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Rotating Deworming Products

Earl H. Ward, Area Livestock Specialist

Many things that we do in agriculture fall under the rule of “if it ain’t broke, don’t fix it.” For this rule to exist it must be true, or at least true most of the time. We all find those products that work, and we tend to use them over and over. This is a great practice for buying the right leather gloves, Wrangler jeans, or an OI Timer pocket-knife. However, when it comes to controlling internal parasites in cattle, we need to find a couple of products that work effectively and throw those parasites a curve ball every now and then.

In the fall of 2020, OSU Extension assisted the Oklahoma State University College of Veterinary Medicine with trying to find parasite resistance to current deworming products. Two herds from northeast OK were selected to help provide data back to the study, one herd in Okmulgee County and another in Adair County. Each location provided 20 to 30 calves where fecal samples were collected from each animal prior to deworming and two weeks post deworming. Both herds have historically been dewormed with name brand doramectin pour-on dewormer and that is what was also used in this study.

A fecal egg count reduction test (FECRT) was performed on the fecal samples with hopes of a major reduction in the infestation of internal para-

sites. A FECRT of 90-95% means the parasite treatment was effective while anything less than 90% indicates resistance.

The herd in Okmulgee county had an average pretreatment egg count of 423 eggs per gram (epg) and an average post-treatment count of 276 epg. These results show a percent reduction of 34.6%, which is far from the effective level of 90%. The Adair county herd displayed even more resistance with an increase in egg count from an average of 185 epg pretreatment and a post-treatment of count of 199 epg. This indicates a significant resistance to the doramectin pour-on within these two herds.

This does not mean that this product is no longer effective, it just means that the parasites are growing “immune” to the treatment. So now is the time to rotate to another effective treatment. Rotating those chemicals every year or so will help to ensure that the internal parasites never can evolve into “super parasites.” This study was looking at cattle, but the same principle applies to equine, small ruminants, and all classes of livestock. Consult with your veterinarian about a deworming strategy that best fits your animals.



Evaluating Alternatives to Save on the Winter Feed Bill

David Lalman, Professor and Harrington Chair, Oklahoma State University

Feed costs are going to be substantially higher this year. Now is the time to evaluate supplementation alternatives to make sure cattle performance goals are met at a minimal cost. Where to start? First, heifers and cows should be managed through the fall and winter to ensure herd-average body condition is a minimum of 6 for heifers and 5 for cows. This is one of many key fundamentals taught in the Master Cattleman program. If you need brushing up on your body condition scoring skills, be sure to check fact sheet [ANSI-3238](#) or chapter 20 in the [Beef Cattle Manual](#).

Next, you need to have a good idea of the nutritive value of the forage base the cattle will have available. Book values for numerous forages and feeds are provided in chapter 17 of the [Beef Cattle Manual](#) and in fact sheet [AFS-3018](#), “Nutritive Value of Feeds”. Of course, if you will be feeding a substantial amount of harvested forage, a nutritive value test is the surest way to determine forage nutritive value in your specific situation. Per sample costs run from about \$8 for protein only, up to around \$100 for a complete wet chemistry profile to include in vitro digestibility (your sample incubated in rumen fluid for 48 hours), fat, starch, a complete mineral profile, and so on. Most laboratories provide protein, energy, and a mineral profile for less than \$40. How do you find a reputable laboratory to work with? The [National Forage Testing Association](#) has provided a laboratory certification service since 1984 for the purpose of improving the accuracy of forage and feed testing. Each participating laboratory is tested six times each year. Qualifying laboratories are [listed](#) on the NFTA web site along with each laboratory’s performance grade.

The way you sample matters! Do not simply grab a wad of hay from a few bales, “mix” it up a little in a bucket and send it in. The NFTA provides

excellent guidance on [sampling procedures](#) required to get accurate, consistent results from the laboratory. Use a hay probe and sample at least 20 bales in different locations in the stack. Keep your probe sharp and do not use a probe with a slanted cutting tip. The sharp edge of the cutting tip should be 90 degrees relative to the shaft so that more rigid stems are not pushed aside. Cores should be made 90 degrees to the butt end of the bale and reach from 14 to 24” into the center of the bale. Twenty probes (of dry hay) should generate about ½ pound of sample, and that is an ideal amount for the laboratory to work with.

The second step is to use a nutrition evaluation program to assist in developing and evaluating your nutrition program. [OSU Cowculator](#) is a free, easy to use, Excel-based program designed to do just that. Cowculator is a powerful decision-making tool. It allows you to combine information about the nutrient content of your forage and concentrate feeds with specific conditions, class of animal, level of desired performance, body condition, mature weight, breed, etc. Extension educators, feed industry experts, and veterinarians can provide guidance if needed to get you started. Fact sheet [AFS-3280](#) provides detailed instructions on using Cowculator.

I’ll close with an example to demonstrate one way forage test combined with a nutrition evaluation program can improve your confidence, and perhaps accuracy, in decision making. At our cow/calf research unit, rain delayed harvest of a bermudagrass field until mid-July. The field was heavily fertilized and thus, the combination of ample rain and good fertility yielded a lot of mature hay, testing 6.6% protein and 49% TDN. I used Cowculator to evaluate the cost of using this lower quality hay for our first-calf heifers through the third trimester. By the time protein and energy supplement was

Evaluating Alternatives to Save on the Winter Feed Bill (cont.)

included to ensure weight gain and maintenance of good body condition, the daily feed cost was \$1.56. This assumed the hay valued at \$74 per ton (yes, probably too high). A neighbor had just harvested second-cutting hay testing 9% protein and 58% TDN. He said it was for sale at \$90 per ton. It sounded expensive to me. However, Cowculator indicated no supplement was required to achieve nearly identical performance when the heifers were fed this nice quality hay. I simply bumped the price of the high-quality hay in the feed list until I arrived at the break-even daily feed cost of \$1.56. At the end of the day, my neighbors

hay was worth \$115 per ton in this specific situation.

As a graduate (or current participant) of the OSU Extension Master Cattleman program, I hope you will take the time to consider winter supplementation alternatives. Apply a few key fundamentals, such as body condition scoring, forage testing, and a nutrition program evaluation using a program such as Cowculator. Not only are you likely to learn something about beef cow nutrition, you also might save some money while achieving cattle performance goals.

Mixed Species Grazing—Something to Consider

Courtney Bir, Extension Specialist, Oklahoma State University

With tighter margins and uncertainty in the markets, many cow-calf operators are looking for new ways to diversify their operations. What if you could diversify while controlling for red cedar and other woody plants? Eastern redcedar trees are taking over grazing land in the southern and central Great Plains. Eastern Red cedar trees can cause significant amounts of loss to livestock production by limiting the amount of forage growth by shading grass. Water that would otherwise be used for the growth of forage for grazing is used by woody plants. Woody plants also reduce access to forage that is produced. In order to maintain profitability of cattle operations on rangeland, red cedar growth must be managed.

There are many ways red cedar encroachment is managed, including grazing management, herbicide use, prescribed fire, manual removal and mixed-species grazing. Each of these management practices has varying levels of effectiveness and costs. Mixed species grazing offers an opportunity for reducing red cedar control costs while possibly increasing profitability of the grazing operation.

Mixed species grazing combined with prescribed burning may provide red cedar control and economic benefits that exceed those of either practice individually.

Both breeding goats and stocker goats can be utilized in a mixed-species grazing operation. In our preliminary analysis we consider both options. Please note that you may make different decisions regarding purchase time, weaning length etc. that may impact the profitability of these two choices for your operation. Goats have a gestation period of 150 days; therefore, if bred in October, they will kid in March and the kids can be sold in June. This assumes a weaning period of 60 days. Does generally have kid crops of 150% - 180%, meaning that, even when retaining does as replacements and accounting for death loss, kids sold should be greater than the number of does bred. The sale price of goats varies throughout the year, with a high price in February through April and low prices in August and September. While producers would like to capture the high market prices in late winter and early spring, goats are seasonal breeders and

Mixed Species Grazing—Something to Consider (cont.)

producing kids to sell at the seasonal peak price is often not realistic. For our analysis, we assumed kids will be sold in June, at a price of about \$2 per pound based on historical prices. It is important to note that the sale price can differ from year-to-year.

There are additional costs related to the use of mixed-species grazing. Initially a herd of goats will need to be purchased, including a sufficient number of does and one buck for every 25-35 does. The original purchase of goats will be a significant upfront cost, but if doe kids are retained as replacements, this will be a one-time cost. The mixed-species grazing operation will be most effective if patch burning is utilized as well.

A large cost related to introducing a goat operation is the cost of building a new fence which can hold goats. The fence cost used in this study was about \$3 per foot for 4X4 woven wire fence, the total cost to fence the 180-acre pasture in this study was around \$33,000. 4X4 woven wire fence is a very effective fence for containing goats, but other fences such as electric wire can be used and may also be effective. Depending on the current state of the cattle fence, fencing may only need to be improved, or a new fence may need to be built. The cost of fencing may vary greatly based on your current farm setup.

The goats will also require medical care, feed and labor, especially during kidding. Medical care needed can vary greatly between goat herds, but the cost for vaccinations will be around \$2 per-head per-year. We assumed each breeding goat will require three hours of human labor each year at a cost of \$10 per hour. A livestock guardian dog should be purchased to mitigate the losses due to predation of both kids and adult goats. The livestock guardian dog will have some monthly maintenance costs such as dog food and medical care. The current cost to purchase a livestock guardian

dog is \$1,000 and annual costs maintenance costs are about \$500. Budgets for meat goat and stocker goat production are available at <https://extension.okstate.edu/programs/farm-management-and-finance/budgets/index.html>.

Preliminary analysis show that mixed-species grazing can increase profitability of the enterprise, as well as manage the state of rangeland more effectively than other control methods. Early research results show that the mean net present value of the breeding operation with prescribed fire is about \$16,000 greater than traditional management. Net present value is a way to compare the profitability of two operations while accounting for time.

Analysis of the goat stocker scenario was not promising. Due to the cost of buying goats every year, the stocker goat scenario was not profitable. However, this may not be the case for all operations or all years. In order to control red cedar we assumed the producer would be purchasing stocker goats in the spring/summer. Unfortunately, this also coincides with high goat prices. We considered two scenarios, selling the stocker goats in September or November, the time of year when goat prices are low. Operators may be able to purchase and sell stocker goats at more favorable times to increase profitability, but they may be giving up some woody plant control that the goats provide given our assumptions.

It appears that mixed-species grazing can be a profitable and effective method for control of woody plant encroachment, if breeding goats are used, given the assumptions of this analysis. As research on this topic continues, such as the research being performed at Oklahoma State University, more definitive results will determine the efficacy of mixed species grazing for woody plant control.

Pastureland Values in Oklahoma

Roger Sahs, Extension Specialist, Oklahoma State University

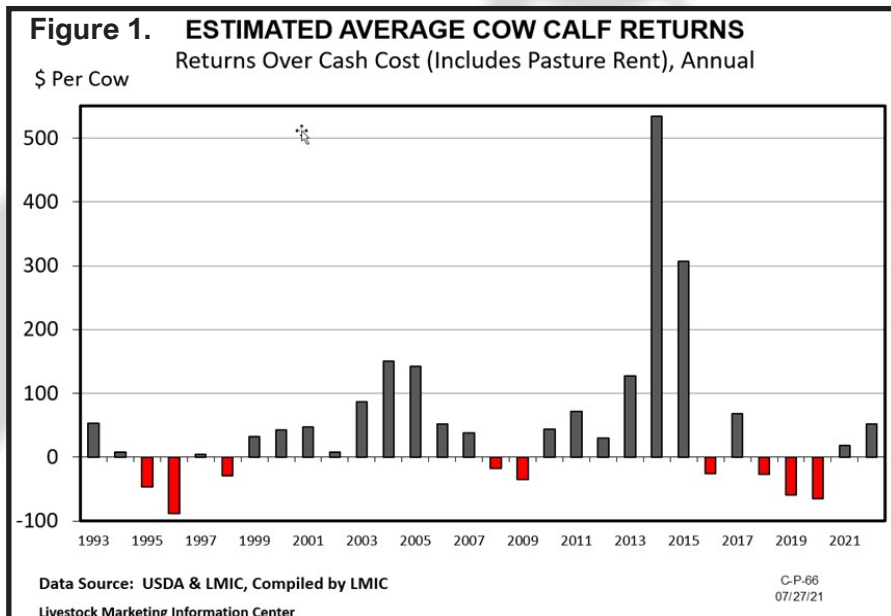
The latest trends and patterns in Oklahoma's agricultural real estate landscape have been updated through 2020 and can be found at: <https://extension.okstate.edu/programs/farm-management-and-finance/oklahoma-land-values/>. The website has been revamped and we hope you will find it useful as a go-to source of information on the land markets. Statewide statistics, regional comparisons, and county summaries are presented in chart and tabular form. Per acre values shown for pasture are averages of tracts comprised of 85%+ pasture, respectively. The Farm Credit Associations of Oklahoma provided data covering over 1000 sales tracts which are representative of the 2020 agricultural land transfer market. These market-based estimates provide a perspective into the characteristics of recent sales as well as benchmark indicators for studying trends over time.

The recent performance by the livestock economy (namely cattle) and future earnings expectations carry a great deal of weight on the pastureland market in Oklahoma. Pasture values grew a modest 2.5% last year on top of 4.4% in 2019. According to the OSU study, this is the seventh consecutive year that pastureland has outperformed cropland on a percentage basis. Given the adverse effects from COVID-19 the pastureland markets were resilient in 2020. Fortunately, we re-

main in a historically low interest rate environment that provides support by lowering operating costs and makes it less expensive to finance major capital purchases like farmland. Farm earnings were enhanced by federal stimulus payments available to the agricultural sector. Returns to the cow-calf sector are expected to improve going into 2022, according to the Livestock Marketing Information Center (See Figure 1). These factors will continue to provide additional support and positive price

pressure on the pastureland markets going forward.

There are additional sources of land value information available that provide further insight into the markets. Reports by USDA-NASS ([https://](https://www.nass.usda.gov)



www.nass.usda.gov) and the Federal Reserve Bank of Kansas City (<http://www.kc.frb.org>) are survey-based impressions of the market. They complement our study by presenting an interesting comparison and contrast when exploring the dynamics of the land markets.

In conclusion, cattle prices and expected farm incomes plus the financial health of prospective buyers will all determine pastureland trends in 2021 and beyond. Much depends on any potential headwinds from COVID and its variants on the national economy. Obviously, it's a situation that bears watching.

Removing the Risk—Even One Practice at a Time

Kellie Curry Raper, Livestock Marketing Specialist, Oklahoma State University

Value-added programs begin by removing some of the RISK that buyers assume exists in a specific group of cattle.

At a recent extension meeting, a producer in the group inquired whether one preconditioning “program” was better than another. While preconditioning programs do have some differences in requirements, protocols, marketing, and even premiums, the value to the producer- and to the beef supply chain as a whole - is in the practices.

Moving calves off the ranch to market them increases their stress level and consequently also increases their susceptibility to illness. Preconditioning programs include a bundle of calf health

operation, your resources, and your market expectations. Free preconditioning budget tools are available for download at extension.okstate.edu under Farm Management and Finance as well as under Beef and Oklahoma Quality Beef Network.

For cow-calf producers, calves are the product of your operation. You don’t have to have a lot of cattle to take advantage of value-adding management practices. Anything that can add positive net value to your calves is worth considering, whether it is one practice or a whole bundle and whether it’s half of your calves or all of them. Table 1 reports estimated premiums and discounts across several practices and bundles. Assess your resources and see what’s possible for you. Can you round up help

	Premium/ Discount	Per cwt	Per head (~500 lbs.)	Source
Uncastrated	Discount	\$6-\$12/cwt	\$30-\$60	Williams et al 2014 (Oklahoma Auctions)
Horns	Discount	\$3-\$6.30/cwt	\$15.75-\$31.50	Russell et al 2015; Williams et al 2014 (Oklahoma Auctions)
Weaned	Premium	\$5.13	\$25.65	Williams et al 2014
Vaccinated, Unweaned	Premium	\$1.82/cwt	\$9.10	Superior Livestock
Vaccinated, Weaned	Premium	\$5.04-\$5.36/ cwt	\$25.20-\$26.80	Superior Livestock; Williams et al 2014 (Oklahoma Auctions)
Castrated, 45 day weaned, Vaccinated, Dewormed, Feed- bunk ready, Certified	Premium	\$11.34/cwt	\$56.70	OQBN Data, 2019

management practices done on the ranch prior to sale that helps build a strong immune system and lessens the stressfulness of that transition. The most common practices bundled together for preconditioning are castration, horn management, respiratory and clostridial vaccinations, parasite control, feed bunk training, and a minimum weaning period of 45 days. Preconditioning has positive impacts on calves’ performance as they move through the system. Budgeting tools are available to help you estimate preconditioning revenue, cost and net returns. These budgets are customizable to your

to castrate? To administer vaccinations? Can you trade labor with a neighbor and help each other out working calves? Do you have a place to hold weaned calves away from mama cows for 6 weeks or more? Are there practices that you’ve considered, but you’re unsure of your ability to do it? If you need information on the timing or the implementation of certain practices, contact your local County Extension Educator for resources. Other experienced cattlemen are good resources too.

Certainly, there are preconditioning programs around that are easily accessible, regardless of

Removing the Risk—Even One Practice at a Time (cont.)

herd size. Oklahoma Quality Beef Network is one of those and information is available through your county OSU Extension Office. Some livestock auctions have implemented their own preconditioning program. Most breed associations also have accessible preconditioning programs. That said, you can

start improving your bottom line – and ultimately the quality of your product – by removing some of the risk that buyers assume are present in your cattle, even one practice at a time.


Beef Cattle Manual, 8th Edition (2021) Now Available

The *Beef Cattle Manual* has been called the Beef Bible by some. If your copy is worn out and you'd like to replace it or if you'd just like to have the latest version, the *Beef Cattle Manual's* Eighth Edition (2021) is now available to the public for purchase on Oklahoma State Marketplace at \$35 plus shipping. With the 8th Edition, a Spanish translation is also available for the first time in the *Beef Cattle Manual's* history at the same price as the English version. If you know someone who would benefit from having access to the *Beef Cattle Manual* in Spanish, please share this information with them. And finally, who doesn't love a bargain! The *Beef Cattle Manual*, 7th Edition published in 2015 is now available for only \$15 plus shipping.

To purchase manuals, QR codes are available below. Scan the code with your phone or iPad for

the manual that you wish to purchase. Follow the link that pops up on your screen and you can input your order information there. Alternatively, search "Oklahoma State Marketplace" and then click on the "Agricultural Economics" tab. Scroll down to find the three versions of the Beef Cattle Manual – the new 8th edition, the Spanish version of the 8th edition, and the 2015 7th Edition. Click the one you wish to purchase and complete the order!


Remember that while the Beef Cattle Manual is used for the Master Cattleman program, anyone can purchase the Manual as a beef cattle production resource. So please feel free to share this information with a friend.



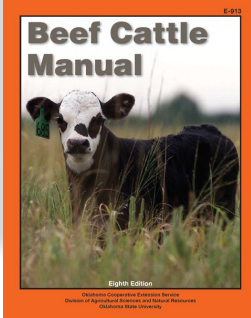
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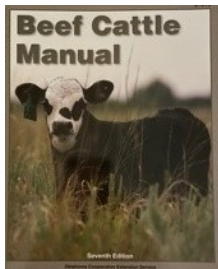
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8th Edition



SCAN ME



7th Edition

Oklahoma Quality Beef Network Vac-45 Fall Sale Schedule

LOCATION	SALE DATE	45-DAY WEAN DATE	60-DAY WEAN DATE
OKC West (El Reno)	Nov. 9, 2021	Sept. 25, 2021	Sept. 10, 2021
	Nov. 30, 2021	Oct. 16, 2021	Oct. 1, 2021
	Dec. 14, 2021	Oct. 30, 2021	Oct. 15, 2021
	Jan. 25, 2022	Dec. 11, 2021	Nov. 26, 2021
Cherokee Sales Co.	Nov. 3, 2021	Sept. 19, 2021	Sept. 4, 2021
McAlester Stockyards	Sept. 28, 2021	Aug. 14, 2021	July 30, 2021
	Nov. 9, 2021	Sept. 25, 2021	Sept. 10, 2021
	Feb. 8, 2022	Dec. 25, 2021	Dec. 10, 2021
Payne County Stockyards	Nov. 17, 2021	Oct. 3, 2021	Sept. 18, 2021
Pawnee Livestock	Nov. 6, 2021	Sept. 22, 2021	Sept. 9, 2021
Woodward Livestock	Nov. 18, 2021	Oct. 4, 2021	Sept. 19, 2021
Southern Plains Livestock	Nov. 20, 2021	Oct. 6, 2021	Sept. 21, 2021

FOR MORE INFORMATION OR TO SIGN UP
Jeff Robe • 405-744-4268 • jerobe@okstate.edu

Kellie Curry Raper
Agricultural Economics
kellie.raper@okstate.edu



OSU EXTENSION
MASTER CATTLEMAN

David Lalman
Animal and Food Sciences
david.lalman@okstate.edu

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