NOBLE COUNTY EXTENSION

Agriculture News and Updates
August 2021

Creep Feeding

David Lalman, Oklahoma State University Extension Cow-Calf Specialist

Occasionally the question of whether creep feeding is a cost-effective practice comes up. The simple answer for commercial cow/calf operations is “not in most circumstances”. This is particularly true for spring calving operations. Calf weaning weights can be increased anywhere from about 20 to 80 pounds. However, in most cases, the value of added weight gain will not cover the added feed, labor and equipment costs unless feed is exceptionally inexpensive and (or) when value of added weight gain is exceptionally high.

For example, in a summary of 31 experiments where calves had unlimited access to creep feed, average increased calf weaning weight was 58 pounds. Average creep feed conversion was nine pounds of additional feed to one pound of added calf weight gain. Assuming bagged creep feed could be purchased for $275 per ton or $0.1375 per pound, the feed cost per pound of added weight gain is about $1.24. In a recent Oklahoma Department of Agriculture Market News report, value of added gain between 527-pound steers and 575-pound steers was about $0.86. If the creep feed could be purchased in bulk for about $240 per ton, the feed cost per pound of added weight gain decreases to $1.08.

In a recent Nebraska study, spring-born calves were fed creep for 105 days prior to weaning. In this study, labor, equipment, transportation and depreciation costs for the creep feeding enterprise were estimated at $28.38 per calf, or about $0.27 per head per day.

Conversion efficiency can range from 3 to 20 pounds of feed required per pound of added weight gain. High-quality, abundant forage results in very poor feed conversion because one high-quality feed (forage) is being replaced by another. Similarly, the greater the plane of maternal nutrition, the poorer the conversion of creep feed to calf

gain. In our fall-calving experiments, efficiency of creep feed conversion to calf gain is quite good because native range forage quality is low and cows are in a maintenance to negative energy balance (losing weight). Our results have been around 4.5 to 5 pounds creep feed:gain when fall-calving cows are getting around 5 pounds of supplemental feed. However, the more supplement the cow is fed, the poorer the creep feed conversion. Situations that reduce calf nutrient availability improves the efficiency of creep; low milk production, low quality forage, overgrazed pastures and thus low forage availability, drought, fall-calving, etc. Of course, the opposite is true as well. In general, limiting creep intake improves creep feed conversion substantially. This is especially true with low-quality forage and protein-rich creep feeds limited to 2 to 3 pounds of intake per day.

Another consideration is the flesh condition of calves that are marketed at weaning. The longer calves are exposed to unlimited creep consumption and the lower the forage quality, the more they want to eat. If calves are fed free choice creep for 90 days or longer, there is a risk of over-conditioning leading to a market discount. On the positive side, if heavy creep-fed calves go straight to the feed yard for finishing, carcass weights and in most studies, marbling scores are improved.

Occasionally, I hear that creep feeding "takes the pressure off the cows". I think the assumption is that calves consume less milk, and therefore, cows produce less milk and thus have more nutrients available for maternal tissue maintenance or even weight gain. This is simply not true. Most experiments that track cow weight change and calf milk intake show that calves consume all the milk available whether they are fed creep fed or not. Creep feeding simply does not change or improve cow weights or body condition.

Calves prefer milk first, palatable creep feed second, then forage. Consider that the intensity of creep feed and forage consumption is elastic and opposite. The lower the quality of the forage, the more creep feed and less forage calves want to consume and visa-versa.

Not all beef cattle producers make this decision based on the economics at the time of weaning. For example, seedstock producers likely have entirely different objectives when it comes to creep feeding. Chief among those include marketing and expression of genetic potential for growth.

Creep feeding has been studied in the animal science field for many years and there is quite a lot of good data available. Hopefully, some of these fundamental concepts will be helpful the next time conditions warrant considering this practice.

MASTER CATTLEMAN PROGRAM:

If you are interested in the OSU Master Cattleman Program, please contact Chad Webb in the Noble Co. OSU Extension Office. With enough interest, the program will begin this fall. I will be glad to explain the 14-session educational program to you. Please contact Chad at PH# 580-336-4621 or by email at chad.webb@okstate.edu.

Supplemental Feeding of Stockers Grazing Summer Grass

Paul Beck, Oklahoma State University Extension Beef Cattle Nutrition Specialist

Gains of growing cattle grazing summer pasture in Oklahoma often do not meet expectations. Reduced performance or 'Summer Slump' is associated with decreasing forage quality during the late summer. Oklahoma State University developed the Oklahoma Gold and Oklahoma SuperGold supplementation programs to offset the reductions in protein and digestibility of the late summer forages.

The Oklahoma Gold program is based on feeding 1 pound per day (or 2.3 pounds/calf three times a week) of a high protein (38 to 40% protein) supplement containing an ionophore and required minerals and vitamins from mid-July to the end of summer grazing. This supplement has been proven to increase daily gains by 0.4 to 0.5 pounds per day with supplement conversions of 2 to 2.5 pounds of feed per pound of added gain. This program is designed to meet the protein deficiency that occurs during the late summer, which increases forage digestibility and forage intake.

The Oklahoma SuperGold program is based on feeding 2.5 pounds per day (5.8 pounds/calf three times per week) of a 25% protein supplement containing an ionophore and vitamins and minerals. This supplement provides needed protein and additional energy in situations where calves have higher energy requirements, more gains are needed, and feed is relatively cheap compared to the value of added gain. The SuperGold program will increase gain by about 0.7 pounds per day with supplement conversions of 3.5 pounds of supplement per pound of added gain.

Recently a new extrusion technology has been developed to make a stable cube from dried distiller's grains (DDG) that is moderate in crude protein and high in energy and is an ideal supplement meeting the needs of cattle during the late summer. A series of research trials is being conducted on native rangelands in western Oklahoma and introduced pastures in higher rainfall areas in the east.

On the western Oklahoma rangelands supplements were fed only during the late summer at 2 to 2.5 lbs per day similar to the Oklahoma SuperGold supplementation program. Supplementation during the late summer increased gains by over 1 pound per day from 1.8 lb/day to 2.9 lb/day at Fort Supply in northwest Oklahoma.

Fertilized bermudagrass pastures (50 lb N/ac) are often higher in quality than we see with late summer native pastures, so responses to supplementation may not be the same. Steers grazing these pastures and supplemented at 2.5/day gained 0.55 lbs/day more than controls throughout the summer, requiring 4.5 pounds of supplement per pound of added gain. In this same research, steers offered a self-fed molasses-based tub did not have improved average daily gains compared to negative controls.

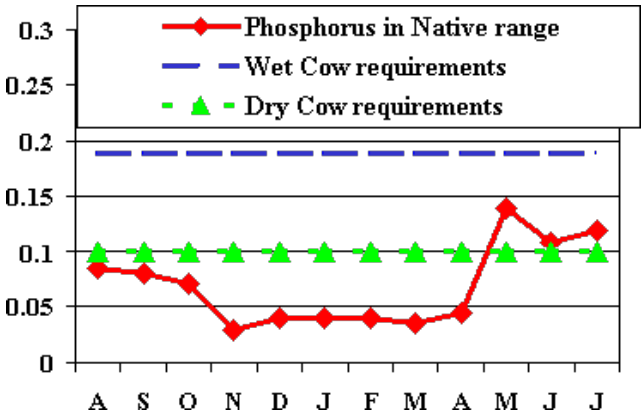
Supplementation programs are beneficial for stockers grazing summer pastures. The best supplementation program depends on the economic relationship between the value of the calf's gain and the cost of the inputs (fuel, fertilizer, and supplements).

Agriculture items available for checkout. Contact the Noble County OSU Extension Office for availability and checkout procedure at 580-336-4621.

The Noble County OSU Extension Office offers several items available for checkout at no cost which include: 5 ft Weed Wiper, soil and hay probes, incubators, and handheld GreenSeeker are some items. Please contact the office for availability. OSU Factsheets are always available either in the office or by clicking the link below https://extension.okstate.edu/fact-sheets/index.html

Efficient Mineral Mix Plan for Summer

Brian Freking



Many cow calf ranchers use the same mineral mix all year round. However, the opportunity is available to save a few dollars per head by adjusting the mineral mix to the quality of the forage during the different seasons. The key mineral that most Oklahoma cow/calf operators must provide via a mineral supplement is phosphorus. It is very important that cattle not be phosphorus deficient, especially near the breeding season. Excess phosphorus however can be expensive. Therefore, it makes sense to match the phosphorus supplement with the needs of the cow and fill the gap left by the forage type that she is grazing. The National Research Council's Nutrient Requirements of Beef Cattle includes phosphorus requirements for cows in various stages of production. The recommended requirements for a large, heavy milking beef cows are graphically illustrated in the chart.

The units on the vertical axis represent percent of dry matter intake that is consumed daily by the cow. Months of the year are represented on the horizontal axis. During most months of the year some phosphorus supplementation is necessary to make up the difference between the requirements that is provided by standing forage such as native range grass. A mineral mix containing 12% phosphorus would be appropriate during the dead of winter as the grass is dormant and low in phosphorus. However, in the spring and early summer months, as the grass is green and growing, the need for supplemental phosphorus is greatly reduced. Currently, dry, fall-calving cows are getting adequate phosphorus from forage alone. Spring calving, lactating cows, still need some supplemental phosphorus. During the months of May, June, and July, a mineral mix with 6- 8% phosphorus should be adequate to make up the difference.

Producers that design their own mineral mix with salt and dicalcium phosphate ("dical") can adjust the ratio of salt to "dical" to take advantage of the summer growing

season. Changing from 1/2 salt: 1/2 dical, to a mix that is 2/3 salt: 1/3 dical would save a few dollars. This is especially appropriate for fall-calving cows. They are already re-bred and are nearing the end of lactation for this year.

This mineral mix needs to be consumed at the rate of 2 to 3 ounces per cow per day. Intake should be monitored closely, and adjustments made by adding 5 to 10% soybean meal or cottonseed meal as a flavoring agent. In some pastures, cattle may consume mineral readily, and in other pastures there may be a need to increase the flavoring agent.

Certainly, the decisions about micro-minerals such as copper, zinc, and selenium get more complicated. Consult with your local County Extension educator for advice.

Extension Experience – Insights into Oklahoma Agriculture

The Northwest Area Extension Staff would like to announce the creation of our new podcast *Extension Experience.* The *Extension Experience* podcast is brought to you by Josh Bushong, Trent Milacek, and Dana Zook. Each week they provide perspective on Agriculture topics and offer insight from our experience working with Extension Educators and Producers across Oklahoma.

The *Extension Experience* podcast is available on Spotify, Google Podcasts, and Apple Podcast platforms. You can also access the episodes on spotlight, http://spotlight.okstate.edu/experience/.

Summer Pneumonia

Barry Whitworth, DVM Area Food/Animal Quality and Health Specialist for Eastern OK

July is usually hot and dry for most of Oklahoma. This type of weather is great for baling and hauling hay, but unfortunately, this type of weather is not great for animals. A disease that thrives in these conditions is summer pneumonia in nursing calves.

Summer pneumonia is the name given to bovine respiratory disease in young cattle still with their mothers on pastures. According to the National Animal Health Monitoring System 2007-2008 Beef Cow/Calf Study, the number one cause of death in calves 3 weeks of age to weaning is bovine respiratory disease. The disease tends to strike with no warning and has been seen more frequently in recent years.

Summer pneumonia is caused by the usual suspects associated with cattle pneumonia. Viruses involved are Infectious Bovine Rhinotracheitis Virus, Bovine Viral Diarrhea Virus, Bovine Respiratory Syncytial Virus, and Bovine Coronavirus. The bacteria associated with summer pneumonia are *Mannheimia hemolytica*, *Pasteurella multocida*, *Histophilus somni*, and occasionally *Mycoplasma bovis*.

Calves diagnosed with summer pneumonia usually fall into two age categories. One group consist of calves that are usually less than one month of age. Veterinarians believe they fall victim as the result of poor quality and/or quantity of colostrum. The

other group is 3 to 4 months of age. These calves tend to get sick at the same time the protection of the colostrum begins to wane.

Studies have found several factors associated with summer pneumonia. Environmental characteristics connected with summer pneumonia are hot, dry, and dusty conditions. Adverse weather circumstances such as cool nights and warm days are also affiliated with calf pneumonia. As herd size increases, the chance of summer pneumonia rises as well. Herds larger than 500 head are most susceptible. Management practices that result in cattle being crowded such as estrous synchronization, intensive grazing, and creep feeding are linked with summer pneumonia. Lastly, ranches that expose their calves to older steers or orphan calves are more prone to having issues with summer pneumonia.

Typical clinical signs of summer pneumonia are high fever (106° Fahrenheit or greater), reluctance to eat, droopy ears, and reluctance to move. Other signs sometimes found are coughing, ocular discharge, nasal discharge, and breathing difficulties. These signs maybe difficult to observe in the early stage of the illness but normally become more severe as the disease progresses.

If the disease is diagnosed early, then treatment with most antibiotics will be successful. However, a delay in diagnosis will result in more complications and failures. Even though most treatments are successful, producer can be frustrated with the difficulties associated with treating calves on pastures.

A good prevention program for summer pneumonia includes proper cow management, vaccinations, and a maintaining a low stress environment. Prevention starts with making sure that cows are in good condition before and after calving. Cows that are in good body condition, that are on a good nutrition program, and that have been properly vaccinated should have high quality colostrum. Colostrum plays an important role in preventing diseases. A successful vaccination program to prevent summer pneumonia requires using proper vaccines and using them at the proper time. A vaccine that addresses the common pathogens (IBR, BVD, PI3, BRSV, *M. heamolytica, P. multocida*) involved in calf pneumonia is essential. Many ranches have begun to administer these vaccines at branding or turn out time (approximately at 60 days of age) in hopes of stimulating immunity and reducing summer pneumonia. For more information about a vaccine program, producers should seek the advice of a veterinarian. Stress needs to be managed as best as possible. Producers should castrate and dehorn calves at an early age. This should reduce stress since these calves continue to stay with their mothers. Also, producers should try to avoid situations that crowd cattle in small spaces. Unfortunately, even the best managed herds can still have problems with summer pneumonia.

Cattle producers need to observe their herds frequently this summer for any clues of pneumonia in their calves. Prompt diagnosis and treatment is essential for a successful outcome. Hopefully, more information will be discovered in the future to aid producers in preventing this disease. For more information about summer pneumonia

in calves, producers should contact their local veterinarian or Oklahoma State University County Agriculture Extension Educator.

References

Woolums AR, Berghaus RD, Smith DR, et al. Case-control study to determine herd-level risk factors for bovine respiratory disease in nursing beef calves on cow-calf operations. *J Am Vet Med Assoc.* 2018;252(8):989-994. doi:10.2460/javma.252.8.989

Woolums AR, Berghaus RD, Smith DR, et al. Producer survey of herd-level risk factors for nursing beef calf respiratory disease. *J Am Vet Med Assoc.* 2013;243(4):538-547. doi:10.2460/javma.243.4.538

Noble County Fall Free dates: September 11th through 16th, 2021

Online entries: Livestock (Jr. Livestock, Horse show) deadline: August 31

OPEN livestock: entry day & time of specific species being entered (except Horse)

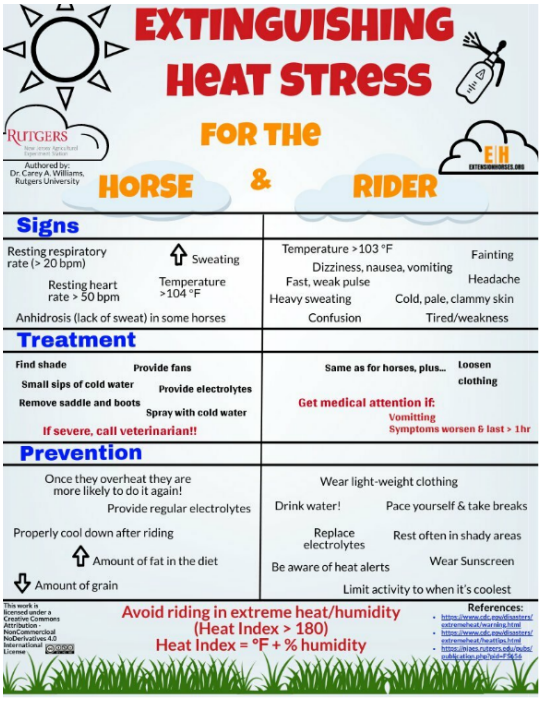
4-H on-line entries: deadline September 10 – NO walk-in entries

Women's Building (Open, OHCE) entries: September 10 - walk-in entries accepted on entry day Monday, September 13.

Alfalfa Hay Exhibit:

Entry date: Friday August 27, 8:00 am to 10:00 am, livestock show arena (east garage door entrance). $7.00 per entry (testing fee), 1 entry/exhibit per family, 3 small square alfalfa bales per entry/exhibit.

Information and Updates as available on the Noble County OSU Extension website at https://extension.okstate.edu/county/noble/fairs-and-shows.html



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