

Horticulture Tips

June 2007

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 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.

June is Blackberry Harvest Time

Eric T. Stafne

June is the month when most of the delicious and nutritious blackberries arrive. Although many areas of Oklahoma may not have as many (or any) blackberries this year due to the freeze in April, southern regions of the state should have a bountiful harvest. Blackberries can be extremely high yielding. Some of the Arkansas cultivars can yield up to 20,000 pounds per acre with very large berry size. 'Apache', 'Chickasaw', 'Ouachita', and 'Kiowa' all have impressively large berries.

Blackberries need to be picked when they are ripe, as they will not continue to ripen once picked. So, if you see a little green or red on the berry leave it for another day. The berries must also be picked frequently. If you can get out there everyday or every other day that is best; otherwise, birds, deer, and other animals might get to it first.

Once the berries are harvested place them into a cool environment (preferably a refrigerator) to increase their holding capacity. It is imperative that once the berries are picked they are kept out of the sun. The recent Arkansas cultivar releases (Ouachita, Chickasaw, Apache) will hold up without leakage or decay for several days if refrigerated properly. After a normal holding period (3-7 days), the most likely indicators of decay are leakage and eventually Botrytis development. It is always best to minimize any handling of the berries if they are to be kept for any amount of time.

One problem that has been noticed on 'Apache' is white drupelets. The exact cause of the white drupelets is unknown, but may be attributed to insects (stink bugs, thrips) or environment (dew or other moisture interacting with sunlight exposure). A couple of white drupelets on a berry are no cause for concern if you are using them for cooking or eating on some cereal. However, commercially this could be a turnoff to consumers. This symptom has not been seen in all areas and seems to be worse in some areas. Therefore, it is likely a genetic issue that is interacting with environment and not insect caused (at least in my opinion).

Blackberries are a good source of antioxidants and fiber, so regular consumption can not only be tasty but also good for your health.

Powdery Mildew of Ornamentals

David Hillock

Powdery mildew is a fungal disease that affects many host plants, including ornamentals, shrubs and trees. On some ornamental plants, such as rose, lilac, crape myrtle, oak and zinnia the disease can be very destructive. Severity of the disease depends upon many factors—variety of the host plant, age and condition of the plant, time of infection and weather conditions during the growing season.

Although there are several different types of powdery mildew fungi, a lot of them produce similar symptoms on plant parts. Plant damage may range from an unsightly whitish powdery coverage of the foliage to drying out and browning of infected leaves. In some plants, buds may be infected and production of flowers, fruits or nuts may be affected. If diagnosed early, powdery mildew can be effectively controlled to prevent severe damage to plants.

Symptoms

The first sign of the disease is the development of a white to gray or slightly brownish growth of mycelium over the surface of leaves or other parts. Powdery mildew fungi may also attack stems, buds and flower petals of various ornamental plants. Powdery mildew infection of broadleaf plants may cause distortion (curling and twisting) and a reduction in size of infected leaves. When older leaves become infected, they usually show only the white patches of the fungus. Infected leaves may become distorted, turn yellow and fall prematurely. Infected buds may fail to open and infections can spread to mature flowers, causing a flower blight. Also, nuts of the pecan can be infected, causing a reduction in quality.

Hosts (Susceptible Plant Species)

Powdery mildews are known to occur on almost all ornamental plants. Certain plant species and/or varieties are more susceptible to the disease than others. In Oklahoma, powdery mildews are common on ash, crape myrtle, lilac, oak, photinia, roses and zinnia.

Conditions Favoring Powdery Mildews

Humid conditions with widely fluctuating temperatures increase the occurrence of powdery mildew. The disease is common in crowded plantings where air circulation is poor and in damp, shaded areas. Young succulent growth is more severely affected than older tissues. Disease development is enhanced when cool, moist nights are followed by warm daytime temperatures.

Cultural Control of Powdery Mildews

Several practices will reduce or prevent development of powdery mildew. These practices involve reducing populations of the fungus in the vicinity of the host, changing environmental conditions around the host and selecting more resistant varieties. Before plants are purchased, it may be to the homeowner's advantage to inquire if the ornamental variety desired has any resistance to powdery mildew. If only susceptible varieties are available, avoid planting in low, shady locations. If powdery mildew becomes a problem, removal and destruction of infected plant parts, should be practiced. Pruning of crowded plant material will also help increase air flow around leaves. This reduces humidity and thus helps prevent infection. Late summer application of nitrogen fertilizer should be avoided to limit production of succulent tissue, which

may be susceptible to powdery mildew infection in the fall. Water only in the mornings so that the foliage will be dry by evening.

Chemical Control of Powdery Mildews

If cultural controls fail to prevent disease build-up or if the disease pressure is too great, fungicide spraying may be necessary. The best course of action is to combine both approaches, using cultural methods as well as following a good spray schedule.

When powdery mildew has been a problem in previous years, a recommended fungicide spray schedule should be started in the spring as new growth develops. The fungicide should also be applied during the flowering period to avoid blossom blight. For suggested fungicides refer to the current OSU Extension Agents' Handbook of Insect, Plant, Disease, and Weed Control. Be sure to follow the instructions on the label for use on specific applications.

Anthracnose of Deciduous Shade Trees

David Hillock

Homeowners are justifiably concerned when foliage of their yard trees becomes diseased, especially when these diseases cause defoliation, twig and limb death, and perhaps death of a tree that has been defoliated several years in a row. Concerned homeowners need information on how to prevent or otherwise control leaf diseases.

Anthracnose is very common during wet, mild spring weather and can also occur in the fall when weather again turns wet and mild.

Anthracnose—Irregular dead areas on leaf margins, between and across and/or along veins, often moving onto the shoots and small twigs; sometimes whole leaves are engulfed.

Ash, green, and red (*Fraxinus spp.*)—The common leafspot and scorch on ash leaves is caused by the ash anthracnose fungus, *Glocosporium aridum*. Large areas of infected leaves, especially along the edges, turn brown. Premature leaf drop may occur.

Birch (*Betula spp.*)—Anthracnose of birch leaves is caused by *Glocosporium betularum*. This fungus causes brown spots with dark brown to black margins.

Maple (*Acer spp.*)—Anthracnose, caused by the fungus *Gloeosporium apocryptum*, can be serious on sugar and silver maples and box-elder, during rainy seasons. Indefinite light brown spots appear early; they may enlarge and run together causing death of infected leaves. Partially-killed leaves appear scorched. The sycamore anthracnose fungus, *Gnomonia Veneta*, also infects maple leaves.

Oak (*Quercus spp.*)—Anthracnose, caused by the fungus *Gnomonia quercina*, is a common disease of oaks. Rainy weather favors infection and defoliation may result. Infected areas frequently run together and cause the appearance of a leaf blotch or blight. The dead areas follow smaller veins and are bounded by larger veins.

Sweetgum (*Liquidambar* spp.)—Anthracnose of sweetgum leaves is caused by the fungus *Gloeosporium nervisequum*. Infection by this fungus causes black areas on the leaves.

Sycamore and London plane tree (*Platanus* spp.)— Anthracnose of sycamore and London plane tree is caused by the fungus, *Gnomonia platani*. The London plane tree is more resistant to anthracnose infection than are sycamore trees. Anthracnose is the most serious disease of sycamore. The first symptoms appear in early spring as the leaves begin to unfurl from the leaf buds, and at this stage the disease may be mistaken for frost damage. Infected leaves that do not drop will develop light brown dead areas, usually along the veins. The spots may enlarge to cover entire leaves and cause premature defoliation.

Walnuts and butternut (*Juglans* spp.)—Anthracnose, sometimes called brown leafspot, is caused by the fungus *Gnomonia leptostyla* (Syn. *Marssonina juglandis*). Anthracnose is a common disease of these trees. Leaflets are infected during the summer and irregular brown spots develop. Defoliation may result.

Control

Most leaf diseases of yard trees are controlled by gathering and destroying fallen, infected leaves. Where fallen diseased leaves have not been destroyed, chemical control is the alternative approach. For suggested fungicides, consult the current circular E-832, OSU Extension Agents' Handbook of Insect, Plant Disease, and Weed Control.

During very rainy springs when leaf diseases become severe, two to three chemical applications, beginning when the leaves are first unfurling from the buds and repeated when the leaves are half grown, and again when the leaves are fully developed, will usually provide good control. Trees that have been affected by leaf diseases every season should also be well fertilized and watered to maintain vigor. Do not fertilize during early fall. Fertilize only after the trees are dormant.

Weed Control in Vegetable Gardens

David Hillock

Weeds rob vegetables of valuable water, light and nutrients. Weeds often harbor insects, diseases and nematodes that can damage vegetables and greatly reduce yields.

Mulching, hoeing and hand-weeding are methods that can be used to control most of the weeds in the garden and to eliminate the problems of applying a herbicide and the possibility of herbicide injury to the garden crop. Good soil preparation, adequate control of weeds before planting, and planting crops when the soil is warm enough to get them up rapidly are all good practices that will help maintain a minimum amount of labor for weed control. Many Oklahoma gardeners in rural areas have ample space for gardening. If this is the case, be sure to leave enough space between rows to allow room for cultivating equipment.

Cultivation and hoeing should be done when weeds are small because weeds compete with the crops for light, water and nutrients. Also, when weeds are large, they are much more difficult to

remove without damaging the crops. Cultivation and hoeing should be done shallowly so that injury to the root system of the crop plants will not occur. Hand-weeding in the crop row is usually necessary.

Weeds may also be controlled with herbicides. However, chemical weed control in the home garden is difficult because of the diversity of the crops grown in the garden. It is hard to find an herbicide that is selective enough to remove a specific weed without the potential or probability that it will also kill or damage some of the crops in the garden. With several types of plants located close together in a small area, some may be seriously damaged by any herbicide that you might select. However, there are a few formulations available now which make them safer and easier to use. For example, glyphosate foam is easier to use and poses less risk to desirable plants. Some preemergence herbicides can also be used successfully in the garden when transplants are used or after seeds sown have emerged and matured. Visit your local garden center or county extension office for information on current preemergence herbicide products. The best weed control in the home garden is a sharp hoe and good mulch.

Tip for Greenhouse Growers: Add Silicon

(From the Plant Management Network News #63, May 24, 2007)

Jim Shrefler

Washington, D.C. (May 2, 2007)--Modern greenhouse production methods have often eliminated conventional earth as a growth medium and, with that, eliminated silicon, a mineral naturally found in soil.

Greenhouse growers might do well to add silicon back in their nutrient applications, irrigation or potting mixes, according to Agricultural Research Service (ARS) scientists. That's because a growing body of research suggests that silicon boosts yields and protects plants from toxicity and fungal diseases. This means silicon may reduce the need for plant growth regulators and disease-control pesticides.

Over the past three years, horticulturist Jonathan Frantz and plant pathologist Jim Locke with the ARS Greenhouse Production Research Group in Toledo, Ohio--along with other ARS and University of Toledo colleagues--have studied silicon uptake in a variety of ornamentals, including begonia, carnation, geranium, impatiens, marigold, orchid, pansy, petunia, snapdragon, verbena and zinnia.

X-ray analysis has shown that some of these plants--such as New Guinea impatiens, marigold and zinnia--accumulate silicon in significant concentrations in unique cells in their leaves. The researchers want to see which crops put nutrients where they are most useful to the plant.

The scientists also tested some of these plants to see if silicon imparts resistance to two widespread pathogenic fungi, gray mold and powdery mildew. They found that it helps reduce symptoms of powdery mildew in zinnia but has no effect on species such as begonia and geranium, which do not accumulate silicon.

The scientists will continue to use similar tests to see if silicon accumulates in the leaves of other ornamental crops and test those crops for silicon-induced resistance to insect pests.

Such knowledge about plants' silicon use will help breeders choose promising lines for creating new varieties of flowers and ornamental plants that will need fewer pesticide applications.

Read more about the research in the May/June 2007 issue of Agricultural Research magazine, available online at: www.ars.usda.gov.

Annual Flowers for Specific Uses in Oklahoma

David Hillock

An annual is any plant that completes its life cycle in one growing season. Many of the plants listed below are not true annuals, but are normally treated as such for Oklahoma conditions. Some of these, however, will overwinter most seasons if mulched or grown near a foundation of a house.

Cut Flowers

Below are a few of the more commonly grown species for use in bouquets and arrangements that are equally attractive in the flower garden.

African daisy (*Dimorphotheca sinuata*)

Baby's-breath (*Gypsophila elegans*)

Bells of Ireland (*Molucella laevis*)

Celosia [*Celosia cristata* (Plumosa Group)]

Cleome (*Cleome hasslerana*)

Cornflower (*Centaurea cyanus*)

Cosmos (*Cosmos bipinnatus* and *C. sulphureus*)

Fountain grass (*Pennisetum setaceum*)

Gerbera daisy (*Gerbera jamesonii*)

Globe amaranth (*Gomphrena globosa*)

Marigold, African (*Tagetes erecta*)

Nasturtium (*Tropaeolum majus*)

Pincushion flower (*Scabiosa atropurpurea*)

Salvia (*Salvia splendens*)

Snapdragon (*Antirrhinum majus*)

Statice, Florist's (*Limonium sinuatum*)

Strawflower (*Helichrysum bracteatum*)

Sunflower, Mexican (*Tithonia rotundifolia*)

Tobacco, flowering (*Nicotiana glauca*)

Zinnia (*Zinnia elegans*)

Showy Foliage

These plants may be used to lend interest to surrounding flowering plants or for foliage in bouquets. Many of these species are equally striking when planted alone.

Amaranthus (*Amaranthus tricolor*)

Asparagus fern (*Asparagus plumosus*)
Basil (*Ocimum basilicum*) many cultivars
Cabbage, ornamental [*Brassica oleracea* (Capitata Group)]
Castor bean (*Ricinus communis*)
Coleus (*Coleus x hybridus*)
Copperleaf (*Acalypha wilkesiana*)
Dusty miller (*Senecio cineraria*)
Joseph's-Coat (*Alternanthera ficoidea*)
Kale, ornamental [*Brassica oleracea* (Acephala Group)]
Kochia (*Kochia scoparia f. trichophylla*)
Maple, flowering (*Abutilon* sp.)
New Guinea Impatiens (*Impatiens hawkeri*)
Polka dot plant (*Hypoestes phyllostachya*)
Snow-on-the-mountain (*Euphorbia marginata*)

Large Background

Tall plants help to serve as a background to shorter annuals in the foreground of beds. Also, consider these quick-growing species as barriers to hide unsightly areas.

Amaranthus (*Amaranthus tricolor*)
Candle plant (*Cassia alata*)
Castor bean (*Ricinus communis*)
Cosmos (*Cosmos sulphureus* and *C. bipinnatus*)
Fountain grass (*Pennisetum setaceum*)
Four o'Clock (*Mirabilis jalapa*)
Marigold, African (*Tagetes erecta*)
Mexican zinnia (*Tithonia rotundifolia*)
Spider flower (*Cleome hasslerana*)
Summer cypress (*Kochia scoparia f. trichophylla*)
Sunflower (*Helianthus annuus*)
Zinnia (*Zinnia elegans*)

Prefer or Tolerate Light Shade

These plants need protection from the sun. Many of these will suffer without protection from harsh Oklahoma conditions.

Alyssum, sweet (*Lobularia maritima*)
Black-eyed Susan vine (*Thunbergia alata*)
Browallia (*Browallia speciosa*)
Fountain grass (*Pennisetum setaceum*)
Impatiens (*Impatiens wallerana*)
Impatiens, New Guinea (*Impatiens hawkeri*)
Garden balsam (*Impatiens balsamina*)
Lobelia (*Lobelia erinus*)
Nierembergia (*Nierembergia hippomanica* var. *violacea*)
Nasturtium (*Tropaeolum majus*)
Pansy (*Viola x wittrockiana*)
Periwinkle (*Catharanthus roseus*)

Petunia (*Petunia x hybrida*)
Phlox, annual (*Phlox drummondii*)
Stock (*Matthiola incana* 'Annua')
Wax begonia (*Begonia semperflorens-cultorum*)
Wishbone flower (*Torenia fournieri*)

Edging/Borders/Containers

Plants listed below are relatively short, and thus are useful in foregrounds of beds, containers and French baskets. Be certain you buy cultivars which do not grow tall. Some of these species are quite variable for their mature heights.

African daisy (*Dimorphotheca sinuata*)
Joseph's Coat (*Alternanthera ficoidea* 'Betzickiana')
Alyssum, sweet (*Lobularia maritima*)
Annual hibiscus (*Abelmoschus moschatus*)
California poppy (*Eschscholzia californica*)
Celosia [*Celosia cristata* (Plumosa Group)]
Cockscomb (*Celosia cristata*)
Cuphae (*Cuphea platycentra*)
Dahlberg daisy (*Dyssodia tenuiloba*)
Dahlia, dwarf hybrids (*Dahlia* hybrids)
Dusty miller (*Senecio cineraria*)
Flossflower (*Ageratum houstonianum*)
Garden balsam (*Impatiens balsamina*)
Gazania (*Gazania rigens*)
Geranium (*Pelargonium x hortorum*)
Globe amaranth, dwarf (*Gomphrena globosa*)
Ivy geranium (*Pelargonium peltatum*)
Lantana (*Lantana* hybrids)
Lobelia (*Lobelia erinus*)
Marigold, dwarf (*Tagetes patula*)
Melampodium (*Melampodium paludosum*)
Nierembergia (*Nierembergia hippomanica* var. *violacea*)
Pepper, ornamental (*Capsicum annuum*)
Periwinkle (*Catharanthus roseus*)
Petunia (*Petunia x hybrida*)
Phlox, annual (*Phlox drummondii*)
Purslane (*Portulaca oleracea*)
Rose moss (*Portulaca grandiflora*)
Salvia (*Salvia splendens*)
Snapdragon, dwarf (*Antirrhinum majus*)
Tobacco, flowering (*Nicotiana alata*)
Verbena (*Verbena x hybrida*)
Wishbone flower (*Torenia fournieri*)
Zinnia, dwarf types (*Zinnia elegans*)
Zinnia, trailing (*Sanvitalia procumbens*)

Vines

The species below can be used for screening and can be grown on trellises, fences and gazebos.

Black-eyed Susan vine (*Thunbergia alata*)

Cup-and-saucer vine (*Cobaea scandens*)

Moon flower (*Calonyction aculeatum*)

Morning glory (*Ipomoea purpurea*)

Nasturtium (*Tropaeolum majus*)

Scarlet runner bean (*Phaseolus coccineus*)

Dried Flowers/Fruit

The flowers below will dry readily for use in "everlasting" arrangements. Many other annuals can be dried with added effort and materials.

Ammobium (*Alatum grandiflorum*)

Bells of Ireland (*Molucella laevis*)

Chinese lantern (*Physalis franchetti*)

Cockscomb (*Celosia cristata*)

Globe amaranth (*Gomphrena globosa*)

Baby's breath (*Gypsophila elegans*)

Fountain grass (*Pennisetum setaceum*)

Okra (*Abelmoschus esculentus*)

Statice, Florist's (*Limonium sinuatum*)

Strawflower (*Helichrysum bracteatum*)

The categories listed are merely suggestions for placement of annuals. These categories are by no means comprehensive, but rather common uses for the specific plants that are listed.

Annuals allow gardeners the means to experiment with relatively inexpensive plants on a seasonal basis. When new designs are desired, simply plan these changes for the next growing season. No other group of plants is as diverse and colorful as bedding plants or annuals. Check with personnel in your local greenhouse or garden center for additional advice on what performs well in your area.

Upcoming Horticulture Events

Greenhouse Production Short Course

June 27-28, 2007, OSU-Oklahoma City

Mark your calendars now for the Oklahoma Greenhouse Growers' Association's Greenhouse Production Short Course at OSU-Oklahoma City. This event, organized by Oklahoma green professionals and university personnel, is designed to meet the needs of both seasoned as well as novice growers. Topics relevant to retailers will also be discussed. For more information, contact Mike Schnelle at 405-744-7361 or mike.schnelle@okstate.edu.

Native American Horticulture Conference

August 21, 2007, Stillwater

For more information, contact Mike Schnelle at 405-744-7361 or mike.schnelle@okstate.edu.

OSU Turfgrass, Nursery and Landscape Field Day

September 12, 2007, OSU Botanical Garden

Plant Materials Conference

October 9-10, 2007, Stillwater

This workshop will feature speakers lecturing on both herbaceous and woody ornamental species. Both native and non-native plant materials will be presented. For more information, contact Mike Schnelle at 405-744-7361 or mike.schnelle@okstate.edu.

Tree Care Workshop

November 7, 2007, OSU Botanical Garden, Stillwater

University personnel at OSU-Stillwater will host a tree care workshop designed for arborists, horticulturalists, urban foresters and other allied professionals. The workshop will be taught primarily indoors with afternoon laboratories offered at the OSU Botanical Garden. For more information, contact Mike Schnelle at 405-744-7361 or mike.schnelle@okstate.edu.

62nd Annual Oklahoma Turf Conference & Trade Show

November 13-15, 2007, Watkins Center, OSU-Stillwater

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