



ANIMAL SCIENCE E-NEWS

January 2016

Vol. 10, No. 1

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Be Prepared for Calving Season

Dr. Tom Troxel, Professor

Calving is one of the most important times on the production calendar. Management decisions made prior to this period can influence success at calving and ultimately profitability of an operation. Calving difficulty (dystocia) is a very important economic problem in the U.S. beef cattle industry.

Nutrition

The last trimester of pregnancy is when the majority of fetal growth occurs. During this period, the nutrient requirements of the cow increase accordingly. In particular, the last 45 days prior to calving is a critical time. The best method to assess the nutritional status of the cow is to monitor body condition. Ideally, most cows should enter the calving season with a body condition score (BCS) of 5. However, early-calving cows (January and February) and young cows (two- and three-year-olds) should have a BCS closer to 5.5 or 6. Research has clearly demonstrated that body condition can have a dramatic impact on subsequent reproductive performance. If cows are thinner than desired, it is advisable to alter the plane of nutrition to add body condition prior to calving. After calving, the nutrient demands associated with lactation make it difficult and expensive to add body condition.

A common misconception regarding pre-calving nutrition is that feeding cows too well results in increased calving difficulty. This is absolutely incorrect! Actually, underfeeding cows prior to calving could increase calf scours and mortality and reduce calf survival. Along the same vein,

overfeeding can be a problem as well. Cows that are over-conditioned actually deposit fat in the birth canal, which can lead to calving problems.

Some research suggests that calf vigor can be influenced by the pre-calving plane of nutrition. Calves from cows on a maintenance or high plane of nutrition got up and nursed more quickly than calves from cows on a low plane of nutrition. Time to nurse is critical in getting an adequate amount of colostrum in calves prior to gut closure.

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Vaccination

The focus of pre-calving vaccination programs is to provide immunity to the calf via colostrum. There are several diseases that can be vaccinated at this time; however, to vaccinate for every possible disease is neither practical nor economically prudent. Consult your veterinarian to develop the vaccination strategy that is appropriate to your operation.

Timing of Feeding

The Konefal Calving Method was developed by a beef producer in Manitoba, Canada. This method involves feeding cows twice daily at approximately 11:30 a.m. and 9:30 p.m. Using this regime, Gus Konefal was able to get 80 percent of his cows to calve between 7 a.m. and 7 p.m. Research at Iowa State University produced similar results. Results of USDA research were not as dramatic but still showed a 10 to 20 percent reduction in the number of cows calving between 10 p.m. and 6 a.m.



**DIVISION OF AGRICULTURE
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Calving Management

Preparing calving facilities prior to calving is wise. The calving area should be clean and dry and be in close proximity to shelter and facilities needed to assist cows with calving difficulty. Maternity pens with a headgate, crowding gate and nursing panel can also be quite helpful. Calf shelters and/or warming boxes should also be cleaned and checked (wiring in particular). Once the facilities are prepared, it is always wise to make a list of needed items and make sure they are accessible. Some key items would include calving jack, OB chains or straps, iodine, tube feeder, rags or towels, light source, tags and/or tattoo equipment.

Colostrum

Colostrum is critical to survival of the newborn calf. The immune system of newborn calves is not completely

developed. Consequently, the antibodies and immunoglobulins in colostrum are a substantial component of the immune protection in newborn calves. Calves should receive 5 to 6 percent of their body weight as colostrum within 6 hours and again within the subsequent 6 hours.

If the calves are not able to nurse or the cow's production of colostrum is insufficient, colostrum from other cows or commercial colostrum supplements may be necessary. Ideally, colostrum should be collected from cows within 24 hours of calving and fed fresh. Colostrum can also be collected, frozen and used later. Johne's disease can be spread via colostrum, so caution should also be exercised when collecting colostrum from unknown animals. Colostrum should only be used from cows known to be Johne's free.

When collecting colostrum, consider freezing it in "serving" sizes, or one to two quarts per container. Once colostrum has been thawed, it should not be refrozen. Correct thawing will also help prevent the antibodies and immunoglobulins from being damaged. Frozen colostrum should either be slowly warmed in warm water to a final temp of 105 to 110 degrees F or in a microwave on medium power. In both cases, the colostrum should be stirred frequently.

Commercial colostrum supplements are available, and research suggests that calves fed colostrum supplements are healthier than calves that received no colostrum. However, the level of protection was lower than in calves fed frozen colostrum.

Riparian Buffers Are Important Landscape Features

Dirk Philipp, Associate Professor - Forages

Riparian buffers help maintain water quality in grassland ecosystems by filtering runoff, holding back nutrients, providing wildlife habitat and cooling water temperatures in streams. In many cases, riparian buffers also provide shade and water access points for livestock. Unfortunately, many of our riparian buffers are in bad shape and do not function as intended, so let's review some of their important characteristics and how functionality can be enhanced.

First and foremost, riparian buffers need to have a minimum of tree cover, understory vegetation and a width of at least 30 to 50 feet to be effective. In many instances, large trees are the only remaining cover, but those trees provide less protection from erosion than a combination of trees, brush and grasses to better hold soil in place and thereby protect streambanks. A riparian buffer is a progression of low-growing vegetation on the outer edges with increasing height and plant density towards the center of the buffer, where the stream is located. Maintaining this continuing increase in vegetation density is important from both soil retention and nutrient filtering

perspectives. It has been shown that large amounts of nutrients, up to 80 percent, can be collected by grassy filter strips made of the usual forage grasses common to Arkansas, such tall fescue or bermudagrass. These strips can be periodically grazed without compromising riparian functionality or farm profitability.

Adjacent to the grassy filter strip is brushy vegetation that provides soil stability and wildlife habitat. This part of the riparian buffer is usually the most disturbed, as the intent of providing water to livestock in an unrestricted manner can lead to various negative impacts – eroded banks, sediment loss and soil compaction. Compacted soil will retain little rainwater, and accumulated nutrients in this area are likely to be transported into the adjacent stream. Similar to the grassy outer edges of riparian buffers, the middle section can be managed so benefits are maximized while negative environmental impacts are minimized. If livestock will be watered from streams, specific watering points should be installed to protect the most vulnerable parts of a riparian buffer. This will not reduce farm income; it will in fact help manage

livestock more efficiently as animals will soon return to grazing on the adjacent pastures instead of loafing and lingering in the streams. One of the most efficient, low-cost features is designated, fortified stream crossings that serve as watering location and crossing for vehicles. These crossings can be built from concrete with a few feet of adjacent coarse gravel reaching into the stream to either side to prevent animals from loafing extended periods of time.

Close to the edge of the stream, large trees are the usual form of woody vegetation. In most cases, these trees have been left standing to provide shade for animals. However, if there is not sufficient understory and vegetative ground cover present, the runoff-slowness capacity of this section is limited, as large trees have virtually no filtering function. Trees, however, play a large role in maintaining bank stability and holding soil in place due to expansive root systems.

The maintenance of riparian buffers on livestock farms cannot be seen as a separate item from the larger issue of watershed management.

Especially in fast-growing population areas, riparian buffer zones are affected by encroaching urban development that triggers high peak flows and discharges that streams running through adjacent

farmland are unable to handle. I encourage landowners to seek opportunities for cost-sharing improvements to their farms with the intent of protecting riparian buffer zones. Reclaiming

disturbed areas costs money, but with offerings by NRCS or Soil Conservation Districts, taxpayers from urban areas share the expenses of improving water quality on a larger scale.

Ditch the Itch in Your Herd

Heidi Ward, Assistant Professor and Extension Veterinarian

Winter is upon us, which means lice are getting prepared to snack on your livestock. Lice infestations typically appear in late fall and peak in late winter, when the air turns colder and cattle stand in groups to keep warm. Winter is also when animals grow extra hair, providing a perfect environment for these pesky parasites. Treating the problem of lice requires time and money, but ignoring the problem leads to economic loss.

There are two types of lice that affect cattle: **biting lice** and **sucking lice**. Lice are tiny insects with claws that attach to hair. The claws are adapted to hairs of a specific diameter, making lice species-specific. In other words, cattle lice will not feed on humans and vice versa because the hair of cattle and humans is dissimilar. Biting lice have a large, blunt head with ventral mouth-parts adapted to feed on the skin and skin secretions of cattle (Figure 1). Sucking lice have a narrow head with long, piercing mouth-parts adapted to feed on the blood and serum of cattle (Figure 2). Lice irritate cattle causing them to scratch and rub their skin, eventually leading to a decline in health.



Figure 1. The biting louse, *Bovicola bovis*.



Figure 2. The sucking louse, *Haematopinus eurysternus*.

In addition, lice can carry viruses, bacteria and fungus, which all pose risks for immune-compromised cattle. Animals stressed from growth, pregnancy or underlying disease are most at risk of experiencing secondary health problems from lice.

Lice infestations add to the impact of cold weather, poor winter diet, stress from shipping and underlying disease. Infested animals are often restless and distracted by their discomfort, which keeps them from eating. Cattle can be seen rubbing their face, neck, shoulders and rump to alleviate the itching, which often results in patches of fur loss (Figure 3). The energy that lice steal can have a severe impact on an animal's immune system and health in general. This impact manifests as anemia, delayed recovery from diseases, poor weight gain or overall unthriftiness.

Lice species of concern in Arkansas are the **short-nosed cattle louse** (*Haematopinus eurysternus*), **long-nosed cattle louse** (*Linognathus vituli*), **little blue louse** (*Solenopotes capillatus*) and **cattle-biting louse** (*Bovicola bovis*). The life cycle of lice only lasts 20 to 30 days, with the entire cycle taking place on the host. Females attach their eggs (nits) to hairs, which hatch in 5 to 14 days. When the nymphs emerge, they go through three molts within 7 days. In 14 days, the nymphs become egg-laying adults, thus completing the cycle. Fortunately, the short life cycle makes lice easier to kill with insecticides.

The type of lice infesting the herd is important to know when developing a treatment. Pour-on pyrethroids kill both types of lice, but injectable avermectins mainly kill sucking lice. No matter the product, the label should be followed closely as there might be



Figure 3. Calf with hair loss from lice infestation.

strict pre-slaughter withdrawal times or environmental precautions. Giving the correct amount is important as these products quickly become toxic to cattle if too much is given. Some products require a second treatment, usually 3 to 4 weeks after the first treatment, to kill lice finishing their life cycle. Adult lice cannot live very long away from the host. Sucking lice die within a few hours when off the host, but biting lice may live for several days as long as they are not exposed to direct sunlight or cold air. Along with treating the animals, the environment (i.e., trees and frequented fence posts) should also be treated prior to allowing new animals into the area. For best results, follow the advice of your veterinarian.

Control and prevention of lice infestation can be achieved by maintaining cattle on a high plane of nutrition. Cattle with an ideal body condition going into winter have better immune systems and can resist the negative impact of lice. Prophylactic treatment with insecticides in late fall will also help prevent infestation, but cattle should be checked regularly during the cold season for recurrence. By having a plan and paying attention to your cattle, you can ditch the itch in your herd.

Arkansas 4-H Livestock Program Update

Chelsey Ahrens, Assistant Professor

Arkansas State Fair Sale of Champions

The Arkansas State Fair was held October 9-18 in Little Rock. In the junior market, commercial and breeding shows (beef, swine, sheep and goats), there were a total of 3,109

entries exhibited by 2,201 youth from across the state vying for the coveted title of Grand Champion. An elite group of individuals showing market animals were selected to be in the Arkansas State Fair Sale of Champions or received scholarships. Below is a recap of the Sale of Champion exhibitors:



Carrie Wiggs of White County with her Grand Champion Single Fryer purchased by Deggeller Attractions for \$1,700.



Kaylie Stone (center) of Clark County with her Grand Champion Meat Pen of Rabbits purchased by Arkansas Farm Bureau for \$3,000.



Riley Hoyle with her brother Jack of Columbia County with her Grand Champion Market Goat purchased by Arkansas Farm Bureau Insurance for \$3,700.



Riley Hoyle with her brother Jack of Columbia County with her Grand Champion Market Lamb purchased by Arkansas Farm Bureau for \$5,500.



Jessica Griffin of Greene County with her Grand Champion Market Hog purchased by the Steve Cobb Family for \$8,000.

For more information about supporting the Arkansas State Fair Junior Livestock Programs, contact Sherman Lites at 501-607-4059 or livestockdir@asfg.net.



Dodge Cowart of Pike County with his Grand Champion Market Steer purchased by Arkansas Farm Bureau for \$15,000.



Makayla Herring of Greene County with her Grand Champion Pen of Broilers purchased by the Poultry Federation for \$3,900.

National 4-H Livestock Skillathon Contest

The state winning Arkansas 4-H Livestock Skillathon team from Washington County competed at the National 4-H Livestock Skillathon Contest in Louisville, Kentucky, on November 16. In the individual portion of the contest, they had to identify equipment, retail meat cuts and livestock breeds. They also had a hay judging class, wool judging class, individual quality assurance exercise and a 30-question quiz. The team portion of the contest consisted of meat and carcass evaluation, performance and marketing, livestock feeding, animal breeding scenario and a team quality assurance exercise. The team placed ninth in identification. Team members included Sagely Burnett, Colton Burden, Mesa Kutz and Nick Pohlman.



Team members from left to right: Colton Burden, Mesa Kutz, Sagely Burnett and Nick Pohlman (not pictured).

National 4-H Livestock Judging Contest

The state winning Arkansas 4-H Livestock Judging team from Washington County competed at the National 4-H Livestock Judging Contest in Louisville, Kentucky, on November 17. At the contest, they judged four classes of cattle, three classes of hogs, three classes of sheep and one class of goats. They also had four reasons classes and three questions classes.

As a team they placed sixth in swine, eighth in sheep/goats, and tenth overall. The top 20 individuals in the contest were named All-Americans. Jeffrey Marley earned this honor by winning sixteenth overall. Members of the team were Kinder Harlow, Jacob Marley, Jeffrey Marley and Blayke Rogers.



Team members from left to right: Jacob Marley, Blayke Rogers, Kinder Harlow, and Jeffrey Marley.



Jeffrey Marley with his All American National 4-H Livestock Judging belt buckle.

Upcoming Events

February 26, 2016 – The Arkansas Beef Quiz Bowl will be held at the Pauline Whitaker Animal Science Arena in Fayetteville. This event is designed to challenge and educate Arkansas students about the beef industry. Teams must be composed of four members. For more information, contact Bryan Kutz at 479-575-4337 or bkutz@uark.edu.

March 24-26, 2016 – The Arkansas 4-H Livestock Leadership Academy will be held at the Arkansas 4-H Center in Ferndale. This event is designed for senior 4-H members

to gain hands-on leadership experiences, learn about careers in the livestock industry as well as attend a college fair, become better advocates and learn what the current trends are in the livestock industry. For more information, contact Dr. Chelsey Ahrens at 501-503-6592 or cahrens@uaex.edu.

To learn more about Arkansas 4-H Livestock programs, visit our website at <http://www.uaex.edu/4h-youth/activities-programs/animal-poultry-science.aspx>. If you are interested in volunteering or donating to help the 4-H livestock programs, please contact Dr. Chelsey Ahrens at 501-503-6592 or cahrens@uaex.edu.

UofA Livestock Judging Team Finishes Its Year With Success and an All American Team Member

Bryan Kutz, Instructor

The University of Arkansas livestock judging team completed its eligibility with a year of success and one team member named All American. This year's team competed in 12 contests that ended with trips to the American Royal in Kansas City and the North American

International contest in Louisville, Kentucky. The 2015 team finished in the top ten teams overall in 11 of 12 contests and was named Champion team at the Dixie National and Reserve Champion team at the Arizona National and Mid America Classic.

2015 Livestock Judging Team Results

Arizona National Livestock Show, Phoenix, Ariz.
Northwestern Stock Show, Denver
Dixie National, Jackson, Miss.
Houston Livestock Show and Rodeo, Houston
National Barrow Show, Austin, Minn.
Aksarben, Omaha, Neb.
State Fair of Texas, Dallas
Tulsa State Fair, Tulsa, Okla.
Mid-America, Hutchinson, Kan.
American Royal, Kansas City, Mo.
North American International, Louisville, Ky.

Reserve Champion Team
7th Team Overall, 3rd in Carload Contest
Champion Team
7th Team Overall
10th Team Overall
5th Team Overall
3rd Team Overall
8th Team Overall
Reserve Champion Team
11th Team Overall
6th Team Overall

At the final awards banquet in Louisville, Kentucky, eleven individuals were awarded All American. The criteria for this award is based on six categories: livestock judging performance, grade point average, statement of career goals and community, industry and university involvement. This year UofA student Morgan Marley received this honor. Marley was also named an All American in 2012, when she judged livestock for Northeastern Oklahoma A&M College.

"Being successful in my academic work is something I strive for on a daily basis," Marley said. "But my characteristics that allow me to be successful came from judging livestock and my agriculture background. I wish there were more students, especially at the University of Arkansas, that were involved in judging."

This team of students operated like a close-knit family. They never complained about the long hours and miles spent traveling or missing class. Each one originated from a diversified livestock background, which helped make them successful judges because of their basic understanding of practical production. This team was successful because of the combination of intelligence, a strong work ethic and a passion for the livestock industry. Pictured from left to right (top picture): Jacie Sweeney from Hermitage, Ark.; Emily Hasenauer from Wallace, Neb.; Morgan Marley from Elkins, Ark.; Kolton Moore from Cave City, Ark.; Blaine French and Trenton Tosh from Batesville Ark.; and Bryan Kutz, Coach.

