



Beef Tips

January 2015

Department of Animal Sciences & Industry

www.asi.ksu.edu/beeftips

Upcoming Events

2015 Calving Schools

January 2015
Multiple locations
See pg 4 for more information.
www.KSUbeef.org

Tri-State Cow/Calf Symposium

Jan. 7, 2015
Yuma, CO
www.KSUbeef.org

Winter Ranch Management Series

January 2015
Multiple locations
See pg 4 for more information
www.KSUbeef.org

Planning for Farm & Ranch Succession

Jan. 5 - Iola, KS
Jan. 10, Pratt, KS
Jan. 16 - Manhattan, KS
Jan. 17 - Emporia, KS
March 3 - Hays, KS
www.ksre.ksu.edu/kams

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Avoid loss from purchased disease; isolate and test to protect the cow herd

Gregg Hanzlicek, DVM, production animal field investigations director

Many diseases that occur in the cow-herd are purchased--meaning many diseases enter the herd through purchased cows, heifers, and bulls. Without exception, keeping diseases out of the cow-herd is much easier than attempting to eliminate the diseases once they are present. The term for herd health programs designed to keep disease out of a herd is called "biosecurity".

There are several diseases that cow-calf producers should concentrate on when designing a biosecurity program. Some examples include Johne's, Anaplasmosis, Salmonellosis, Bovine viral diarrhea (BVD), and Trichomoniasis. Although all of these diseases are important, two are extremely important: BVD and Trichomoniasis.

Bovine viral diarrhea is a disease that can have a huge negative impact on the breeding success of the cow-herd. The presence of BVD can manifest itself through reduced fertility, increased early embryonic death, and abortions. It is spread through contact with several body fluids including saliva, uterine, and respiratory secretions. Additionally, close nose to nose contact can also pass the virus from one animal to another.

The animal which provides the largest potential for spreading this disease is the persistently infected calf. We call these animals PI's. These are calves that were exposed to the BVD virus during the first four months of gestation. The calf's dam is exposed to the virus and passes it to the calf through the placenta. The calf, at this stage of gestation, cannot recognize the virus as being foreign so it allows the virus to enter all its cells to live and reproduce. Some calves exposed to BVD during gestation will be lost before birth, but a

percentage will be born alive, and most will appear to be normal. Although they may look normal, these PI calves are walking BVD virus transmitters, and they never stop transmitting the virus; therefore, reducing performance and/or fertility of any herd mates they contact.

To prevent BVD from entering the herd, several measures must be taken. One, all animals (bulls, cows, heifers, calves) which come from outside sources must be tested to be PI negative before entry into the herd. Two, all animals from outside sources must be isolated for 30-45 days before exposure to the rest of the herd. (Isolating animals returning from shows is also a good policy.) Although PI's pose the biggest threat to BVD entry, some infected animals will be short term BVD carriers. Isolation from the herd will allow these short-term carriers to clear the BVD infection thus no longer posing a threat. Three, all calves born to cows or heifers from outside sources that are already pregnant upon arrival must be PI tested at birth. It is dangerous to test the dams, and conclude if they are negative so too will be their calves. Most PI calves are born to non-PI dams! Four, assure the herd is on a well-designed BVD vaccination program. No vaccine can prevent all disease, but providing a proper vaccination program will help reduce the risk of BVD infection in the herd should exposure occur.

Another disease to guard against is Trichomoniasis or Trich. This is a disease which can only be spread during the breeding act. A herd infected with Trich usually has a large percentage of open cows. Some herds can experience a 60% or greater open cow rate when Trich is present.

continued...see Loss on page 3

“You can’t manage what you don’t measure.”

Tally Time – Preparing for Calving Season

Sandy Johnson, livestock specialist

The checklist below is designed to help you plan and prepare to improve the success of your calving season and weaned calf crop.

- Balance cow rations for adequate protein and energy for increased third trimester and subsequent lactation requirements. Group and feed cows by body condition and age to the degree possible. Target body condition for first calf heifers at calving of 5.5 to 6 and 5 to 5.5 for mature cows.
- Develop sound vaccination program to prepare the cow to produce high quality colostrum.
- Control lice and internal parasites.
- Plan for recording calving data and consider ways to backup records.
- Make sure calving facilities are clean and in good repair
- Plan for ear tags, tattoos, scale or weight tape, banding or castration.
- Check flash lights and other quality portable light sources.
- Check-list for calving assistance
 - OB chains, calf puller, OB gloves, OB lube (non-detergent soap & water is one option), non-irritant antiseptic (Betadine or Nolvasan), flank rope to lay cow down
 - A cooler can be used to keep warm water in calving barn if no other source available.
 - Old towels or similar
- Review basic treatment plans with local veterinarian for retained placenta, calf scours, colostrum supplements and ensure necessary treatments and supplies are on hand or readily available. Include a working thermometer.
- Have on hand at least 2 clean and functional esophageal tube feeders, clearly marked, one for healthy calves, one only used for sick calves.
- Plan and watch for opportunities to collect colostrum from within the herd. Date and freeze in quart sized plastic bags for future use.
- If replacement calves are obtained from outside the herd, plan for their isolation and testing before exposing to entire herd.
- Plan for severe weather; wind, freezing rain and blizzards are not uncommon. Plan for correcting calf hypothermia. Calf shelters should be in good repair, bedding on hand. Plans for portable windbreaks and calf shelters are available from your local extension office.
- Shift feeding to dusk or later to promote day time calving one week before anticipated start of calving season.

Develop standard operating procedures for calving and providing assistance. Include contact information for individuals who can provide more expertise or assistance as required. The following suggestions on when to intervene are from RG Mortimer, DVM.

- You suspect cow has been in Stage 1 over 8 hours. Stage 1 characteristics; restlessness, pain, lie down and get up frequently, seek isolation (signs more apparent in first-calf heifers than mature cows).

Stage 2 –

- Water sack visible for 2 hours and cow is not trying
- Cow trying for over 30 minutes and no progress is being made
- Cow has quit trying for over 15-20 minutes after a period of progress
- Cow or calf showing excessive fatigue or stress (swollen tongue or excessive bleeding)
- You can observe the calf presentation is other than two front feet and head first.

When Calving Starts

- Calves should have colostrum within first 2 hours of life, if calf can’t get colostrum from dam, take steps to give colostrum within 4-6 hrs of birth.
- Warm a hypothermic calf before feeding colostrum so absorption can occur.
- Colostrum volume should be 10% of calf’s body weight, 0.5 – 1 gallon. If supplementing colostrum, don’t over feed, to encourage calf to nurse on its own; a 1.5 quart dose is a good starting point for an average sized calf.
- Handle healthy calves before sick calves and avoid exposing newborns to contaminants on clothing or materials used on sick calves.
- If a cow is brought in for any amount of calving assistance, make sure she leaves with a clean udder.

Work towards developing a notebook that has all the standard operating procedures for your operation. Include things like yearly vaccination plans, treatment protocols, calving and calving assistance protocols, euthanasia protocols, drought management plans and weather emergency plans. This will be a valuable resource when communicating with employees new and old, when reviewing what needs to be improved for the next year or if a health emergency forces someone else to take care of the herd.

Inaugural Sunflower Supreme Year Successful

Jaymelynn Farney, beef systems specialist

The Sunflower Supreme Replacement Heifer program has completed the first year for spring-calving heifers. The first year of the program, focused in Southeast Kansas, had 33 producers from 13 counties join. They enrolled 1,000 head of heifers after the pre-breeding exam and 750 of these heifers were certified in October and November. The heifers that were not certified were heifers that were retained on the operation, marketed prior to certification, or had something disqualifying the heifer from being certified.

At the inaugural sale hosted by the Parsons Livestock Market in Parsons, KS, 439 spring-bred heifers were marketed on November 14th, 2014. The heifers averaged \$2,588 and the total sales equaled \$1,136,275. The range of values was between \$2,250 and \$3,300. Of the Sunflower Supreme branded heifers marketed in the special sale, 371 black and black baldy heifers averaged \$2,588 and 68 non-black heifers averaged \$2,575.

When comparing average values of heifers that were from the same ranch, in which both artificial insemination (AI) and natural service were used there was a \$224 advantage to AI bred heifers (\$2,698 vs. \$2,474). This same advantage was observed when certified Sunflower Supreme heifers were marketed at the special cow sale in Manhattan, KS in December where AI bred heifers averaged \$300 more than those that were bull bred.

Fall-calving heifers in Southeast, KS are working through the guidelines for the program and are being exposed to breeding right now. For producers interested in enrolling in the Sunflower Supreme program for spring-calving operations the deadline for enrollment is February 1. If interested visit with your local agriculture agent for information about the program and signing up. You can also find information about the program at www.sunflowersupreme.org or by contacting Jaymelynn Farney at 620-421-4826 ext. 17. Updated guidelines for the program will be posted online by the middle of January, so please look through some of the minor changes associated with the 2015 program.



Loss continued from page 1

Bulls are the primary carriers of Trich, and they are considered to be carriers for life. Although older bulls are more likely to be lifelong carriers, bulls of all ages can carry Trich organisms. More than one yearling bull has been found to be Trich positive. Open cows, and cows less than 120 days pregnant are also potential Trich carriers.

One of the biggest risks for purchasing Trich is buying, leasing, or borrowing used cows or bulls. Using them can be part of a successful program, but these practices present a huge risk for bringing Trich into the herd for the reasons mentioned above.

To reduce the risk of introducing Trich into your herd, buying virgin bulls is the best practice. Because this disease can only be contracted through the breeding act, virgin bulls will not be Trich carriers. If bulls of unknown reproductive experience are to be brought into the herd, each bull needs to be Trich tested before entry. If these bulls are from herds with no history of Trich, one negative test is appropriate. If they are from operations of unknown Trich history, then at least two negative tests need to be completed before entry. Sampling open cows is not routinely practiced because of the cost and that the test was designed to be used on bull samples.

Another Trich risk factor is pasturing next to an infected herd or herd which practices high risk behaviors such as purchasing used cows and bulls. No fence can keep all cows and bulls from getting into neighboring pastures. It is not always practical to pasture away from neighbors, but any mixing of the herds can potentially spread Trich into your herd.

Trichomoniasis vaccines are not usually a component of a Trich biosecurity program because the vaccines are not very effective. These vaccines do not prevent infection but may slightly reduce the percentage of lost pregnancies. It is therefore much more important to base a Trich biosecurity program on allowing only animals that are at a very low risk of being carriers to enter the herd.

Fortunately, many of the important diseases which occur on the cow-calf operation are purchased diseases. This means many times the disease can be prevented from entering the herd through effective biosecurity programs. An effective biosecurity program designed to minimize the introduction of these diseases into your herd is well worth the time, effort, and monetary investment. Your local veterinarian is the best resource to help customize a program for your operation. Remember, disease prevention is much easier than disease elimination.

“Although they may look normal, these PI calves are walking BVD virus transmitters, and they never stop transmitting the virus; therefore, reducing performance and/or fertility of any herd mates they contact.”

Beef Tips
January 2015

2015 Calving Schools

Inman, KS

January 6, 2105 at 5:30 p.m.
Community Building
Darren Busick, darrenbusick@ksu.edu
620-662-2371

Protection, KS

January 7, 2015 at 11:30 a.m.
Legion Hall
Aaron Sawyers, asawyers@ksu.edu
620-582-2411

Johnson, KS

January 7, 2015 at 5:30 p.m.
4-H Building
Jeff Wilson, jjwilson@ksu.edu
620-492-2240

Atwood, KS

January 8, 2015 at 11:30 a.m.
4-H Building
Jo Argabright, joargabright@ksu.edu
785-626-3192

Wakeeney, KS

January 8, 2015 at 5:30 p.m.
4-H Building
Scott (Bronc) Barrows, rsbarrow@ksu.edu
785-743-6361

Please RSVP to the local extension office for the above schools by **January 2nd** to ensure a meal. Charges (nominal) vary by location.

Salina, KS

January 14, 2015 at 6:00 pm
Webster Conference Center
2601 North Ohio St
Anthony Ruiz, anruiz@ksu.edu
785-292-2147
RSVP by Jan. 7

Manhattan, KS

January 20, 2015 5:00 pm
Manhattan Commission Company
8424 East Hwy 24
Manhattan, KS
Austin Sexton, ajsexten@ksu.edu
785-457-3319
RSVP by Jan 16

Winter Ranch Management Series

The 2015 Winter Ranch Management Seminar Series will start with a series of short presentations focused on replacement heifer selection, management and breeding followed by a 'Town Hall' Q&A session where producers can ask their questions to local/district and state extension specialists.

LaCrosse, KS

January 6, 2105 - 5:00 - 8:30 p.m.
LaCrosse Livestock Market
2340 US 183, LaCrosse, KS
785-222-2710

Mound City, KS

January 8, 2015 - 5:30 - 9:00 p.m.
First Baptist Church
8424 Paine Road, Mound City, KS
913-795-2829

Hill City, KS

January 15, 2015 - 10:00 a.m. - 2:00 p.m.
4-H Building
Graham County Fairgrounds, Hill City, KS
785-421-3411

Beloit, KS

January 15, 2015 - 5:30 - 8:30 p.m.
North Central Kansas Technical College,
Student Union Conference Room
3033 US Hwy 24, Beloit, KS
785-738-3597

Herington, KS

January 27, 2015 - 10:00 a.m. - 2:00 p.m.
Herington Community Building
810 S Broadway, Herington, KS
620-767-5136

Wamego, KS

January 27, 2015 - 5:00 - 8:30 p.m.
Mount Calvary Lutheran Church
17535 Say Road, Wamego, KS
785-457-3319

Overbrook, KS

January 29, 2015 - 5:30 - 9:00 p.m.
Grace Community Church
310 E 8th St, Overbrook, KS
785-828-4438

Please RSVP to your selected location contact by close of business the **Friday before the event**. Registration fees which includes meal and payment forms may vary by site.

Cold Stress: What is Cold to a Cow?

Justin Waggoner, beef systems specialist

As we all know there is no typical weather pattern in Kansas. We experienced a mild fall this year and thus far winter has been interesting in the Sunflower State with record high temperatures followed by brutally cold and windy days. The downside is that we don't know what might happen in the New Year, as we approach what are typically the coldest months of the year. Most cattle producers know and appreciate that cold weather increases nutrient requirements. However, the obvious questions that come to mind are "What is cold to cow?" and "What increases (energy, protein etc.) and by how much?"

Cattle are most comfortable within the thermoneutral zone when temperatures are neither too warm nor too cold. During the winter months cattle experience cold stress anytime the effective ambient temperature, which takes into account wind chill, humidity, etc., drops below the lower critical temperature. The lower critical temperature is influenced by both environmental and animal factors including hair coat and tissue insulation (body condition). The table below lists the estimated lower critical temperatures of cattle in good body condition with different hair coats. In wet conditions cattle can begin experiencing cold stress at 59°F, which would be a relatively mild winter day. However, if cattle have time to develop a sufficient winter coat the estimated lower critical temperature under dry conditions is 18°F.

Estimated lower critical temperatures for beef cattle	
Coat Condition	Critical Temperature
Wet or summer coat	59°F
Dry fall coat	45°F
Dry winter coat	32°F
Dry heavy winter coat	18°F

Cold stress increases maintenance energy requirements but does not impact protein, mineral or vitamin requirements. The general rule of thumb (for a cow in good body condition, BCS = 5 or greater) is to increase the energy density of the ration by 1% for each degree (Fahrenheit) below the lower critical temperature. The classic response to cold stress in confinement situations is an increase in voluntary intake. However, it has been documented that grazing beef cows may spend less time grazing as temperatures decline below freezing, which reduces forage intake (Adams et al., 1986)

and makes the challenge of meeting the cow's nutrient requirements even greater. In many cases feeding a greater amount of low-quality hay may not provide sufficient energy. Therefore providing additional energy by feeding a relatively higher-quality hay or grain may be required. More information on cold stress and nutrition may be found in "Beef Cow Nutrition Guide", Publication #C-735 which may be accessed online at <http://www.ksre.ksu.edu/bookstore/pubs/C735.pdf>.

"The general rule of thumb (for a cow in good body condition, BCS = 5 or greater) is to increase the energy density of the ration by 1% for each degree (Fahrenheit) below the lower critical temperature. "

