Horticulture Tips March 2009

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

GARDEN TIPS FOR MARCH!

David Hillock

Lawn and Turf

- Remove excessive thatch from warm-season lawns. Dethatching, if necessary, should precede crabgrass control treatment. (<u>HLA-6604</u>)
- Broadleaf weeds can easily be controlled in cool-season lawns at this time with postemergent broadleaf herbicides. (HLA-6421)
- Preemergent crabgrass control chemicals can still be applied to cool- and warm-season turfgrasses (<u>HLA-6421</u>). Heed label cautions when using any weed killers near or in the root zone of desirable plantings.
- March is the second best time of the year to seed cool-season turfgrass; however, fall is the best time to plant. (HLA-6419)
- Cool-season lawns such as bluegrass, fescue and ryegrass may be fertilized now with the first application of the season. Usually, four applications of fertilizer are required per year, in March, May, October and November. (<u>HLA-6420</u>)
- Begin mowing cool-season grasses at 1 ¹/₂ to 3 ¹/₂ inches high. (<u>HLA-6420</u>)

Flowers & Vegetables

- Cultivate annual flower and vegetable planting beds to destroy winter weeds.
- Apply mulch to control weeds in beds. Landscape fabric barrier can reduce the amount of mulch but can dry out and prevent water penetration. Thus, organic litter makes the best mulch.
- Prune roses just before growth starts and begin a regular disease spray program as the foliage appears on susceptible varieties. (<u>HLA-6403</u> & <u>EPP-7607</u>)
- Avoid excessive walking and working in the garden when foliage and soils are wet.
- Start warm-season vegetable transplants indoors.
- Divide and replant overcrowded, summer and fall blooming perennials. Mow or cut back old liriope and other ornamental grasses before new growth begins.
- Your cool-season vegetables like broccoli, cabbage, carrot, lettuce, onion, peas, spinach, turnips etc. should be planted by the middle of March.
- Watch for cutworms that girdle newly planted vegetables during the first few weeks of establishment. Cabbage looper and cabbageworm insects should be monitored and controlled in the garden. (EPP-7313)

Trees & Shrubs

- Prune spring flowering plants, if needed, immediately following their bloom period.
- Plant evergreen shrubs, balled and burlapped, and bare root trees and shrubs.
- Anthracnose control on sycamore, maple and oak should begin at bud swell. (EPP-7634)
- Diplodia Pine Tip blight control on pines begins at bud swell. (EPP-7618)
- Chemical and physical control of galls (swellings) on stems of trees should begin now. (EPP-7168 & EPP-7306)
- Dormant oil can still be applied to control mites, galls, overwintering aphids, etc. (EPP-7306)
- The first generation of Nantucket Pine Tip Moth appears at this time. Begin pesticide applications in late March. (EPP-7306)
- Control Eastern tent caterpillars as soon as the critters appear.

Fruits **Fruits**

- Continue to plant strawberries, asparagus and other small fruit crops this month.
- Start your routine fruit tree spray schedule prior to bud break. (EPP-7319)
- Remove winter mulch from strawberries in early March. (<u>HLA-6214</u>)

Time to Cut Back Perennials

David Hillock

If you haven't done so already, now is a good time to cut back your herbaceous perennials and ornamental grasses. Cut back far enough to remove dead plant material but not too far into the crown of the plant that you damage new shoots or dormant buds waiting to break with the onset of milder temperatures. If the plant material was infested with diseases or insects last year destroy the debris if possible or remove from the garden. Otherwise the plant debris can be tossed into the compost pile for recycling.

Turf Scalping, Water Use and Weeds

Justin Moss

The bermudagrass is still dormant, but will be "waking up" soon. The tall fescue is starting to green-up again. Spring is in the air, so should you scalp your lawn to get it ready for the growing season?

Scalping turfgrass is a common practice in the early spring. Scalped lawns tend to green-up faster than un-scalped lawns, but this is not necessarily the best practice for long-term turfgrass health.

The common rule for mowing turfgrass is to remove no more than 1/3 of the aboveground leaf tissue in a single mowing. Scalping can often remove 50% or more of aboveground leaf tissue. Research has shown that removing more than 40% of turfgrass leaf tissue in one mowing can stop root growth for 1-2 weeks. Therefore, scalping your lawn in the spring would promote leaf tissue growth over root growth. Spring is a very important time for turfgrass root growth, and the more roots your lawn develops in the spring, the better it will withstand drought and other

stress conditions throughout the summer. Scalping can also open up the turf canopy to weed encroachment. A dense stand of turf capable of out-competing weeds is now opened up to weed germination and encroachment due to scalping and weakening of the turf stand.

While scalping can certainly green-up your lawn faster in the spring, you will likely end up paying a higher water and weed control bill at the end of the summer.

Pruning Roses

Kim Rebek

Pruning rose bushes is one of those spring duties that seems to create a great deal of confusion, probably because there are many different types of rose. Also, the timing of pruning has been debated, though many suggest waiting for forsythia to bloom as a good signal to begin pruning roses. The exception to this is with once-blooming varieties, such as ramblers and old garden roses like 'Alba' and 'Moses'. These roses are pruned after they flower.

Hybrid tea roses bloom on new wood and benefit from early, and often hard pruning. This entails removing up to one half of the plant's height and reducing the number of canes to between three and five. To achieve this, start by removing dead wood, cutting dead canes at the base, or at the point of discoloration. Thin, weak canes are removed next, and then we reduce the number of remaining canes - keeping five stout, healthy canes that are evenly spaced around the plant. These canes are then pruned back, leaving three to five outward facing buds. This type of pruning encourages the greatest flowering from hybrid tea roses, as well as floribunda and miniature roses.

The pruning process differs for shrub or climbing roses. Climbers are pruned very little, often just to remove dead wood and trim back lateral branches. Shrub roses are pruned mainly to maintain shape. No pruning is necessary during the first two or three years after a shrub rose is planted. After three seasons, use the one-third pruning method, which helps prevent roses from becoming over grown and poor bloomers.

Shrub roses bloom on mature wood, but not on old, woody canes. Each year, remove one-third of the oldest canes. Then, select one-third of the very youngest canes that grew the previous season to replace the old canes. Remove the remaining young canes. Over time, the young canes replace the old, allowing a continual renewal of the canes, and maintaining plenty of mature wood to produce flowers.

There are several pruning practices that are common to all roses. First, is the angle of the cut. Cut stems at a 45 degree angle, making the cut one quarter inch above an outward facing bud. We select outward facing buds as a way to direct the new growth away from the center. The cut should slant away from the bud, not toward it.

For all roses, we want to remove dead, dying or diseased wood. This is typically identified by a dark coloration as compared to the green, healthy canes. It is often necessary to wait until plants come out of dormancy to distinguish dead from healthy tissue.

Maintain an open center to encourage good air circulation. Roses battle many foliar diseases. Good air circulation promotes evaporation of water from leaf surfaces and reduces the incidence of disease. By pruning to outward facing buds, and removing crossing or inward growing canes we can great a more open structure.

Suckers need to be removed on grafted roses. Suckers grow from the root stock of the plant and have different characteristics than the grafted rose. It is best to dig down into the soil and tear the sucker off at the point where it attaches to the roots. Cutting suckers will only encourage the growth of more suckers.

Finally, we want to shape and direct growth with our pruning. You do not want the plant to become a tangled mess of unproductive wood. How you shape the plant will depend on its location and your individual tastes.

Planting Leeks

Kim Rebek

A vegetable that is not widely grown in the United States, but is gaining popularity is the leek. This member of the onion family is grown for its leaf sheaths, often mistakenly called the stem. Leeks are somewhat sweeter than onions, and can add a creamy texture to foods when cooked. They are used most often in soups, most famously in vichyssoise, a French, cold potato soup.

There are two basic types of leek. Hardy, overwintering varieties are planted in the fall for a late spring harvest. Summer leeks are planted in the spring and are harvested at different times during the summer, depending on how long they take to mature. Some leeks take up to 150 days to mature, which can be a problem in Oklahoma, because leeks are sensitive to heat. If planting a summer leek, be sure to select one that has a short maturation period, such as 'King Richard' which matures in just 75 days. This will allow the majority of growth to be completed before extreme heat sets in. Leeks can be planted either as seed or transplants that look a lot like onion sets.

There is, of course, more than one way to plant a leek. One thing we need to consider is blanching. Blanching is the exclusion of light from the stem, which causes it to become white, instead of green. Plants are typically blanched by hilling soil around the stems. One way to do this is to set transplants out in deep trenches, dug about 6 to 8 inches deep. Cover only one inch of the stem at a time, over the course of several weeks. You can also plant the leek more shallowly, and hill the soil up around the stem as it grows.

Another method is to set each plant in narrow holes 6 inches deep. Only an inch or two of leaves need to extend above the soil surface. Rather than filling the hole in with soil, allow irrigation or rain to fill in the dibble hole slowly over time. Despite planting method, place leeks 6 inches apart in rows spaced 2 feet. Keep plants well watered during establishment, but allow soils to dry slightly as the plant reaches maturity.

Fertilizing Asparagus

Kim Rebek

Asparagus is a relatively easy spring vegetable to cultivate. To promote a good crop, plants should be fertilized twice each season; once in late February or early March and again at the end of the harvest to stimulate the growth of ferns. Promoting vigorous fern growth will replenish the energy reserves in the roots for next year's harvest.

Before fertilizing, remove last year's dead ferns and move those to the compost pile. Apply a side dressing of fertilizer. Generally, you will only need to apply nitrogen, unless soil tests indicate a nutrient deficiency. Phosphorous is often over applied to soils. It is important to have your soils tested every two or three years, and only apply phosphorous and potassium as needed.

The fertilizer is applied at a rate of about 1 to 2 pound actual nitrogen per 100 foot of row. Incorporate the fertilizer into the upper inch of soil. Then spread a thin layer of compost, about 1 to 2 inches thick to add a little organic matter to the system. This will help hold back weeds, and also help retain soil moisture. Don't forget to make that second fertilizer application as the harvest dwindles.

See OSU Factsheet HLA-6016 Asparagus Culture in the Home Garden for more information.

New Shrub Fact Sheet!

David Hillock

Based off chapter six from our popular CD, E-972 Landscaping with Trees, Shrubs and Vines, we have created a new fact sheet, HLA-6439, Selecting Shrubs for the Landscape. Unlike annual flowers or even some herbaceous perennials, shrubs are usually planted with permanence in mind. As such, it is important to carefully select plants to ensure long-term success. Selecting Shrubs for the Landscape will serve as an important guide when choosing which shrubs will grow best in a variety of landscape situations. The lists and tables in the fact sheet have been updated from the CD chapter and includes many colorful pictures highlighting a variety of shrubs. You can now view or print a copy of the fact sheet by going to http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-5816/HLA-6439web.pdf or by contacting your local County Extension Office.

Circular E-918 Revised

David Hillock

The revised version of E-918, "Major Horticultural and Household Insects of Oklahoma" is now available! The new version has color images, updated information and a few new insects. This highly popular publication is used widely in Master Gardener training and other extension workshops. Due to the cost of color printing, the price has increased slightly to \$17 per copy. Please contact University Mailing Services at 405-744-5385 to place your orders.

Okra Transplanting Trial

Jim Shrefler and Tony Goodson

During a late May visit to a vegetable grower a while back, one of the authors asked if the okra was ready to pick. Surprisingly, the grower answered "yes, we have already been selling okra". Okra is normally one of the last of the summer season crops that is planted. This is due to the warm soil temperatures required for seed germination. According to Knott's Handbook for Vegetable growers, at 59°F okra germination may take 4 weeks. It still requires a week to sprout at 86°F. While air temperatures during the month of May in Oklahoma are typically high enough for the optimum plant growth requirements of 70-85°F for okra, cool soil temperatures may delay the establishment of okra that is seeded directly into the garden, even through the latter part of May. With the increasing interest in earlier harvest of vegetables for purposes such as farmers' market sales, many growers are interested in information on how to achieve earlier establishment of crops such as okra. To address this concern, a trial was conducted during the 2008 growing season at the Wes Watkins Agricultural Research and Extension Center at Lane, Oklahoma.

Okra plants of the cultivar "Clemson Spineless" were established in a greenhouse in Speedling trays by planting seeds on May 1, 5, 8, 13, 16 and 20. Potting soil was a standard plug mix. Plant cells had an inverted pyramid shape and measured 1.5×1.5 inches and 2.5 inches deep. The field was prepared and okra was transplanted on June 3. This resulted in transplants being 33, 29, 26, 21, 18 or 13 days old at transplant. In addition to the 6 different seeding dates of the transplants, a seventh treatment was okra that was seeded directly in the field at the same time okra was transplanted. Rows were spaced 6 feet apart and okra was spaced 1 foot between plants within the rows. Individual plots were comprised of 7 plants and there was a 3 foot long space between plots within a row. Each treatment was duplicated 3 times using a randomized complete block experimental design. Soil was fertilized before planting based on OSU fertilizer recommendations except for nitrogen. During the winter the field had a natural stand of narrowleaf vetch, a nitrogen fixing legume, and it was anticipated that considerable nitrogen would be supplied by the vetch residues that were incorporated into the soil during field preparation. Okra was irrigated with drip irrigation as needed. Once okra began to produce pods we harvested 2 - 4 times per week.

Individual harvests were combined on a weekly basis to get the total number of pods per 10 plants per week. Initial analysis of data indicated that, over the first five weeks, there were differences among the treatments in the number of pods produced. In order to simplify

presentation, data were combined for the first five weeks and the final four weeks. The results are fairly easy to understand. Transplanting resulted in greater early yields than did direct seeding. In fact, early yields were generally about twice as great. The results also show that letting transplants get too old is not a good practice. The 33 day old transplants had statistically significant lower yields than did 13 day old transplants. Among the 13 to 29 day old transplants there were no significant differences in the number of pods per 10 plants. During the final four weeks there were no differences among the treatments.

These results suggest that transplanting okra is a good technique for achieving early yields. Furthermore, the benefit of early planting may last several weeks into the growing season. In this case it lasted for five weeks. Transplant age was not found to be extremely critical. Two week old transplants were as productive as any other transplant age. This is useful to know as it means that greenhouse space will not be tied up for a long period of time. We did not attempt to determine the grade of okra pods. In general, early season pods were of good quality. Toward the end of the season there were an appreciable number of pods that were curled, which is typical of damage that stinkbugs cause on okra. Stinkbugs were present late in the season but no control measures were employed.

	Total number of pods	Total number of pods
Treatments	per 10 plants during	per 10 plants during
	the first 5 weeks	the final 4 weeks
33 day old transplants	116 b	287
29 day old transplants	128 ab	249
26 day old transplants	136 ab	272
21 day old transplants	144 ab	292
18 day old transplants	129 ab	265
13 day old transplants	150 a	328
Direct seed into field	64 c	254

Within a column, mean values that are followed by a common letter are not significantly different based on a least significant difference test with alpha=0.05.

"Don't Bag It" – Lawn Care Plan (<u>L-253</u>)

David Hillock

If You "Don't Bag It" ...

From March to October, grass clippings increase the volume of residential solid waste 20 to 50 percent. Some landfills may ban yard waste. A mulching lawnmower is a good alternative to landfilling. You can help reduce this "needless waste" by following the "*Don't Bag It*" lawn care plan.

You Save Time

Experience with "*Don't Bag It*" shows annual mowing time reduced by up to one-third by not bagging clippings.

You Save Energy

Your mower will be easier to push with no heavy grass-filled bag attached.

You Save Money

- You buy fewer garbage bags.
- You keep your garbage bill lower. The city does not have to collect or dispose of grass clippings.
- This extends landfill life.

Your Lawn Will Thank You

Grass clippings that are returned to the lawn rapidly decompose at the "grassroots" level. Returning grass clippings to the lawn improves water-use efficiency, recycles plant nutrients, and gives your lawn a more uniform green color.

Mowing Plan

Setting Up Your Lawn Mower

You don't have to have a mulching mower. However, a mulching kit installed on your mower, or a new mulching mower, chops grass blades very fine and often improves lawn appearance. Talk to your mower dealer about a mulching kit for your mower.

When to Mow

The "rule of thumb" for mowing is to remove no more than one-third of the leaf blade. You may mow more often, but experience with "*Don't Bag It*" shows that annual mowing time is reduced by about one-third.

Mowing Height

The following chart shows the recommended mowing schedule for "Don't Bag It."

Type of grass	Mower setting	Mow at this height
	(inche	es)
Common Bermuda Buffalo	2	3
Hybrid Bermuda or Zoysia	1	1 1⁄2
Tall Fescue, Bluegras Ryegrass	s, 3	4

Grass clippings left on your lawn will not contribute to thatch. Thatch is caused by tough runners, rhizomes, and roots. Grass blades are tender plant parts that rapidly decompose and contain about 4% nitrogen, 1% phosphorus and 2% potassium.

Fertilizing Plan

The basis for determining fertilizer needs is a soil test. Have your soil tested every three years to determine the need for pH adjustment, phosphorus, and potassium. See your local Oklahoma Cooperative Extension office for more information about soil testing.

The lawn care plan "*Don't Bag It*" works best with a slow, even-growing lawn. Fertilizer application rates, frequency of application, ratio of nutrients, and the source of the nitrogen all affect how fast your lawn grows.

What Fertilizer to Apply

The following chart shows some common fertilizer formulations.

Fertilizer Analysis N-P2O5-K2O	Application Rate lbs. per 1,000 sq. ft. per application
12-4-8	8.3
15-5-10	6.7
21-7-14	4.7
16-4-8	6.3
20-5-10	5.0
27-3-3	3.7
32-0-0	3.1
46-0-0	2.2

Fertilizer can be in a quick release or a slow release form. Some of the fertilizer formulations above are available in a slow release form. Slow release fertilizer works best with "*Don't Bag It*."

When to Apply Fertilizer

The best time to apply fertilizer depends on the type of grass in your lawn. The fertilizer application dates below are recommended for a healthy, even-growing lawn.

Bermudagrass

May 1, June 1, July 1, August 1, and September 1 **Buffalograss** May 1 and August 1 **Zoysiagrass** May 1, June 1, and September 1 **Tall Fescue, Bluegrass, Perennial Ryegrass** March 1, May 1, October 1, and December 1

Fewer applications of slow release fertilizer are necessary for Bermudagrass because more nitrogen can be applied per application. Therefore, the July and September fertilizer applications on bermudagrass can be dropped if a slow release fertilizer is used. A slow release fertilizer is also recommended for the May application on fescue, bluegrass, and ryegrass lawns. **Watering Plan** Turfgrasses vary in their need for water. The following list ranks the varieties that use the most water to those that use the least:

- 1. Tall Fescue, Bluegrass, Perennial Ryegrass (require the most water)
- 2. Hybrid Bermuda such as Tifway and Zoysiagrass
- 3. Common Bermuda
- 4. Buffalograss (requires the least water)

Bermudagrass lawns usually require about 1 inch of water every week during the summer. Zoysiagrass and tall fescue lawns usually require between 1 ½ to 2 inches per week if in full sun. The best time to water is early morning. Evening is the worst time to water because the lawn stays wet all night, encouraging lawn diseases.

To Learn More About Recycling Yard Waste

• Contact your county Oklahoma Cooperative Extension Service office. The phone number is listed under County Government. Ask for:

<u>L-251</u>, Mulching with Wood Chips

L-252, L-252 Leaf Composting

• Watch Oklahoma Gardening on OETA Saturdays at 11:00 a.m. or Sundays at 3:30 p.m.

• Find more information, including OSU Extension Facts, at:

http://pods.dasnr.okstate.edu/docushare/dsweb/HomePage

Chia - A Forgotten Food of the Aztecs

Shelley Mitchell

When Columbus arrived in the New World, there were four crops comprising most of the Aztec diet: amaranth, beans, corn and chia. Many people have only been exposed to chia in the form of seeds spread on ChiaPets to provide a living 'fur'. The word 'chia', from the Aztec word 'chian' which means 'oily', is used to refer to a number of plants native to Mexico and the U.S., but often is referring to the *Salvia* genus--usually *S. hispanica*, which is in the mint family and native to Mexico. The Aztecs ate the very tiny chia seeds in the form of gruel, ground chia seeds into flour for tortillas and tamales, and put them in some of their beverages. Even today, chia seeds with water, sugar and lemon or lime juice are enjoyed in Mexico and other places as "chia fresca".

Chia seeds become gummy when soaked in water (they absorb many times their own weight in water). Chia seeds and flour were taken on long trips by Aztecs because the seeds retained water and prevented dehydration, in addition to being a good source of energy. Chia seed paste was used in pre-Columbian days to remove dirt and other foreign material from the eyes, and as a poultice for wounds. Chia seed oil was painted onto clay and gourd vessels, and gave a glossy finish that did not yellow over time. Used in paint, chia seed oil prevented color fading. The oil was also used in body paints and perfumes (usually applied as ointments).

Chia was even a part of religious ceremonies. Dough made with chia seeds was shaped into a life-sized model of a god. After a human sacrifice, blood was spread on the dough, which was cut into pieces that Aztecs ate with devotion. The Spaniards banned chia as part of their

eradication of pre-Columbian religions. They replaced chia with foods familiar to the conquistadors such as wheat, rice and barley. Chia managed to survive as a crop for over 500 years because of populations isolated from the conquistadors and centers of power. It stayed virtually unknown until the 1990s, when omega-3 became known for its use in preventing coronary heart disease. At the same time, the results of chia trials conducted as part of the Northwestern Argentina Regional Project were published, and showed that chia is a natural source of omega-3, antioxidants and dietary fiber.

Recently chia has been hailed as a 'super food', because of its high levels of omega-3 fatty acids, which lowers triglyceride levels, reduces blood-clotting tendency and reduces the risk of coronary heart disease. Chia has less sodium than the other common sources of omega-3 (flaxseed, canned tuna in water, pink salmon and algae), and does not have a 'fishy flavor'. Chia has more protein, more fiber, more energy and less carbohydrate than barley, corn, oats, rice and wheat. A 2003 food allergy study in the United Kingdom found no evidence that chia elicits an allergic reaction, even in individuals with peanut or tree nut allergies. Chia is gluten-free and a good source of B vitamins, as well as calcium, phosphorus, magnesium, potassium, zinc, copper and iron—it has more iron than spinach or beef liver. Chia has so many antioxidants that it can be stored as seed or flour for long periods of time without becoming rancid.

Chia seeds can be purchased over the internet and at some health food stores. People eat whole seeds as a snack, sprinkle seeds on other foods such as oatmeal or yogurt, grind the seeds and mix them with flour for baking, and even drink them in 'chia fresca.' Perhaps they will become popular over time as people become more concerned with their health and discover this little seed. If nothing else, the 'rediscovering' of chia will ensure that ChiaPets will always be available as a gift for those hard-to-buy-for people on your holiday lists!

Sustainable Blackberry Workshop to be held at Cimarron Valley Research Station

Eric T. Stafne

Blackberries have become a topic of interest for many potential growers in Oklahoma. They are interested in this easy to grow crop, but have little or no experience in how to produce it. On April 8, 2009, a Sustainable Blackberry Workshop will be held at the Cimarron Valley Research Station in Perkins, Oklahoma from 8 a.m. to 1 p.m., with registration beginning at 7:30 a.m. This workshop will be conducted by several speakers with background knowledge of horticulture and blackberries. Topics to be covered include budgeting, site selection, cultivar selection, fertilizer and weed control, irrigation, insects and diseases, health properties and more. Partial funding for the workshop was derived from a grant from the North American Bramble Growers Research Foundation. Cost to attend the workshop is \$25 per person. This fee includes a copy of the Midwest Commercial Small Fruit and Grape Spray Guide as well as several OSU fact sheets on growing blackberries. The format of the workshop will consist of lectures, discussion and a field visit to the newly planted research plots at the research station. Speakers at the workshop will be Dr. Eric Stafne, OSU Fruit Crops; Dr. Kefy Desta, OSU Sustainable Agriculture Systems; Roger Sahs, OSU Agriculture Economics; Sue Gray, OSU Tulsa County

Extension Educator; Dr. Mike Kizer, OSU Irrigation; Dr. Phil Mulder, OSU Entomology; Dr. Damon Smith, OSU Plant Pathology; Dr. Edralin Lucas OSU Nutritional Sciences and more.

For more information about attending the workshop, please visit this website <u>http://www.hortla.okstate.edu/pdf/09blackberry.pdf</u> or contact Stephanie Larimer at <u>stephanie.larimer@okstate.edu/405-744-5404</u>.

Upcoming Horticulture Events

Sustainable Blackberry Production Workshop

April 8, 2009, Cimarron Valley Research Station, Perkins

IPM Conference

May 21, 2009, OSU Botanical Garden, Stillwater

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