

Beef CHAMPS

Beef Cattle Health and Management Production Strategies

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United States Department of Agriculture, University of Arkansas, and County Governments Cooperating

Animal Wellbeing Symposium Set for August 7th

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An exciting agenda has been set for the 4th Annual Symposium for Advances and Issues in Food Animal Wellbeing. The meeting will take place at the University of Arkansas Fayetteville campus on August 7 in Giffels Auditorium found in the Old Main building. Registration is \$25 and can be completed online at <http://foodanimalwellbeing.uark.edu/AnnualSymposium.html>.

This year's conference will cover many interesting topics including animal well-being, property rights, animal genetics, safe animal handling and food safety. Speakers for the program include:

- **Dr. Temple Grandin**, Professor of Animal Science, Colorado State University
- **Elizabeth Rumley**, Staff Attorney, National Agricultural Law Center
- **Dr. David Newman**, Assistant Professor of Animal Science, North Dakota State University

- **Dr. Yvonne Thaxton**, Director, Center for Food Animal Wellbeing, University of Arkansas
- **Dr. Janelle Yancey**, Meat Scientist, University of Arkansas
- **Dr. Joy Mench**, Professor of Animal Science, University of California - Davis
- **Dr. Mark Cooper**, Director of Genetics, Cobb-Vantress, Inc.
- **Dr. Paige Glover**, Aviagen Turkeys, Inc.

This daylong event will begin with registration at 7:30 a.m. with a continental breakfast being served. Welcoming comments and speakers will begin at 8:30 a.m. Lunch will be provided at noon, and the program will wrap up around 4:30 p.m.

For more information, contact your county Extension office.

Anaplasmosis Concerns

DR. JASON CATER, ASSISTANT PROFESSOR/EXTENSION VETERINARIAN

Here in Arkansas we are quickly approaching the time of year when anaplasmosis becomes a concern for cattle producers. Late summer through fall is when we typically see outbreaks around the state. In many cases, even the most astute cattle producer may not recognize the early signs of this

disease and, therefore, may miss the opportunity to provide effective treatment in a timely manner.

Anaplasmosis in cattle is an infectious, transmissible, tick-borne disease caused by a bacterial organism known as *Anaplasma marginale*. It is

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transmitted by ticks, large biting flies and contaminated needles or surgical instruments. The incubation period for the disease is 21 to 45 days, with an average length of 30 days. Clinical signs can vary from acute severe disease to subclinical infection, depending on age of the animal and differences in bacterial strains.

Early clinical signs include an elevated rectal temperature, pale mucous membranes, decreased appetite, lethargy, decreased milk production and weakness. As the disease and severity of anemia progress, weight loss, yellow mucous membranes, nervousness, staggering, excitation, abortion and death may result. Pale or yellow mucous membranes can be seen by opening the vulva or looking at the soft tissue around the eye. Death is due to destruction of large numbers of red blood cells, which inhibits the animal's ability to provide oxygen to the tissues.

Cattle under one year of age are usually only mildly affected. Cattle 12 to 24 months of age can show acute signs of the disease, but it is rarely fatal. Animals that are over two years of age will show acute signs of disease, and mortality rates can be as high as 50 percent for animals left untreated. These cattle may become aggressive as the disease progresses and, therefore, caution must be used during handling.

Often you will notice affected animals separate from the herd or possibly standing in available water sources. Infected cattle may have increased fly numbers and visible evidence of blood draining from recent fly bites. The blood becomes thin due to anemia and tends to drain easily from bite wounds. Although not common, abortion can take place, especially

during the last trimester. In some cases, it is possible that abortion could be the first sign of disease noticed within a herd.

Diagnosis is usually made based on clinical signs; however, blood samples can be taken for definitive diagnosis. These samples can be stained and viewed microscopically, revealing the organism on the edge of the red blood cells. Also, more advanced blood tests such as the ELISA or PCR are now available in many laboratories and provide a greater level of accuracy in diagnostic testing.

Tetracycline is the antibiotic of choice for treating anaplasmosis. Currently, this product can be purchased over the counter and is readily available from most animal health suppliers. Oxytetracycline should be given intravenously at 11 mg/kg once daily for 3 to 5 days depending on treatment response. Alternatively, two administrations of a long-acting oxytetracycline at 20 mg/kg IM 72 hours apart have also proven effective. It is also beneficial to administer an anti-inflammatory medication for fever reduction, pain and inflammation.

These treatments for acute infection may not provide complete clearance of the organism and may result in persistently infected carrier animals. Treatment for persistently infected carriers should consist of 20 mg/kg IM of a long-acting oxytetracycline every 3 days for a minimum of four consecutive treatments.

It is very important to limit the amount of stress on any animal with anaplasmosis. Due to their reduced ability to oxygenate tissues, one of the most difficult aspects of this disease is safely moving the animal to a facility for treatment. Even in low-stress handling situations, these cattle

can collapse suddenly and die. Therefore, it is vitally important that handling, transport and treatment stress be kept to a minimum.

There are several factors that must be considered when developing strategies for anaplasmosis prevention. First, it is very important to be mindful of contaminated needles and surgical instruments. When performing herd vaccinations, needles should be changed regularly (every 10 head) or when moving to a different location to prevent spread of disease to multiple animals. Also, surgical instruments such as castration knives, dehorners or tattoo instruments should be kept in clean disinfectant between uses.

Insect control should be part of any anaplasmosis control strategy. Although difficult, reducing insect vectors can greatly reduce the ability of this disease to spread throughout the herd. Insecticide control could consist of spraying cattle with the appropriate chemical or using newer technology such as the Vetgun, which applies insecticide while cattle are in the field, greatly reducing stress and handling.

Feeding chlortetracycline during the vector season in medicated feed can also be an effective method of control and prevention. We must remember, however, to begin feeding this product early in the vector season due to the 21- to 45-day incubation period of the disease.

For more information on anaplasmosis or other diseases affecting cattle, contact your herd health veterinarian or local county Extension office.

Bull Buyer's "Decisions, Decisions"

BRYAN KUTZ, INSTRUCTOR

Purebred bull sales are fast approaching this fall, and it is never too early to begin planning for your next herd bull purchase. Underestimating the power of your bull can be a huge production error. Selecting and purchasing your next herd sire could be considered the most important decision you make in your operation. Keep in mind that your bull will account for approximately 90 percent of the gene pool, contributing more to the genetic makeup of a herd in one breeding season than a cow contributes in her lifetime.

- **Cost of Bull Purchase**

This investment should add efficiency and profitability to your herd for years to come. The cost of purchasing a bull may seem high at a glance; however, that expense becomes relatively small when it is spread over three to five years of calf crops. Remember that the expense of the new bull can be calculated as the difference between the purchase price of the new bull and the salvage value of the old bull. And, if you add pounds to your future calf crops through your new purchase, then you will have profitable returns on your investment.

- **Genetic Tools**

Evaluate your current cow base and calf crop and make a decision based on your results. Your bull should complement your cows in

hopes of increasing hybrid vigor and improving traits that will maximize your production goals, match target markets and improve bottom line profitability. Ask questions that pertain to your particular production situation and utilize breed associations' NCE programs. Breeders should have performance EPDs available for you. Birth weight, weaning weight, yearling weight and milk values are commonly available; however, most breed associations now have a plethora of EPDs that include carcass traits as well. Advances in National Cattle Evaluation have made estimating a bull's genetic worth more accurate than ever before. EPDs allow valid comparisons of all bulls of the same breed. Across-breed charts are now available so comparisons can be made between two different breeds.

- **Visual Factors**

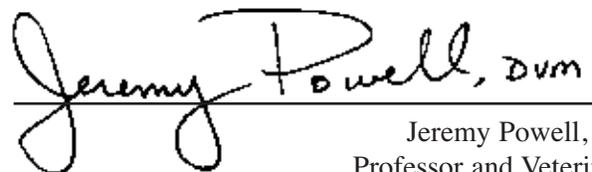
The bull you purchase should be functionally sound, resulting in herd sire longevity and ability to fulfill his breeding requirements. At most sales, a Breeding Soundness Exam has been performed, but if you are buying from an individual, always request a BSE. Remember that a bull is only as good as his semen. A cow is responsible for half the genetic material in only one calf each year, while the bull is responsible for half the genetic material in 20 to 50 calves. The

bull's ability to locate cows in estrus and breed them is clearly vital to a successful breeding program. Other factors to consider are disposition, libido, body shape, frame size, condition and muscling.

- **Bull Power**

Age, condition and length of breeding season are factors that may affect the number of cows one bull can cover. You cannot expect excessively fat or thin bulls to perform up to standard. Poor nutrition can influence semen quality, and fat bulls may lack staying power or stamina. Nonetheless, a yearling bull in good breeding condition should be expected to breed 20 to 25 cows, while a mature bull could potentially breed up to 40 or more cows.

While one approach may be to apply more pressure on one or two traits, it is always best to strike a balance among various traits and avoid extremes. Purchase a bull based on the purpose of your breeding plan. This process must include those traits that are economically important and highly heritable. Your records are necessary if you are to choose a bull that will improve your cow base. Keep in mind that not every bull will fit your production scenario, but the decision you make with your purchase will influence your beef production for the next several years.



Jeremy Powell, DVM
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