



Ag Insights

From the Desks of Your Northwest Area Ag Specialists

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

September. 2019

LIVESTOCK EXHIBITOR BIOSECURITY PLAN

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Livestock exhibitions are an important part of agriculture in the United States. They provide an opportunity for people to participate in an activity focused on agriculture and the livestock industry. Exhibitions are also an important marketing tool for seedstock producers, providing an opportunity to showcase their animals and to evaluate breeding programs by directly comparing their animals with others. Finally, they provide a way to positively promote agriculture to the general public.

Though agricultural exhibitions serve an important function, they also represent a potential threat to the health of individual animals, the herds from which they originate and the industry they represent. In addition, the risk of disease transmission from animals to humans during livestock exhibitions must be considered.

Exhibitor's Checklist

- Contact the exhibition superintendent to find out what tests your animal must pass before attending the fair. Have your animal's health certificate and test results ready for inspection before checking in.
- Use your own truck or trailer to haul your animals. If that is not possible, make sure that the equipment used to haul your animals is clean and recently disinfected.
- Once you are at the fair, be sure your animals have access to clean water and feed in containers you provide.
- Avoid sharing grooming equipment and feed and water containers.
- Disinfect any shared equipment before it is used again at home.
- Minimize nose-to-nose contact with other animals.
- Keep your animals as comfortable as you can to help reduce stress.
- Discourage fair visitors from petting or feeding your animals. Signs can be posted asking visitors not to touch or feed the animals.
- Practice good personal hygiene. Wash with soap and water after handling your animals and put on clean clothes. Keep your boots and shoes clean. Make sure you don't track barn muck into your house.

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- Isolate all purchased animals and animals returning from an exhibition for a minimum of two weeks, but preferably for 30 days. Ideally, this would be in a completely separate place to avoid contact or airborne transmission of disease. If this is not possible, it should be a separate pen in a different building or at least a separate corner of the barn.
- Animals in isolation should be cared for after non-isolated animals to prevent spread of disease from animals that were comingled with other animals at exhibitions. Equipment and feeding equipment should not be shared between isolated and non-isolated animals. Clothing and boots should be changed after caring for isolated animals and before caring for non-isolated animals.

Have You Evaluated Your Mineral Program?

Britt Hicks, Ph.D., Area Extension Livestock Specialist

The proper balance of protein, energy, vitamins and all nutritionally important minerals is needed to make a successful nutrition program. Nutrient balance is the key to any effective nutrition program.

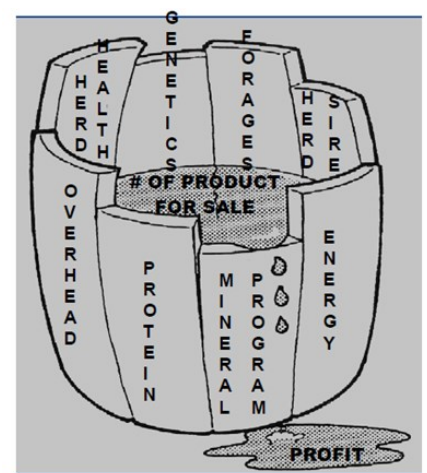
Minerals and vitamins account for a very small proportion of daily intake in cow diets and can be overlooked due to misunderstanding the importance of adequate mineral nutrition and because of the cost of supplementation. However, proper mineral and vitamin nutrition contributes to a strong immune system, reproductive efficiency, and weight gain. Mineral deficiencies often go undetected since visible reductions in performance are not visible immediately. In fact visible signs such as decreased bred back percentages may not show up till the following year. Even though forages may be green and lush providing adequate protein and energy, most all forages are deficient in one or more trace minerals.

As our knowledge of minerals grows, we are finding out that minerals may limit production in better-managed herds to a much greater extent than generally recognized. **The most limiting factor in an operation dictates productivity.** This concept is illustrated in the figure below. In this example, water is lost from the lowest slat in the barrel (mineral program) and the effect of other limiting factors (protein, energy, herd health, forage, genetics, etc.) would not be realized until the proper mineral program is provided. **In many operations, the mineral program is the most limiting factor.** In many grass pastures, phosphorus is frequently the most limiting nutrient. Whereas, in small grain pastures such as wheat or oats, calcium and/or magnesium are frequently more limiting.

Forage surveys have suggested that the trace minerals, copper and zinc, may be limiting nutrients in many situations. In national and Oklahoma forage surveys (~6,300 samples), the average copper and zinc levels were 6.2 and 23.4 ppm, respectively, as compared to suggested requirements of 10 and 30 ppm. In forage samples (1,113 samples) that I have collected over the last several years in Oklahoma and Texas, only 14.6% provided adequate zinc and 39.4% were adequate in copper. Cattle cannot perform to their genetic potential even if you meet over 100% of their protein and energy needs but fail to meet their mineral needs.

These surveys suggest that nearly all forages are deficient in one or more minerals and that there is a widespread occurrence of deficient levels of copper and zinc for beef cattle grazing forages. This is further complicated by the fact that the availability of minerals may be affected by the distribution and form of mineral in the feedstuff, as well as interactions with other minerals or dietary components that inhibit absorption or utilization of a given mineral. Research has shown that mineral deficiency

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cies in ruminants fed forages often result from low availability rather than low concentration of a given mineral. Just because minerals can be found in plants does not mean they are available to the animal. Soil mineral level, soil pH, climatic and seasonal conditions, plant species and stage of plant maturity all factor into mineral content and bioavailability in forages. For these reasons, it is important that cattle be on a good, balanced mineral program to optimize performance.

Feeding a trace mineralized salt block is not a complete mineral program. The high salt content (often 90 to almost 100 percent salt) limits consumption substantially. In addition, such salt blocks generally contain extremely low levels of trace minerals. Salt blocks are cheaper and if cattle only consume a very small amount of it that makes it even cheaper. But, they are not more economical because cutting costs by feeding trace-mineralized salt instead of a complete free-choice mineral supplement can cost you quite a bit in the long run.

In summary, adequate minerals should always be available in any operation. Recognize the role minerals play in good health as well as fertility and growth. Frequently, the first thing a producer cuts from his program during tight times is the mineral program. Cutting the mineral program is never recommended since minerals are important in maintaining reproduction and performance. Cutting minerals out of a feeding program may reduce cost in the short term but will reduce returns and effectively increase cost over the long term. Based on my personal research and field experience with minerals over the last 30 years, I am convinced that marginal deficiencies in minerals probably are more costly to producers than are the added profits from feed additive such as ionophores.



Leasing Land for Wildlife and Recreation

Trent Milacek, NW Area Ag Economics Specialist

Producers in Oklahoma have access to an abundant resource that is both valuable for rental income and allows them to continue using the land for farming practices. Hunting leases provide another revenue source while ensuring natural resources are managed and protected.

Hunting leases are a form of recreational leasing. Producers are encouraged to read the OSU factsheet NREM-5032 for detailed information on developing and marketing a hunting lease. The factsheet can be found at the following web address: <http://factsheets.okstate.edu/documents/nrem-5032-lease-hunting-opportunities-for-oklahoma-landowners/>

A good hunting lease outlines appropriate use of the land and facilities so that the lessor and lessee are aware of each party's expectations. Native wildlife are publicly owned, so hunting leases only grant access and use of the property in which these resources can be pursued. A "hunting lease" only grants the lessee the right to make specific and limited use of the property. Therefore, this lease is more easily revoked if the need arises.

There is no "standard" hunting lease. Multiple-year leases are less common than one-year leases. Multiple-year leases may be more attractive to organizations or groups and could be more valuable to lessees looking for consistency. One-year leases are flexible for landowners if they are unsure of their future intentions or if they want to change the use of the land in the future.

Reducing liability to landowners when leasing land for hunting is a serious consideration. From NREM-5032, "Oklahoma's recreational use statute and Oklahoma Limitation of Liability for Farming and Ranching Act may offer protection from liability for landowners when guests use their property without fees, when lessees pay less than \$10 per acre, or when the lessees and guests sign a properly executed liability waiver." Landowners should consult an attorney for assistance with preparing lease documents in order to insure they are properly protected.

Consulting the aforementioned factsheet will give producers an idea of how to price their hunting lease. Once a landowner is ready to lease they will also need to advertise. There are many free and paid websites dedicated to this task. An example of a free option can be found at the following web address: <http://www.noble.org/apps/weblistings/wildlifelease>

Hunting leases can be a good way to gain revenue from agricultural land. Hunting leases can help reduce trespassing, vandalism and theft due to increased activity through the presence of lessees. However, landowners will need to consult an attorney when developing a lease and must work with lessees throughout the lease. Landowners may also lose some use of their land as is necessary for lessees to utilize the land. If these potential positives outweigh the negatives, both parties can benefit. For more information or to obtain a copy of the factsheet NREM-5032, please contact your local county extension educator.

Sorghum Harvest Aids

Josh Bushong, Area Extension Agronomy Specialist

Utilizing harvest aids for grain sorghum has become more popular in recent years. Historically, the crop would be left to terminate and senesce naturally. The main purpose of applying a harvest aid would be to improve harvest timing. Delayed harvest after the grain becomes mature can potentially reduce grain yields. An exposed crop can experience losses due to pest pressures like bird damage, as well as environmental losses from severe storms with strong winds or hail.

Many factors can delay harvest. Some newer genetics may exhibit characteristics like “stay green” where the plants stays green longer. At harvest, the higher moisture content of the plant can potentially spike grain moisture if combines are not set correctly. If fields have excessive weed infestations, the same concerns of spiking grain moisture at harvest can delay harvest. If stands are on the thin side and growing conditions improve later in the season, the addition of late tillers can become problematic. Unevenness in maturity of a field can also delay harvest.

Preparing the crop for harvest is achieved when harvest aids are applied correctly. Harvest aids in grain sorghum fall into two groups, herbicides and desiccants. The products available have very little influence on the grain itself, but work more in the vegetative biomass of the plant. Therefore, these products have very little to no impact on grain moisture. Glyphosate, carfentrazone, and sodium chloride are currently the main three products labeled for use in grain sorghum.

Sodium chloride is a true desiccant and may not completely kill the crop, but can rapidly dry-down any plant material that it contacts. If not harvested in a timely fashion, plant lodging or regrowth can occur. Glyphosate and carfentrazone are herbicides that, when use as directed, can terminate the crop or weeds. Glyphosate is more widely used, but generally takes longer to completely desiccate the plants. Glyphosate also has a longer pre-harvest interval at seven days, while carfentrazone is only three days. Carfentrazone is a good option to assist with broadleaf weed desiccation and is a great option to tankmix with glyphosate if there is concern of herbicide resistance.

If a producer chooses to have a harvest aid applied, applying the product correctly will greatly affect any potential economic gains. The first component of applying these products correctly involves application timing. A harvest aid should not be applied any earlier than physiological maturity, often referred to as black layer. Applying too early can reduce grain fill which will directly reduce grain yields.

To check for black layer, inspect the base of seed kernel on multiple plants, tillers of each plant, and locations within each panicle. Delayed plant emergence and late tiller additions will likely be farther behind. Typically panicles mature from the top down. Maturity can widely range, so understanding how far along the majority of the crop is will improve proper application timing. Applying too late will not physically reduce grain yield, but delaying harvest due to labeled pre-harvest timing intervals may lead to losses.

In addition to proper application timing, adequate spray coverage is also an important part in a successful harvest aid application. Apply these products in a minimum of 10 gallon of water per acre when ground applied or a minimum of 5 gallons of water per acre when aurally applied. Under certain conditions, like thick canopy of sorghum or weeds, increasing carrier volume up to 15 or 20 gallons of water per acre can increase efficacy of these products.

Harvest aids have no impact on yield potential in sorghum. Since these applications are made after physiological maturity, total yield potential has been set and crop dry-down is the only aspect remaining. Just like other crop protection products, harvest aids will only assist in protecting yield potential. A two-year study recently done by Oklahoma State University found yields for sorghum not treated with harvest aids resulted in an average reduction of around 7 bushels per acre in north-central Oklahoma and just over 5 bushels per acre in the panhandle. Dockage, consisting mainly of plant material, was reduced when a harvest aid was applied.

More information can be found in the OSU factsheet “PSS-2183 Using Harvest Aids in Grain Sorghum Production” or by visiting your local OSU Extension office.

OK Steer Feedout Provides Helpful Beef Herd Information

Greg Highfill

Woods County OSU Extension Agriculture Educator & OK Steer Feedout Chairman

The goal of raising cattle is to produce tender, economical, high-quality beef cuts for today's consumers. Selection of breeding stock involves balancing production traits that are of economic importance to the ranch with those traits that beef buying consumers would desire. Producers often select traits to emphasize that are not evaluated until long after the calf leaves the home ranch. Ranchers often ask questions such as: What percentage of my calves graded USDA Choice following the feeding phase? Did a large percentage of the calves have lean carcasses, Yield grades 1 & 2? What was their conversion of pounds of feed to pounds of weight gain in the feedyard? They are very interested in the progress they are achieving in their herd improvement selections.

Cattle producers that want to learn more about the post-weaning performance of their steers may want to consider feeding a set of their calves in the OK Steer Feedout. The OK Steer Feedout is an information feedback program that allows beef cow producers the opportunity to evaluate their calf crop for carcass merit and feedlot performance. Steer calves are assembled and fed in a commercial feedlot under the coordination of the OSU Extension Service. Working with the feedyard and beef packer, the gain performance and carcass data are collected and reported to each producer. Knowledge of the carcass value and gain potential of your cattle can be of great benefit to cattlemen whether they are selling the calves at weaning or marketing them in a carcass grid program.

Entry forms for the 2019-2020 OK Steer Feedout test are due November 8, 2019 with steers delivered to Cattleman's Choice Feedyard on November 17 or 18, 2019. One of key ingredients on having a successful test is to ensure that the health status of your steers is as good as possible. We strongly recommend the OQBN 45-day weaning and vaccination protocol be followed for all steers enrolled in the Feedout program. This would require a weaning date of October 3, 2019 to participate in this year's test. Ranchers are encouraged to send a representative set of steers to achieve a snap-shot of their genetic program with a minimum of 5 head required per entry. Steers remain the property of the consignor and the feed expenses are financed to the end of the feeding period and removed from the final payment. The 2019-2020 test is for steers born after November 1, 2018. There is a \$25 per ranch entry fee. For more details and an entry form go to BeefExtension.com and find the OK Steer Feedout tab in the left column or go to:

OK Steer Feedout

Steers only – 5 head minimum

Born After: November 1, 2018

Entry Due: November 8, 2019

Delivery Date: November 17 or 18

45-day OQBN Preconditioning

Weaning Deadline: October 3

Thinking Outside the Box to Reduce Feed Costs

Dana Zook, Area Livestock Specialist

The calendar has flipped to September and that registers the fall season for everyone from the corner coffee shop to the local football team. For the Oklahoma cattle producer, fall typically means weaning calves, planting wheat pasture, and booking supplement prices.

I often think of September as the start of a new production year because it kicks off feed season for cattle producers. Feed is the largest expense in cattle production making it an important yearly consideration. In 2018 the Kansas Farm Management Association reported feed costs to maintain a cow ranged from \$400.90 to \$539.23. In this analysis, cow calf operations are divided into high, middle, and lower third profit levels and these costs contributed to a negative return to management for each profit category. This same summary reported that cow calf operations that make up the lower 1/3 profitability category spent 36% more on feed than the high 1/3 category.

These statistics make me think that even small improvements could help narrow this gap for producers. One simple way to reduce overhead in a cow/calf system is to improve feed efficiency. This can be done in a variety of ways such as hay testing, grazing stockpiling forage, and enhancing or developing a grazing plan. Each of these suggestions increase feeding accuracy and reduce the need for supplement.

Another interesting consideration when trying to reduce feed for an operation is to lessen the nutritional demand on cows. Of all stages of production, lactation is the most stressful. During lactation, cows are feeding their calf and recovering from pregnancy all while trying to supply their own system with adequate nutrition. Intriguing research out of the University of Nebraska Gudmundsen Sandhills Laboratory shows that simply weaning a month earlier can make effective change in improving body condition score. In this research, cows with calves weaned one month prior to traditional October weaning were able to recover body condition and be in better condition at calving.

In Oklahoma, this change in management could allow cows to graze pastures in September and early October and improve body condition without the need for excessive supplementation. Improved body condition puts cows on the fast track of earlier cycling and breeding in the subsequent season.

OSU Extension Beef Specialist, Dr. Dave Lalman has reported that increased selection for Milk EPDs in cows has led to the explosion of body weights and therefore a much greater need for nutrition overall. The concept that cows are bigger and require more nutrition than originally thought makes it even more important to find ways to feed more efficiently.

Take this as a challenge to improve feeding efficiency in the coming year. For help in analyzing your grazing plan or evaluating supplements for the upcoming feed season, contact your local county OSU Extension Agriculture Educator.



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