



Master Cattleman Quarterly

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Oklahoma Quality Beef Network – A Marketing Opportunity

Kellie Curry Raper, Professor and Livestock Marketing Specialist

If you are looking for ways to market your management for higher revenues, considering marketing calves through the Oklahoma Quality Beef Network (OQBN). OQBN is a third-party certified VAC-45 preconditioning program offered through Oklahoma Cooperative Extension. Extension Specialists guide producers through the calf health management protocol to qualify for certification and eligibility to market through OQBN.

OQBN's 2021 fall marketing season included 10 fall sales across 7 Oklahoma livestock markets. Total enrollment included 2,674 head and 63 producers, with 1,633

head marketed through OQBN VAC-45 certified sales. Note that high heat and dry weather conditions in late summer and early fall

led to fewer calves enrolled in the OQBN program in 2021 as many producers were without available resources to begin preconditioning programs.

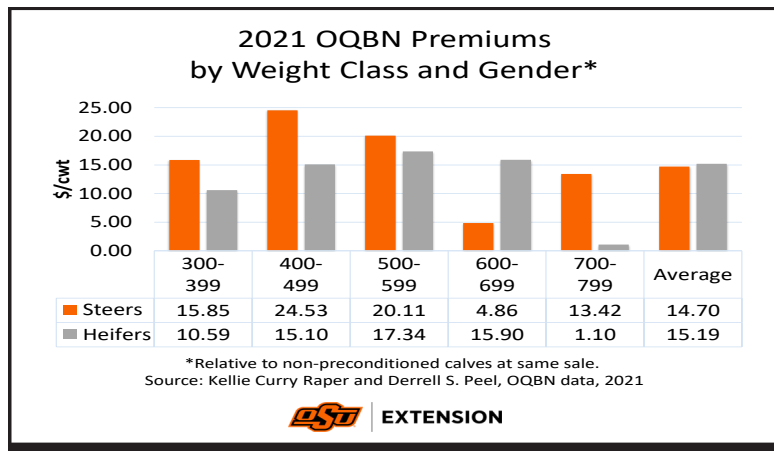
Though OQBN numbers were smaller than usual, market premiums over nonpreconditioned calves averaged \$14.70 per hundredweight for steers and \$15.19 per hundredweight for heifers. Figure 1 illus-

trates average premiums per hundredweight as well as premiums by weight class for both steers and heifers. Premiums are calculated from data that included 11,027 head marketed in 1,352 total lots: 228 OQBN lots and 1,124 non-OQBN lots. Premiums appeared stronger at sales where more OQBN calves or other program calves were present, likely drawing in a larger audience of buyers to compete for preconditioned calves.

While there are no guarantees when it comes to markets and there are costs to preconditioning cattle, research on past OQBN data indicates that the probability of positive net returns for certified preconditioning is

80%. Those are pretty good odds. OQBN has no minimum requirement on number of head enrolled, so the program is accessible

to all producers, large and small. More information about the OQBN protocol, past market premiums, upcoming marketing opportunities, program enrollment and Extension educator contact information can be found at <https://extension.okstate.edu/programs/oklahoma-quality-beef-network/>.



Sometimes Right Isn't Equal, Sometimes Equal's Not Fair

Shannon L. Ferrell – Extension Specialist, Agricultural Law

If you haven't listened to the song S Lazy H by Corb Lund, stop reading this article and go do it, right now. And as you're doing it, listen closely to the lyrics. It is a ballad of the challenges of trying to split up a working ranch between a child who wants to continue the operation, and an off-farm child who simply feels entitled to half the value of the enterprise as an equal heir of their parents. I love the song, but have a hard time listening to it without developing a slight leak around my eye-gasket because the song is simply heart-breaking in its accuracy.

My friend and former student Garrett Reed decided to take the story of the S Lazy H a step further in his masters research. Anecdotally, I knew that farms and ranches that had sought to transition their assets to the next generation of heirs in undivided interests among both on-farm and off-farm heirs had consistently met with disaster in the form of either broken farms, or broken families. But why? Garrett sought to find out. He used Kansas Farm Management Association data from real farms to develop a "prototypical" Oklahoma winter-wheat / cow-calf operation. He gave this farm an asset base of land, equipment, and livestock along with a balance sheet, income statement, and cash flows that were vetted with several Oklahoma lenders who confirmed that his operation represented a farm typical of a full-time commercial rancher. Then, Garrett compiled net farm income data spanning 20 years, and built a computer simulation that ran that farm through a 20 year period of the ups and downs in farm income. All of that laid the foundation for the centerpiece of his work: he wanted to see if such a farm could generate enough income to allow one on-farm heir who inherited a one-half undivided interest in the operation to buy out one off-farm heir and their undivided one half interest. He even played out two variations on this theme – one in which the on-farm heir used commercial loans to make the purchase, and one in a "family friendly" deal with an installment sale over 20 years and the lowest interest rate allowed by the IRS. In other words, could the farm survive this approach, or was it doomed to the fate of the S Lazy H?

Do you know what Garrett found? Over the course of literally thousands of simulation runs, the farm survived precisely zero times. Zip, zilch, zero-point-zero. Never. Sure, there were years here and there where the

farm generated enough income to service this considerable debt, but inevitably the variability in farm income would yield enough bad years in a row that there was simply no way to make it work. The farm, and the on-farm heir, would always be rendered insolvent.

And yet, over 64 percent of farmers and ranchers will choose this "split it down the middle" strategy. "Oh, but I love my kids equally so I have to give them exactly the same thing!" "Doing it this way is the only way to avoid a fight!" Folks, nearly twenty years of experience as an attorney, bolstered by Garrett's excellent research and simulation work, have firmly convinced me these arguments are absolute non-starters.

You may well love your kids equally, but that doesn't mean they have the same perspective on the farm. An off-farm heir receiving a share of farm assets is essentially being given a stock, and stocks only make money in one of two ways. They either pay dividends, or they are sold to harvest the equity value in the company. Most farms and ranches don't generate enough free cash flows to pay competitive dividend returns, leaving the off-farm heir to sell their interest to capture its value. However, this puts the on-farm heir in the position of having to incur a potentially huge debt load on top of the other financial demands of the operation. The economics for most operations simply don't work.

As for avoiding a fight... this strategy is virtually GUARANTEED to drive a wedge in the family. Either the on-farm heir will face significant additional challenges due to having to purchase the interest of the off-farm heir (an economically non-viable strategy) or they will have to deal with the "helpful input" of the off-farm heir in every farm management decision (an emotionally and psychologically non-viable strategy).

By the way, why do I say "at least 64 percent" of operators choose this approach? Because 64 percent of farmers and ranchers don't have any form of estate plan in place, and this is also the exact scenario that would come about through the intestate succession laws that govern estates with no estate tools.

OK, Ferrell, so what do you suggest we do? In our next article, we'll explore the five steps of the farm transition process that can help you engage your family, try to get them all on the same page, and avoid your farm being the subject of a tear-jerking ballad.

Oklahoma Farm and Ranch Custom Rate Update

Roger Sahs, OSU Extension Specialist

The costs associated with owning and operating farm machinery is a major expense for many farming operations. Knowing when to use custom operators is one of the most important decisions a farm manager can make in machinery management. Even for those services without machinery, like branding cattle for instance, information regarding custom rates can be valuable to both those hiring work done as well as those performing the custom work.

The OSU Agricultural Economics Department in cooperation with the USDA-NASS, Oklahoma Field Office, surveyed Oklahoma agricultural producers and custom operators during the fall of 2021 to determine rates charged for various farm and ranch operations. The results are published in Current Report-205, "Oklahoma Farm and Ranch Custom Rates, 2021-2022" The publication is available online and is mobile friendly at [https:// extension.okstate.edu/factsheets/](https://extension.okstate.edu/factsheets/).

Along with statewide averages, median values are also reported for western and eastern Oklahoma where sufficient responses were returned. While the reliability of the survey results improves as the number of responses increase, the information presented in the publication should only be used as a guide. The market for custom work usually does not cover all costs as some custom operators charge only for fuel and labor and rates tend to be lower between relatives, friends, and neighbors. However, reported rates are a good place to start for discussion as fair rates should be negotiated.

In general, the cost of doing business has gone up for many custom operators. Inflationary pressures felt in 2021 influenced the prices paid for labor, fuel, and supplies as well as machinery repair and ownership. One particular factor is the price of fuel which has captured the news headlines as of late. According to the

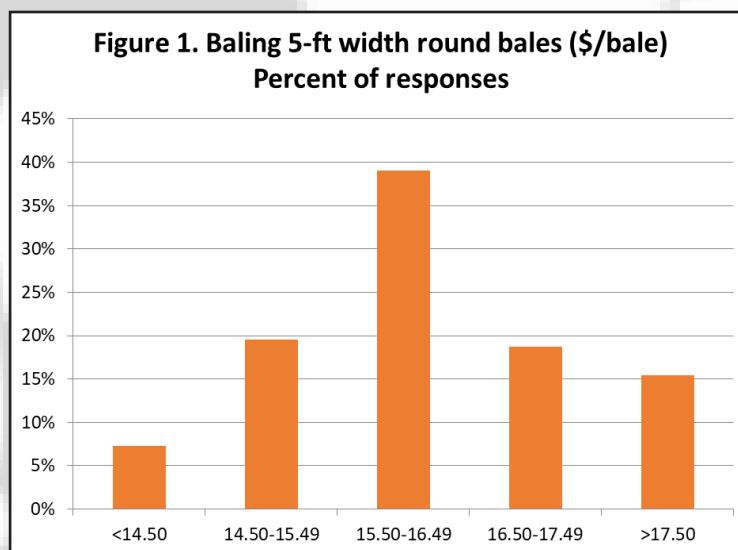
U.S. Energy Information Administration (eia.gov), on-highway diesel fuel prices rose 91 cents per gallon over the course of 2021 and have increased another 52% (\$1.78/gallon) so far in 2022. Research has shown that a price increase of \$0.50 per gallon generally will increase total machinery costs by 5% (everything else held constant). But we all know that everything else has not held constant, and therefore, in determining rates for 2022, custom operators and farm producers should consider their own cost structure and manage those costs accordingly.

Reported custom rates can be quite variable. For example, a distribution of 123 responses for baling round bales with a five-foot width is shown in Figure 1. The average rate was \$16.16 per bale and the median value was \$16. Seven percent reported a custom rate less than \$14.50 per bale, 20 percent reported a rate between \$14.50 and \$15.50 per bale, 39 percent

reported a rate between \$15.50 and \$16.50 per bale, 19 percent reported a rate between \$16.50 and \$17.50 per bale, and 15 percent of the respondents reported a custom rate greater than \$17.50 per bale. Rates for a variety of other field operations and working livestock activities are reported in the publication.

Machinery costs can be rather substantial and control of them is important. Operators are encouraged to record actual expenses since they tend to underestimate the full cost of ownership and operation of machinery. Given this information, they can use the worksheet in the custom rate publication to help decide whether to buy or lease machinery and equipment or custom hire work done.

If you have questions, ask your Area Agricultural Economics Specialist or contact Roger Sahs at roger.sahs@okstate.edu for additional information.



2022 Drought Will Impact Your Cattle Business for Several Years

Derrell S. Peel, OSU Extension Livestock Marketing Specialist

Although Oklahoma drought conditions have abated considerably the past few weeks, continuing drought across the country is pushing the cow herd sharply lower in 2022. Current U.S. pasture and range conditions are the worst ever for this time of year. Changes in the cow inventory will have significant impacts in the beef cattle business in the coming years. The current situation is reminiscent of 2011-2012 when drought-forced herd liquidation pushed cow numbers roughly a million head lower than the markets and producers intended.

Through the end of May, beef cow slaughter for the year-to-date is 15 percent higher year over year. With nearly half the year over, it is very likely that the annual beef cow slaughter total will be up by double-digits year over year. The most recent weeks of slaughter data have year over year beef cow slaughter increasing rather than decreasing as the reality of reduced pasture and hay production becomes clear moving into June. All of this is in addition to a 9 percent increase in beef cow slaughter in 2021 over the previous year (the result of drought) and a net herd culling of 11.6 percent. The beef cow inventory peaked recently in 2019 at 31.69 million before declining to the January 1, 2022 level of 30.13 million head. Drought, which began regionally in 2020, expanded and accelerated herd liquidation in 2021.

Figures 1 and 2 show how the dynamics of heifer retention and cow culling combine to determine changes in the beef cow herd inventory. Periods of herd expansion occur when heifer retention increases and cow culling decreases. In Figure 1 herd expansion (yellow shaded areas) occurs when the blue line (heifer retention) is above the red line (cow culling). Current beef cow slaughter suggests that herd culling in 2022 will be at least 13 percent, shown as the red dotted line in Figure 1. This would be a record level and well above the 20-year average herd culling level of 9.7 percent. All of this suggests that the beef cow herd will likely decrease by 3-4 percent year over year; a decline of over one million head in one year. This has not happened since the mid-1980s. Figure 2 shows the likelihood that the beef cow inventory in January 2023 will drop as low as the 2014 level of 28.96 million head or possibly even lower.

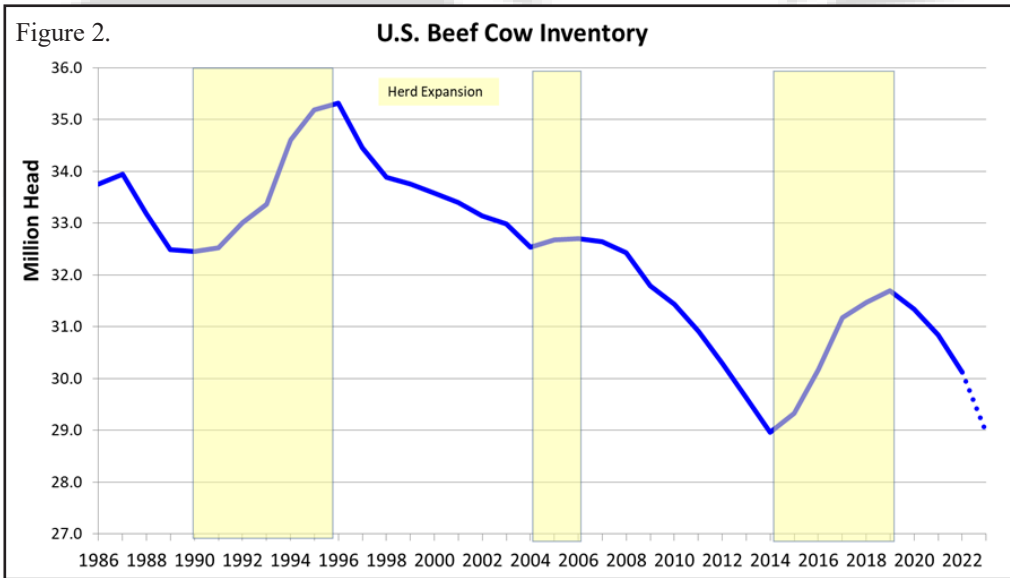
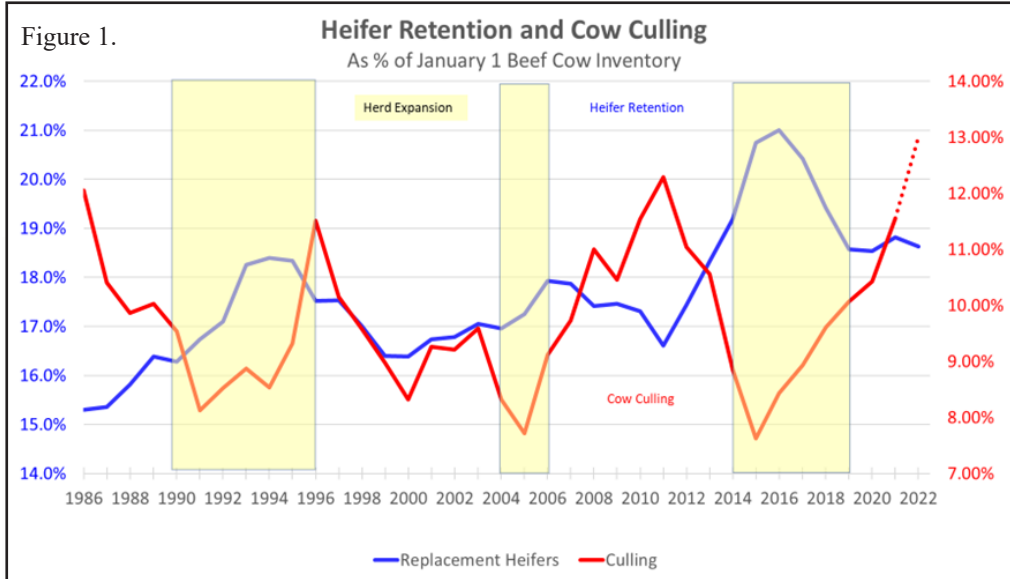
A sharply lower beef cow herd in 2023 will result in a smaller calf crop, reduced feeder supplies and

eventually reduced fed cattle production. All of this suggests general price support for cattle in the coming years. More importantly, at some point, possibly in 2023 or, more likely, in 2024, the cattle industry will attempt herd expansion. This could be very dramatic. In 2015, record large heifer retention and record low cow herd culling (Figure 1) resulted in the smallest cattle slaughter total since 1963 and led to a 22 year low in beef production. It also was the reason for record high cattle prices in 2014 and 2015. A similar situation is possible from 2023-2025 or 2026.

While we wrestle now with drought, high fertilizer, fuel and feed prices, it is a good idea to plan ahead for the coming tighter cattle supplies. The general trend for at least the next 2-3 years will be higher cattle prices. Sometime in the 2023-2026 period, feeder cattle prices will likely move sharply higher for a while, at least; and breeding cow and replacement heifer prices will also be sharply higher. The timing is uncertain at this point and the extent of market reactions will depend on a myriad of evolving economic factors including general macroeconomic conditions, global beef trade, wars and geopolitical uncertainty etc. in addition to the current uncertainty about how drought and feed/forage market conditions will change in the coming months.

FUN FACT: The beef cow inventory peaked in 1975 at 45.71 million head with total beef production of 23.67 billion pounds. The 2022 beef cow inventory is 30.13 million with record beef production in 2021 of 27.95 billion pounds. Today we produce 18 percent more beef with 34 percent fewer cows.

2022 Drought Will Impact Your Cattle Business for Several Years (cont.)



**Upcoming Event! Women in Agricultural and Small Business Conference
August 4-5th, 2022**

Join us for the 2022 Women in Agricultural and Small Business Conference at the Champion Convention Center in Oklahoma City! The conference will bring together women in the agricultural industry for learning and networking opportunities. Early registration fee is

\$75. After July 13 the registration fee will increase to \$125.00.

The full agenda and registration information is available at <https://extension.okstate.edu/events/women-in-ag/index.html>.

Tips to Handle and Administer Vaccines

Marty New and Dana Zook, OSU Area Livestock Specialists

It's no secret that input prices have inflated across the ag industry. One sector of the industry that has felt the pinch is the beef industry. More than ever, producers are looking for ways to increase efficiency and improve productivity. To address this, OSU Extension hosted 9 meetings across the state this spring that were focused on simple practices that can increase profitability. These practices included preconditioning, calf health, and improved vaccine handling.

Each topic was very well received but our vaccine handling session sparked some curiosity among producers, providing much discussion. Based on the response at our meetings, we felt it would be valuable to producers to offer some tips to better handle and administer vaccines and antibiotics on your farm or ranching operation.

- Establish and maintain a Veterinary Client Patient Relationship (VCPR) to develop a herd health protocol for your operation. A veterinarian can be your most valuable asset!
- Maintain a good record keeping system that works for your specific operation. Treatment records should include brand of vaccine, product type (vaccine, antibiotic, etc.), bottle size, expiration date, type of injection (SQ, IM, or IV) and person giving treatment.
- Purchase all vaccines and antibiotics from a reputable supplier (Veterinarian, Distributors, Retail Stores). Time the purchase of all products as close to treatment as possible.
- Read and follow the label of all vaccines and antibiotics used. Maximize effectiveness of the product by using proper dosage according to animal weight (when possible) and interval of treatment.
- Store all vaccines and antibiotics at 35 F to 46 F, unless otherwise noted on the label. This should include during transport from sup-



plier and at the processing site. A vaccine cooler can help keep vaccines at a constant temperature during travel or while using them chute side. Interested in making your own chute side vaccine cooler? Find detailed instructions at <https://extension.okstate.edu/fact-sheets/chute-side-vaccine-cooler.html>

- Use needles that are new, sharp, and the proper gauge for the product being used and animal being treated. Change needles every 10-15 head unless an alternative is recommended by your vet. Never enter a vaccine bottle with a used needle.
- Use all modified live vaccines within 1 hour after reconstitution. Reconstitute with a sterile transfer needle. Killed vaccines should be discarded 2 days after being opened due to the repeated introduction of air and needles. To preserve the integrity and effectiveness of all vaccines, prevent exposure to UV light.
- Proper cleaning of all equipment being using during processing can be achieved using the following steps.

1. Clean all exterior parts of syringes first.
2. Flush internal parts 10-15 times.
3. Use only hot water or distilled water for cleaning. Avoid soaps and chemical disinfectants.
4. Allow equipment to air dry in a clean environment.
5. Place in sealed bag to be ready for later use.
6. Following Beef Quality Assurance (BQA) guidelines helps maintain the safety of beef producers and preserves the quality and integrity of the beef product being produced.

Mineral Balance for the Breeding Herd

David Lalman, OSU Animal Science Professor

Grazing cattle generally benefit from a mineral supplementation program. Simple, right? After all, a well-balanced, cost-effective program only requires knowledge of vitamin or vitamin precursor, mineral supply from the forage base, vitamin and mineral element digestibility and availability, and the animals' vitamin and mineral requirements for their current age, stage of production, and mineral status (abundant vs depleted stores). Top it off with cattle's tendency to be finicky and unpredictable in mineral supplement consumption and you have a situation that one of my friends would refer to as "a conundrum causing great annoyance and displeasure".

Chief among the sources of uncertainty is the dynamic nature of forage vitamin/mineral supply and the cows' requirements - both moving targets. Obviously, the mineral program does not need to produce precise balance each month, which is just about impossible to achieve anyway. Nevertheless, a simple mineral balance exercise or audit should be helpful to a) give you some confidence in your current program, or b) reveal an obvious need for a change. A mineral balance exercise involves developing a simple, consistent record keeping system to track forage mineral composition and your cow herd's average or "normal" mineral consumption pattern during the same time of year. With this information, you can use a nutrition evaluation program to project deficiencies and/or excesses. You will need an idea of forage mineral concentration, an estimate of forage intake, a

current estimate of average daily mineral supplement consumption, and the mineral product's composition from the label. Most beef cattle nutrition evaluation programs provide an estimate of forage intake and an estimate of daily mineral requirements based on animal weight and stage of production.

As an example, Figure 1 shows the nutritive balance table for 1,200 pound lactating beef cows grazing lush spring tallgrass prairie forage and consuming 3.3 ounces per day of a commercial mineral supplement. You can quickly view the status indicators in the right column to determine where major gaps or excesses exist. In this example, these cows are projected to be about 7 grams per day short of sodium. Since salt contains 40% sodium, this suggests that these cows could use an additional 15 grams of salt or about 0.5 ounce

per day. There are several excesses identified in this example. Most mineral balance exercises in the Southern Great Plains are going to reveal excessive potassium and excessive iron due to high forage concentration of both minerals. The other revelation in this balance exercise is the considerable excess of selenium. Thus, the conclusion of this

Nutrient	Diet Concentration			Daily Amount		Status
	As Fed	DM	Required	DM	Required	
Diet DM	100%	-	-	-	-	-
TDN	70%	70%	-	23.8 lb	TDN:CP	5.00
ME, Mcal/lb	1.12	1.12	-	38.2 Mcal	-	-
NEm, Mcal/lb	0.71	0.71	-	24.4 Mcal	-	-
NEg, Mcal/lb	0.44	0.44	-	15.2 Mcal	-	-
NDF	68%	68%	-	4.8 lb	-	-
peNDF	61%	61%	7 - 20 Min	20.8 lb	7.0 pH	ADEQUATE
Crude Protein	13.9%	13.9%	-	4.76 lb	3.30 lb	ADEQUATE
Fat	3.2%	3.2%	-	1.09 lb	-	ADEQUATE
Calcium	0.39%	0.39%	0.28%	60.2 g	43.8 g	ADEQUATE
Phosphorus	0.23%	0.23%	0.18%	35.0 g	28.2 g	ADEQUATE
Sodium	0.06%	0.06%	0.10%	9.36 g	15.53 g	DEFICIENT
Potassium	1.60%	1.60%	0.60%	248.0 g	108.7 g	EXCESSIVE
Magnesium	0.27%	0.27%	0.15%	42.6 g	31.1 g	ADEQUATE
Sulfur	0.15%	0.15%	0.15%	23.3 g	23.3 g	ADEQUATE
Cobalt ppm	0.18	0.18	.15 ppm	2.8 mg	2.3 mg	ADEQUATE
Copper ppm	14.40	14.4	10 ppm	224 mg	155 mg	ADEQUATE
Iron ppm, mg	199.69	199.7	50 ppm	3101 mg	776 mg	EXCESSIVE
Manganese ppm	74.88	74.9	40 ppm	1163 mg	621 mg	ADEQUATE
Selenium ppm	0.26	0.26	.1 ppm	4.0 mg	1.6 mg	EXCESSIVE
Zinc ppm	45.65	45.7	30 ppm	709 mg	466 mg	ADEQUATE

exercise is that a) this mineral supplement is a good complement to this forage source for this time of year and b) one could blend about 10 to 15% salt with the mineral to better match the sodium requirement with intake and c) the selenium concentration in the commercial product could be reduced by about 50% if that were an option. It most definitely points out that there

Mineral Balance for the Breeding Herd (cont.)

is no need to purchase mineral product containing a greater concentration of selenium.

Several commercial nutrition companies provide services to conduct these balance exercises and follow up by recommending or manufacturing mineral formulations customized to your operation's needs.

In recent years, commercial livestock nutrition laboratories have incorporated mineral composition analytical services. For example, our lab here at OSU charges \$12 per sample to get macro and micro mineral information. Depending on your level of concern or interest, one might get started by conducting a winter feeding and summer grazing balance. A more ambitious approach might be to collect "hand-plucked" samples from one or more pastures each month. The idea of the hand-plucking method is to select only plants and parts of plants that you believe to represent what your cattle are currently grazing.

For the example given above, I used the OSU Cowculator nutrition evaluation program ([OSU Cowculator](#)). Similar programs are available through

animal science departments at the University of Georgia ([UGA Basic Balancer](#)), Iowa State University ([BRaNDS](#)), and University of Arkansas ([Mineral Profile Evaluator](#)).

These are great tools to simplify this process. The feed library allows one to enter their own forage nutritive values and mineral supplement products/formulations. The "Balance" page provides guidance to estimate daily forage consumption and then a place to input the amount of mineral the cows are expected to consume.

Consider collecting forage mineral composition and mineral supplement consumption data several years in a row to get a clear view of your operation's patterns over time. Using that valuable information, you can get a good idea of how well your current program or product matches your forage resource to meet your cow herd's needs.

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