Master Cattleman Quarterly

Oklahoma State University

Hope for the Best, Prepare for the Worst

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We often say that there only two certainties in life: death and taxes. In agriculture, we may want to add a third certainty: variability. Farm income fluctuations are influenced by weather, consumer preferences, government programs and policies, global economics to name a few. If lower grain and cattle prices are causing heartburn (or worse), it is time to focus on farm cash flow and controlling expenses. Think about conducting an internal audit of the farm business. Goals that may have once seemed reasonable may no longer seem appropriate. Once goals and priorities are reassessed, you are prepared to develop a revised plan for the future.

Cash flow problems are the first sign of farm financial problems and may be temporary or chronic in nature. An honest assessment of whether financial stress is temporary or long-standing is important. Liquidity problems are evidenced by cash flow difficulties, such as trouble paying bills when they come due and rolling over lines of credit. If liquidity is a problem, increasing or speeding up cash inflows plus decreasing and slowing down outflows (including reducing family spending) will help.

Controlling costs

While it doesn't offer attention-grabbing headlines, research consistently shows that controlling costs over time is a key element in long-term business success. Taking an objective view of your farm's finances can be revealing. Lay out three years of tax returns side by side. What are the high-cost categories? Where are costs high relative to other producers who are profitable? Are resources (land, labor, machinery, equipment, money and management) being used efficiently, effectively and profitably? Study farm records to ensure that inputs are being purchased as cheaply as possible and are being fully utilized. Look especially closely at high-cost items such as interest, machinery costs, rent, feed, fertilizer and labor. Hopefully, you have a good record-keeping system that will facilitate this; if not, see agecon.okstate.edu/quicken for a suggestion.

Some costs may be relatively fixed, some may be variable, and some may be negotiable. Once you've bought land or machinery, equipment, vehicles, breeding livestock or similar capital assets, ownership costs are relatively fixed. If these fixed costs are not being spread over adequate levels of production, fixed costs may be reduced by expanding the business or using the assets elsewhere (for instance, doing custom work for others). To lower variable costs, consider substituting comparable but less expensive inputs, for instance, adjusting feed rations to utilize relatively low price grains. Assess whether inputs could be used more efficiently, such as feeding hay in closed-bottom rings to minimize waste.

If rental rates are out of line with the market, talk to the landlord and see if a new rate can be negotiated. Renegotiating a cash lease to lower the payment will reduce current expenses. Changing a cash lease to a share lease will reduce cash outlays and improve liquidity, particularly in poor yield and low price years. Flexible leases can be used to share production and price risk between the tenant and landowner, for instance, by combining features of

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cash and share leases. In lease agreements, the payment amount, number of payments, timing of payment, and end date are variables to evaluate. See aglease101.org for publications, worksheets and forms for lease agreements.

Schedule loan repayments at times when crop and/or livestock sales are expected. Negotiate for lower interest rates if you have a good record keeping system and can provide financial statements for the lender. Check your depreciation schedule on your tax returns to make sure that it is up-to-date.

In the longer run, rethinking asset ownership plans may lead to lower costs. While producers often feel that they must own land to be farmers or ranchers, few, if any, agricultural enterprises will generate the cash necessary to make principal and interest payments on a land purchase, even though potential price appreciation makes sense in the long run. Real estate (land and buildings) can be controlled by owning, leasing with a multiyear arrangement or renting on an annual or short-term basis. Machinery and equipment can present a similar problem with respect to earning its keep, particularly on small operations. Machinery and equipment can be owned, leased or custom-hired. Breeding stock can also be leased or owned. Renting or leasing an asset reduces the ownership costs (depreciation, taxes, insurance, interest on investment) while increasing the cash flow (and possibly the operating capital) needed. A financial lease or custom hiring can be a reasonable alternative when equipment is expensive and used infrequently. Unused assets are obvious candidates for sale if tax repercussions are not severe.

Insurance provides important protection against losses that might cripple or ruin a business. While it may be tempting to drop insurance as a cost-cutting measure, financially stressed farms often cannot afford a loss which might lead to delinquent loans or more borrowing. Insurance helps minimize the losses associated with adverse events outside the producer's control. Known costs (annual premiums) are substituted for unpredictable and irregular losses. Insurance can stabilize the farm's cash flow and improve financial liquidity. Liability, property and life insurance also help protect farm assets. All insurance policies should be reviewed both from protection and cost standpoints. If your vehicles are aged, you may not need the same level of insurance that you did when they were new. Don't forget to include health care and long term care insurance in your review as they are increasingly important risk management tools on farms.

Farm families should be sure that their expectations with respect to the farm's ability to generate income are realistic. Family living expenses typically increase when incomes are high and come down much more slowly when farm income declines. If financial stress is an issue, reining in family living expenses early is important. Developing a budget, living within it, and minimizing nonessential spending may allow producers to pay down high interest loans and credit card debts, reducing future cash obligations for loan repayment.

Concluding Thoughts

The operations most vulnerable to low prices and yields are the most highly leveraged farms, often with younger operators. For producers with significant debt, one or more years of financial stress can jeopardize the operation as the need to generate cash for loan repayment and family living expenses is greater than for comparable size operations with less debt. Farms that have historically been profitable may be able to continue operations through several low profit years with sufficient savings or off-farm income; or lenders may be willing to provide credit to help with cash flow problems. Regardless, areas for periodic introspection include family and farm withdrawals, capital purchases, cost control, enterprise returns, asset ownership and/or control agreements, and use of supplemental income. Changes in the enterprise mix as well as production and financial management may be needed. The appropriate strategy or combination of strategies for a farm depends on both family and business factors.

Longer term, farm profitability can be improved by implementing changes that increase either the amount produced or the price per unit received or that lower cost per unit of production. If you haven't adopted production practices that optimize production, look for low hanging fruit. Note that I intentionally use optimize, not maximize. Pro-

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ducing more is not always better--the increases in the value of higher production levels must exceed the additional costs incurred to generate those higher yields. See OSU fact sheets on value-added practices for cow-calf operations and soil fertility for example or enroll in an OSU Master Cattleman course. Next, take a look at how you are marketing your production and see OSU fact sheets and websites for marketing tips and strategies.

If you need assistance in analyzing your farm finances, consider using IFMAPS personnel to provide an objective view. While no longer free, it could be a good investment for your business. IFMAPS assistants can help develop enterprise budgets as well as financial statements, including cash flow, income statements and balance sheets. Multi-year projections can be developed. For more information, see agecon.okstate.edu/ifmaps or call 1-800-522-3755.

Oklahoma Quality Beef Network's Fall 2015 Sales: The Tide Has Receded

Kellie Raper, Associate Professor, Gant Mourer, Beef Value Enhancement Specialist, Eric DeVuyst, Professor, Derrell Peel, Professor and Rodney Jones, Associate Professor

Last year we titled the Oklahoma Quality Beef Network's (OQBN) 2014 Sale Summary *"A rising tide lifts all boats."* After record prices – and record premiums – in 2014, the feeder calf market in the latter part of 2015 took a different track. If you are involved in the cattle business, you know that the tide definitely receded. That said, as feeder calf prices fell throughout the 2015 fall sale season, OQBN's 2015 calf enrollment numbers reached the second-highest in program history and OQBN premiums, though not at 2014 levels, were still quite good.

OQBN's goal is to enhance value adding opportunities for Oklahoma's beef industry. This collaborative project reaches across research and extension as well as across disciplinary lines, involving Agricultural Economics faculty, Animal Science faculty, and Vet Med faculty. The Oklahoma Cattleman's Association also provides support for the program. The most visible component of OQBN is arguably its fall OQBN Certified VAC45 calf sales held at livestock markets throughout Oklahoma. The OQBN Website (http://oqbn.okstate.edu/) and Facebook page provide information to producers and extension educators of upcoming sales, weaning and management protocols, useful educational information and research findings on an ongoing basis. Information is also linked to Oklahoma State University's Beef Extension website (http://www.BeefExtension.com) to further facilitate awareness and access for producers.

Program enrollment numbers peaked in 2010, just prior to the extended drought, at near 9,300 (Figure 1). While drought did not appear to influence premium levels, it did

Figure 1. Oklahoma Quality Beef Network: A Little History

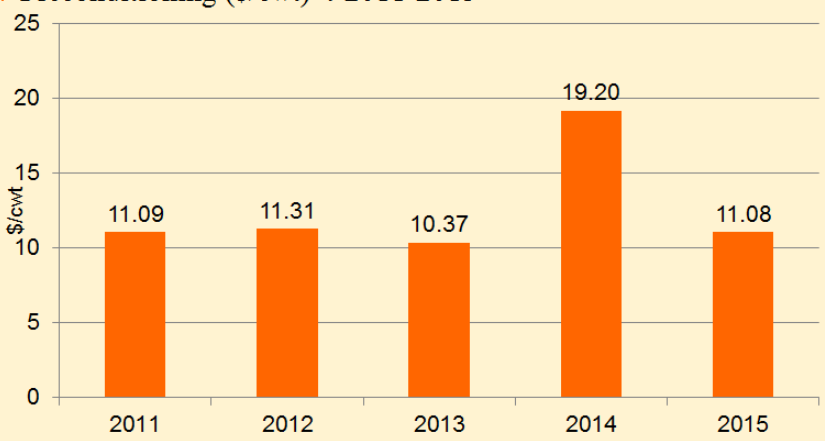
	2001	2002	2003	2008	2009	2010	2011	2012	2013	2014	2015
Livestock Markets	6	7	7	1	3	7	6	6	7	5	6
Number of Sales	7	7	8	2	4	10	9	7	8	6	8
OQBN Lots	400	326	221	56	361	854	462	333	343	318	501
Direct Sales							882	477	1,218	2,127	2,796
OQBN Total Head	6,999	5,214	4,169	1,120	4,498	9,262	3,611	3,496	5,401	6,454	8,891

Oklahoma Quality Beef Network's Fall 2015 Sales: The Tide Has Receded (cont)

influence program enrollment numbers. The drought years (2011-2012) saw numbers only one-third of that. However, after moderate increases over the last two years, calf enrollment numbers for 2015 reached nearly 8,900 head – the second highest enrollment in program history. The majority of these OQBN calves are marketed through special OQBN sales at auctions across the state, though some are marketed directly by producers.

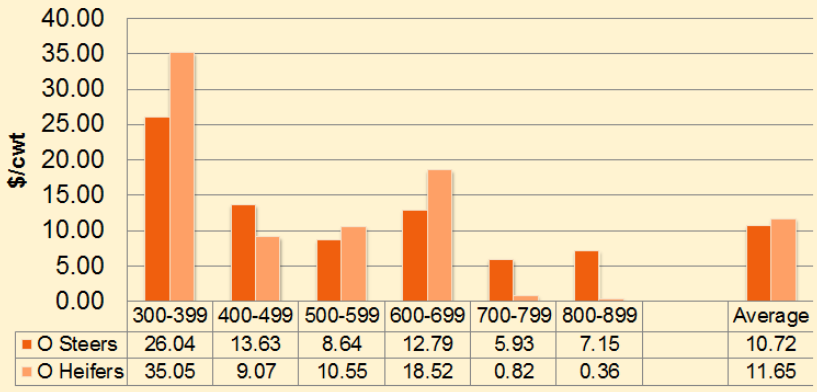
Sale results provide feedback for participating producers as well as useful information for producers considering OQBN's VAC45 certification program. In 2015, eight OQBN value added calf sales were hosted by livestock markets around the state. Data were collected at Blackwell, Cherokee, El Reno (OKC West) (x3), McAlester, Pawnee and Woodward between October 28, 2015 and December 11, 2015 on approximately 6,095 OQBN certified calves sold in 501 lots at designated OQBN sales. An additional 2,796 head of OQBN certified calves were sold directly through private treaty. Including OQBN calves, data were collected on a total of 17,981 calves. The overall weighted average OQBN premium over calves with no preconditioning for 2015 was $11.08/cwt, a value comparable to premiums from 2011-2013 (Figure 2). It does not reflect differences attributable to lot size, weight, breed, hide, color, sex, fleshiness, and muscling. Figure 3 illustrates 2015 OQBN premiums by weight category and by gender. Premiums were higher in lighter weight categories, but for calves weighing 700 pounds or less, premiums were generally near $10/cwt or higher for both steers and heifers. Estimated value added to Oklahoma calves based on premiums alone, including the 2,796 OQBN calves marketed outside of OQBN sales, is approximately $584,000.

Figure 2. OQBN Premium over Calves Marketed with No Preconditioning ($/cwt)*: 2011-2015



*Premiums calculated as difference in weighted average prices

Figure 3. 2015 Premiums by Weight Class and Gender ($/cwt)



	300-399	400-499	500-599	600-699	700-799	800-899	Average
O Steers	26.04	13.63	8.64	12.79	5.93	7.15	10.72
O Heifers	35.05	9.07	10.55	18.52	0.82	0.36	11.65

Note: Premium is relative to non-preconditioned cattle. OQBN premium is weighted average across 2015 fall sale season.

Eastern Oklahoma Beef Cattle Summit

The Oklahoma Cooperative Extension Service with support of the Oklahoma Beef Council will be hosting the Eastern Oklahoma Beef Cattle Summit to held in McAlester, OK on Friday April 8 at the Southeast Expo Center. The 1-day conference will cover the requirements for the upcoming VFD's (Veterinary Feed Directives), opportunities for buying vs. raising replacements, techniques for accurately estimating cow weight, deworming strategies, and Roy Lee Lindsey of the Oklahoma Pork Council will provide insight into Consumer Perceptions of Agriculture. Registration forms or more information can be found at your local county extension office or at BeefExtension.com. Lunch will be provided and many vendors will be available in the trade show.

The 11 Things You Want to Know about GMOs

Eric DeVuyst, Professor

1. What is a GMO?

A GMO, or Genetically Modified Organism (also call genetically enhanced or transgenic organism), refers to a plant or animal with DNA altered using one of a variety of genetic engineering methods. A GMO is not a single type of crop nor is it a crop variety – it is technique (or tool) that can be used in many different ways for many different purposes. Sometimes GMOs are equivalently called Genetically Engineered (GE) crops. Transgenic GMOs have DNA from another species inserted into its genetic code. Cisgenic GMOs have DNA from a member of the same species. Other techniques "silence" or "turn off" existing genes in a plant or animal.

2. Why are crops genetically modified?

By modifying the genetic material in an organism, the plant can exhibit traits that are desirable for the environment or humans, either for farmers producing the plant or for consumers. For example, crops have been modified to produce a compound that prevents pests (primarily bugs) from feeding on them, which protects yield and quality. Other plants have been modified to tolerate certain broad spectrum herbicides (weed killers and suppressors). This allows producers to use herbicides that are less persistent in the environment, meaning they rapidly degrade to relatively benign compounds when they contact soil or are exposed to sunlight, and it has encouraged adoption of no-till technology because it has allowed farmers to control weeds without having to disturb the soil through tillage. By using gene-modifying technology, decades or more can be shaved off traditional crop breeding practices.

Some food crops have been genetically modified to improve shelf life, so less food is wasted. Others are more nutritious than natural occurring varieties. For example, golden rice, a GMO variety, produces beta carotene which the body converts to vitamin A. Vitamin A is important in prevention of blindness. Children in many developing countries suffer from higher rates of blindness because diets, which rely on rice as a staple crop, are deficient in vitamin A.

3. Are GMOs safe to eat?

There have been hundreds of studies testing the safety of GMO-derived foods, and long term tests involving millions of animals, and the evidence overwhelming supports the safety of eating currently approved GMO-derived foods. As concluded by the Swiss National Science Foundation, GM food crops are the most studied food crop ever (http://www.nfp59.ch/e_index.cfm). Scientists who advise governments, including the United States Food and Drug Administration (http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm352067.htm) and European Union Academies Science Advisory Council (http://www.easac.eu/home/reports-and-statements/detail-view/article/planting-the.html), have concluded that currently approved GMO-derived foods are safe for both humans and animals to consume. The UN's World Health Organization also stated that currently approved GMO-derived foods are safe (http://www.who.int/foodsafety/areas_work/food-technology/faq-genetically-modified-food/en/). All crop breeding (conventional and GMO alike) involve risks, but all major scientific authorities have concluded that GMO crops are no riskier than conventionally bred crops.

References:

- Nicolia A, Manzo A, Veronesi F, Rosellini D. Crit Rev Biotechnol. 2013 Sep 16.
- Van Eenennaam, A. L., & Young, A. E. (2014). "Prevalence and impacts of genetically engineered feedstuffs on livestock populations." *Journal of Animal Science*, 92(10), 4255-4278.

4. What crops in the U.S. are genetically modified?

USDA Animal and Plant Health Inspection Service lists the status of applications for GMO approvals at https://www.aphis.usda.gov/biotechnology/petitions_table_pending.shtml. The list includes apples, rice, papaya, corn, soybeans, cotton, potato, sugar beet, canola (rapeseed), tobacco, tomato, squash and some ornamental plants. Not all of the GM food crops, though, are sold in grocery stores. The major commercial applications of GMOs that have been widely adopted are corn, cotton, canola, papaya, soybeans, and sugar beets. As of 2015, there is no commercial production of GMO rice or wheat.

The 11 Things You Want to Know about GMOs (cont.)

5. What are the environmental effects of GMOs?

GM crops must be shown to be relatively safe for the environment before becoming available for planting by farmers. USDA Biotechnology Regulatory Service "… evaluates genetically engineered organisms to ensure they are as environmentally safe as their traditionally bred counterparts and thus can be used freely in agriculture" (http://www.usda.gov/documents/BIOTECHNOLOGY.pdf) No GM crops can be produced without USDA approval. A large-scale review of the scientific literature found that adoption of GMOs has reduced chemical pesticide use by 37% and has increased crop yields by 22%. By increasing yield, less land is needed to produce a given quantity of food, meaning sensitive environmental lands are less likely to be brought into cultivation. As indicated, herbicide resistant crops have facilitated adoption of no- and low-till farming, which helps prevent topsoil erosion.

Reference:

- http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0111629

6. Do GMOs cause farmers to use more pesticides?

No. Actually the reverse is true. In 2014, the USDA concluded "insecticide use has decreased with the adoption of insect-resistant crops, and herbicide-tolerant crops have enabled the substitution of glyphosate for more toxic and persistent herbicides" (http://www.ers.usda.gov/media/1282246/err162.pdf).

7. How are GMOs regulated?

In the U.S., three agencies, Environmental Protection Agency, Food and Drug Administration, and Department of Agriculture, play a role in regulating GMO crops. EPA regulates GM crops with bio-pesticide markers. FDA insures that GM crops grown for human and/or animal consumption are safe. USDA Animal and Plant Health Inspection Service is required to assure that GM crops are not a threat to existing plants (http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm352067.htm).

8. Are GMOs banned in Europe?

No. The European Union has approved the consumption of most of the major GMO crops used in the U.S. There is, however, less cultivation of GMOs in Europe as the EU has been slower to give approval for cultivation. GMO corn is grown in Spain and a few other EU countries. The EU imports large quantities of GMO soybeans from North and South America, mainly for use in animal feed. In Europe, GM foods are required to be labeled as such if 1% or more of the product is derived from GM crops. As a result, few GMO-derived foods are sold (http://www.cfr.org/agricultural-policy/regulation-gmos-europe-united-states-case-study-contemporary-european-regulatory-politics/p8688) except for products from animals fed GMO corn and soybeans, which are not required to be labeled.

9. Should food companies be required to label foods with GMOs?

There are several existing voluntarily labeling programs, such as the USDA organic certification, which provide consumers choice on this matter in the marketplace. Thus, the question isn't whether GMOs should be labeled, but rather whether labels should be mandatory. Typically, US regulations have limited required mandatory disclosures to those products known to affect health outcomes for some of the population (e.g., whether a product contains peanuts; or the fat content), but because the preponderance of the evidence indicates that currently approved GMOs do not affect human health GMOs have not required a label. A major concern of opponents of mandatory labeling is that it may stigmatize GMO-derived foods, and grocers may not shelve them. The result is that food manufacturers may begin to source more-expensive non-GMO foods, which will drive up food prices. It may be the case that companies selling newer consumer-oriented GMOs, such as the arctic apple which does not brown, will actively advertise the presence of GMOs because of the benefits conveyed to the consumer.

10. What are the economic effects of farmers using GMOs?

Farmers evidently believe GMOs are beneficial because they have voluntarily chosen to pay higher prices to buy GMO seed. In 2015, USDA reports that 92% of corn, 96%

The 11 Things You Want to Know about GMOs (cont.)

of cotton, and 94% of soybeans grown in the U.S. were genetically modified. Clearly, farmers find economic advantages to raising GM crops. A review of the research found that adoption of GMOs increased farmer profits by 68%. Formal economic analyses also show that farmers profit from growing GMOs, although there is some downside due to trade disruption with importing countries.

Reference:

- http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0111629

11. What are the potential downsides of GMOs?

It is possible to imagine certain genetic modifications that could harm human health (e.g., introducing a peanut gene into corn might lead to unexpected allergenic responses). While none of the currently approved crops are of this sort, and the FDA regulatory process is designed to prevent this outcome, it remains a theoretical possibility. The implication is that each new GMO should be considered on a case-by-case basis.

Adoption of herbicide resistant varieties has probably helped contribute to the development of herbicide-resistant weeds. This is not a problem unique to GMOs. There are several herbicide-resistant weeds that have developed in non-GMO crops, but it is likely that weed resistance has probably been hastened by widespread GMO adoption.

Some people are concerned about the involvement of large agribusiness seed and chemical companies in the food supply chain. It is true that current GMO crops are produced and sold by large companies, but consolidation in the farm sector was underway long before the advent of GMO crops, and has occurred in sectors where there are no GMOs. Concerns about consolidation and concentration are thus not unique to GMOs. Moreover, there are many Universities, non-profits, and small start-ups that are working on new GMO applications.

Don't Put Away the Tax Documents Just Yet

Damona Doye, Farm Management Specialist

If you've gotten back your tax return documents, don't immediately file them. Check your Schedule D to make sure that the asset list is correct. Did you remember to mention the new bull purchase? Sale of the old pickup? Now retrieve 2013 and 2014 returns and compare the changes in income and expenses in different categories over time. Is gross income increasing? If not, why not? Have the weather or market prices been the culprit every year or are changes in management practices in order? High depreciation expenses typically indicate the purchase of new machinery, equipment, vehicles, and breeding livestock. Have they been necessary or could costs be lowered by by replacing these items less frequently? Very low or no depreciation expense may signal that little or no reinvestment in the farm is taking place and that large outlays may be necessary in the future, either in repairs or purchases. If repairs are a large portion of the total expense, consider the purchase of new (or at least different) machinery and equipment or hiring custom work. To survive, the farm business must show a profit most years unless substantial off-farm equity or income is available to subsidize the operation. Consistent losses suggest that the manager's skills and talents might be better suited to some other enterprise. The interest expense ratio (interest expense/ gross income) indicates the proportion of total income committed to interest payments. Farm operations are considered at risk once the ratio is 15 percent or higher.

Updated Extension Circulars, Spreadsheets and Journal Articles

- **Quicken for Farm/Ranch Financial Records,** D. Doye & S. Siems. 2016. Access at agecon.okstate.edu/quicken
- **Stocker Data File**, E. DeVuyst. 2016

Using Genetic Testing to Improve Fed Cattle Marketing Decisions, N. Thompson, E. DeVuyst, W. Brorsen, & J. Lusk. *Journal of Agricultural and Resource Economics*, 2016.

Statewide Women in Agriculture & Small Business Conference, Aug. 4 & 5, 2016

The Oklahoma Cooperative Extension Service along with USDA's Risk Management Agency is pleased to announce the annual conference for women in agriculture and small business. The 2-day conference offers a variety of sessions to assist participants in successfully managing risk for their families, farms and/or business. Concurrent sessions are offered from three tracks—agriculture, alternative enterprises and business and finance—with participants able to choose whatever session is of most value to them. Registration is $50 per person. The 2016 keynote speakers will be Dr. Temple Grandin, best-selling author, consultant on animal handling for the livestock industry and autism activist; Kim Bremmer, founder of Ag Inspirations, which aims to share the real story of agriculture; and Michelle Miller, the self-proclaimed "Farm Babe", who has garnered attention through her social media "agvocacy" by debunking myths and spreading facts about REAL farms from REAL farmers. For more information visit http://okwomeninagandsmallbusiness.com/ or contact Sara Siems at 405-744-9826 or sara.siems@okstate.edu.

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