Master Cattleman Quarterly

Oklahoma State University

Spring-Calving Herds

David Lalman, OSU Animal Science

1. Plan to implement estrus synchronization systems for heifers and cows. Some systems require initial management steps as early as 31 days in advance of the targeted initial breeding date. If not already done, purchase AI supplies, acquire semen, and check facilities and equipment. Don't forget to find and test the thawing bath before the first cow walks in the chute for breeding.

2. The anestrous period in cows calving at 2 years of age is about two to four weeks longer compared to mature cows. Therefore, many producers choose to initiate the breeding season for virgin heifers two to four weeks in advance of mature cows.

3. Research has demonstrated that bull exposure initiated within 30 days of calving reduces the anestrous period by one to two weeks in 2-year-old cows. This can be accomplished with a good fence or a surgically-altered bull.

4. Plane of nutrition can have an effect on conception rates during the breeding season, and this effect seems to be more dramatic in 2-year-old cows. In one study with 2-year-old cows, a high plane of nutrition (resulting in cow weight gain) during the breeding season resulted in a 76% first-service conception rate compared to a 58% first-service conception rate in cows that were provided a maintenance plane of nutrition. Providing 2-5 pounds (lb.) per head per day of an energy supplement may be necessary to achieve a high plane of nutrition in areas where abundant forage is not available until mid- to late-April.

5. If not previously done this year, consult your veterinarian about vaccinating cows a minimum of 30 days prior to breeding.

6. Conduct breeding soundness exams for all herd sires if not completed in March.

Fall-Calving Herds

Consult your veterinarian to plan the vaccination program for fall-born calves and to purchase the necessary supplies. An ideal situation is to vaccinate two to six weeks prior to weaning and again at weaning. If not done in March, implant steer calves and heifers not intended to be kept as replacements.

General Recommendations

- Introduced warm-season forages, such as bermudagrass and Old World bluestem, should be fertilized in late April through mid- May. Approximately 50 lb. of nitrogen (N) is required to produce about 1 ton of forage. Efficiency of nitrogen use is improved if multiple applications (generally two or three) are made. More nitrogen is typically applied in the spring because moisture availability is consistently abundant.
- High-magnesium mineral supplements should be provided for cattle grazing cool- season forages through the month of April.
- A moderate- to low-phosphorus (P) mineral supplement (10% phosphorus or less) is recommended for most classes of cattle and forage types during the lush spring growing season. Most forage species contain adequate phosphorus, and some species contain excessive phosphorus during this period.
- Plan a fly and tick control program. Check spraying equipment, dust bags and oilers, and purchase needed chemicals or tags for fly and tick control. Use insecticide- impregnated ear tags if ear ticks are a problem and there is no resistance in your area.

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Spring-Calving Herds (cont.)

- Establish new stands of lovegrass in April and May. Spray weeds in Bermuda grass and native grass pastures in late April or May.
- Controlled burning programs can still be effective in late March - early April in some areas to control weeds, brush and ticks. Controlled burning has also been shown to increase weaning performance of fall-born calves.

The Simple Calculus of Extended Grazing

Eric DeVuyst, Farm Management & Production Management Specialist

Let's assume that we have 700 lb steers gaining 3 lb per day while grazing wheat. To compute the benefits of an additional day of grazing, we first need to compute effective market price. At 700 lb, a steer's market price is \$130/cwt (for example). After grazing for an additional day, a \$6 price slide would give us a price of \$129.82 for a 703 lb steer. The steer's value increased from \$910/hd to \$912.63, a gain of \$2.63/hd. So, the effective price for the additional pounds is \$87.82/cwt.

With a stocking rate of 2 acre per head and a market price net of price slide effects of \$87.82/cwt, we get benefits from a day of grazing equal to \$1.32 per acre (3 lb / 2 acre per head × \$0.8782 per lb). How many bushels of wheat could we lose from extended grazing and just breakeven? Since the gain from a day of grazing is \$1.32 per acre, if we divide \$1.32 per acre by \$8.70 per bu for wheat, we get 0.15 bu per day. In other words, we are losing profits if wheat grain losses are more than 9 pounds of wheat grain per day due to grazing after first hollow stem (FHS).

As your calf gains from grazing may be higher or lower than 3 lb per day, here's a table to help you calculate your breakeven yield loss.

_____	/	_____	x	_____	/	100	=	_____
Daily gain at FHS (lb/hd)		Stocking rate (acre/hd)		Calf price net of slide effect (\$/cwt)				Gain from a day of grazing (\$/acre)

Gain from a day of grazing / wheat price (\$/bu) = Breakeven yield loss

Published studies show wheat grain losses range from 1% to 5% per day. In general, producers should expect to see total profits (wheat + stockers) decline if grazing is continued past FHS.

USDA Grain Inspection, Packers and Stockyards Administration Proposed Regulations.

Shannon Ferrell, Assistant Professor of Agricultural Law, Ag Economics Department

USDA's Grain Inspection, Packers and Stockyards Administration (GIPSA) proposed regulations that would affect several aspects of contract livestock and poultry production. These proposed regulations generated significant discussion across many sectors of the livestock and poultry industries, with over 66,000 comments on the rules submitted to GIPSA. The following table provides a very brief summary of the proposed regulations; readers are encouraged to review the full version of the rules available at http://edocket.access.gpo.gov/2010/pdf/2010-14875.pdf. The rules have not yet been finalized; GIPSA is currently reviewing comments received on the rules and is also undertaking a more thorough analysis of the rules' economic impact.

The original spark for the proposed rules came from the 2008 Farm Bill, in which Congress called upon GIPSA to clarify several areas of the Packers and Stockyards Act (PSA) that had been the subject of significant controversies and litigation. While the Farm Bill directed GIPSA to address concerns in the swine and poultry industries, GIPSA proposed a rule that included these sectors and the cattle as well. This development brought the cattle industry into the midst of the rules debate.

Since the rules were proposed in June of 2010, the discussion of these rules has generated perhaps more questions than answers. If the rules are adopted in their current form, how will GIPSA interpret these rules? How will buyers and packers react to the new restrictions? Parties on both sides of the debate agree that the answers to these questions will dictate the effect of the rules on the economics and structure of the livestock industry. As a result, federal legislators have asked USDA for a more thorough analysis of the rules' potential impact. As of this writing, that analysis is ongoing. As USDA and GIPSA consider their final version of the rules, industry members should continue to closely monitor the situation.

USDA Grain Inspection, Packers and Stockyards Administration Proposed Regulations (cont.)

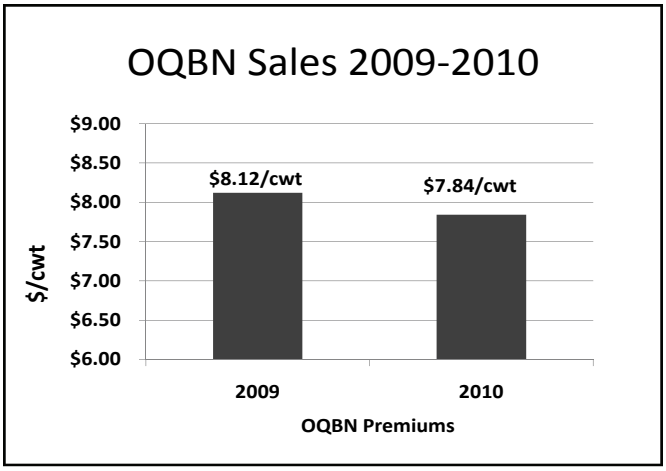
NOTES: P = poultry, S= swine, C = cattle (Unless otherwise noted, all references are to the Code of Federal Regulations, Title 9)		
Rule		**Proposal**
7 U.S.C. §192(a) – "unfair, unjustly discriminatory or deceptive practices or devices"		
201.210(a) [new]	P,S,C	Defines eight items as per se "unfair": (1) breach of contract or other act unscrupulous, deceitful, or in bad faith;
	P,S,C	(2) retaliation in response to a producer's comments/memberships
	P,S	(3) refusal to provide data used to calculate producer's compensation;
	P,S,C	(4) attempting to contractually limit producer's legal remedies
	S,C	(5) providing a premium/discount to producer w/o documenting justification
	P,S	(6) terminating contract based on violation of a law w/o reporting violation,
	P,S,C	(7) representations, acts, or omissions likely to mislead a producer;
	P,S,C	(8) causing or creating "competitive injury" or a "likelihood" thereof
201.2(n),(o) [modified]	P,S	Defines "capital investment" and "additional capital investment" as initial or additional investments of $25,000 or more in growing and raising facilities.
201.217 [new]	P,S,C	(1) If producer is required to make capital investment, contract must be for sufficient length of time to allow producer to recoup 80% of investment; (2) Producers cannot be penalized for not making equipment changes when existing equipment is in "good working order"; (3) May not intimidate/mislead in entering contract (4) Cannot require capital investment if contractor has given intent to sell (5) Cannot require equipment changes w/o "adequate compensation"
201.215 [new]	P	Poultry producers must be given reasonable notice prior to suspension of delivery of birds.
201.218 [new]	P,S	Producers must be given reasonable time to cure breach of production contract and be given written notice of breach/how to cure.
7 U.S.C. §192(b) – "undue or unreasonable preference or advantage"		
201.212 [new]	C	Packer-to-packer sales prohibited (with emergency waiver). Requires livestock dealers in exclusive arrangement with a packer to be identified as "packer buyer." Once identified, dealers can only purchase livestock for that packer.
201.213 [new]	P,S,C,	Sample copies of all forward, formula and production contracts, marketing agreements, and poultry growing arrangements must be submitted to GIPSA
201.214 [new]	P	Addresses "tournament system" in poultry production; all growers raising the same type and kind of poultry must be given same base pay, and compensation may not be reduced below the base pay rate.
201.94 [modified]	P,S,C	Packers/swine contractors/poultry dealers paying different prices or giving different contract terms to producers must document rationale for difference.
201.211 [new]	P,S,C	Lists factors considered as whether "undue or unreasonable preference or advantage/undue or unreasonable prejudice or disadvantage" has occurred.
7 U.S.C. §197 – the use of arbitration in contracting		
201.219(a) [new]	P,S,C	Lists factors to be considered in determining whether arbitration clause allows producer a "meaningful opportunity" for participation in the arbitration process.
201.219(b) [new]	P,S,C	Arbitration language must be followed by a clause granting producer the right to decline the arbitration provisions of the contract using language specifically laid out in proposed regulations.

Oklahoma Quality Beef Network: Summary of Fall 2010 Sales

Doug McKinney, Extension Specialist Beef Cattle, Eric DeVuyst, Farm Management & Production Management Specialist, Kellie Curry Raper, Livestock Marketing Specialist, Galen Williams, Graduate Research Assistant

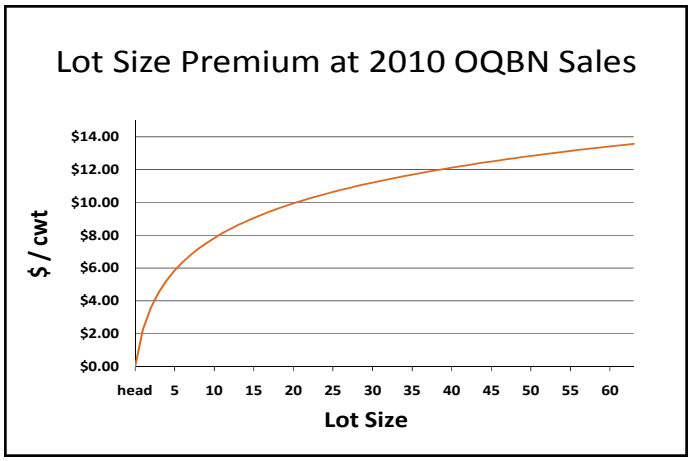
Oklahoma Quality Beef Network (OQBN) calves were sold at ten value-added sales this fall, including Durant Stockyards, OKC-West, McAlester Stockyards, Blackwell Livestock, Stillwell Livestock, Pawnee Livestock and Tulsa Stockyards. A total of 7,537 calves were sold in these sales as Oklahoma Quality Beef Network certified cattle. Data was collected for each lot of OQBN calves at these sales, as well as for non-OQBN cattle that sold during the period before and after the OQBN portion of the sale. The data included not only sale price and weight information, but also information on characteristics such as breed, lot size, management protocols, cattle condition, and other variables that have been shown to influence price (Ward et al., 2004). Figure 1 shows price premiums per hundredweight for OQBN cattle compared to non-preconditioned calves in 2010 and compared to 2009. Our results indicate that OQBN cattle received a premium of $7.84/cwt, based on the weighted average price of all lots, over non preconditioned cattle. The weighted average premium does not adjust for any price differences attributable to lot size, weight, breed, hide color, sex, fleshiness, and muscling.

Figure 1. Premiums at OQBN Calf Sales, Fall 2010 and Fall 2009.



Research has shown that lot size (the number of cattle grouped together for bid) can have significant impacts on price. Figure 2 shows the average impact of lot size across Fall 2010 OQBN sales. Note that premiums are larger as the number of head approaches a truck load lot.

Figure 2. Lot Size Premiums for OQBN Sales in Fall 2010.



Summary

Nearly 7,600 certified OQBN calves were marketed through special sales at 7 locations across Oklahoma in Fall 2010. Data from those sales indicates a significant price premium for those calves managed and certified according to Oklahoma Quality Beef Network's health management protocol when compared to non preconditioned calves. Data also indicates lesser price premiums for noncertified preconditioned calves when compared to OQBN cattle. The results also suggest that lot size plays a significant role in determining final calf price.

For more information regarding the Oklahoma Quality Beef Network and its health management protocol and certification process, please visit http://www.oqbn.okstate.edu.

Hay on Shares: What is a Fair Division of the Crop?

Roger Sahs, Extension Specialist, and Damona Doye, Extension Economist

Lease agreements are influenced by the landowner's costs, the tenant's expected earnings, previous rates charged, competition for the land, government programs, tax laws, and the non-agricultural economy and the question arises: Just what is a fair division of the hay crop? This article illustrates the primary costs of producing hay, an important first step in identifying each party's contributions. An equitable or fair share agreement can then be negotiated.

A native prairie hay budget (Table 1) along with a Bermuda hay budget (Table 2) are summarized in the tables that follow. They were created with OSU Enterprise Budget Software (http://agecon.okstate.edu/budgets/).

Hay on Shares: What is a Fair Division of the Crop? (cont.)

Expense Item	Cost per acre	Landowner	Tenant
Land Ownership Costs Taxes Return on investment: 3% x $1,050/acre	$4.50 31.50	$4.50 $31.50	
Harvest Variable Expense[1] Cutting Raking Baling, hauling Total	$10 $10		$10
Harvest Fixed Expense[2]	$18		$18
Total Cost	$64	$36	$28
% Share		56%	44%

[1]One haying operation. Assumes mower conditioner with 50 hp tractor, 10-wheel rake with 50 hp tractor, and round baler with 100 hp tractor. Labor @ $10/hr. and fuel at $3.00/gal.
[2]Depreciation and other fixed costs associated with haying equipment. 400 acres annual use on equipment.

Table 1. Native Hay Budget

Hay equipment costs were determined with the assistance of AGMACH$ (http://agmach.okstate.edu/). Readers are encouraged to estimate their own costs to arrive at an appropriate crop share arrangement. These examples are just one of many ways the costs of hay production may be shared and are not intended as a recommendation.

According to statewide leasing surveys summarized in Current Report-230, "Oklahoma Cropland Rental Rates: 2010-2011" (http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-7366/CR-230web10-11.pdf), the tenant (haymaker) on average receives 2/3 of the hay crop while paying more (in many cases, all) of the fertilizer and pesticide costs. The tenant usually pays for all haying operations. A limitation of adopting customary lease terms is that land quality and other amenities may differ and customs change slowly as economic conditions change. Expenses for fertilizer, fuel, and equipment parts and maintenance have varied considerably in recent years. When input costs change rapidly, the terms of a lease agreement can become inequitable if flexible components are not included.

Expense Item	Cost per acre	Landowner	Tenant
Establishment[1]	$20	$20	
Fertilizer[2]	$26		$26
Pesticide[3]	$4		$4
Custom Hire	$13		$13
Land Ownership Costs[4]	$51	$51	
Harvest Variable Expense[5]	$10		$10
Harvest Fixed Expense[6]	$18		$18
Total Cost	$142	$71	$71
% Share		50%	50%

[1]Establishment costs prorated over 15 years presumed stand life.
[2]111 pounds urea @ $468/T, split application.
[3] Herbicide application @ $4.94/ac, split fertilizer applications @ $4.14/acre each.
[4] Land valued at $1,475/a with 3% opportunity cost on investment plus $6.34 in taxes.
[5] One haying operation. Assumes mower conditioner with 50 hp tractor, 10-wheel rake with 50 hp tractor, and round baler with 100 hp tractor. Labor @ $10/hr. and fuel at $3.00/gal.
[6] Depreciation and other fixed costs associated with haying equipment. 400 acres annual use on equipment.

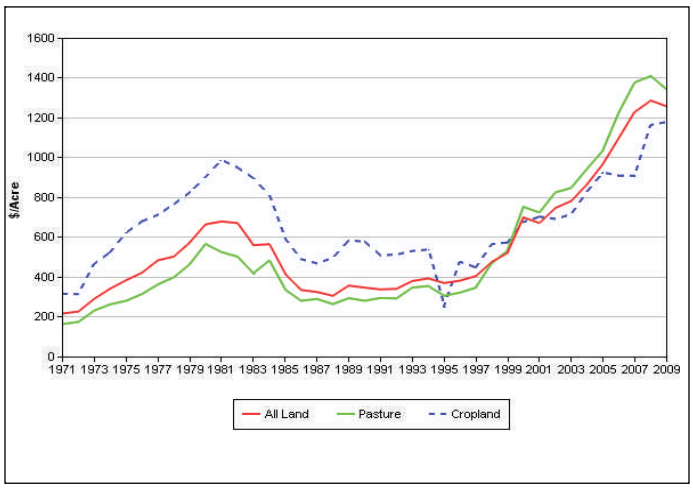
Table 2. Bermuda Hay—Two Ton Forage costs per acre

While historically cropland has been worth more than pasture, pasture land began commanding a premium in eastern Oklahoma in the early 1990s. In western Oklahoma where agricultural land is predominantly cropland, cropland still commands a premium but the gap is narrowing over time. For more specific regional and local data, see www.agecon.okstate.edu/oklandvalues. Landowners expect an adequate rate of return for their capital investment and compensation for rising ownership costs such as property taxes.

The value of agricultural real estate devoted to forage production in Oklahoma has also risen dramatically in recent years (Figure 1). This data focuses on Tracts>= 40 Acres and <= $3,000 per Acre, Annual Average. Cropland and pasture tracts are defined as having 85%+ cropland and pasture utilization, respectively. All land values include sale tracts that were not defined as either pasture or cropland. Caution is advised when analyzing average annual land value patterns and trends during 1995 and 1996 due to minimal sales data available.

Hay on Shares: What is a Fair Division of the Crop? (cont.)

Figure 1. Oklahoma Agricultural Land Values



Examining itemized costs and identifying which party is contributing them is an excellent way to assist both parties in developing a fair hay share lease agreement. For more information, see: AGEC-215 Developing Share Lease Agreements for Farmland (http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-1778/AGEC-215web.pdf).

When it comes to lease agreements, there is no one size fits all forever. Crop share agreements can be an excellent means by which resources and risks are shared and efficiencies gained. While harvesting expenses may differ little on a per acre basis if yields on native and improved pasture are not significantly different, costs of production are much higher on improved pasture.

Finally, a reminder: it is always a good idea to develop a written lease agreement. It serves as a communication tool between parties plus provides the legal documentation needed for dispute resolution, estate case settlement and other purposes. For free downloadable sample lease forms, see Midwest Plan Services (http://www.mwps.org/).

Does Preconditioning Pay? A Benefit-Cost Decision Tool

Kellie Curry Raper, Livestock Marketing Specialist, Eric A. DeVuyst, Farm Management & Production Management Specialist, and Daniel Stein, OSU Animal Science

Much attention has been given to the concept of preconditioning beef calves before moving them through the supply chain from the cow-calf producer to the stocker or feedlot phase. A preconditioning program for calves encompasses not only health and management practices such as long weaning (typically 45 days before marketing), breaking calves to eat from feed bunks, and a series of vaccinations (e.g. respiratory, blackleg), but also the common processing practices of castration and dehorning. The Oklahoma Quality Beef Network is one example of a certified preconditioning program with marketing opportunities offered through special value-added calf sales (http://www.oqbn.okstate.edu). While it is unknown exactly how many Oklahoma calves are marketed as preconditioned calves (certified or uncertified), estimates suggest that less than 5 percent of calves in Oklahoma were enrolled in any type of value added marketing program in 2007, including preconditioning programs (McKinney, 2008).

Research has shown that home-raised calves managed with a preconditioning protocol before marketing will generally perform better as stockers and/or feeders (Lalman and Smith, 2002). In a survey of feedlot owners, Avent, Ward and Lalman (2003) reported that managers saw significant advantages in performance from preconditioned calves, ranging from reduced health costs to improved feed conversion. For many, that improved performance translates to a willingness to pay a premium for preconditioned calves over non-preconditioned calves.

But what's in it for you? From a producer perspective, preconditioning not only results in physical benefits for the calf and performance benefits for the stocker or feedlot owner, but it also results in the producer selling additional weight. Typically, spring born calves are weaned in early to mid-October and delivered to market. Calves entering a preconditioning program are usually kept on the ranch an additional 45 days through late November or early December. Those additional pounds gained during the preconditioning period are often sold as market prices begin a seasonal upswing. Donnell, Ward and Swigert (2007) found a seasonal price upswing between mid-October and early December in 12 of 15 years in the Oklahoma City market.

Of course, preconditioning is not free. Many producers who do not precondition calves before marketing are not convinced that the value gained outweighs the cost incurred.

Does Preconditioning Pay? A Benefit-Cost Decision Tool (cont.)

Benefit-Cost Worksheet

A spreadsheet budgeting tool for estimating the returns of preconditioning calves for an individual producer was developed in MS Excel 2007. Most features, other than formatting, are compatible with previous versions of MS Excel. The worksheet, seen in Figure 1, has two components: Revenue and Expenses. Net Returns from preconditioning are reported on a per head basis. The user provides information in some cells; others are automatically calculated by the program.

The Revenue portion allows the user to input expected prices, expected gains, and days held beyond weaning. The information provided by the user is used to estimate revenue with no preconditioning and revenue if calves are marketed as preconditioned calves. Primary components of additional revenue garnered from preconditioning are price premiums and additional pounds sold.

The Expenses section requires that user enter relevant costs, including interest costs, for retaining calves beyond weaning in a preconditioning protocol. The spreadsheet tool is designed such that producers can individualize expenses to fit their particular operation. Producers have the option of entering feed price on a per pound or per ton basis. Preconditioning calves also requires additional labor. Preconditioning programs typically require a program ear tag. In the case of OQBN, the tag cost is $1/head. Additionally, for some producers, extracting the maximum benefit from a preconditioning program may mean they will market those calves in a different location than they typically market their calves. The tool allows producers to capture any additional transportation costs attributable to a change of marketing locations.

This program was developed to analyze returns from participation in OSU's VAC-45 program, called OQBN. Producers are encouraged to discuss marketing options with their local Extension educator.

Scenario description									
			13-Jan-11						
Revenue									
Calf weight at weaning	lbs	475	Market price at weaning				$/cwt	$ 135.00	
Market value at weaning								$ 641.25	
Days in preconditioning	days	45	ADG during preconditioning				lbs/day	1.00	
Sale weight	lbs	520	OQBN sale price				$/cwt	$ 140.00	
Market value at OQBN sale								$ 728.00	
Change in market value due to preconditioning ($/head)									$ 86.75
Expenses									
Vaccinations							$/head	$ 6.00	
Labor							$/head	$ 1.00	
Added transportation expense							$/head	$ 4.00	
Wormer							$/head	$ 0.50	
OQBN compliant ear tag							$/head	$ 1.00	
Feed expense									
Bermuda hay	Days fed	38	lbs/day	12	$/ton	$ 100.00	$/head	$ 22.80	
Bermuda hay	Days fed	7	lbs/day	6	$/ton	$ 100.00	$/head	$ 2.10	
Corn gluten pellets	Days fed	7	lbs/day	2	$/lb	$ 0.09	$/head	$ 1.26	
Soy hull pellets	Days fed	7	lbs/day	2	$/lb	$ 0.09	$/head	$ 1.26	
Wheat midds pellets	Days fed	7	lbs/day	2	$/lb	$ 0.11	$/head	$ 1.47	
	Days fed	0	lbs/day	0	$/lb	$ -	$/head	$ -	
Interest expense	Interest rate			5.0%	%		$/head	$ 4.35	
Total expenses during preconditioning ($/head)									$ 45.74
Change in net return due to preconditioning ($/head)									$ 41.01

Figure 1. Oklahoma Quality Beef Network Budgeting Tool Input Screen

Summary

Given the low adoption rate of preconditioning in Oklahoma, the OQBN program was established to provide Oklahoma cow-calf producers with brand-neutral access to a preconditioning program, education and supporting research. The worksheet described here provides a tool for producers to analyze the expected returns from preconditioning. The free worksheet can be downloaded at: www.agecon.okstate.edu/faculty/publications/3943.xlsx. If you have questions regarding the program, contact Eric A. DeVuyst, 405-744-6166, eric.devuyst@okstate.edu.

New and Updated Publications for Cattle Producers

- The Effect of Grazing Past First Hollow Stem on Wheat and Stocker Profits, AGEC-265
- Ad Valorem Taxes, AGEC-795
- On-Farm Ethanol Production Regulatory Guide, AGEC 1019
- On-Farm Biodiesel Production Regulatory Guide, AGEC-1020
- E-Commerce and Sales Taxes: What You Collect Depends on Where You Ship, AGEC-1022
- Crop and Forage Recordkeeping Software, CR-2133
- Oklahoma Quality Beef Network Budgeting Tool, January 2011

OSU fact sheets are available at:
http://osu acts.okstate.edu

Enter the publication number or topic in the Search field at the top right of the screen on the website.

Also, don't forget to look for resources on Beef Extension.com where you find not only publications but also software tools.

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