

# Horticulture Tips

## June 2009

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

### **GARDEN TIPS FOR JUNE!**

*David Hillock*

#### General Landscape

- Find someone to water plants in the house and garden while on vacation. Harvesting vegetables and mowing the lawn are a must and imply that someone is home.
- Mulch ornamentals, vegetables and annuals to reduce soil crusting, and to regulate temperatures and moisture during hot summer months. Mulching will reduce about 70 percent of the summer yard maintenance.
- Remain alert for insect damage. Add spider mite to the list. Foliage of most plants becomes pale and speckled; juniper foliage turns a pale yellowish color. Shake a branch over white paper and watch for tiny specks that crawl. Watch for first generation fall webworm. ([EPP-7306](#))

#### Turfgrass

- Fertilize warm-season grasses at 1 lb. N per 1,000 square feet. Don't fertilize fescue and other cool-season grasses during the summer.
- Dollar spot disease of lawns can first become visible in mid-May. Make certain fertilizer applications have been adequate before applying a fungicide. ([EPP-7658](#))
- Seeding of warm-season grasses should be completed by the end of June (through July for improved varieties such as Riviera and Yukon) to reduce winterkill losses. ([HLA-6419](#))
- Brown patch disease of cool-season grasses can be a problem. ([HLA-6420](#))
- White grubs will soon be emerging as adult June Beetles. Watch for high populations that can indicate potential damage from later life cycle stages as grubs in the summer.

#### Fruit and Nut

- Renovate overgrown strawberry beds after the last harvest. Start by setting your lawnmower on its highest setting and mow off the foliage. Next thin crowns 12-24 inches apart. Apply recommended fertilizer, preemergence herbicide if needed and keep watered.

#### Trees and Shrubs

- Vigorous, unwanted limbs should be removed or shortened on new trees. Watch for forks in the main trunk and remove the least desirable trunk as soon as it is noticed. ([HLA-6415](#))
- Pine needle disease treatments are needed again in mid-June. ([EPP-7618](#))
- Remove tree wraps during the summer to avoid potential disease and insect buildup.
- Softwood cuttings from new growth of many shrubs will root if propagated in a moist shady spot.
- Protect trees from lawnmowers and weed eaters by mulching or using protective aerated covers.

## Flowers

- Pinch back leggy annuals to encourage new growth. Fertilize and water appropriately.
- Feed established mums and other perennials.
- When picking fresh roses or removing faded ones, cut back to a leaflet facing the outside of the bush to encourage open growth and air circulation.
- Stake tall perennials before toppling winds arise.

## **Turf and Landscape Fertilizer Application Tips**

*Justin Quetone Moss*

Local television meteorologists sometimes recommend that viewers should fertilize their yards before a storm system moves across the state during the growing season. While this strategy seems reasonable, it could result in off-site movement of fertilizers through leaching or runoff. In addition, off-site movement of fertilizers due to heavy rainfall results in wasted time, effort and money. In order to ensure that lawn and landscape fertilizers stay on-site for plant use, follow these helpful tips:

- Always base fertilizer applications on yearly soil test results.
- Based on soil test results, apply lower fertilizer rates more frequently rather than a single, high fertilizer rate, especially on sloped areas.
- Do not fertilize immediately before heavy rain or irrigation.
- Lightly water-in fertilizer applications with 0.25 inches of water.
- Use fertilizers with a high percentage of slow-release nitrogen.
- Sweep-up fertilizer that is accidentally spread on impervious surfaces such as sidewalks or driveways.
- Maintain a non-fertilized buffer (15-25 ft) with higher cut turf or native grasses (>6 in) around water bodies such as creeks, streams, ponds or lakes.
- Maintain and mow turf areas at the higher end of recommended mowing heights.
- Mulch landscape areas with a 3 inch layer of natural mulch.
- Fill-in bare soil areas with turf seed or sod .

## **Giving Your Annuals a Summer Haircut**

*David Hillock*

By mid-summer some annual flowers begin to slow down in flowering and by summer's end can look pretty ratty. A good haircut late June or early July, followed by a good watering and fertilization can often rejuvenate plants and provide continuous blooms and performance through the fall. Petunias respond particularly well to a haircut. Cut them back by about half to just above a leaf node. Water and fertilize and within a few weeks they will be looking just like new.

## How Many Plants Do I Need?

*David Hillock*

It can be a challenge sometimes to determine how many plants are needed for a given area such as an annual flower display bed or groundcover planting; and with tight budgets like most of us have right now we don't want to spend more than necessary.

Avoid overbuying or underbuying the number of bedding plants you need. All it takes is some simple arithmetic.

1. Measure the area of your garden and calculate its square footage (width x length = square feet). If the area is irregularly shaped – oval, round or long and winding – a rough estimate is good enough.
2. Use the chart below to estimate the number of plants you will need. You will probably want to get at least a few more than you will need, just in case some are damaged by weather, animals or pests.

Recommended Spacing	Number of Plants per Sq. Ft.
6 inches	4
8 inches	2.25
10 inches	1.44
12 inches	1
18 inches	.44
24 inches	.25

Example: A 125 sq. ft. garden, using plants recommended to be spaced 10 inches apart would need approximately 180 plants.

If the budget is real tight you can often stretch the spacing a bit, especially when it comes to spreading groundcovers. If a quick cover is needed, for instance to help control erosion, then spacing them a little closer may be beneficial.

## Soil and Water pH for Fruit Crops

*Eric T. Stafne*

The great majority of fruit crops out there prefer a soil pH below 7.0. Therefore, it is imperative to do a soil test before planting to see if any adjustments need to be made prior to exposing the plant to the soil environment. Adjusting soil pH up to a more basic condition is relatively easy – just add lime. However, adjusting the soil pH down to make it more acid isn't quite as easy. Sure, one can add sulfur to the soil, but sometimes if the soil pH is too high already, it isn't very effective. One way to combat that situation of high soil pH is to fertilize using a fertilizer that contains sulfur, such as ammonium sulfate. Continual applications can help to lower soil pH over time. Another way is to inject acid through an irrigation system. This method is the most effective because the acid and water are being placed directly into the rhizosphere of the plant, thus allowing for efficient uptake.

Another issue is high irrigation water pH. Continuous usage of high pH water will eventually raise soil pH. How much of a problem is this? If your soil pH is already in the acidic range, the likelihood of it being a serious problem is small. Normal rainfall will help keep the pH down. However, if your soil pH is already high (over 7.0) and high pH irrigation water is used consistently, then soil pH will continue to creep higher. High pH soils can reduce the availability of micronutrients like Manganese, Boron and Iron as well as making an unsuitable environment for plant growth. Conversely, very acid soil pH can limit the availability of Nitrogen, Phosphorous, Potassium, Sulfur, Magnesium, Calcium, and Molybdenum to the plant. It is best to do a soil test every three years to make sure the soil pH is where it needs to be. Also, it is a great idea to have irrigation water tested for pH, but also salt and iron content. These inexpensive tests can prevent a lot of grower frustration and poor plant growth.

## **Tips for Growing Vegetables on Plastic Mulch**

*Jim Shrefler*

Whether in home gardens and in farm scale production, plastic mulch can be helpful in vegetable production. The benefits of using plastic mulch are described in numerous gardening reference sources and articles. These include items such as weed prevention, protection of vegetable plants and fruits from soil splashing, reduction of moisture loss from the soil surface, insect management aid (with certain colored mulches), reduced fertilizer leaching, reduced foliar disease problems, and reduced fruit rot problems. There are also some less obvious benefits. During several extremely wet periods over the past several years, plastic mulch, when used on raised beds, proved to be beneficial for protecting plants from waterlogged soil conditions. Soil in the beds is protected from becoming excessively wet since much of the rainfall flows off of the plastic covered beds.

However, it is not a perfect world and it should be kept in mind that some problems can result from using plastic mulch; problems that may not be encountered at all in unmulched plantings. Fortunately, there are actions that can be taken to prevent or reduce these potential problems, while still deriving the benefits of plastic. Several of these problems and suggested remedies are as follows:

- Certain weeds will perforate plastic mulch. Perennial sedges, and an occasional perennial grass shoot, emerge from the soil with a sharp point that can easily perforate plastic mulch. Occasional sedge plants can usually be pulled fairly easily after these emerge with minimal damage to plastic. However, in areas where there is a high population of sedges removal will destroy plastic. As a remedy, try placing boards or flat stones on top of the mulch to prevent sedges from puncturing the plastic. Put these in place at the first sign of sedge emergence. Sedge damage to plastic should be greatly reduced.
- Loose plastic can lead to numerous problems. Be sure to pull plastic tightly over the soil surface. When plastic is loose there is abundant air space between the plastic and the soil surface. This air is heated when the sun shines on the plastic. As heated air exits through

planting holes it can cook delicate plants, especially seedlings and transplants. Another problem is that small rodents and insects can hide underneath plastic. Squash bug is one insect often found to hide under plastic, making it difficult to detect during daylight hours. In addition to having tight plastic, placing a little soil or sand on top of the plastic, around the planting hole, may help make it more difficult for animals to hide.

- Heat injury to delicate plants from contact with plastic is another problem that can occur. It occurs when plants touch the black plastic while the sun is shining on the plastic. To prevent this problem, make sure that planting holes are large enough so that transplants and emerging seedlings will not contact the plastic. This should not be a problem once plants are large enough to shade plastic.
- Detrimental effects of wind on vegetable plants are increased with plastic mulch. Plants such as watermelon, when these begin to vine, may be injured when shoots move across the surface of the plastic as the wind changes direction. In severe cases, vines may be broken off completely. Less severe cases probably result in reduced productivity. This can be easily remedied by placing wooden sticks on either side of vines once these begin to run. The sticks will stop this plant movement.

## **Upgrading Irrigation to an Efficient Drip System**

*David Hillock*

With the heat of summer upon us watering often becomes the biggest chore in the landscape. In-ground systems with popup spray heads are convenient and great for turf areas, but may not be the best choice for flower beds, container plantings, shrub borders and vegetable gardens.

Drip irrigation systems are usually much more efficient in these cases and will save money, water and time. Water is applied at a slower rate so it soaks more easily into the soil instead of running off and it is applied right where the plant needs it so less water is wasted through wind loss or evaporation.

Drip systems can be more elaborate and work from the same in-ground system with a automatic controller; or it can be as simple as hooking it up to your spigot coming out of the house. Manually turning the system on and off from the spigot is an option, but you can also add an automatic valve at the spigot that can be programmed to turn on and off. This especially comes in handy when gone on that summer vacation.

Installing a drip system can be quite easy or, as mentioned, quite elaborate. Kits are available at most garden centers for the do-it-yourselfer and small jobs. Some garden centers have experts to help you design a system or you can seek help from the many publications available on-line and in the book stores; companies that manufacturer drip systems also have good information available as both publications as well as on-line guides.

## **Seedless Watermelon – A Fruit “Mule”**

*Shelley Mitchell*

Question: How are seedless watermelons produced? Answer: From seeds. Yes, really.

When two organisms with different numbers of chromosomes (where genes are located) mate, generally one of two things happen--either 1) no offspring will result (no fertilization occurred, the hybrid embryo died, etc.), or 2) the resulting offspring are infertile (think mule--the sterile offspring of a horse and a donkey, which have 64 and 62 chromosomes, respectively).

Watermelons are no exception. Most watermelons have 22 chromosomes. There are some watermelons that have twice as many chromosomes as usual (44) because of either a natural mutation or alteration by man. When a 'normal' watermelon is crossed with one having twice as many genes, the result is fruit (watermelon) with seeds (embryos) that contain 33 chromosomes. These seeds are sterile. They will grow into a plant, but will not be able to produce viable seeds themselves—hence, seedless watermelon (the soft white 'seeds' are not viable seeds).

So seedless watermelons do come from seeds (just like mules develop from embryos), but they cannot make their own seeds. In fact, the only way to get the seedless watermelons to produce the delicious fruit is to plant 'normal' (22 chromosomes) watermelon among the seedless (33 chromosomes) plants. The pollen from the normal watermelons causes the seedless watermelons to grow fruit, but there will be no seeds inside. [Mules can mate, but no offspring will result.]

Seedless watermelons are more convenient to eat, but put a real damper on seed-spitting contests.

## **Souvenirs You Shouldn't Bring Back from Vacation - Correction**

*Shelley Mitchell*

(The original article from the May issue of Horticulture Tips contained an error regarding the Bronx Zoo. This is the corrected article).

People often bring mementos home from vacation, but some keepsakes are best left behind. Living organisms, whether plant or animal, do not make good souvenirs. When an organism gets introduced to a new habitat, such as your lawn or garden, it does not usually have natural predators to control its population. It may grow out of control, spreading throughout an area quickly and using resources that would otherwise be used by native species.

People have been introducing species to new habitats since the first humans migrated. Travelers often took seeds or plants on their journeys to eat, trade or plant when they resettled in new places. Many of our crop and livestock species arrived this way, brought over from Europe with the early settlers. These plants and animals are 'introduced species'--they are not native to the United States--but they are not 'invasive'. We don't have problems with large flocks of chickens running rampant down Main Street, or apple trees choking out other vegetation over thousands of acres.

Invasive species are introduced species that are a threat to the natural environment because they have traits that allow them to out-compete the local species. The newcomers may reproduce faster than the native species, crowding them out, or the plants may taste bad to animals or be difficult to eat, preventing population control. The invasive species become more numerous, filling the niches of the native species and reducing their numbers substantially. Researchers at Cornell University estimate that 42% of our threatened and endangered species are in that situation because of introduced species.

One invasive species is kudzu. Kudzu is a vine that was brought to the U.S. from Japan in the mid-1930s and planted in the southeastern states for erosion control. In addition to spreading along the ground, kudzu climbs up trees, telephone poles and buildings. Kudzu grows about a foot a day, blocking sunlight for native plants, weighing trees down until they break, and killing trees by girdling them. It is hard to control, and has now spread north to New York and west to Oklahoma. Another invasive pest was introduced to the U.S. with the arrival of the first Asian chestnut trees. Those trees, brought to New York, had a fungus spread by wind. The Bronx Zoo was one place where the new trees were planted, and soon the zoo forester noticed that the American chestnut trees were ailing; he sent a sample to Washington, D.C. and subsequently found out that the newly arrived fungus was the cause. Within a few decades, most of the American chestnut trees were decimated. Two of the most common birds in the U.S., house sparrows and starlings, were introduced into the U.S. in the 1800s. Originally, 100 house sparrows and 60 starlings were introduced in New York City. Now they vastly outnumber native birds across the country.

To prevent similar tragedies and safeguard our natural resources as well as our food supply, the U.S. uses agricultural specialists and detector dogs to monitor imports and exports of plant and animal products at international airports, border crossings and international postal facilities. They examine all luggage, containers and even wooden pallets for pest species. In addition to preventing pest importation by tourists, inspectors aim to thwart any attempts at agro-terrorism. Even within the U.S., there are regulations regarding the transport of plants and other agricultural products, to stop the spread of pests and diseases in our country.

You can help stop invasive species from hurting our food supply and natural resources. Do not bring unapproved living organisms into the country, and check regulations before moving plants or animals between states. You can find more information about the regulations of imports and exports at [http://www.aphis.usda.gov/import\\_export/index.shtml](http://www.aphis.usda.gov/import_export/index.shtml).

Sadler, K.C. (2006). Exotic invasive species: The guests that won't go home. *Green Teacher*, 79, p. 6-9.

U.S. Customs and Border Patrol. (2008). Agriculture Protection Program. Retrieved April 3, 2009 from [http://cbp.customs.gov/xp/cgov/newsroom/fact\\_sheets/agriculture/agriculture.xml](http://cbp.customs.gov/xp/cgov/newsroom/fact_sheets/agriculture/agriculture.xml)

## **Upcoming Horticulture Events**

### **Summer Gardenfest**

June 13, 2009, OSU Botanical Garden/*Oklahoma Gardening*, Stillwater

For more information, please call Stephanie Larimer at 405-744-5404 or visit our website <http://www.oklahomagardening.okstate.edu/okg/programs.htm>.

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

The 2009 Lane Ag Center Annual Field Day will be held Saturday, June 13 from 9 a.m. to 3 p.m. The event offers a blend of educational activities, entertainment and relaxation for all who attend. Throughout the day, tours will be made of research and demonstration projects that address vegetable production, hoop house culture, herbs and alternative fuels crops. Organic production practices will be featured. Also to be enjoyed will be displays and demonstration of antique tractors and farm machinery and artistic presentations by local performers. Attendees will be able to enjoy some great local cooking while visiting with OSU friends, neighbors and research center staff. Finally, fresh cold watermelon will be provided to all. The event is open to the public and there is no fee to attend. The Lane Ag Center is located 10 miles east of Atoka on Highway 3. Watch for more details at our website [www.lane-ag.org](http://www.lane-ag.org) For questions call 580-889-7343 or send an email to [jim.shrefler@okstate.edu](mailto:jim.shrefler@okstate.edu).

### **Lane Ag Center Organic Workshop and Field Day**

An educational workshop and field tour on Organic Farming will be held Tuesday, July 14 in the afternoon and evening. The event is open to anyone interested in learning about sustainable and organic gardening and farming practices. The event will provide an opportunity to learn about experience gained in southeast Oklahoma with certified organic vegetable production. Activities will begin with an afternoon workshop on the use of manures use for soil fertility and food safety concerns of organic farming. The field tour will address a variety of organic vegetable research and demonstration projects. An evening dinner will be provided (donations gladly accepted to help defray meal costs). For further details, call 580-889-7343 or email [jim.shrefler@okstate.edu](mailto:jim.shrefler@okstate.edu). The Lane Agriculture Center is located on State Highway 3, 10 miles east of Atoka, Oklahoma.

### **Tree Care Conference**

October 28, 2009, OSU Botanical Garden, Stillwater

### **Global Horticulture**

December 2, 2009, Stillwater

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