nearly erect on their prolegs, giving them the appearance of small twigs.

Spring cankerworm overwinters as a larva that pupates in late winter through spring. Adults begin to mate and emerge in late February. The female moth is wingless, and measures about ½ inch in length, and has a set of stiff, reddish spines that point towards the tip of the abdomen. She crawls up the trunk of the tree and deposits up to 100 eggs in the crevices of the bark.

The forest tent caterpillar and its close cousin, the eastern tent caterpillar are pests of various trees. The eastern tent caterpillar prefers cherry, apple and crabapple. It makes a tent at the fork or crotch of a tree, and move out during the day to feed on leaves as they emerge from bud. The eastern tent caterpillar are black with a white stripe down the back and a series of brilliant blue spots between a pair of yellow lines that run the length of the body.

The forest tent caterpillar attacks sweetgum, various species of oak, ash, maple, elm and basswood. They hatch in spring from an egg mass that encircles a twig of the host tree and was deposited the following summer. They undergo one generation per year. The caterpillar can be distinguished from the eastern tent caterpillar by the row of keyhole-shaped markings on their back. Upon hatching, they remain gregarious for a while, and will often molt together in a silken mat that they spin around a branch. Unlike the eastern tent caterpillar, they rarely make a tent.

When full-grown, the caterpillars spin a yellow cocoon, often in between folded leaf blades, in which they pupate. Adults emerge in June. Full-grown caterpillars may reach 2 inches long.

Control of any of these caterpillars is usually not necessary because their numbers are kept in check by a multitude of natural enemies such as the fiery searcher beetle and many parasitic flies and wasps. Even if the caterpillars become numerous, a healthy tree can withstand a complete defoliation early in the growing season. New transplants, or trees weakened by weather or other factors may require control. These caterpillars are very susceptible to products containing *Bacillus thuringiensis*, such as Javelin, Dipel, Bactospeine or Ortho's B.t. Biospray. Control is best achieved before caterpillars become full-grown, and it is essential to get thorough coverage.

Ground Beetles in "Search" of Those Bright City Lights.

Tom A. Royer, Extension Entomologist

I have received reports of a mini-invasion of beetles in the city of Tulsa. By the description given to me, they appear to be a type of ground beetle that are sometimes referred to as "Searchers". These beetles are voracious predators of other insects, and are particularly fond of caterpillars. They are also highly attracted to lights at night. One species, which is sometimes referred to as the "fiery searcher" can be found climbing trees in search of caterpillars such as the forest tent caterpillar or the spring and fall cankerworm. I have seen some of these beetles in oak trees this past week, which coincidentally were also infested with forest tent caterpillars. Another species was purposefully imported into the US to help control gypsy moth and has become fairly well established in the eastern states where gypsy moth has been a continual pest.

These beetles are among the largest of the ground beetles, sometimes reaching a length of more than 1½ inches. They are also quite colorful, possessing an iridescent color on their elytra that ranges from a dark violet to green. They typically overwinter as adults and become active in the spring as their prey become numerous. Both adults and larvae are predacious, but the larvae cannot climb trees to hunt for food. Be somewhat careful in handling them, they can bite, and may give off a very obnoxious odor when disturbed. While these beetles may be a nuisance, they are beneficial and just might keep your trees from becoming defoliated by leaf-feeding caterpillars.

MASTER GARDENER CORNER

David Hillock

Master Gardener Program Continues to Grow in Oklahoma

Most groups have completed their training for this year and we hope all of our new Master Gardeners enjoy this season as they dig in and begin their service hours.

New to the program this year is **Roger Mills County** in western Oklahoma, **McIntosh County** that joined with **Muskogee County**, and **Grant County** who joined with **Kay County**. **Woods** and **Alfalfa Counties** are the newest group. They started training at the end of March and

should be finishing up mid June. **Delaware County** has plans to begin training in June or July. That will bring our total of counties with Master Gardener programs to 25.

During the **1999-2000** training year **284** new Master Gardeners were trained. Volunteer hours reported were **33,585** resulting in an outreach to over **79,020** Oklahoma residents. This volunteer service given to the Oklahoma Cooperative Extension Service is valued at approximately **$516, 873.00** (Value based on a rate of $15.39/hour, which includes a 12% estimate of fringe benefits. This hourly rate is the assigned wage for nonagricultural workers as published in the *Economic Report of the President*. This information was supplied by the Independent Sector, an organization that "serves as a national forum to encourage giving, volunteering and not-for-profit initiative.")

THANKS TO ALL THE OKLAHOMA MASTER GARDENERS! Keep up the great work!

Last chance to register for State Master Gardener Continued Training Conference.
The registration deadline for the joint Master Gardener Continued Training Conference with Texas Master Gardeners in Wichita Falls, Texas is **May 15**. If you haven't registered yet please do so. It will be a wonderful program of learning and making new friends. If you did not receive a registration packet contact your County Coordinator or myself at 405-744-5158 or hillock@okstate.edu. Hope to see you all there!

Master Gardeners from Around the State
In the April issue of the Custer County Commissioners' newsletter, the flowerbed work around the Courthouse by the **Custer County Master Gardeners** was recognized. The County Commissioners expressed appreciation for their service and hard work and the impact it has on the community. Good job to all the Master Gardeners in Custer County!

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.

For every 100 square-feet of mulched area, add 2 pounds of a complete fertilizer, such as 10-6-4 or one-fourth pound of ammonium nitrate.

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.

Area	Depth of mulch
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.

Glads and Tubes

Steve Owens

One of the most common summer-flowering bulbous plants grown by gardeners everywhere is the gladiolus. The gladiolus "bulb" that you buy and plant is not a true bulb. It's actually a corm. A bulb is made up mostly of modified fleshy leaf bases, as in the case of the tulip and the onion. A corm is a compressed stem, so it generally looks somewhat flattened and is a more dense structure.

Another name for the gladiolus is Sword Lily, because of the long, flat, pointed leaves. The word gladiolus translates as 'Little Sword' in Latin. Gladiolus or glads, as they're sometimes called, are in the Iris family or the Iridaceae. They are native to many countries in Africa and a few other Mediterranean countries. Several species of gladiolus exists but only a handful of them are available in the trade. There are probably more than 10,000 different hybridized varieties or cultivars that go by the botanical name of *Gladiolus* x *hortulanus*. These hybrids are prized by floral designers world-wide for their tall spikes of colorful blooms.

In order to have a succession of flowers, you should plant your glad corms in 10-14 day intervals from early May to early June. This method will extend the season and you won't have all your plants blooming at the same time. Putting the corms 4-5 inches deep into the soil will help prevent them from toppling in the wind or being flattened by heavy rain. The stems will be anchored better than if they were planted shallower. Even so, you may still need to do some staking. I prefer to plant gladiolus in clumps rather than in straight lines. The concentration of color seems to make more of an impact that way. Give your glads full sun or a spot with afternoon shade. They will grow in poor soil, but will perform better in one that is well-drained and amended with organic matter. Gladiolus will not over-winter most years in Oklahoma, but they can be dug and stored after the first good fall frost.

An interesting characteristic of gladiolus is that the flowers emerge from one side of the stem and they all face the same direction. Most of the time this direction is toward the south. Remember to place them in your landscape where they can be seen by being viewed looking northward. Another interesting summer blooming bulbous plant is the Tuberose (*Polianthes tuberosa*). It's also a nice cut flower and a wonderful garden plant because its white blooms are incredibly fragrant. The Tuberose is also mistakenly called a bulb, when in fact it is a tuber. A tuber is a short, thickened, underground stem that has buds or "eyes".

Nothing like a rose, the Tuberose is actually in the Agave family and has a very interesting history. They were highly prized by the Aztecs who loved their fragrance and would use the plants in their rituals and ceremonies, where they held them sacred to their god of art, beauty and love.

The Tuberose made its way to Europe in the mid-1500s after the Aztecs were conquered by Cortez. By the late 1800s it had become one of the most popular of all Victorian blossoms. The Tuberose is grown today on a wide scale in France for use in the perfume industry.

Plant the Tuberose in a full sun location with well-drained soil and deep enough so that 2 inches remain between the top of the tuber and the soil surface. They can also be used to good effect in containers. I've heard of some gardeners who will put three tubers in a 6-8 inch pot and then transplant the whole clump to the garden after the leaves emerge. Be patient after planting as it can sometimes take up to a month before the leaves come up. The plants produce a somewhat low rosette of foliage. The flower scape bolts to a height of about three feet and then culminates with the opening of the sweet scented white blossoms.

Available Tuberoses are the 'Mexican Single', 'The Pearl', which has double blooms, and there are a few forms that have a hint of pink in the flowers. Tuberoses are only hardy north to about zones 8 or 9, so we have to dig and store the tubers over winter. Be sure to plant your Tuberoses near a patio or doorway so you too can enjoy the same fragrance the Aztecs were so fond of.

Natural History of Asparagus

William McGlynn

Perhaps no harbinger of garden harvest season is more welcome than the first stalks of asparagus. No one knows with certainty how long asparagus has been grown or exactly where it originated. We do know that the ancient Greeks considered it a delicacy and that cultivation techniques were written down as early as 200 BC. They also named the plant; "asparagos" means "stalk" or "shoot" in Greek. The ancients treasured more than its flavor, they also believed that asparagus had the ability to help prevent bee stings and relieve toothaches. Though it may be hard to believe given its delicate flavor, asparagus is a member of the lily family and is therefore related to onions, garlic, leeks, and chives. Most of the asparagus eaten in the US is green. But a shopper looking for asparagus in Paris will likely find white stalks on the shelves. This is not a different variety of asparagus; it is normal asparagus that is grown in the absence of sunlight. The traditional method of production was to create a mound of soil about 8 to 10 inches high over the plant row just before the spears start to grow in the spring. The stalk was harvested when the tip of the soil mound started to crack above the emerging spear. These days, an opaque plastic cover is often used to shade the growing stalks. White asparagus is typically sweeter than green asparagus. Green asparagus aficionados maintain that the white stalks are less flavorful. Either way, the delights of asparagus are well known, as John Gerarde described in *The Herball or Generall Historie of Plantes*, published in 1636:

"The first sprouts or naked tender shoots hereof be oftentimes sodden in flesh broth and eaten; or boiled in faire water, and seasoned with oile, vineger, salt, and pepper, then are served up as a sallad: they are pleasant to the taste."

Asparagus clearly has a place in history as a prized delicacy. But it has another claim to fame as well. In 1806 Louis Nicolas Vauquelin and Pierre Robiquet isolated the first amino acid, asparagine, from asparagus. So whether in the lab or on the plate, our annual springtime reunion with the delectable shoot seems set to continue for countless harvests to come.

Peach Harvest Maturity, Ripening and Storage Quality

Taken from: Peach Harvest Maturity, Ripening and Postharvest Quality Concerns, Niels Maness et al., Proceedings of the 21st Annual Horticulture Industries Show. Tulsa, OK, 2002

How exactly does a really good peach taste? What does this peach look like? Why is it so difficult to find this peach in the local supermarket fresh produce isle? While the answers to these questions may be obvious to those of us who have been fortunate enough to pick and eat tree ripened peaches, they aren't so obvious to the general public. The following should be helpful to anyone who would like a better understanding of how to handle peaches to obtain best flavor and shelf life. The original article may be of interest to commercial growers who are interested in having a high quality crop for market.

Harvest maturity - The first step towards insuring high quality in fruit for sale is harvesting at the appropriate stage of development. The act of harvesting imposes considerable stress on the fruit. After removal from the tree, fruit no longer have a continuing supply of water, sugar and nutrients. Fruit quality can be best preserved by harvesting at the correct stage of development and handling with care to minimize loss of water and cellular components. Peaches can be harvested when firm, but they must be allowed to reach full maturity on the tree if the fruit are to ripen normally. Unfortunately, the exact point in time when a peach reaches full maturity is difficult to pinpoint and the indicating characteristic differs for fruit of different varieties. However, there are some useful guides to determining peach maturity.

Fruit background color - This is the color of the fruit under the red blush. Fruit go from a green color when immature to differing degrees of yellow when mature, and the particular color indicating maturity is variety specific. Background color is a good maturity index because it is non-destructive and can be accomplished with little to no equipment. Commercial growers may want to obtain reference color chips that can be matched with fruit color to assure harvest at uniform maturity. Multiple color chips are often necessary due to differences varieties in background color at maturity - 'Elberta' exhibits much less yellow coloration at maturity than 'Redhaven' or 'Fairtime'.

Fruit firmness - Firmness of the flesh portion, or mesocarp (skin is cut away prior to measurement), of peaches changes as ripening is initiated and thus flesh firmness is an excellent indicator of fruit maturity. Flesh firmness is less dependent on variety than fruit background color but it is not so easily measured.

Other measurements may serve as a guide to fruit ripening but are not very useful for precise determination of maturity. These include Fruit size, Days from bloom, and Fruit blush.

Peaches on the same tree will mature at different times and because of this trees need to be harvested multiple times, picking only well matured fruit at each harvest. Fruit towards the exterior of the tree tend to mature more quickly than those at the interior.

Peach Handling, Ripening and Storage - When harvesting, take care not to drop fruit to prevent bruising. Never place picked fruit in direct sunlight to prevent excessive heat absorption, and transport fruit to cool area as soon as practical after picking.

Peaches are still alive after harvest and rely on life processes to fuel ripening. Ripening can be postponed by slowing down respiration with cool temperatures, but it can't be stopped. Unripe fruit can be stored for a period of up to two weeks if kept between 32 and 35^{o}F. Proper ripening of peaches is needed to obtain high quality. Ripening should be conducted at temperatures between 51 and 77^{o}F. Ripening will result in fruit softening and extra care is needed in subsequent handling. Time needed for ripening will depend on the ripening temperature. A well mature fruit will ripen in approximately 3 days at 77 F, 4 days at 68 F and 6 days at 59 F.
Following ripening, shelf life can be increased by returning to the cooler storage regime of 32 to 35^{o}F. Essentially all peaches bought at retail are still undergoing ripening. These fruit should not be placed into the refrigerator until ripening is completed.

The most convenient way to ripen peaches at home is on the kitchen counter inside a paper bag. Take care not to place ripening peaches next to products that give off strong odors (onions, for instance) or that may absorb odors from the ripening peaches. Leave on the counter until the fruit are fully ripe to your taste, and then store fruit you don't eat on that day inside an unsealed plastic bag in your refrigerator. The plastic bag will help prevent moisture loss from the fruit and keep them in a ready to eat condition for the longest possible time. In most cases, these fruit should hold in excellent condition for one week or more, depending on how they were previously handled.

Upcoming Events

May 23, 2002 – Turfgrass and Nursery/Landscape Field Day. A brochure is attached with more information about this field day.

June 8, 2002 – Summer GardenFest. *Oklahoma Gardening* and OBGA will present the first annual Summer GardenFest. It will be a day filled with horticultural happenings, garden gala and down to earth activities. The event will be held at the OBGA headquarters garden, home of the *Oklahoma Gardening* studio gardens. Featured speakers Holly Shimizu and Darrell Merrell will give their presentations at 10:00 a.m. and 11:30 a.m., respectively. There will be several activities in the afternoon session including tours of the arboretum, cooking demonstration, floral arrangement demonstration, children's garden activity, Japanese garden overview, water garden primer and terra-cotta artwork demonstration. This event is free and everyone is welcomed to come out and enjoy the activities.

June 22, 2002 - Lane Ag Center Field Day. The OSU Wes Watkins Agricultural Research and Extension Center and the USDA – ARS South Central Agricultural Research Laboratory will hold a field day from 11:00 a.m. to 6:00 p.m. at Lane, Oklahoma. The event will feature tours of research and extension projects, antique tractor and farm machinery equipment displays and demonstrations, entertainment and refreshments. The field day is for the general public and everyone interested is invited. The Lane Agriculture Center is located on Highway 3, 10 miles east of Atoka. For more information contact Merritt J. Taylor, OSU Center Director at (580)-889-7343 or by email: mtaylor-okstate@lane-ag.