Be sure to register for the Forage Conference and the SW AR Grazing School & Field Day by calling our office at 870-779-3609.

To learn what we offer, please visit our www.uaex.edu/counties/miller or like us on facebook at www.facebook.com/millercountyuaex.

Sincerely,

County Extension Agent-Agriculture
JWC:jds

Forage Conference

Join us for our 2017 Forage Conference and Trade Show, being held at the Four States Fairground, 3700 East 50th Street, Texarkana, AR, March 31st.

Registration and Trade Show begins at 8:30 AM.
9:10 – 10:10 AM – Leasing Property, Tiffany Dowell Lashmet, Texas A&M AgriLife Extension

10:40 AM – Noon – Baleage, McCormick Producer Panel

12:00-1:00 PM – Lunch

1:00 - 1:45 PM – Management to Extended Grazing Season, Dr. Paul Beck, University of Arkansas

1:45-3:15 PM – Wildlife Forages, Corriher-Olson/Smith, Texas A&M AgriLife Extension

Alfalfa, Dr. John Jennings, University of Arkansas

Wildlife Nutrition with Forages, Bill Higginbotham

3:15-3:30 PM – Evaluation & Door Prizes

Adjourn

Early registration is $20 per person or $30 per couple. Call our office for more information.

Registration at the door is $30 per person or $50 per couple.

Southwest AR Grazing School and Field Day

Join us for our Southwest Arkansas Grazing School and Field Day, April 7, 2017, at the Southwest Research & Extension Center, Hope, Arkansas.

$10 pre-registration is due to the Little River County Extension Office by March 31st or the cost is $15 at the door

9:00 AM – Registration
9:30 AM – 300 Days of Grazing, Dr. Paul Beck
10:15 AM – Soil Fertility and Forages, Dr. John Jennings
11:00 AM – Electric Fence Demonstration, Kenny Simon
11:45 AM – Conservation District Programs
12:00 – LUNCH sponsored by Mine Creek, Hempstead, Nevada, & Pike Counties Conservation Districts
12:30 PM – Winter Annuals Harvest Data, Co. Agriculture Agents

1:00 PM – Field Observation of Winter Annual Plots
1:45 PM – Establishment Techniques – No-Till vs Broadcast & Seeder Calibration
3:00 PM – Evaluation and Adjourn

For a copy of the agenda and pre-registration form, visit http://bit.ly/28XBdMx
Grass Tetany: What It Is, How to Treat & Prevention

Grass tetany, a disease that commonly occurs in February, March & April, is due to an abnormally low level of magnesium in the cow’s body. This magnesium decrease can be indirectly caused by heavy pasture fertilization. When forages are fertilized heavily with potassium (potash), this can decrease the dietary absorption of magnesium in a cow’s gastro-intestinal system. Young, rapidly growing forage usually has an increased content of potassium.

These two aspects (fertilization and rapidly growing forage) are the reason this disease is normally seen in late winter and early spring when these causes are abundant. This disease typically occurs in older lactating cows. It more commonly affects cows with either very poor body condition scores or cows that are over-conditioned. Other factors that may play a role in the disease are weather – it is usually cloudy, misty and/or cold when this disease occurs – and stressors such as hauling, penning or heavy lactation.

Clinical signs associated with this disease range from slight changes in behavior to death. Early in the disease, cattle affected by grass tetany may show signs such as decreased appetite, decreased milk production, tendency to stay away from the herd, increased alertness and a stiff or unsteady gait. As the disease progresses, cattle may become recumbent & unable to get up. They will exhibit muscle tremors (spasms), protruding third eyelid, increased pulse and respiratory rates and eventually death if untreated.

The most important part of treating this disease is to correct the magnesium imbalance. This can be accomplished by administering 500mL of an IV electrolyte solution (CMPK). This solution should be administered slowly, and heart & respiratory rate should be monitored closely. After treating with the IV solution, one can then administer one tube of CMPK gel orally or give another 500mL bottle of solution intraperitoneally to decrease incidence of relapse. If clinical signs are mild, then Mg imbalances can be corrected by treating with approximately 150cc of a 20% Mg sulfate solution given subcutaneously in several injection sites.

Prevention of grass tetany can be achieved by providing a salt-mineral supplement containing at least 10% Mg. Several mineral feeders should be used if stocking rates are higher for the herd. Mineral feeders should also be conveniently located in the pasture so cattle have adequate access to them. It is also important to review fertilization practices to keep this disease less prevalent. Fertilization should be based on recent soil samples taken from the farm.

By Jeremy Powell
Associate Professor - Veterinarian

Calf Scours

Calf scours or diarrhea is a very costly problem for many producers. Calf scours is not the actual disease that plagues the calves, it is only the clinical sign we see. Calves suffering from scours can become critically ill in a short time. The pathogens that are the causative agents of this disease are not the actual causes of death in affected calves.

Dehydration, electrolyte depletion and acid-base imbalances are the underlying causes of the animal’s demise.

Several types of etiologies can lead to diarrhea in calves. The type of agent responsible for the neonatal diarrhea is usually determined by the calf’s age as well as the integrity of the calf’s immune system. If the calf fails to receive the proper amount of colostrum, it will be more susceptible to the pathogens that cause neonatal diarrhea.

The most important bacterial cause of scours in calves is Escherichia coli (E. coli). It typically affects calves from 1-5 days of age. By releasing a toxin in the intestine, it precipitates what is termed a hypersecretory diarrhea. Signs include severe watery diarrhea that is generally yellow to white in color. Calves are normally nonfebrile and exhibit no blood, fibrin or mucus in their stool. This particular E. coli is called the K99 strain due to a specific protein found on its outer surface. Diagnosis can be made using a K99 test kit to demonstrate the

Continued
Calf Scours - Continued

presence of this bacteria. Failure to promptly treat may lead to certain secondary problems (e.g. meningitis or polyarthritis).

A pathogen that can be highly fatal in young calves is *Clostridium perfringens*. It is usually seen in calves less than seven days old.

The clinical signs produced by this bacteria are due to its release of an enterotoxin. There are 6 types of toxins released by *C. perfringens*, of which types B, C & D seem to be the most important in calves.

This disease has a sudden onset & some calves will die without showing any symptoms. Usually it is associated with an increased intake in the calf’s diet. Therefore, if management practices (penning the cows separate from the calves) or the weather cause an increase in the interval between meals, a calf may overconsume milk and thereby establish the proper environment for the bacteria to grow.

Clinical signs include lethargy, abdominal distention, bloody diarrhea and uneasiness (straining or kicking at abdomen). Postmortem lesions normally seen are bloody, fluid-filled small intestines which give rise to the common name “purple gut.”

Primarily, two *viruses* can lead to diarrhea in young calves. One is a rotavirus and is very prevalent across the U.S. Estimates are that 80% to 90% of adult cattle are seropositive for this virus. The rotavirus survives well in the environment, affects the small intestines and leads to a malabsorptive diarrhea. Most calves infected are from 5 to 14 days of age. It leads to a mild disease that has a low mortality rate. Affected calves may only show clinical signs of diarrhea 1 to 2 days.

The other virus leading to neonatal diarrhea is a coronavirus. This virus also infects the small intestine and sometimes the proximal colon. It causes a more severe, prolonged disease than rotavirus. Most cases are seen in calves 1 to 3 weeks of age. Clinical signs include diarrhea & occasionally mucus or bloody discharge and increased straining if the colon becomes involved. Coronavirus leads to more intestinal damage and a longer recovery period than rotavirus.

Two types of *protozoa* cause diarrhea in calves. *Cryptosporidium* mainly affects calves 1 to 3 weeks of age and leads to a mild malabsorptive diarrhea. Calves usually exhibit good appetites but may show weight loss and emaciation if diarrhea continues for days to weeks. This disease has a low mortality rate and is primarily due to poor sanitation & management practices. One species of the *Cryptosporidium* is zoonotic, so people who treat infected calves should be diligent about sanitation practices.

Coccidiosis is a protozoal disease affecting calves 3 weeks of age and older. It usually involves young stressed animals. Stress may be related to overcrowding, sudden changes in feed or poor sanitation. These infections are usually self-limiting, and mortality rates are low. Symptoms include mild to severe bloody diarrhea, decreased appetite, lethargy (sluggishness) and dehydration. Clinical diagnosis is made by finding significant numbers of parasites in a stool sample. Hygiene, dry conditions & isolation of infected animals are indicated for further prevention of coccidiosis.

It is important to remember that when dealing with calf scours the key is to **prevent** the disease from occurring in the first place. In order to decrease the incidence of disease in the herd, a good producer should (1) maximize colostrum transfer, (2) increase environmental sanitation, (3) reduce stressors such as overcrowding or poor nutrition & (4) vaccinate bred cows for *E. coli*, rotavirus, coronavirus & *C. perfringens* at 60 and 30 days before calving.

**Recommendations** for diseased calves are:

1. Correct fluid deficits.
2. Treat electrolyte imbalances.
3. Provide nutritional support.
4. Administer a broad spectrum antibiotic.

Once dehydration status is estimated, oral or intravenous fluids may be used to correct this. Electrolyte powders can be added to oral solutions in order to correct imbalances. Since young animals have little energy reserve, these will be used up quickly during a diseased state. It is important to replace energy stores with oral or IV fluids containing glucose or dextrose supplements.

A broad spectrum antibiotic may be used in some types of infection. Antibiotics only work against bacteria, but if you have a viral infection, antibiotics will prevent a secondary bacterial infection from occurring. In the case of coccidiosis, a sulfadiazine, sulfamethoxazole sulfamethazine) or Amprolium should be used because they are effective against these parasites. It is important to consult with your local veterinarian, since he/she will know what diseases may be prevalent in your particular area. That will allow you to be more effective at preventing or treating calf scours in your herd.

*By Jeremy Powell*

*Associate Professor - Veterinarian*
Herd Health – Calving Time

* Observe cows closely at calving time.
* Remember, a clean pasture is probably the best calving area.
* Keep animals due to calve soon in an area where handling facilities are available.
* Have your veterinarian instruct you on how to handle maternity cases. Know what equipment and medication is needed and when you should seek professional help.
* First-calf heifers usually have more trouble calving than older animals and will need closer observation and assistance.

CALVES
* Dip the navel cords on all newborn calves with a disinfectant such as iodine or chlorhexidine.
* Make sure calves nurse and get colostrum (cow’s first milk) within one hour after birth. Keep frozen colostrum or commercial powdered colostrum on hand for emergencies. Have an esophageal tube available for use on weak calves.
* Identify calves with a uniquely numbered ear tag soon after birth.
* Castrate and dehorn calves at an early age. It is easier, causes less pain and allows fewer problems when done early.
* Vaccinate all calves with Blackleg 7-way and IBR BVD-PI 3 at 60-90 days of age.
* Have an accredited veterinarian vaccinate all replacement heifers between 4-12 months of age for brucellosis.
* Treat for internal parasites on a routine basis.
* For eye problems, after the veterinarian gives a diagnosis, follow the veterinarian’s advice as to treatment and preventative measures. Provide good fly control and observe closely to reduce losses. Vaccines are also available to aid in the prevention of pinkeye.

Cattle Vaccinations – Spring-Calving Beef Herds

* Vaccination programs will vary with the location of the farm and the type of production and should be planned with the guidance of a veterinarian.
* Vaccines are not a substitute for good management and prevention practices which include selective purchases, isolation and testing prior to the introduction of new animals into the herd.
* Try to give only subcutaneous vaccines and administer by the skin tent method.
* Store vaccines in accordance with labeling.
* Protect vaccines and filled syringes from sunlight and heat.
* Discard bent or broken needles. Change needles often (about every 10 animals).
* Clean syringes with hot distilled water (at least 212°F). Do not use soap or disinfectant.
* Closely observe cattle for the first month.
* Visibly sick cattle should be isolated and treated. Hospital pens should be maintained separately and at a distance from cattle on pasture.
* Provide (free choice) trace mineral salt and a balanced mineral.
* Provide easy access to clean water.

Winter Forage Conference

Will New Zealand-style Forage Management Work in Arkansas?

If you want to improve your forage system, we invite you to attend this conference, Thursday, February 23rd beginning at 9:00 AM at the Woodland Heights Baptist Church Education Building in Conway, Arkansas.

Learn:
- Results of Arkansas winter grazing demonstrations
- University of Arkansas winter annual forage research trial results
- New Zealand forage management systems

* How to produce better hay and baleage

Cost is $25 per person and $10 per student. For more information, call Linda McCargo at 501-671-2171. Registration can be paid at the door by cash, credit or debit card, or check.

[Image of cattle]
Health Calendar & Cattle Vaccinations – For Spring Calving Beef Herds

JANUARY THROUGH MARCH

1. Calving Season
   a. Heifers bred to calve Jan. 2 to March 1
   b. Cows bred to calve February 1 to April 1
   c. Observe cattle due to calve often: know about when labor begins; be present when help is needed; know when to call for veterinary assistance.
   d. See that calves get colostrum within 6 hours (preferably within one hour) after birth.
   e. If calved in confinement, soak calf’s navel in iodine preparation immediately.
   f. If delivery assisted, inject cow with antibiotic.
   g. Separate young and thin cows from mature and well-fleshed cows.
2. Evaluate bulls for breeding soundness.
   a. Complete physical examination.
   b. Rectal examination
   c. Semen collection and evaluation
   d. Mating behavior observed, if possible.
3. Vaccinate the breeding herd for *Campylobacter fetus* (vibriosis), leptospirosis, IBR and BVD.
   a. For cows and heifers, after calving and 30 days before breeding.
   b. For bulls, at least 30 days before breeding to allow sperm count to recover.

MARCH 26 THROUGH MAY 25

1. Breed heifers (have them to target weight).
2. Vaccinate calves with Blackleg 7-way.
3. Castrate and implant bull calves.
4. Remove horns from calves.

APRIL THROUGH OCTOBER

   a. Sprays, backrubbers, dusters, ear tags or VetGun.
   b. Use approved products according to label instructions.
   c. Rotate class of parasiticide.
2. Minimize pinkeye.
   a. Clip pastures, provide shade and control flies.
   b. Treat clinical cases immediately.
   c. Vaccinate for *Moraxella bovis*.
3. Consider an anaplasmosis control program.
   a. Establish a relationship with a veterinarian.
   b. Give medicated feed to suppress illness.
   c. Vaccinate for anaplasmosis (experimental drug is only available).
   d. Control vectors.
   e. Avoid transmission with needles, palpation gloves.

APRIL 25 THROUGH JUNE 23

Breed all cows.

AUGUST

1. Pregnancy exam all heifers (near August 1).
   a. Estimate calving date by early examination.
   b. Cull open heifers.
   c. Sell surplus pregnant heifers.
2. Plan for brucellosis vaccination of heifer calves.
   a. Must be done by a veterinarian accredited by the USDA.
   b. Vaccinate at 4 to 12 months of age.
3. Castrate bull calves if not done earlier.
4. Implant steer calves with growth implants.
   a. First time at castration regardless of age.
   b. Every 90-120 days thereafter until sold.
5. Deworm all calves.
6. Plan to vaccinate calves for leptospirosis at 60-90 days of age.

SEPTEMBER

1. Examine cows for pregnancy (near Sept. 1).
2. After examination, mark cows for culling.
3. Vaccinate cows for leptospirosis.
4. Treat all cattle for lice with a veterinarian – recommended product. Follow directions on label.
5. Vaccinate calves.
   a. IBR-PI3 (intranasal vaccine)
   b. Blackleg 7-way

NOVEMBER

1. Wean and weigh calves.
2. Deworm and implant steer calves to be held over.
3. Select replacement heifers (50-75% extra).
   a. Calculate feeding program to reach breeding weight by March 26.
   b. Feed in groups to achieve projected gain.
### TABLE 10-1. Vaccination Schedule: Heifers

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Vaccination Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brucellosis</td>
<td>Calfhood (4-12 months)</td>
</tr>
<tr>
<td>IBR</td>
<td>Before Breeding</td>
</tr>
<tr>
<td>BVD-PI₃</td>
<td>Before Breeding</td>
</tr>
<tr>
<td>BRSV</td>
<td>Before Breeding</td>
</tr>
<tr>
<td>Vibriosis</td>
<td>Before Breeding</td>
</tr>
<tr>
<td>Leptospirosis</td>
<td>Before Breeding</td>
</tr>
<tr>
<td>Blackleg 7-Way</td>
<td>Before Breeding</td>
</tr>
<tr>
<td>Anthrax</td>
<td>Optional as Directed</td>
</tr>
</tbody>
</table>

### TABLE 10-2. Vaccination Schedule: Cows and Bulls

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Recommended</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBR</td>
<td></td>
<td>Annual (Killed or Intranasal)</td>
</tr>
<tr>
<td>BVD</td>
<td></td>
<td>Annual</td>
</tr>
<tr>
<td>PI₃</td>
<td></td>
<td>Annual</td>
</tr>
<tr>
<td>BRSV</td>
<td></td>
<td>Annual</td>
</tr>
<tr>
<td>Leptospirosis (5-Way)</td>
<td>Recommended</td>
<td>Annual (every 3 to 6 months in some areas)</td>
</tr>
<tr>
<td>Vibriosis</td>
<td>Optional</td>
<td>Annual (30-60 days before breeding)</td>
</tr>
<tr>
<td>Trichomoniasis</td>
<td>Optional</td>
<td>Annual (30-60 days before breeding)</td>
</tr>
<tr>
<td>Pinkeye</td>
<td>Optional</td>
<td>As Needed</td>
</tr>
<tr>
<td>Anthrax</td>
<td>Optional</td>
<td>Annual</td>
</tr>
<tr>
<td>Blackleg 7-Way</td>
<td>Optional</td>
<td>Annual</td>
</tr>
</tbody>
</table>

### TABLE 10-3. Vaccination Schedule: Calves*

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Recommended</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blackleg 7-Way</td>
<td></td>
<td>Preweaning</td>
</tr>
<tr>
<td>IBR-BVD-PI₃</td>
<td></td>
<td>Preweaning</td>
</tr>
<tr>
<td>Leptospirosis</td>
<td></td>
<td>Preweaning</td>
</tr>
<tr>
<td>Brucellosis</td>
<td></td>
<td>Heifers (4-12 months)</td>
</tr>
<tr>
<td>BRSV</td>
<td>Optional</td>
<td>As Needed</td>
</tr>
<tr>
<td>Pasteurella</td>
<td>Optional</td>
<td>Preweaning</td>
</tr>
<tr>
<td>Haemophilus somnis</td>
<td>Optional</td>
<td>Preweaning</td>
</tr>
<tr>
<td>Pinkeye</td>
<td>Optional</td>
<td>As Needed</td>
</tr>
<tr>
<td>E. coli</td>
<td>Optional</td>
<td>Vaccinate Cows (prior to breeding)</td>
</tr>
<tr>
<td>Anthrax</td>
<td>Optional</td>
<td>As Directed</td>
</tr>
</tbody>
</table>

*Do not use modified-live products on calves that are still nursing cows.