

Horticulture Tips

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

GARDEN TIPS FOR AUGUST!

David Hillock

Vegetables

- August is a good month to start your fall vegetable garden. Bush beans, cucumbers and summer squash can be replanted for another crop. Beets, broccoli, carrots, potatoes, lettuce and other cool-season crops can also be planted at this time. ([HLA-6009](#)).
- Soak vegetable seed overnight prior to planting. Once planted, cover them with compost to avoid soil crusting. Mulch to keep planting bed moist and provide shade during initial establishment. Monitor and control insect pests that prevent a good start of plants in your fall garden.

Fruit and Nut

- Continue protective insect applications on the fruit orchard. A good spray schedule is often abandoned too early. Follow directions on last application prior to harvest. ([EPP-7319](#))

Flowers

- Towards the end of the month, divide and replant spring-blooming perennials like iris, peonies and daylilies if needed.

General

- Water compost during extremely dry periods so that it remains active. Turn the pile to generate heat throughout for proper sterilization.
- Always follow directions on both synthetic and natural pesticide products.
- Watch for high populations of caterpillars, aphids, spider mites, thrips, scales and other insects on plant material in the garden and landscape and treat as needed. ([EPP-7306](#))
- Water all plants thoroughly unless rainfall has been adequate. It is better to water more in depth, less often and early in the morning.

Trees and Shrubs

- Discontinue deadheading roses by mid-August to help initiate winter hardiness.
- Watch for 2nd generation of fall webworm in late August/early September. Remove webs that enclose branches and destroy; or spray with good penetration with an appropriate insecticide.

Lawn and Turf

- Grassy winter weeds like *Poa annua*, better known as annual bluegrass, can be prevented with a preemergence herbicide application in late August. Water in the product after application. ([HLA-6420](#))

- Areas of turf with large brown spots should be checked for high numbers of grubs. Mid-to-late August is the best time to control heavy white grub infestations in the lawn. Apply appropriate insecticide if white grubs are a problem. Water product into soil. ([EPP-7306](#))
- Tall fescue should be mowed at 3 inches during the hot summer and up to 3 ½ inches if it grows under heavier shade. ([HLA-6420](#))
- For areas being converted to tall fescue this fall, begin spraying out bermudagrass with a product containing glyphosate in early August. ([HLA-6419](#) & [HLA-6421](#))
- Irrigated lawns can be fertilized once again. If you have had a problem with spring dead spot in your bermuda lawn, this should be your last application of fertilizer for the year.
- Brown patch of cool-season grasses can be a problem. ([HLA-6420](#))

Heat Stress

Kim Rebek

It has been another rainy summer for Oklahoma. The heavy rains and moderate temperatures experienced through much of early summer are no doubt ready to give way to unrelenting heat. This change in weather will put some extra stress on our plants. Be sure to keep a close eye on plants and watch for signs of heat stress, such as shriveled and burned leaves. Many plants will also wilt as a result of heat stress. In severe cases, heat stress can lead to plant death.

Lack of moisture can intensify heat stress because plants use water evaporation to cool their surfaces, a process called evapotranspiration. Irrigating plantings frequently during hot weather will help the plants compensate for water loss. It is also a good idea to apply a layer of organic mulch to maintain soil moisture. Of course, even when soil moisture is adequate, a plant may not be able to take up enough water through their roots to balance the moisture lost through their leaves. After many days of scorching temperatures, some plants may succumb to damage. Most plants will recover from heat damage. If you have a plant that appears to have died from the heat, try leaving it in place with the dead leaves covering the crown or center of the plant. You may find new growth emerging before long.

Pecan Weevil Infestation

Eric T. Stafne, Phil Mulder, and Rick Grantham

The pecan weevil is the major pecan insect pest in Oklahoma. Weevil populations are variable from one orchard to another. Certain factors like annual rainfall and crop maturity can be linked to infestations, but cultivar selection, surrounding topography, and soil type also play a role. Pecan weevils cause different kinds of damage, depending on the stage of fruit development at the time of attack. The typical damage symptoms are:

- Dropped and punctured nuts caused by adult weevils feeding on the kernel in the water stage of pecan development. Nuts punctured late in the season after shell hardening, often remain green and adhere to the tree past normal harvest. Shallow feeding by male weevils after shell hardening may cause scarring on the shell but results in no noticeable damage to the nut

meat. Females feeding through the kernel on nuts after shell hardening can cause smaller nuts with the shuck adhered to the shell often called “sticktight” or “pops”. If the kernel is simply probed by the female and not fully penetrated, then black spots, pits or molds can occur. These spots, similar to those created by stink bugs feeding on pecan late in the season, can make each affected kernel taste bitter and thereby decrease marketability.

- Larval feeding within partially matured nuts occurs for several weeks. Damaged mature nuts do not drop, while the larvae continue to feed within the nut. This causes the shuck to adhere to the shell. Two to four larvae within each infested nut easily destroys the entire kernel.
- Each female weevil can oviposit 30 to 54 eggs; therefore, one weevil could affect as many as 15 to 27 pecans. When kernel formation and expansion begins in the pecan near the end of August, adult weevils start seeking oviposition sites. Oviposition has been observed as early as 2 days after emergence; however, the average preovipositional period is about 6.5 days. Peak egg production in pecan weevils is generally reached 10-12 days after emergence. Delays in mating, egg maturation and oviposition have been observed in late maturing and/or large-seeded cultivars.

Since most of the life stages of the pecan weevil inhabit protected environments, applications used to control this pest are generally targeted at the adult stage. Many attempts have been made to control weevil larvae in the soil using an insecticide. Unfortunately, several factors have led to the failure of this approach including:

- Penetration of an insecticide into the soil profile to a depth of 6 to 9 inches would be a big challenge for any chemical.
- Weevil larvae and even pre-emergent adults are well protected within an almost impenetrable earthen cell.
- Attempts to time applications when adult weevils first exit the soil cannot be well timed because of the often prolonged emergence pattern exhibited by this species.
- You cannot adequately account for weevil immigration into the orchard from adjacent unprotected orchards or native trees.

Regardless of insecticide selected, multiple applications will likely be needed throughout the weevil season, especially if nuts are marketed for retail sales. To ensure penetration and thorough coverage, commercial growers should treat both sides of each tree. The insecticide choice for many homeowners is Sevin insecticide, which is still an effective and safe choice for most applicators, but complete coverage is difficult on large trees.

Rock Gardens in Oklahoma

David Hillock

The idea of rock gardening began in England in the eighteenth century as some gardeners turned away from the more rigid formal look so common then for a more naturalistic style. As gardeners traveled the countryside they enjoyed the natural settings they saw and attempted to re-create that same setting in their own yards. The rock garden is the result of those visiting mountainous areas.

Traditionally rock gardens consisted of alpine plants indigenous to high altitudes, mostly above the tree lines. There, plants grow in shorter seasons, cool temperatures, porous soil and low humidity resulting in a miniature plant. Unfortunately we don't have those growing conditions here in Oklahoma so we are unable to grow true alpine plants. Instead, we must be more creative and choose plants that are dwarf or miniature in size but will tolerate our heat and humidity and choose and prepare a site suitable for this unique collection of plants.

In choosing a site, an existing slope, or one that is created, will help provide better drainage. Gardens positioned to face east also provide opportunity for protection of plants from late, hot afternoon sun.

If the soil is not already rocky or one that drains well, creating a well-drained soil mix is important. A good soil mix should contain equal parts of soil, grit and compost. Higher levels of sand are recommended in eastern portions of Oklahoma due to higher rainfall while in western Oklahoma a lower sand content would be recommended. Grit can be coarse sand or small pea gravel. The organic matter should be well composted and uniform. At *Oklahoma Gardening* in Stillwater, a rock garden was created on a gentle slope by removing most of the soil from the slope, mixing the grit and organic matter in, and then returning the soil mix to the slope.

Using native rock is an important part of the garden arrangement and probably the most artistic component of building the garden. Look around your area for inspiration from Oklahoma's many rock formations. Rocks should be placed into the slope to emulate a natural outcropping of stone. Flat rocks should be positioned so that rain and irrigation water flows back into the slope. This helps prevent soil erosion by capturing the moisture in the slope and at the same time creates cool moist areas for plant roots to grow in. Large boulders placed in the garden will also help create microclimates that shade small plants from the sun.

Be sure to practice good safety when handling rocks. In some cases equipment should be used to lift and move rocks. Don't forget to bend at the knees when lifting smaller rocks.

Planting is for some the most enjoyable and rewarding part of creating a garden. As eluded to earlier, choose plants that are miniature or dwarfed in size, typically not more than 12 inches high at maturity. If the garden is quite large and large boulders are used, slightly larger plants can be used to keep it in scale.

Dwarf conifers can provide some backbone to the garden and provide year-round interest. Some species that have dwarf varieties include false cypress (*Chamaecyparis* spp.), pines, junipers,

arborvitae and spruce. Dwarf species of deciduous shrubs, grasses and broadleaf evergreen shrubs will also work well. Perennials will last for many years and provide seasonal color. Select a combination of spring, summer and fall blooming species to provide year long enjoyment. Annuals can be used to provide instant color and are especially useful while more permanent plants are getting established.

Examples of perennials that work well in a rock garden are: dianthus, columbine, basket of gold, winecup, hardy cactus, crocus, hardy ice plant, Goblin gaillardia, dwarf iris, moneywort, daffodils, dwarf mondograss, pincushion flower, hens and chicks, sedums and plains zinnia. Annuals for a rock garden might include angelonia, cup flower, rose moss, Dahlberg daisy and Mexican bush zinnia.

For more information and ideas you can request a copy of circular E-965 Rock Gardening in Oklahoma from University Mailing Services for \$3.00 (405-744-5385) or visit the *Oklahoma Gardening* studio gardens at the OSU Botanical Garden in Stillwater.

Winecup – A Native Perennial

David Hillock

Winecup or poppy mallow (*Callirhoe involucrata*) is an excellent perennial native to the prairies of Oklahoma. *Callirhoe* is derived from the mythical Callirhoe, daughter of Achelous, the river god.

Winecup is a very drought tolerant perennial and develops a deep, carrot-like taproot. In extremely dry summers, if water is unavailable, winecup may go dormant and turn brown. No despair, after cutting back old stems in late winter, it returns the following spring, quickly developing into a full, spreading plant about 6 inches tall with stems reaching 36 inches from the center of the plant. An abundance of reddish-purple, cup-shaped flowers about 1 ½ to 2 inches wide appear in summer on slender stems. The leaves are bright to dark green and rounded in outline with deeply cut lobes arranged in a palmate fashion.

The only complaint that some have is the plants ability to freely seed, quickly spreading throughout the area. However, seedlings can be easily pulled or cultivated, or shared with friends if they are unwanted; or they can be left alone to create a groundcover and natural appearance. Winecup is an easy to grow, carefree plant that is especially suitable for western Oklahoma and does well in the front of a sunny border, rock garden, trailing over a wall or in a wildflower garden.

Controlling those Pesky Grasshoppers

David Hillock

Hungry grasshoppers like gardens because they have optimal moisture and excellent plant growing conditions that provide an abundant food supply. People become alarmed when grasshoppers suddenly appear and begin feeding on prized flowers, vegetables and ornamental

plants. The distress can turn to frustration when grasshoppers are still seen after plants have been sprayed. In most situations, the spray worked and killed the grasshoppers that were there, but there is simply more grasshoppers moving in to take their place. The insecticides available for grasshopper control have a limited residual activity and will not kill new arrivals after several days.

Grasshopper Management

Grasshopper management in the garden and landscape requires patience, and when possible, cooperation with your neighbors. The following suggestions are offered for managing grasshoppers:

- Select plants from the following list, which was developed by extension horticulturalists John Cooper and Stan Lovelace of the Texas Cooperative Extension Service as they observed grasshoppers feeding in Denton County in 1998 (As reported by Dr. Mike Merchant, Extension Entomologist, Dallas).

| Preferred | Slight Damage | Not Preferred |
|--------------------|----------------------|-----------------------|
| Althea | Flowering Almond | American beautyberry |
| Amaryllis | Grape | Artemisia |
| Bachelor's buttons | Hardy aster | Bridal wreath spirea |
| Bush honeysuckle | | Confederate jasmine |
| Butterfly bush | | Coralberry |
| Canna lily | | Crapemyrtle |
| Cherry laurel | | Dwarf yaupon |
| Daylily | | Dwarf burning bush |
| Elaeagnus | | Dwarf Mexican petunia |
| Hardy hibiscus | | Euonymus |
| Iris | | Forsythia |
| Liriope | | Juniper |
| Mondograss | | Lantana |
| Mums | | Mexican bush sage |
| Peach | | Moss rose |
| Photinia | | Nandina |
| Privet | | Passionvine |
| Rose | | Perennial dianthus |
| Tradescantia | | Persian lilac |
| Weigela | | Rock rose |
| Wisteria | | Salvia greggii |
| | | Verbena (perennial) |

- Find hatching sites in surrounding areas and spot treat them with registered insecticides. Either flag those areas and treat them, or, in more suburban areas, try and work with your neighbors to find the sites and develop a neighborhood-wide control program. Best control is achieved if applied to immature grasshoppers in the 2nd and 3rd instar (less than 1/2 inch long).

- Purchase floating row covers to protect vegetables and prized plants. These fabrics permit sunlight to get through and allow for air circulation, yet are strong enough to keep grasshoppers from feeding. They can be sprayed with an appropriate insecticide to enhance their effectiveness. If the plants being protected require pollination (such as cucurbits), they may have to be hand-pollinated. Floating row covers are available at garden and nursery supply stores.
- Poultry, especially guinea hens, are effective predators. They may be useful for gardeners who live in rural areas and have room and interest in keeping them.

Control with Insecticides

Insecticides: Several insecticides are registered and effective at killing grasshoppers. Insecticides work better on small grasshoppers because it takes less active ingredient to kill them. If a single rate is applied (as is suggested in many labels) it will work better and kill grasshoppers longer if they are small.

Temperature and sunlight: Insecticides start to break down as soon as they are mixed with water. They also break down when exposed to sunlight, and the breakdown process speeds up as temperatures increase. Thus, in the summer when temperatures are high and sunlight intense, most insecticides will work for about 24 hours. As summer progresses, grasshoppers get bigger, move faster and feed more intensely. All of this means that sprays will need to be repeated to keep plants protected with an insecticide late in the growing season.

Border treatments: Home yards and gardens in rural areas that are surrounded by range or pastures are subject to invasion by grasshoppers from those areas. Irrigated yards and gardens are an “oasis” for grasshoppers during the heat of the dry summer months. The best way to control grasshoppers in this situation is to prevent them from ever entering the yard. That can best be accomplished by treating the surrounding range and pasture lands to control the grasshoppers as described in [EPP-7196](#), Grasshopper Management in Rangeland, Pastures, and Crops. If preventative control is not possible, the best alternative is to make a border treatment around the yard and garden. Generally, grasshoppers move across areas in ‘jumps’ as they search for suitable food. A homeowner can slow or block their movement by treating all vegetation in a band or border perimeter around the yard and/or garden with an insecticide. Border treatments that are wider provide more effective control.

Yard and garden treatments: The line of last defense is to directly spray the plants that need to be protected. However, none of the insecticides will totally prevent damage from large grasshoppers because they have to do some feeding to pick up enough insecticide to die. Additionally, even the pesticides with the longest lasting residues will have to be sprayed at 3-4 day intervals when large numbers of large grasshoppers are constantly invading a landscape. Consult [EPP-7306](#) Ornamental and Lawn Pest Control for Homeowners, or E-832, OSU Extension Agent’s Handbook of Insect, Plant Disease, and Weed Control for specific information on available products for control of grasshoppers.

Biological control: Several botanical and biological products are sold to manage grasshoppers. *Nosema locustae* is a protozoan microbe that causes disease in grasshoppers. Its resting spores are mixed into a bait which is then spread in areas with grasshoppers. The grasshoppers eat the bait and microbe spores, which then infect and kill the grasshoppers. Under the best conditions, these products can provide 30-40% mortality of grasshopper populations and under the wrong conditions (low dose, large grasshoppers and high temperatures) will provide little effective control.

Beauveria bassiana is another microbe (fungus) disease that can kill grasshoppers if sprayed on plants and they eat the spores. The fungus then infects and kills the insects. However, at best, it will provide moderate control and little to no control during the hot and dry summer conditions in Oklahoma.

For more information on grasshoppers and their control see fact sheet [EPP-7322 Grasshopper Control in Gardens and Landscapes](#).

(Text taken from EPP-7322 Grasshopper Control in Gardens and Landscapes by Tom Royer and Jonathan Edelson)

Upcoming Horticulture Events

Turf and Landscape Field Day

September 17, 2008, OSU Botanical Garden, Stillwater, OK

Tree Care Conference

October 8, 2008, OSU Botanical Garden, Stillwater, OK

Greenhouse IPM Conference

November 5, 2008, OSU, Stillwater, OK

Water Issues in Horticulture Conference

December 4, 2008, Stillwater, OK

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