

# Horticulture Tips

## May 2003

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, pyracantha 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°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-7319).
- Late May is the best time to control borers in the orchard. Check for label recommendations and controls.

## **Update on Acrylamide in Foods**

*William McGlynn*

Acrylamides are chemicals used to create high-molecular weight polymers, which are commonly employed for a variety of industrial tasks. Polymers made from acrylamides are stable and non-toxic. But in its non-polymeric form, studies have shown that acrylamide is a powerful toxin affecting nerve functions that may also cause cancer, damage reproductive systems, and impair neural development. Since the announcement in April 2002 that higher than expected levels of acrylamide had been detected in common foods such as French fries and potato chips, efforts have been underway in the United States and elsewhere to explain the origin of this chemical and to quantify the health risks it may present to consumers. Work remains to be done, but some questions are beginning to be answered.

The evidence to date supports the idea that formation of these chemicals is linked to high temperature cooking; acrylamides have been found in roasted, baked and fried foods. Since acrylamides have not been detected in boiled foods or in raw foods before cooking, they are not thought to result from any kind of environmental contamination. Researchers around the world are working to define the exact mechanism by which acrylamides are formed. Recently, scientists from a number of countries have found that two ingredients naturally present in foods, the sugar glucose and the amino acid asparagine, may play a role in acrylamide formation.

Previous studies on acrylamide toxicity have focused mainly on the neurotoxic and other effects of exposure to relatively high levels of acrylamide. Unfortunately, these studies tell us little about any possible harmful effects of acrylamides in food because even the highest levels detected in foods have been much lower than the doses typically found to cause acute toxicity in animals. Efforts continue to assess the possible harmful effects of chronic exposure to very low levels of acrylamide in the diet, but to date there is not enough data to draw firm conclusions. It will likely take several years to gather enough data to realistically assess the possible risks posed by acrylamide in our foods. In the meantime, the best course of action is to continue to eat a healthy and balanced diet, and make dietary decisions based on sound, science-based information.

The U.S. Food and Drug Administration (FDA) is working in collaboration with other federal public health agencies, international partners, academia, consumers and the food-processing industry to answer the questions and address the concerns raised by acrylamides in food. Over the past year, the FDA has developed an Action Plan intended to reduce potential risks from acrylamide in foods. An outline of this Action Plan is on the FDA Web site at <http://www.cfsan.fda.gov/~dms/acryplan.html>. For those interested in knowing the levels of acrylamide found in specific foods, the FDA has posted its exploratory data on the web at <http://www.cfsan.fda.gov/~dms/acrydata.html>. The FDA has pledged to share new findings with consumers and the food industry as they occur. And as it is collected, the FDA will incorporate new information into educational materials on how to reduce potential risks to consumers. A web page listing current FDA educational materials and programs related to acrylamides in food is available at <http://www.cfsan.fda.gov/~lrd/pestadd.html#acrylamide>.

## **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.

## **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.**

<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
<b>Organic Mulches</b>			
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.
<b>Inorganic, inert mulches</b>			
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.

## **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 United States 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.

## **Field Days**

*Jim Shrefler*

### **Onion Production Field Day**

McClure Farms, Kerr Center For Sustainable Agriculture and the Oklahoma Cooperative Extension Service invite you to attend a field day that will be held at McClure Farm at Calvin, Oklahoma on Thursday, June 12 at 6:00 p.m. The event will start off with a meal of hamburgers and hotdogs with grilled onions. There is no charge to attend but it is requested that those planning to attend call 918-647-9123 by noon June 11 to help plan for enough food.

The program will feature discussions on:

- Variety Trials conducted in 2002 and 2003
- Producer experience with growing and selling onions

- Production and weed management practices

Directions: From Highway 75 in Calvin, cross the South Canadian River on the iron bridge. Turn off Highway 75 just south of the river and go east. After crossing the river, turn right (east) and follow the road along the river about 3 miles. The field will be on the right hand side. A prominent sign will be displayed.

### **Lane Ag Center Field Day**

Oklahoma State University and USDA's South Central Agriculture Research Laboratory at Lane, Oklahoma invite you to attend the 2003 Field Day which will be held Saturday, June 21 at the Lane Ag Center. The event will begin at 8 a.m. and continue through the afternoon. Highlights of the event will include:

- Tours and presentations of research and demonstration projects with watermelon, onions, turfgrass, forages, dry beans, organic vegetable production, honeydew melons, insect and disease control and more.
- Live music by local performers
- Antique tractor parade and competition - (Those interested in participating should call (580) 889-7343 to register your tractor)

Refreshments will be provided.

Directions to the Lane Ag Center: Located on Highway 3, 10 miles east of Atoka and 24 miles west of Antlers.

Call (580) 889-7343 for more details.

### **Upcoming Horticulture Events**

#### **Oklahoma Pecan Growers' Association Annual Meeting**

Embassy Suites Hotel (1815 S. Meridian)

Oklahoma City

May 30 – June 1, 2003

Educational Meeting – Saturday, May 31, 2003

Field Day – Sunday, June 1, 2003 – Couch Orchard in Luther, Oklahoma

#### ***Oklahoma Gardening Summer Gardenfest***

June 14, 2003

Oklahoma Botanical Garden & Arboretum, Stillwater

Lauren Springer, an award-winning writer and photographer, will be our guest speaker. Her presentation will be "Creating a Resonant Garden, Marrying the Natural and the Personal Landscape." Lauren's presentation will begin tentatively at 10:00 a.m. and the other events will



follow into the afternoon. This will be a day filled with horticultural presentations, demonstrations, and garden tours will provide an opportunity for *Oklahoma Gardening* viewers across the state to come and visit the studio set and garner some expert gardening information. This event is FREE to the public. Call 405-744-5404 for more updated information.

**2003 Oklahoma Master Gardener Continued Training Summer Conference**

June 25, 2003

Tulsa Community College North Campus, Tulsa

The conference is being hosted by the Tulsa County Master Gardeners and Tulsa Community College. Registration packets should be sent out early May. For more information contact David Hillock, Master Gardener Coordinator at 405-744-5158 or [hillock@okstate.edu](mailto:hillock@okstate.edu).

**Multi-State Ornamental Plant Materials Conference**

September 24-25, 2003

Holiday Inn, Stillwater

For more information about upcoming events, please contact Stephanie Larimer at 405-744-5404 or [steph@okstate.edu](mailto:steph@okstate.edu).