

Horticulture Tips

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

GARDEN TIPS FOR OCTOBER!

David Hillock

Turfgrass

- You can continue to replant or establish cool-season lawns like fescue.
- The mowing height for fescue should be lowered to approximately 2½ inches for fall and winter cutting.
- Broadleaf weeds like dandelions can be easily controlled during October ([HLA-6421](#) & [HLA-6601](#)).
- Mow and neatly edge warm-season lawns before killing frost.

Ornamentals

- Plant cool-season annuals like pansies, ornamental cabbage or kale, snapdragons and dusty miller when temperatures begin to cool.
- Begin planting spring-flowering bulbs like tulips, hyacinths, crocus and daffodils.
- Good companion plants for bulbs are evergreen ground covers such as ajuga, vinca, English ivy, alyssum, potentilla, moneywort, thrift, phlox, oxalis and leadwort.
- Peonies, daylilies and other spring-flowering perennials should be divided or planted now.
- Dig and store tender perennials like cannas, dahlias and caladiums in a cool, dry location.
- Purchase trees from nurseries and garden centers at this time to select the fall color you prefer.
- Many perennials can be planted at this time and the selection is quite nice.
- Plant fall mums and asters and keep them watered during dry conditions. Don't crowd since they take a couple of years to reach maturity.
- Plant container-grown trees and shrubs this month.
- Check and treat houseplants for insect pests before bringing them indoors and repot rootbound plants.

Fruits & Vegetables

- Dig sweet potatoes and harvest pumpkins and winter squash.
- Remove green fruit from tomato plants when frost threatens.
- Harvest Oriental persimmons and pawpaws as they begin to change color.
- There is still time to plant radishes and mustard in the fall garden.
- Use a cold frame device to plant spinach, lettuce and various other cool-season crops for production most of the winter.
- Plant cool-season cover crops like Austrian winter peas, wheat, clover and rye in otherwise fallow garden plots.
- Remove all debris from the garden to prevent overwintering of various garden pests.

- Start new planting bed preparations now with plenty of organic matter.

Water Gardens

- Take tropical water garden plants indoors when water temperatures near 50°F.
- Close the water garden for the winter by placing hardy plants in the deeper areas of the pool. Stop feeding the fish.
- Cover water gardens with bird netting to catch dropping leaves during the winter months.

Things To Do for Fruit Crops Before Winter

Eric Stafne

Fall is here and winter is just around the corner. With the cold temperatures coming, it is important that fruit crops are prepared. Irrigation should have been shut off in September to allow plants to acclimate to the lower light conditions and cooler temperatures. Plants native to North America tend to do this better than our imported plant types. For example, American grapes, such as 'Concord' or 'Cynthiana' will tend to start responding to shorter daylengths as well as cooler temperatures to prepare for dormancy. European grapes like 'Chardonnay' and 'Merlot' respond primarily to cooler temperatures. Therefore, American grapes get a headstart on dormancy, whereas European grapes are at higher risk of being damaged in an early fall freeze event.

Another important task to do is to remove grow tubes from around plants. Many grape growers and tree fruit growers use these during the growing season to protect plants from herbicide damage and sunscald, but also to speed up the growth of the plant. They work great during the growing season, but if they are left on during fall they will not allow the plant to acclimate normally because the tube heats up with the sunlight and creates a small microenvironment that will be warmer than the outside air. However, once night arrives, the temperature inside the tube will become equal to that of the outside air. The extreme changes from day to night temperatures can cause damage. This is also true during the winter.

One thing that should not be done is to fertilize fruit crops too late in the season. And when I say too late, generally anything later than July is too late. Nitrogen fertilizer will induce growth of green, succulent tissue that cannot acclimate quickly enough in the fall and thus will not go fully dormant. Often this growth is damaged or killed during the winter and can predispose the plant to stress and pest infestations.

The best thing to do to prepare fruit crops for winter is to keep them healthy and happy throughout the year by planting them on a good site, provide adequate water, control insects and diseases, fertilize when necessary, train and prune appropriately, crop load thin if needed and clean out debris that may be a source of inoculum for future years. Preparing for winter is just as important as managing for a good harvest.

Next Year's Lawn Renovations Rooted in Late Summer/Early Fall of Previous Year

Dennis Martin

If a planting of a new zoysiagrass, bermudagrass or a buffalograss variety is planned for next year into an area that currently contains living but undesirable bermudagrass type, then renovation of the area should already be well underway. The August - early October time period is typically an excellent time to kill out the existing undesirable bermudagrass variety with applications of products that contain glyphosate. While ideally this process should have been started by late August or early September, in most years an early October application remains largely effective in obtaining substantial kill of bermudagrass in areas to be renovated the following year.

Glyphosate is the active ingredient in non-selective herbicides such as Roundup, Roundup Pro or Kleen-out. Glyphosate is one of the most cost effective non-selective herbicides for control of perennial grasses including bermudagrass. The reason that the late summer or early fall application is useful is believed to be due to the very effective translocation of the product through the shoot system to the roots and subterranean crowns (rhizomes) at this time of year. Although achieving 100% control from a single application in 2007 is not realistic, these late summer/early fall applications are often some of the most effective of the year.

The applications should be made while daytime highs are still in the 80s and night time lows are not dipping below 60. For glyphosate containing products that are typically 41% active ingredient, the labels often call for a 5 quart per acre (3.7 fl oz/1,000 sq. ft.) application to the bermudagrass. This can also be achieved using a 2% solution of the product in water and spraying to the point of complete canopy coverage but not to the point of the spray solution dripping off the grass canopy. Read and follow all label directions. One must make sure that the product they are planning to use is intended to be used for this purpose. Special attention must be paid to the carrier rate of water used to apply the herbicide, whether any wetting agent or surfactant must be added to your specific mix, wind speed and proximity to sensitive plants. Glyphosate usually injures or in some cases kills green tissue that it comes in contact with so drifting the spray onto desirable plants close by is not wise and is prohibited. Observe all precautions for the use of protective clothing such as long sleeves, trousers, chemical resistant gloves, eye protection and chemical resistant boots.

Glyphosate is not active in the soil. Meaning, it will not be taken up by the roots of well established trees leading to injury. Nor will it act as a pre-emergent herbicide against weeds that will germinate later. Uniform coverage and application to the target area is important. Another reminder; there is no better time spent than that spent to read and understand the entire product label.

Approximately 7 days after the glyphosate application, the treated area could be tilled, raked, re-leveled and seeded to a temporary erosion control grass such as annual or perennial ryegrass or even wheat for stabilization over the winter. OSU fact sheet [HLA-6419](#) covers detailed lawn establishment in Oklahoma, including temporary lawn establishment. In some instances a simple

mulch such as a clean wheat straw can be used for erosion control over the winter if crimped or tacked in place to keep it from blowing away.

In late April or early May of the 2008, the area can be tilled or sprayed again and fallowed for an additional 2 to 3 week period to evaluate the success of the treatment in killing out existing bermudagrass. Usually there are some surviving rhizomes following this treatment that generate new bermudagrass plants in spring 2008. Rhizomes are underground creeping stems that serve as a resilient storage organ and means of vegetative propagation. Rhizomes contain thousands of dormant buds below the bermudagrass lawn surface. In hastily completed renovations, the homeowner often finds that the renovation was futile because an effective kill-out strategy was not executed. Ninety-nine percent (99%) control is not good enough. Anything short of absolute diligence towards eradication of the existing variety will result in a mix of the new turfgrass variety with plants of the previous bermudagrass variety.

Cover Crops

David Hillock

Cover, or green manure, crops are usually grown when the garden soil is idle, but are also sometimes planted between rows of fruits or vegetables to serve as a living mulch.

Cover crops are sometimes called “catch crops.” Their deep roots absorb nutrients from the soil that could otherwise leach away or be unavailable to garden crops with shorter roots. When tilled under, cover crops decompose and release those “caught” nutrients.

Some cover crops, those from the legume family, even trap and transform atmospheric nitrogen in their roots. This nitrogen serves as a fertilizer source for future crops.

Cover crops in the grass or grain family don’t actively fix nitrogen, but usually create a thick mulch, produce a large amount of organic matter to be tilled under, and have deep roots that loosen compacted soils, thereby improving drainage and aeration.

Cover crops are divided into two categories: warm-season and cool-season, based on the optimum times to plant and grow.

Warm-season types will not tolerate freezing temperatures and should be planted after all danger of frost. Most take six to eight weeks (or longer) to grow large enough to turn under. An exception is buckwheat, which may need only four weeks under good growing conditions.

Cool-season cover crops will survive through the winter. They are planted in the fall, from mid-September until the end of October, and left over the winter to provide protection from soil erosion. They need to be planted early enough so their roots develop before winter but late enough so they do not complete their growing cycle (and die) before the weather gets cold.

Because they are used in rotation with other crops in the same garden location, cover crops can help suppress harmful soil nematodes. Nematodes, which are parasites, tend to be host-specific,

attacking just one crop or crop family. They do not “like the taste” of other plant families and their numbers will decline without the preferred food source.

Some cover crops, just like any other crop, may attract insects that could harm other garden crops. Gardeners should watch for pest insects in cover crops and other crops and be ready to use various Earth-Kind Gardening methods while the pest problem is in its early stages.

Legumes need certain strains of bacteria to enable them to convert nitrogen gas from the air into a form that plants can use. The bacteria needed by various kinds of legumes may or may not already be in your garden soil. To be certain, legume seeds should be coated with an inoculant powder that contains living *Rhizobium* spores. Commercial inoculant is usually inexpensive and widely available. Some legume seeds are sold pretreated with the proper bacteria.

Cover Crop Planting Guidelines

- Prepare the soil as you would if planting vegetables. Legumes will produce the nitrogen they need, but non-legume crops will need to have nitrogen fertilizer (1 to 1-1/2 pounds of actual nitrogen per 1000 square feet) added to the soil to produce maximum yields of organic matter.
- Inoculate legume seeds by moistening them, draining the excess water, adding the inoculant powder and mixing well.
- Broadcast the seed evenly. Two to four times the rate may be used to assure a good stand.
- Cover seed with a thin layer of soil by raking it in or going over the area with a rototiller set very shallow.
- Keep the area moist until seedlings emerge. Light watering may be needed twice a day, or more, in hot weather.
- Mow and harvest cover crops before they flower and produce seeds, and till under at least ten days to two weeks before planting garden crops.

A recommended list of cover crop species and their seeding rates can be found in fact sheet [**HLA-6436 - Healthy Garden Soils.**](#)

Hummingbird Feeders

David Hillock

A common question/concern about this time of year is when or whether or not it is important to remove hummingbird feeders to encourage the birds to migrate south. Hummingbirds will migrate south whether or not your feeder is up. By providing a nectar source later in the fall, you'll provide a quick energy source for any migrating hummingbirds that may come through your area, and you are more likely to be visited by a rare hummingbird.

Additional tips for the best success include:

- Hummingbird feeders should be placed in or near the hummingbird garden to encourage feeding from natural sources. However, you may wish to place additional feeders near a window or porch in order to see and photograph the hummingbirds up close.

- When placing the feeders near the house, be sure to use several feeders and hang them far apart. Hummingbirds are extremely territorial and aggressive around a single food source.
- It is important to use a feeder with a bee and wasp guard. This will eliminate aggressive competition for nectar between these insects and hummingbirds.
- Do not be concerned if small insects are found in the mouth of the feeder. They fulfill the protein requirements for hummingbirds and should not be removed from the feeder until cleaning.
- Never use honey or a sugar substitute when making your own nectar mix. Honey will attract bees as well as black fungus that will cause a fatal liver and tongue disease in hummingbirds.
- The use of red food coloring in your solution is both unnecessary and unhealthy for the birds, especially when your feeder already has the appropriate red plastic blossom. You can either buy a commercial nectar solution or simply make your own using one part granulated sugar to four parts boiling water. Allow the nectar to cool before filling the feeder.
- Hummingbird feeders require cleaning every 2 to 3 days, especially in warm weather. Feeders made of plastic, glass, or ceramic should be washed with a solution of 1 tablespoon white vinegar and 1 cup water. Use a bottle brush to clean hardened debris on feeders, and rinse thoroughly with warm water.

Grow Your Own Onion Plants!

Jim Shrefler

Onions are a popular crop with many Oklahoma gardeners. Most onions are grown using transplants that are produced out-of-state at latitudes generally south of the Cowboy state. Although these producers strive to provide a quality product, problems sometimes develop that result in low quality transplants. Unfortunately, it is not until after the gardener has planted the onions that these problems become evident when the onions do not grow as expected. Gardeners now have an option that will enable them to increase the chance of producing a prize winning onion crop. Trials conducted in southeast Oklahoma over the past five years show that good quality onion transplants can be grown locally with consistent success. Over the course of these studies, several benefits to using locally grown plants have surfaced.

There are various ways that transplants can be grown. These include using heated greenhouses, planting outdoors directly in the garden or planting outdoors in unheated cold frames. Although all methods will work, the first two methods have drawbacks for onions. In the case of greenhouses, heating is costly and the space might be better used for plants that require more controlled conditions. On the other hand, with outdoor planting, extreme outdoor conditions cause considerable damage to onion plants in some years. The last of these three is the method we have used to develop a onion transplant production system. The structure is a plastic covered Quonset hut design, often referred to as a hoop house or high tunnel. Other types of cold frames should work just as well. With the system we have developed, onions are planted on the soil floor of these structures, on soil beds that are about 4 inches above the ground level. Onion seed are planted from mid to late October in rows that are about 5 inches apart. Seed can be planted as close as 3 – 6 seed per inch within a row. Seed should be planted no more than 1/2 inch deep

and the soil should be kept moist until seeds germinate and emerge from the soil. By mid to late February, plants will measure from 1/4 to 1/2 inch in diameter and are ready to transplant.

What are some benefits of local grown transplants? There are several benefits, as well as drawbacks, that should be considered.

- To start with the drawbacks, plan to do some weeding as the seedlings are getting established. Onions are slow getting started. If weather conditions stay mild, the weeds may get an edge on the onions. On the bright side, the first freeze will kill many of the warm-season weeds. Another weeding may be needed in early February.
- Plant quality is an important benefit that has been found with locally grown plants. Although commercially sold transplants are generally of good quality, there are years when quality problems begin when weather conditions are unfavorable where transplants are grown. This results in plants being harvested and packaged wet, which leads to plant decay during transit. With local grown plants, onions are harvested fresh and transplanted soon afterwards. Being protected, onions are not directly exposed to rainy conditions.
- Another benefit is that plants grown locally will resume growth more rapidly than bare-rooted commercial plants after transplanting. While commercial plants will require several weeks to form new roots and leaves, bare rooted plants already have leaves and new roots begin to form within just a few days.
- Reduced bolting (seedstalk formation) seems to be a consistent benefit of local grown plants. Certain varieties, such as granex types, seem to be particularly prone to this problem, producing as much as 50% or more plants with seedstalks. Plants that bolt do not produce a bulb of appreciable size. This has been a recurring problem with commercial transplants in recent years. The incidence of bolting has been very low with locally grown plants.
- Availability of varieties is another benefit of growing your own plants. There are only a limited number of varieties available as commercial transplants. Depending on supplies, all varieties are not readily available each year. If a gardener wants to be certain that the desired varieties will be available, purchasing seed and growing plants is one way to do so. More information on the results of recent onion variety testing in Oklahoma can be found at <http://www.okstate.edu/ag/asnr/hortla/vegtrial/culture.htm>.

If you have a hoophouse or other cold frame structure available, try growing your own plants for next year. Remember, seed should be planted before the end of October, but not earlier than the 15th. Be sure to keep the coldframe open until cool weather arrives.

Fireplace Ashes for Lawn and Garden Use

David Hillock

With cooler weather soon to arrive, the wood burning stove will likely get stoked up to keep the home warm and toasty; which means there will be ashes to deal with. What do you do with all those ashes? Can they be used in the garden to improve soil conditions?

Fireplace ashes do have benefits and can be safely used, but there are some things to consider such as nutrient content, liming value and salt content.

Fireplace ashes are a good source of potassium, about 6% available potassium. Ashes also have acid neutralizing power and can have a salt content of about 22 percent.

Soils in central and eastern Oklahoma are normally acidic and moderately to severely deficient in potassium. These soils may be improved by applying ashes to them. Ashes should not be applied to soils which have a neutral pH (near pH of 7) or are high in potassium. Care must be taken to avoid excessive applications of ashes because of the high soluble salt content and alkaline pH. Because ashes are more soluble than lime, they will neutralize soil acidity within a few days after incorporation by rain or cultivation.

Application Rates

Laboratory studies indicate the safe amount of ashes which can be applied will depend on the soil type. The maximum amount that can be applied to sandy soils is only about half that which can be applied to finer textured soils. Rates and the lime and potassium benefits for these soils are shown in the following table.

Lime and Potassium Benefits of Fireplace Ashes

Soil Type	Rate of Ashes	K₂O Supplied	Lime Supplied
Sandy	10 gal./1000 square feet	3 lbs.	10 lbs.
All others	20 gal./1000 square feet	6 lbs.	20 lbs.

Care should be taken to measure the area of the lawn or garden to which ashes are going to be applied and to know exactly the volume of the bucket or other container used to measure ashes for the application. Excessive applications may ruin the soil. Areas treated at the above rates should not be retreated again for 10 years or until a soil test shows a need for lime or potassium again. To avoid repeat applications to the same area, sketch the lawn or garden area to be treated. Then, as ashes are applied, the treated area can be shaded in or otherwise marked.

Avoid applying ash to areas where blueberries, azaleas or other acid-loving plants are grown.

For more information on using ashes see fact sheet [PSS-2238 - Fireplace Ashes for Lawn and Garden Use.](#)

House Plant Pests

David Hillock

Insect pests can occasionally be a problem and can result in plant stress or death.

An occasional “shower” will benefit most plants. Small plants can be showered with water from the spray head at the kitchen sink, and larger plants can be showered with water in the bathtub or

shower. The water spray should not be too hard, and it should be tepid in temperature. This will remove dust, dirt and many insects and pests that might affect the plant. Always inspect plants for pests as you water and care for them.

If insects or pests are a problem, submerging the plants in a tub of water for about 30 minutes may cause the insects to rise to the surface of the water where they can be skimmed off. Enclose the pot in a plastic bag to keep the potting medium in place during this treatment.

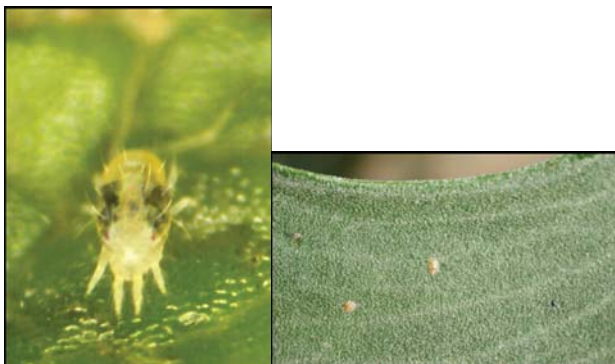
Aphids (plant lice) and mealybugs (cottony) are common insect problems of houseplants. Insecticides properly diluted and applied will eliminate most infestations. Then, usually by early isolation and retreatment, the insect infestation can be controlled with minimum insecticide treatments.

Figure 1. Aphid (left) and mealybugs (below) are common insect problems. (Photos highly magnified.)



Spider mites can also damage houseplants. These are red, black, brown or tan pests that are about the size of a dust particle. They usually feed from the undersides of the leaves causing the top side to turn pale. They are a greater problem during periods of high temperature and low humidity. Showering your houseplants once or twice a month will help control these tiny pests.

Figure 7. Spider mites (left, photo highly magnified) are very tiny, but can kill houseplants. Scale insects (right photo) suck plant fluids, leaving a sticky residue on nearby surfaces.



Where only a few plants are involved, an alcohol-soaked cotton swab can be used to wipe off any aphids, mealybugs and scale insects.

Before treating houseplants with an insecticide, regardless of chemical, put them where there is plenty of ventilation. Allow them to dry thoroughly before bringing them back into the room. Always follow label directions.

Systemic insecticides formulated for homeowner use can be sprinkled in the pots with growing plants to control most insect problems. Consult your local garden center, greenhouse, or local OSU Extension Office for the latest pest control recommendations.

Do not apply pesticides without a proper reason. Read and heed all label warning and directions. Do not treat houseplants with pesticides if people with respiratory problems live in the home. Be sure to keep all pesticides and plants that have been treated with pesticides out of the reach of children and pets.

A Detailed Look at Cool-season Shade Lawn Strategies for Oklahoma

Dennis Martin

Late September through early October is the prime time to repair cool-season lawns. Before covering tips on repair and follow up care, some background information on the grasses can be helpful.

Turfgrasses can be divided into two main groupings, cool-season and warm-season. The groups' name tells you when they perform best. The cool-season group includes the species tall fescue, annual and perennial ryegrasses, as well as Kentucky bluegrasses. The warm-season turfgrasses include Bermudagrass, buffalograss, zoysiagrass and St. Augustinegrass.

Cool-season grasses are usually used in light and medium shaded areas of Oklahoma in USDA cold hardiness zone 6a through 7b because they generally have better shade tolerance than most warm-season grasses and St. Augustinegrass is only marginally winter hardy in zone 7b. If you are unfamiliar with the USDA cold hardiness zone map it can be viewed at web address: www.usna.usda.gov/Hardzone/ushzmap.html.

Of the cool-season group, tall fescue and Kentucky bluegrass are usually the most reliable based on personal scouting of lawns and on National Turfgrass Evaluation Program (NTEP) trial results at OSU at Stillwater.

Although cool-season grasses generally tolerate shade better than most warm-season grasses (exception being St. Augustinegrass), these grasses are still plagued by problems and shady conditions are often less than ideal for cool-season grasses. Shade leads to reduced food reserves in cool-season grasses. High summer temperatures combined with shade stress can cause grasses to use up food reserves quickly in summer. Weakened grasses can be more susceptible to disease. Mature landscapes reduce air movement, leading to wet grass leaves for longer periods, often resulting in additional levels of disease. Diseases of cool-season lawns in 2007 were stem rust, *Bipolaris* leaf spot turning to crown rot, diseases caused by *Pythium* and by *Rhizoctonia* fungi (including Brown patch) and dollar spot disease. If these troubles are not enough, tree roots effectively compete for moisture and nutrients with turfgrasses. An added problem in 2007 was a

frequently saturated root zone in spring and summer that lead to root system decline. High temperatures and short term dry conditions in August then “shocked” many cool-season turfgrass stands that with shallow roots that could not produce roots rapidly under hot soil conditions.

Although there are no perfect lawn grasses for shade, one can tip the balance in their favor by choosing past suitable performers and using proper follow-up care. Using a blend of two or more turf-type tall fescues is often a successful strategy. Some of the best performing turf-type varieties in our trials at Oklahoma State University (OSU) - Stillwater have included but not been limited to Anthem II, Bandana, Bonsai 2000, Coronado Gold, Coyotte, Crossfire, Crossfire II, Duster, Finelawn Petite, Genesis, Houndog V, Jaguar 3, Lion, Masterpiece, Millennium, Mustang II, Plantation, Rebel Sentry, Rembrandt, Renegade, Reserve, Twilight II and Wolfpack. There are no doubt many other good performers available in the market place. Attention to varieties is important but it is important to not spend inordinate amounts of time searching for the perfect tall fescue....most likely it does not exist! It's equally if not more important to practice proper establishment and lawn management than to try to find the “perfect” tall fescue variety.

Over the years we have tended to lean more heavily towards the use of mixtures of Kentucky bluegrasses with turf-type tall fescues when a cool-season lawn is needed. Kentucky bluegrasses are typically less troubled by brown patch fungal disease than are tall fescue. Exceptions can apply however. Brown patch is one of the most devastating diseases of tall fescue. Please note that we don't recommend using 100% stands of Kentucky bluegrass, as this grass is slightly less shade tolerant than most tall fescues. Additionally, when used alone and if the wrong bluegrasses are chosen, summer patch, powdery mildew and/or dollarspot can be severe. During our 2000-2004 Kentucky bluegrass trial, the following varieties had 90% or greater living cover (stand persistence) by the end of trial year 2004: Diva, Quantum Leap and Liberator. In that same trial, the following varieties had a respectable 80 to 89% stand persistence at the end of the 2004 trial year: Freedom III, NuGlade, Tsunami, Rugby II, Goldstar, NuDestiny, Royce, Valor, Total Eclipse, Impact, Odyssey, Washington, Blue Sapphire, Ginney, Cabernet, Appalachian, Champagne and Rambo. The complete national results of the previous bluegrass trial are available at: http://www.ntep.org/reports/kb00/kb00_06-11f/kb00_06-11f.htm. We suggest using improved Kentucky bluegrasses at 5 to 10% by weight in the mix with tall fescue. This ratio results in a somewhat balanced mix of the bluegrass and fescue.

Finding suitable Kentucky bluegrasses on the store shelves can be difficult so if you don't want to formulate your own mix, premixes of tall fescue and Kentucky bluegrass are available in many areas of Oklahoma at Garden Centers and department stores alike. To find out what is in the bag, look for the legal seed label on the back of or on the bottom of the bag. Each bag of turfgrass seed must have a seed label to tell you the species, varieties, amounts, purity and viability of the seed present as well as a date that the seed was last tested or a “sell-by” date to assure viability.

In-depth information on planting a lawn is covered in OSU HLA Fact Sheet 6419: *Establishing a Lawn in Oklahoma* at web address:

<http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-1104/HLA-6419web.pdf>. Here are some very important planting tips. Get a basic soil test before planting to determine phosphorus,

potassium and any pH amendments needed. The OSU Cooperative Extension Service County offices in your area still handle soil tests for only \$10 per sample.

Plan for seeding or sodding cool-season grasses during late summer or early fall. More northerly areas can be established in late September, with early October sometimes more appropriate for the southern part of the state. Don't wait too late into the fall season as you want as many good growing days prior to the freezes of winter as possible. Target planting when day time highs have slid into a reliable 86°F to 88°F range with lows in the upper 50s to low 60s. Providing irrigation is essential and is to be expected. If you have to wait until it rains, you may be waiting a long time in Oklahoma.

March and April seeding should be a last resort. Sod of cool-season grasses establishes fine in the spring, but there is generally too short of a window for most spring seedings to mature prior to summer. Thus, spring seedings often fail. Weed problems are also more severe with spring seedings.

Soil amendments can be tilled into the soil before planting. Till, rake and slightly firm the area in preparation if conducting a reestablishment. Seed tall fescue at 4 to 8 lbs per 1,000 sq. ft. for new areas or use half-rates if overseeding an existing cool-season stand. Use the higher rates if coated seed is used. When using a homemade mix of fescue/bluegrass, use about 4 – 6 lbs of fescue and 1/8 to 1/4 lb of non-coated bluegrass per 1,000 sq. ft. For coated seed or premixes use the labeled rate.

Apply 0.75 to 1 lb of actual nitrogen per 1,000 sq. ft. following seeding. Next, water the area and keep the seedbed moist but not saturated until the tall fescue seedlings are about 2 inches tall. Gradually reduce the frequency of watering to harden off the grass over the next few weeks. As the grass matures, try to practice less frequent watering if your soil and moisture conditions allow but the grass should not be allowed to wilt for more than a few minutes. Remember that if runoff of water starts to occur during irrigation, shut off the water.

Lawn management for the mature Oklahoma lawn is summarized in OSU Extension Fact Sheet 6420: *Lawn Management in Oklahoma* at web address:

<http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2299/HLA-6420web.pdf>

Cool-season lawns benefit from 3 to 4 lbs of nitrogen per 1,000 sq. ft. per year. March, early May, late September and November are typical fertilization times. Be a good steward and base your phosphorus applications upon soil testing rather than always adding these nutrients every year or at every application. If you are going to skip a nitrogen fertilization, the best one to skip with the least negative impact is typically the May application. Additionally, nitrogen applications during June- early September are generally not wise. The fall and dormant applications (November) are usually the most beneficial applications of the year due to the propensity of cool-season grasses to store carbohydrates once shoot growth has ceased and root growth continues as long as soil temperatures are above freezing and moisture is suitable.

During summer, cool-season lawns need between 1 and 2 inches of water per week from rain or irrigation. Unlike bermudagrass, a completely brown cool-season lawn in summer is usually a dead cool-season lawn!

The overall performance of cool-season lawns is usually best when mowed at 2.5 to 3.5 inches. Try not to remove more than 1/3 the shoot height in any single mowing. Don't mow the grass when the leaves are wet and don't allow clippings to windrow. Mulch in or rake up tree leaves during the fall. Mulched tree leaves should never exceed ½ inch in depth.

Lack of air movement and excess shade are killers of cool-season lawns as these make disease problems worse. Trim tree branches to allow in more light and improve air circulation. Tree canopies can be thinned without destroying the growth habit of the tree or giving it a “butch” haircut. Think twice as to whether privacy fences are really necessary, they block airflow in the landscape and keep you from meeting your neighbors! Additionally, they require frequent replacement in Oklahoma which costs you money.

Herbicides, insecticides and fungicides are useful management tools but they must be used in an informed manner. Remember to read and follow all label directions. Remember that pre-emergent herbicides other than Tupersan (active ingredient siduron) applied just before, at time of seeding or shortly thereafter can kill seedling fescue and bluegrass just as quickly as it controls winter or summer annuals.

Picking good grasses and following up with proper management will help reduce cool-season problems but it is important to again emphasize that there are no trouble-free solutions in shade. Often, reseeding or patching areas with sod is needed following severe summers. If after several tries you are dissatisfied with the outcome, it is suggested that shade tolerant ornamental ground covers, organic mulches layers or hard-scape elements be considered, rather than attempting to find the perfect cool-season grass.

Good Agricultural Practices: An Important Consideration for Small Vegetable Growers

William McGlynn and Lynn Brandenberger

Good Agricultural Practices (GAPs) are an important concept for producers of fresh fruits and vegetables to understand and utilize in order to assure the microbial safety of produce that is grown in their operation. GAPs involve many things, but suffice it to say that they are practices used during planning, production, harvest and after harvest to safeguard fresh produce. One point that we should all understand is that there is not a one size fits all plan for food safety and that GAPs must be uniquely tailored to crops and management practices for each farm.

Consumption of fresh fruits and vegetables in the U.S. increased 24% during the 27 year period between 1970 and 1997. As consumers, we have been listening to messages about the importance of increasing our uptake of fresh produce. Yearly consumption has increased from 577 lbs to 718 lbs per person during this time period. As with any change, eating more fresh produce has brought us good things and a few not-so-good things. The good things include

improved diet and better health. One not-so-good thing is an increase in food-borne disease outbreaks associated with fresh produce, which doubled between 1973 and 1987 and doubled again between 1988 and 1998.

So, what can we do about these risks? Basically, we need to focus on reducing the risk of contaminating fresh produce. It is not possible at this time to eliminate food safety risks; in fact the Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables states that “current technologies cannot eliminate all potential food safety hazards associated with fresh produce that will be eaten raw.”

Times for producers to reduce food safety risks include prior to planting during the planning stage, during production and during and after harvest. Before planting, growers should complete a grower risk assessment. Cornell University has a great publication to help with this titled “Food Safety Begins on the Farm – A Grower Self Assessment of Food Safety Risks.” This publication is available on-line at <http://www.gaps.cornell.edu/index.html>. The document includes 24 sections that provide GAPs and checklists for every thing from worker hygiene to petting zoos. Proper site selection is an important step that should be carried out prior to planting vegetable and fruit crops. Growers should review and record the land history i.e. previously-grown crops and other prior land uses, evaluate the site’s proximity to animal operations with an eye toward preventing contamination from dust or drainage water from those operations and develop a detailed environmental plan for the site. If manure is to be applied to the field prior to the production season, growers should consider the source, storage and handling of the manure. It is best to apply manure at the end of a production season to allow time for soil microbes to break down human pathogens before planting a fruit or vegetable crop. A good rule of thumb is to have at least 120 days from manure application until harvest, or better yet to follow manure application with a grain or forage crop rotation. Just remember that manure = fecal matter = microbial contamination, you should do everything possible to keep manure off of produce.

During production good water management will help reduce food safety risks. Make certain that you know the source of water, test water quarterly for fecal coliforms and record results for future reference. If water has questionable safety, drip irrigation will reduce the potential for contamination by keeping water from above ground parts of the crop. Often overlooked, the quality of water used for applying pesticides is an important consideration. Producers have been known to prevent contamination from irrigation and then have contamination problems from water used for pesticide applications. To prevent problems use potable (drinking) water for pesticide applications or when not available, test water quality and keep records.

Plan to exclude both wildlife and domestic animals from production fields and packing-shipping areas. Manage rodents and birds in packing sheds and storage areas and keep dogs and other pets out of field areas. If you need help in controlling wildlife or want help in developing a control plan contact Oklahoma Dept of Ag Food & Forestry Wildlife Services 405-521-4039 <http://www.oda.state.ok.us/wls-staffhome.htm>.

During production, harvest and after harvest make certain to plan for farm worker hygiene. Teach workers about food safety and their role in preventing contamination and provide clean

restrooms with all the necessities for maintaining good hygiene. Follow this up with enforcement of GAPs for good hygiene practices and make it a priority. If you operate a U-Pick operation, don't assume that you don't need to be concerned about worker hygiene. Invite your customers to wash their hands prior to entering fields both verbally and with good signage. Provide clean and convenient restrooms along with well maintained hand washing facilities for their use. Remember, if U-Pick customers become ill they probably won't blame themselves, but will assume it's your fault.

Things to consider at harvest would include picking fruit or vegetables dry to prevent the spread of contamination, leaving produce with bird droppings on it in the field, cleaning and sanitizing harvest totes each day and cooling produce quickly. Additionally you should clean and sanitize storage facilities prior to harvest and clean and sanitize the packing area and equipment daily. A majority of the fresh produce industry has switched to the use of plastic bin boxes for harvest and distribution. This is an improvement to the wooden boxes and baskets used in the past, which were nearly impossible to clean and sanitize. But, even though these containers are superior in several aspects, they still need to be cleaned and sanitized daily and common sense should be used to prevent contamination in the field and packing facility.

Some useful online resources include:

Guide to Minimize Microbial Hazards for Fresh Fruits and Vegetables:

<http://vm.cfsan.fda.gov/~dms/prodguid.html>

Cornell University Good Agricultural Practices Publications:

<http://www.gaps.cornell.edu/pubs.html>

Publications include:

Food Safety Begins on the Farm – a grower's guide

Food Safety Begins on the Farm – a grower's self-assessment

2007 Oklahoma Cucurbit Vegetable Meeting

Jim Shrefler

The date for the 2007 Cucurbit meeting has been set for Thursday, December 13. This years meeting will address a variety of topics of interest to all interested in the production and marketing of cucurbit crops. One area of focus will be cucurbit production for the Oklahoma Farm to School program. Although the program is still being developed, some topics will include cucurbits in Native American gardening, alternative production practices for cucurbits and how to understand the label information on pesticides. Watch for more details at www.lane-ag.org.

Upcoming Horticulture Events

Plant Materials Conference

October 9-10, 2007, Best Western, 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.