FROM THE COUNTY AGENT’S DESK...

Anyone remember the bumper crop of thistles we had last year? Well, guess what, they haven’t gone anywhere. Those thistle rosettes are still lying there, desperately needing to be sprayed soon. A broadcast application of 2,4-D amine at 1.5 quarts per acre will provide near 100% thistle control if you get good coverage. It is recommended that boomless or cluster nozzle sprayers should have an output of at least 25 gallons per acre. Remember to always use a surfactant at ¼ - ½ % of the total tank volume, and if you ever need any help getting that sprayer calibrated or some of the application calculations done, give me a call!

In 4-H agriculture news, the Fulton County Grassland Evaluation team will be competing in the state contest in Conway on April 30th. Our team finished 3rd in 2012 and 2nd in 2013, so we’re primed for a
big win! The team will then go on to compete in the Mid-America Grassland Evaluation national contest in Springfield, MO in June. The kids learn to identify 75 grasses, weeds, and brush species, as well as how to interpret soil series information, judge wildlife habitat, and calculate yearly cattle herd forage needs. Good luck to these Fulton County 4-Hers!

BATESVILLE EXPERIMENT STATION LIVESTOCK FIELD DAY

This annual livestock and forage field day will be held on April 15th from 9 a.m. to 3 p.m. at the Livestock and Forestry Branch Experiment Station near Batesville. If you wish to go, I'll be attending, and you’re welcome to ride with me. I’ve got three seats, so it’s first-come, first-serve. There is no cost to attend and lunch is provided.

Speakers and Topics include:

Dr. Shane Gadberry, Professor, Department of Animal Science, UACES

Using CTC Mineral for Spring-Calving Cows While on Stockpiled KY31 Fescue

Dr. Paul Beck, Professor, Department of Animal Science, SWREC

Growth-Promoting Technologies for Stocker Cattle

Dr. Tom Troxel, Professor, Department of Animal Science, UACES

Five-Year Summary of “300 Days of Grazing”

Dr. James Caldwell, Assistant Professor, Lincoln University, Jefferson City, Missouri

Performance and Carcass Measurements of Fall-Born Calves Weaned in the Morning or Evening Using Either Fenceline or Traditional Weaning Method

Dr. Mike Looper, Professor, Department of Animal Science, UAF

Influence of Growth-Promoting Implants on Development and Reproduction of Low-Weight Beef Heifers

Dr. Tom Yazwinski, Professor, Department of Animal Science, UAF

Current Considerations Involved With Worm “Control” in Cattle

University of Arkansas, United States Department of Agriculture and County Governments Cooperating. The Arkansas Cooperative Extension Service offers its programs to all eligible persons regardless of race, color, national origin, religion, gender, age, disability, marital or veteran status, or any other legally protected status, and is an Affirmative Action/Equal Opportunity Employer.
TOUGH WEATHER CONDITIONS CONTINUE FOR COWS IN THE SOUTH

Dr. Shane Gadberry, Extension Beef

The winter seems relentless with another blast of cold area dipping into the south in early March. Now is the time cattle producers are looking for 50°F+ daytime temperatures with just enough rainfall for cool-season grasses to kickoff spring growth. This latest system brought much needed moisture into the state; yet, the cold is continuing to put pressure on hay based diets to meet the nutritional demands of cow herds that have started calving.

The graph below, representing the northern one-half of Arkansas, shows how often the wind chill temperature fell below beef cow lower critical temperature (LCT) since December 1, 2013. For the most part, the winter period has been dry across Arkansas. Just over 80% of the days have been dry. While ranchers need soil moisture to improve, the lack of winter precipitation has been beneficial to cow comfort. As noted in a blog in early December, cows with a winter hair coat are within their ‘comfort zone’ at temperatures as low as 32°F. This comfort zone is even lower for cows with a heavy winter coat. However, very cold temperature has made its way into the deep south on several occasions, creating cold stress for cow herds, despite having a dry hair coat. While conditions vary across the state, analysis of weather data from a reporting station in northern Arkansas showed 3 periods (9 to 15 days in length) of conditions 15°F below LCT. Nearly one-half the month of February across the state was below cow LCT, a period when cow nutritional needs are increasing as calving approaches or begins. As a reminder, cow energy needs increase 1% for each degree below LCT. Cows on marginal quality hay diets with little to no supplemental feed are showing the impact of this cold stress through loss of body fat (condition score).
With calving season underway for many herds and breeding season to begin in a few months, here are a few management considerations.

- Separate cows into feeding groups according to body condition. Cows that are excessively thin, especially young females, may not recover in time for spring breeding; therefore, the financial aspect of feed management for extremely thin females must be considered.
- Ramp up supplemental feeding programs as cows begin calving. This is particularly important for herds without spring pasture.
- Producers using tubs and liquid feeds for supplements will need to provide supplemental grain/byproduct high energy feeds as lick feeds don’t supply enough supplemental energy for lactating cows or for periods of cold stress.
- Do not allow cows to graze spring pasture until there is sufficient forage accumulation to support heavy grazing activity. If hay supplies are limited, substitution of grain for hay may be necessary until pasture forage becomes readily available.
- Feed magnesium to cows that will be calving during March on cool-season grass pastures.
- Regularly evaluate cow body condition from now through breeding. As breeding season approaches, evaluate the feasibility of ramping up feeding of moderately thin cows and the feasibility of short-term (48h) calf removal. These practices do not guarantee significant improvements in breed-up but may be worth trying as labor and finances permit.
- Use early pregnancy detection methods (ultrasound, blood test) to determine further management of cows that did not breed back.

As a final reminder, body condition at calving is critical to calving interval or overall pregnancy rate for a short breeding season. Winter weather in Arkansas is inconsistent; so, be vigilant at paying regular attention to cow condition and 5 to 7 day forecasts. Loss in body condition this winter may have partially been avoided or rate of condition loss slowed by good nutritional management (feeding gestating beef cows high quality hay or moderate quality hay with 3 to 5 lbs grain during cold stress). Most of the temperature departures that created cold stress were associated with cold air, not cold air plus a wet hair coat. In addition, 60% of winter days had substantial windchill (> 5 MPH wind) with an average daily temperature of 40F during those days; therefore, access to wind barriers could have made a difference as well.
SCOUTING FOR FREEZE INJURY TO BERMUDAGRASS FORAGE
Dr. John Jennings, Extension Forage Specialist

It has been some time since winter temperatures were cold enough to cause concern for injury to bermudagrass pastures and hay fields, but this winter’s weather is in that category. Cold injury to bermudagrass is hard to predict because soil moisture and snow cover interact with temperature to increase or reduce cold injury. In general, moist soil conditions during the cold temperature period reduces cold injury and dry soil conditions during extreme cold increases potential for cold injury. The water in moist soil tends to hold heat better than dry soil. Think of it this way - dry, cold conditions tend to freeze-dry plants and roots. The longer the cold, dry weather lasts the more potential for cold injury. Snow cover insulates the soil and protects plants from extreme temperature fluctuations. Conditions are very dry statewide and as of this writing, 50 counties are under burn bans. That along with the repeated cold temperatures plunges will likely cause cold injury to some bermudagrass fields.

Assessing cold injury can’t be done in the field until the bermudagrass begins breaking dormancy. Very cold-sensitive varieties may suffer complete winterkill whereas others may exhibit slower and later greenup than normal. This will increase weed pressure and reduce season-long yield. Low soil fertility increases cold injury potential especially low soil potassium levels. The relatively mild winters in the upper south over the past several years have allowed varieties of moderate freeze tolerance to escape injury that will occur with a cyclic return to more severe winter conditions. Fewer cold-tolerant seeded varieties are available than cold-tolerant sprigged varieties. Some of the best bermudagrass varieties grown along the Gulf Coast are prone to winterkill and winter injury in Arkansas.

Some cold sensitive varieties planted from seed include Arizona Common, Jackpot, and Giant. These are commonly included in seed blends to provide quicker cover and first year yield, but tend to winterkill over time leaving the more cold-tolerant variety of the blend. Giant bermudagrass is very cold sensitive and winter kills easily. Jackpot has shown poor cold-tolerance on several farms in north Arkansas. Common survives well in the southern half of Arkansas, but may likely show winter injury this spring across north Arkansas. The most common cold-tolerant seeded variety is Wrangler. Its cold tolerance is on par with many of the cold-tolerant hybrids grown in north Arkansas. Other commonly grown seeded varieties with moderate cold-tolerance include Cheyenne, CD-90160, and KF-194. All three have lower cold tolerance than Wrangler, but have been grown successfully in north Arkansas. The two numbered varieties are used in many seed blends sold in recent years.

When grown in colder climatic areas, varieties with moderate to low winter hardiness can be expected to begin growth later in the spring and require time to re-develop the sod density they had prior to the winter injury. This delayed spring growth makes them susceptible to weed invasion that will negatively impact their ability to reform the
sod cover. Cold sensitive varieties are at greatest risk the 1st winter after seeding. Thereafter, they tend to be less susceptible to winter injury, probably because of better developed root and rhizome systems. The winter hardy Wrangler will perform better than moderately winter hardy varieties in colder climatic areas but will not perform as well when winter injury is not a factor. Research in Haskell, Oklahoma in spring of 2001 following a cold winter showed much slower greenup of Cheyenne, CD-90160, and KF-194 than for Wrangler.

The best rated sprigged bermudagrass varieties for cold-tolerance include Midland 99, Ozark, Tifton 44, and Greenfield. Newer varieties such as Vaughns #1 and World Feeder also have shown good cold tolerance. Each of those six varieties are grown in north Arkansas with little cold injury. Some sprigged varieties that are cold-sensitive include Coastal, Russell, Alicia, Jiggs, and Tifton 85. These varieties are grown only in south Arkansas. But the northern limit keeps creeping northward. Jiggs was included in trials at Booneville and commonly suffered severe winter injury. Tifton 85 is the highest yielding and highest quality variety grown in the deep south but has lower cold tolerance than Coastal. Forage specialists from Georgia, Texas, and Louisiana suggest it's northern limit is near Shreveport, LA, but it is being grown in southern Arkansas.

Any variety with moderate or low cold tolerance, as well as those growing under fertility or other stress, should be checked closely this spring for signs of injury. Some practices that can improve recovery include proper fertility, judicious weed control, and proper grazing or hay harvest. Soil tests should be taken now to determine soil fertility levels. Fertilizer recommendations are specific for hay or pasture so be sure to note the intended use when submitting soil samples. Bermudagrass has very poor tolerance for shade so weed control is critical for winter damaged stands. Aggressive winter annual weeds or even ryegrass can form a heavy canopy in spring that delays bermudagrass greenup. The effect is much more severe on winter damaged fields. Many species of winter annual weeds are easily controlled with recommended herbicides or with properly managed grazing. Scout fields early and often to determine the best course of remediation. For more information, contact your county Extension office.

ANTIBIOTIC USE AND RESISTANCE

Dr. Tom Troxel, Extension Animal Science Specialist

The symposium Bridging the Gap between Animal Health and Human Health was developed by the National Institute for Animal Agriculture (NIAA) and conducted November 12-14, 2013, in Kansas City, Mo. The symposium was a continuation of discussions and sharing of information that commenced with the October 26-27, 2011, Antibiotic Use in Food Animals: A Dialogue for a Common Purpose symposium conducted in Chicago, Ill., and A One Health Approach to Antimicrobial Use & Resistance: A Dialogue for a Common Purpose symposium conducted November 13-15, 2012, in Columbus, Ohio.
NIAA is a non-profit, membership-driven organization that unites and advances animal agriculture: the aquatic, beef, dairy, equine, goat, poultry, sheep and swine industries. NIAA is dedicated to furthering programs working toward the eradication of diseases that pose risk to the health of animals, wildlife and humans; promote the efficient production of a safe and wholesome food supply for our nation and abroad; and promote best practices in environmental stewardship, animal health and well-being.

PURPOSE AND DESIGN OF THE SYMPOSIUM

The symposium provided a platform where animal health and human health scientists and other experts interacted, shared the most current science-based information as well as their professional insights and created an environment to learn from each other. Adding further dimension to the symposium were presentations by a consumer advocacy organization, grocery retailers, staff members and selected media representing agriculture and consumer advocates.

The goals of the 2013 symposium were the same as the 2012 symposium:

1. To lead and engage participants in an open conversation.
2. To build relationship within animal, human, and environmental health and gain a better understanding of other perspectives.
3. To find common ground and formulate a path forward.
4. To focus on continuous improvement and commitment to long-term animal health and human health.

EXECUTIVE SUMMARY

The 20 presentations delivered by antibiotic use and resistance experts representing animal health, human health and public health; a consumer advocacy organization; grocery retailers; staff members; and selected media representing agriculture and consumer advocates resulted in a robust dialogue and exchange of information.

The following points were among those brought forth during the Symposium by the speakers and participants:

1. The science behind the emergence, amplification, persistence and transfer of antibiotic resistance is highly complex and open to interpretation—and sometimes misinterpretation—from a wide variety of perspectives and misuse. If you think you understand antimicrobial resistance, it hasn’t been explained properly to you.

2. The extremely complex relationship between animal health, human health and environmental health is driven by two premises: 1) Antimicrobial resistance is a naturally occurring phenomenon that is present with or without the
use of antimicrobials; and 2) Anytime an antibiotic enters the ecosystem, it has the potential to contribute to the development of antibiotic resistance.

3. Antibiotic resistance is not just transferred from animals to humans; resistance is also transferred from humans to animals.

4. Antimicrobial resistance occurs not only in food-production animals and in humans but in companion animals as well.

5. Antibiotic resistance is not just a U.S. challenge; it’s an international issue that requires a strategic global One Health approach.

6. Evaluating antimicrobial resistance involves balancing risks vs. needs while constantly recognizing the importance of maintaining an efficacious arsenal of human antibiotics.

7. New tools that address food animal infectious diseases must be developed, whether they are in the field of prevention or new molecules for therapeutics.

8. Although food-borne illnesses are down 29 percent in the last decade, media hits on food-borne illness have increased 150 percent during the same time frame.

9. No antibiotic is guaranteed to kill 100 percent of the pathogens causing an illness.

10. The great majority of antibiotic classes used in human and animal health have very little or no overlap. The two classes with a higher level of overlap are the sulfas and macrolides.

11. Research studies and findings are often viewed through different lenses. Individuals can look at the same study and interpret the study very differently from each other based on their understanding of the science as well as their values and beliefs.

12. Decisions and policy should be grounded in science, and policy should be based on science. The question, however, is who decides what should be considered when making those decisions and policies. For effective interventions to complex problems, the solutions should be developed by including a broad representation of relevant stakeholders and their sometimes-competing perspectives and values.

13. Significant efforts are being led by the public health community to reduce inappropriate antibiotic prescribing in human health and reduce hospital-acquired infections. Agriculture needs to be open to change as well.

14. Change will happen. Open dialogue must continue, with animal agriculture at the table or change will be drastic and by statute and will not be a deliberative policy change.
15. Food animal production should enforce current regulations and address any antibiotic misuse or be prepared for an unfavorable outcome.

16. Solving antibiotic resistance requires collaboration and raises the question, “How does human health, environmental health and animal health work together to address antibiotic use and resistance?”.

CONTACT INFORMATION
For additional information you can contact the National Institute for Animal Agriculture at their website: www.animalagriculture.org

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