



DAIRY NOTES



January 2004

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South Valley Dairy Day January 21st in Tulare

Finding and keeping employees, risk factors for environmental strep mastitis and updates on BSE (Mad Cow disease) and air quality issues related to dairies are topics that will be presented at the annual South Valley Dairy Day in Tulare on Wednesday, January 21st. The event will begin at 10 am at the Tulare County Ag Building on Laspina across the street from the Farm Equipment Show. We've added a new feature sure to be of interest to those who struggle to get cows bred back. Several local dairy veterinarians have been invited to participate in a discussion on how to improve reproductive efficiency. The complete program agenda is attached to this newsletter. You will notice that the exact same program will be held on the following day in Merced (Mid-Valley Dairy Day), so be sure to tell your dairy friends up north not to miss it!

Bovine Spongiform Encephalopathy— Local impact and implications for downers

Just before Christmas last month, shock waves were felt in farm communities throughout the country when news broke of a Holstein cow with BSE (also known as Mad Cow disease) in Washington State. Since then, this one dairy cow has been confirmed as the first case of BSE in the US. Subsequently, the case was linked by DNA evidence to Canada, where another cow with BSE had been discovered in May of 2003.

Local fallout following the news

The news shook up local markets. In the Hanford-Tulare area, prices paid for top cull dairy cows plunged from an all time high of 58 to 62¢/lb two days before Christmas to 45¢/lb two days after Christmas. The price went back up during New Year's week (52¢) and on

January 6 dropped again to 47¢, (that may have been due to very high volume experienced that day). Bull calves, which had been fetching top dollar before the news, dropped from \$150 per head to \$50. At one point calf buyers didn't even pick up calves from some dairies for a few days because of the market uncertainty. Those that did could not give a price. Prices for feeder steers have dropped too. Volatile prices may prevail for awhile on the beef side of the business. Fortunately, there doesn't seem to have been much impact on the dairy side, with prices for close-up springers and younger heifers steady.

I checked the local consumer "pulse" at a Hanford grocery store earlier this week by talking to the attendant stocking the meat case. I asked if shoppers had backed off beef or expressed concern about the disease. He said that he had not noticed any change in buying habits, and I was only the second customer who had even broached the subject with him. So I loaded up the cart with tri-tip and went home for dinner.

Rather than reiterate information about BSE that is already widely available (see listing of sources following), I will use this opportunity to remind those of you involved in the day to day operation of a dairy farm about important, common sense and practical details regarding downer cows. As dairy producers you work hard to ensure the health and productivity of your cattle, but unfortunately, even under the best management conditions there are a few animals that become sick, injured or disabled.

Humane euthanasia –quick and painless death
Downer cows- those that are non-ambulatory (they can't walk)- can no longer go to slaughter. They are banned from the human food supply.

That means they must be HUMANELY killed (euthanized) on your farm and delivered to a rendering plant. In many cases, producers leave the job of euthanizing to the rendering truck driver. The drivers carry .22 caliber rifles and have been trained to do the job correctly. If the truck is delayed because of a weekend, holiday or for any other reason, then you must be prepared to do the job yourself or have one of your employees trained to humanely euthanize the animal. Never leave an animal suffering needlessly for any period of time.

What is humane euthanasia? Providing a quick and painless death for an animal suffering from an incurable disease or painful trauma. The only practical methods of euthanasia on the dairy farm are gunshot or captive bolt. There is currently no acceptable chemical method for use by dairy producers to euthanize cattle. Barbiturates can be used, but only by a licensed veterinarian. NEVER try injecting any chemicals commonly found on the dairy – this may only produce more suffering and is not acceptable to the renderer.

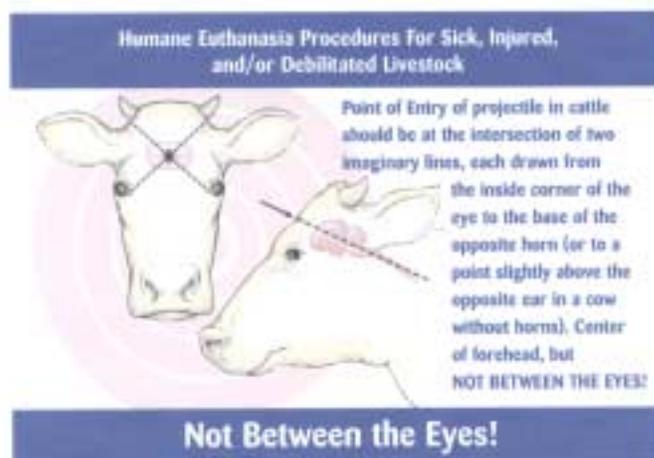
Captive bolt “guns” or stunners are either penetrating or non-penetrating. Penetrating captive bolt guns cause immediate brain tissue destruction. Both types cause stunning of the animal so that they will drop, but an additional step of bleeding out (exsanguination) MUST be used to ensure death after the use of the non-penetrating gun. Captive bolt guns are expensive – one source can be found at an on-line catalog web site <http://www.kochsupplies.com/>

Gunshot is the preferred method. If preformed skillfully, gunshot causes instantaneous death, is inexpensive and does not require close contact with the animal. It should only be attempted by individuals trained in the use of firearms that understand the potential for ricochet. The procedure requires selection of an appropriate firearm and bullet with sufficient velocity, energy and size to pass through the skull and cause massive brain destruction. A .22 caliber long rifle bullet is sufficient for most animals. Hollow or soft point .22 caliber bullets increase brain tissue destruction, but may not penetrate

the skull in adult animals. Bulls require larger caliber such as a 9mm or .357 because of thickness of the skull. At all times care must be taken to avoid danger to the operator, to bystanders and to other animals. From that standpoint, a rifle is safer than a pistol.

Proper placement of the bullet is essential!

This is best achieved by holding the firearm at least 2 to 10 inches from the intended target. The firearm should not be held against the head. Point of entry of the projectile should be at the intersection of two imaginary lines, each drawn from the inside corner of the eye to a point slightly above the opposite ear (or the base of the opposite horn in cows with horns). So center of forehead, but **NOT BETWEEN THE EYES!** Tail chalk can be used to actually draw the lines on the animal providing a bright orange “X” target to help ensure that you get it right the first few times. If the animal is lying flat with her head on the ground, you will also have to position yourself low for proper placement.



Source University of Florida Extension, College of Veterinary Medicine, IFAS.

Where to find more information about humane euthansia-

There are several web sites where you can find more details. Much of the information cited here, including the diagram above came from the University of Florida Extension website <http://www.vetmed.ufl.edu/lacs/HumaneEuthanasia/pref.htm> where you can find posters, brochures, desk and wallet cards in English and

Spanish for quick reference. (A limited number of these will be available at South Valley Dairy Day – January 21st). The American Association of Bovine Practitioners also has a brochure, which can be found at www.aabp.org/euth.pdf I have copies of these at my office that I would be happy to share. Also, the University of California School of Veterinary Medicine recently completed a training video on humane euthanasia using the captive bolt method. Contact Dr. Jim Reynolds at the UC Vet Med Teaching and Research Facility, 559-688-1731, if you are interested in seeing it.

A final word about handling carcasses. There are still too many dead cows going down the road on flatbeds for all the world to see. I've said it in a previous newsletter, and I'll say it again. Use common sense. Secure the load. Use back roads. Better yet, don't haul them at all – let the professionals do it. The monthly fee that you pay to Baker Commodities is money well spent to preserve the public's confidence in your product.

Where to find more information about BSE

www.bseinfo.org

www.usmef.org

www.usda.gov

www.beef.org

www.aphis.usda.gov/lpa/issues/bse/bse.html

Treating Calf Diarrhea with Banamine

John Kirk, DVM, MPVM, UC Cooperative Extension

A USDA report from the mid 1990's indicated that by the fifth week of life, greater than 25% of dairy calves had been treated for diarrhea, also known as scours. The report also indicated that dairy producers thought scours caused more than half of the calf deaths in heifer calves being raised as replacement animals.

Many different approaches have been suggested for the treatment of calves with diarrhea. The treatments most often include antibiotics by various routes of administration along with supportive fluids given orally or intravenously. A recent report from California suggests that under certain circumstances the use of banamine (flunixin meglumine) may reduce the number of

days of sickness. Banamine is a drug that is used in most instances to reduce fever and inflammation.

Holstein bull calves were used in the California study that was carried out on a commercial calf ranch. One hundred and fifteen (115) calves from 1-21 days of age were enrolled in the study. At the first sign of diarrhea, one third of the calves received no banamine; one third got a single dose of banamine (1 mg/lb body weight); and one third got 2 doses of banamine 24 hours apart. The banamine was given intramuscularly. Assignment to treatment groups was made on a random basis. Calves were evaluated daily for rectal temperature, fecal consistency, attitude and skin elasticity through their first 21 days on the calf ranch. The days of sickness were also recorded.

Results of the study showed that calves that had blood in their feces benefited from a single dose of banamine given at the first sign of diarrhea. Calves treated in this manner had fewer sick days and received fewer antibiotic treatments compared to the non-treated or twice-treated calves with blood in their feces. The presence of blood in feces can be an indication of severe inflammation of the tissue lining the intestines. So the banamine probably improved the recovery in this group of calves because of the drug's anti-inflammatory effect on the intestinal wall. Calves without blood in their feces did not benefit from banamine treatment. All calves with diarrhea were also treated by the ranch personnel using various antibiotics. No attempt was made to determine the infectious cause of the diarrhea.

Calf diarrhea continues to be a major cause of sickness and death in milk fed dairy calves. This report suggests that treatment with banamine along with other therapies under the conditions of this study may be expected to reduce the impact of diarrhea. As with other treatment strategies, it is always a good idea to consult with your dairy veterinarian before you begin a new treatment regime.

(Barnett, SC et al. 2003 Evaluation of flunixin meglumine as an adjunct treatment for diarrhea in dairy calves. JAVMA 223; 1329-33)



Dairy Day Programs



University of California Cooperative Extension and Co-Sponsor Allied Dairy Industries of Central California announce the following meetings:

SOUTH VALLEY DAIRY DAY

South Valley Dairy Day
Tulare County Ag Building
4437 S. Laspina, Tulare
Wednesday, January 21, 2004

MID-VALLEY DAIRY DAY

Mid-Valley Dairy Day
Merced County Ag Center
2145 W. Wardrobe Avenue, Merced
Thursday, January 22, 2004

This meeting is free of charge. For more information and making luncheon reservations, call one of the following Cooperative Extension offices:

Fresno County	(559) 456-7285
Madera County	(559) 675-7879
San Joaquin County	(209) 468-2085
Stanislaus County	(209) 525-6800
Kings County	(559) 582-3211
	Ext. 2730
Merced County	(209) 385-7403
Tulare County	(559) 685-3303

Program

- 10:00 a.m. Finding and Keeping Employees on Dairies - Dairy Producer Experiences**
Moderator - Gregory Billikopf, UCCE Farm Labor Management Advisor
- 11:00 a.m. Update on Air Quality Issues Related to Dairies**
Frank Mitloehner, Ph.D., Environmental Quality Specialist, UC Davis
- 11:30 a.m. BSE (Mad Cow) Update**
- 12:30 p.m. Lunch**
- 1:00 p.m. Risk Factors for Environmental Strep Questionnaire Results**
John Kirk, DVM, UCCE Veterinarian
- 1:30 p.m. Opportunities for Improved Reproductive Efficiency – Veterinarian Panel Discussion**
Moderator - John Kirk, DVM, UCCE Veterinarian

What is Bovine Spongiform Encephalopathy (BSE)?

BSE is a chronic degenerative disease that affects the central nervous system (brain & spinal cord) of cattle, first diagnosed in cattle in Great Britain in 1986. BSE belongs to a group of diseases known as Transmissible Spongiform Encephalopathies (TSEs). The TSEs include scrapie (sheep & goats), transmissible mink encephalopathy, feline spongiform encephalopathy (cats), chronic wasting disease of elk and deer, and BSE in cattle. Humans have a number of TSEs and these include kuru, Creutzfeldt Jakob Disease (CJD), new variant Creutzfeldt Jakob Disease (nvCJD), Fatal Familial Insomnia and Gerstmann-Straussler syndrome. The TSEs appear to be caused by abnormal proteins or “prions”.

Cattle with BSE -BSE cannot be confirmed in the live animal. BSE has symptoms similar to rabies, poliоencephalomalacia, *Hemophilus somnus* infection, and a number of other common diseases. The microscopic examination of brain tissue is the only way BSE can currently be diagnosed. There is no “live animal test”; however, research work is continuing. A live animal test that could identify a “BSE infected” animal well before it becomes ill would be immensely valuable. Cattle affected by BSE experience progressive degeneration of the nervous system. Affected animals may display changes in temperament, such as nervousness or aggression, abnormal posture, appear uncoordinated, and have difficulty rising. They may also have decreased milk production, or loss of body weight despite continued appetite. Affected cattle die; there is neither any treatment nor a vaccine to prevent the disease. The incubation period (the time from when an animal becomes infected until it first shows disease symptoms) is from 2 to 8 years. Following the onset of clinical symptoms, the animal's condition deteriorates until it either dies or is destroyed. This process usually takes from 2 weeks to 6 months. Most cases in Great Britain occurred in dairy cows between 3 and 6 years of age.

U.S. BSE Prevention Program

The prevention of BSE in the US has been focused on three areas:

Importations -Since 1989 the USDA has banned importation of live ruminant animals and most ruminant products from countries with BSE. In 1997 the ban on live ruminant animals was expanded to include all European countries, whether or not BSE had been found there. In 2000, the USDA banned the importation of all rendered animal products from Europe.

Animal Protein Feed Ban -Since 1997 the FDA has prohibited the use of protein derived from most mammalian tissue (exceptions of milk, blood, porcine-swine and equine-horse proteins) in ruminant feed, making the United States the first country to do so without having the disease within its borders. Feed manufacturers are required to label any feed that contains prohibited material with the statement “**Do not feed to cattle or other ruminants**”.

Surveillance- Surveillance began in 1990 and consists of examining brain tissue from cattle showing neurological signs that may be consistent with BSE. It was the first country to do so without having the disease within its borders. In 2003, the United States tested 20,526 animals for BSE. USDA plans to increase that number in 2004. Current U.S. testing levels are 47 times more than what is recommended by international standards. Testing focuses especially on animals considered to be at the greatest risk, those more than 30 months of age, any animals that exhibit signs of neurological disease, and non-ambulatory animals.

Source: Dr. John Maas, Vet Specialist UC Davis; USDA; & NCBA.

What should producers do? Do not feed products containing prohibited materials to any ruminants. In addition, producers must keep copies of all feed records – invoices and labels- for a minimum of one year, and have them available for inspection. Be prepared to safely and humanely euthanize animals on your farm.

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In This Issue of Dairy Notes . . .

- *South Valley Dairy Day – Jan 21st*
- *BSE (Mad Cow) Update*
- *Humane Euthanasia*
- *Treating Calf Diarrhea*

*Carol Collar
UCCE Farm Advisor
Dairy & Forages*

