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# BEEF

QUESTIONS  
& ANSWERS

## Mad Cow Disease

### *What are the facts?*

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With the public concern over Mad Cow Disease (more correctly called bovine spongiform encephalopathy, or “BSE”) in Europe, the following information is provided to give producers the facts about this food safety issue. The information was taken from the National Cattlemen’s Beef Association Web Site ([www.beef.org/library/cjd\\_bse/index.htm](http://www.beef.org/library/cjd_bse/index.htm)). See also [www.bseinfo.org](http://www.bseinfo.org)



## Inside...

- **Estate tax repealed**
- **Winter grazing strategies**
- **New MSU beef class**

### **CJD, BSE and vCJD**

There is a family of diseases known as Transmissible Spongiform Encephalopathies (TSEs). Some TSEs affect animals and others affect humans. While Creutzfeldt-Jakob Disease (CJD), Bovine Spongiform Encephalopathy (BSE) and variant CJD (vCJD) belong to the transmissible family, they are separate diseases, each with its own unique features.

### **About CJD**

CJD is a rare neurological disease that usually affects people over the age of 55 (median age is 64). CJD and BSE are not the same disease. CJD was first identified in

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the 1920s, while BSE was not identified until 1985.

CJD affects approximately one person per million each year worldwide. It's important to remember that this age-specific incidence represents an average over time. Age is a key factor in evaluating CJD distribution, and because the disease tends to strike people over the age of 55, the death rate is higher for people in this age group. Surveillance of CJD cases by the Centers for Disease Control and Prevention (CDC) has found that the national incidence rate of CJD in the United States has remained relatively stable since 1979.

CJD affects men and women of diverse ethnic backgrounds, and it has been diagnosed in vegetarians and meat-eaters alike. It also has been reported in countries where BSE has never occurred.

There is no scientific evidence indicating CJD is caused by BSE. CJD results when abnormal protein accumulates in brain cells. Scientists do not know what factors trigger the conversion from normal protein to the abnormal form. Some believe the conversion is caused by a spontaneous mutation of the normal protein itself, while other scientists believe a virus-like entity may be involved.

**About BSE**

First identified in 1985, BSE is a degenerative disease affecting the central nervous system of cattle. Commonly known as "mad cow disease," BSE has not been found in the U.S., but it has been detected in the United Kingdom and a few other countries.

A surveillance program begun in 1990 by the United States Department of Agriculture (USDA) has found no evidence of BSE in U.S. cattle. In addition, the USDA, the Food and Drug Administration and many arms of the U.S. livestock industry have taken a number of measures for nearly a decade to prevent BSE from occurring in the U.S.

Research from the U.K. indicates that the BSE disease agent has been found in brain tissue, the spinal cord and retina (eye) tissue of naturally infected cattle. It has not been detected in muscle meat or milk.

**About vCJD**

Recent research from the U.K. does support an association between vCJD and BSE in that vCJD likely developed as a result of people consuming products contaminated with central nervous system tissue from cattle infected with BSE.

CDC's monitoring efforts, in collaboration with state health departments, has not found evidence of vCJD in the U.S.

CJD and vCJD are distinctly separate diseases, each with its own unique features.

**Questions and Answers**

**Q. Is it possible for humans to get CJD from eating beef products?**

A. There is no scientific or epidemiological evidence to indicate CJD is caused by consuming beef products, even those made from cattle infected with Bovine

**Timeline**

**Actions taken by USDA/APHIS, the FDA and the U.S. livestock industry to prevent BSE**

1985	Nov. '86	Jul. 18, '88	Jul. 21, '89	Nov. 1989	1990	Dec. 6, '91	1993	Jan. '93
Due to disease risks other than BSE, no U.K. processing plants were approved to export British beef into the United States. Consequently, the U.S. has not imported beef since 1985.	BSE is first confirmed in the U.K.	Ruminant meat and bone meal (MBM) is banned from inclusion into cattle feed in the U.K.	USDA/APHIS bans the importation of ruminant animals from countries with confirmed cases of BSE.	USDA/APHIS enacts emergency ban on the importation of most ruminant products from countries with confirmed cases of BSE. Formal regulation to follow.	FDA intensifies microbiological review of new drug applications for human drug products derived from bovine sources.	USDA/APHIS enacts formal regulation to restrict the importation of ruminant meat and edible products and ban most by-products of ruminant origin from countries known to have BSE.	USDA/APHIS expands BSE surveillance program to include examination of brain tissue from "downer" cows.	BSE epidemic in U.K. peaks with 1,000 new cases reported per week.



**Documented BSE cases worldwide**

United Kingdom, 180,501\*  
 Ireland, 499  
 Portugal, 481  
 Switzerland, 366  
 France, 205  
 Belgium, 19  
 Germany, 13  
 Netherlands, 6  
 Liechtenstein, 2  
 Denmark, 2  
 Spain, 2  
 Luxembourg, 1  
 Africa, 0  
 Australia, 0  
 New Zealand, 0  
 South America, 0  
 United States, 0

Cases of BSE also have been confirmed in cattle imported from the U.K. to the following countries:  
 Canada (1)  
 Falkland Islands (1)  
 Kuwait (1)  
 Italy (2)  
 Oman (2)

\*The United Kingdom is comprised of Great Britain, Northern Ireland, Isle of Man, Jersey and Guernsey. Figure as of October 31, 2000.

Sources: Office of International Epizootics; January 2001

Spongiform Encephalopathy (BSE). While the exact cause of CJD is unknown, scientists suspect that like all Transmissible Spongiform Encephalopathies, CJD occurs when normal protein structures in the brain known as PrP change to an abnormal form. As abnormal PrP accumulates, it destroys neurons and results in brain damage. CJD was first identified in the 1920s while BSE was not identified until 1985. CJD occurs at a consistent rate of one person per million each year worldwide.

**Q. Is vCJD caused by eating products from cattle infected with BSE?**

A. Recent research supports an association between BSE and vCJD through the consumption of products containing central nervous system and other infected tissues from cattle with BSE. To date, the BSE disease agent has not been found in muscle meat or milk which comprise the majority of cattle products.

**Q. How many more cases of vCJD are expected?**

A. Many scientists do not believe it is possible to predict the number of anticipated vCJD cases with any accuracy given the unknowns about the disease, including the amount and method of exposure, route of transmission and incubation period. Steps taken to remove the BSE disease agent should help minimize potential exposure and thereby limit the occurrence of vCJD.

**Q. Does CJD occur in the U.S.?**

A. Yes. The occurrence of CJD in the U.S. remains consistent with the global rate of approximately one case per million people each year. It's important to remember that this age-specific incidence represents an average

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1994	Mar. 20, '96	Mar. 29, '96	Jan. '97	June 2, '97	Aug. 4, '97	Oct. 3, '97	1997	Apr. 24, '98
USDA/APHIS implements his-tochemistry testing method for BSE.	British government announces possible link between BSE and what seems to be a new TSE called variant CJD (vCJD).	National livestock organizations and professional animal health organizations in the U.S. announce a voluntary program to discontinue the use of ruminant-derived protein in ruminant feed.	FDA proposes a ban on the use of ruminant products in livestock feed.	FDA issues a regulation banning the use of most mammalian protein in animal feed, except equine or porcine protein which is derived from species not known to develop TSEs naturally.	FDA rule that banned the use of most mammal-derived protein by-products in bulk feeds for cattle becomes effective.	FDA rule that banned the use of mammal-derived protein by-products in bagged feed for cattle becomes effective.	USDA/APHIS bans imports of all live ruminants and most ruminant products from Europe until risk factors associated with BSE are more fully examined.	USDA/APHIS enters into a cooperative agreement with Harvard University's School of Public Health to analyze and evaluate the Department's BSE prevention measures

over time. Age is a key factor in evaluating CJD distribution, and because the disease tends to strike people over the age of 55, the death rate is higher for people in this age group. Ongoing surveillance of CJD cases in the U.S. has been performed by the Centers for Disease Control and Prevention (CDC) since 1979. The CDC has found that the national incidence rate of CJD cases has remained relatively stable. It also has found no evidence of vCJD in the U.S.

**Q. Has BSE ever been found in the U.S.?**

A. No. The USDA has conducted a BSE surveillance program in the U.S. for 10 years and has tested more than 11,700 brain specimens from cattle displaying any neurological symptoms that might indicate BSE. No cases have been found to date.

**Q. Is it possible BSE may be detected in the U.S. in the future?**

A. The USDA, the Food and Drug Administration (FDA) and many arms of the national livestock industry have taken numerous steps to prevent BSE from ever occurring in the U.S., including:

The United States has not imported any beef from the U.K. since before 1985.

In 1989, the U.S. banned the importation of ruminant animals and most ruminant products from countries with confirmed cases of BSE in native cattle.

Prior to these bans, 496 cattle were imported into the U.S. from the U.K. between 1981 and 1989. These cattle have been tracked and closely monitored for years. As of October 31, 2000, only four remain alive, and they are quarantined. Analysis of brain tissue from imported cattle that were tested showed no presence of any TSE, including BSE.

More than 60 veterinary diagnostic laboratories

throughout the U.S. participate in a BSE surveillance program along with the National Veterinary Services Laboratory in Ames, Iowa.

On August 4, 1997, an FDA regulation went into effect banning the use of most mammal-derived animal protein by-products in cattle feed to ensure that if the BSE disease agent ever entered the U.S. it would be prevented from spreading through cattle feed.

On December 13, 1997, the USDA banned imports of all live ruminants and certain ruminant products from European countries until BSE is more fully understood.

On April 24, 1998, the USDA entered into a cooperative agreement with Harvard University's School of Public Health to analyze and evaluate the Department's BSE prevention measures.

**Q. Has vCJD ever been found in the U.S.?**

A. No. Ongoing surveillance by the Centers for Disease Control and Prevention, in collaboration with state health departments, has found no cases of vCJD in the U.S.

**A. Is it possible a case of vCJD may be found in the U.S. in the future?**

A. It is possible that a U.S. citizen might contract vCJD if that person has traveled to or previously lived in countries where cases of BSE have been confirmed, and if that person consumed products containing central nervous system or other tissue from cattle infected with the BSE disease agent.

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Beef: Questions and Answers is a joint project between MSU Extension and the Montana Beef Council. This column informs producers about current consumer education, promotion and research projects funded through the \$1 per head checkoff. For more information, contact the Montana Beef Council at (406) 442-5111 or at [beefcncl@mt.net](mailto:beefcncl@mt.net).



**Photo of the Month:**

**Quinn Holzer of the Montana Stockgrowers Association teaches Beef Quality Assurance to a group of ranchers in January. The program was simultaneously broadcast to 10 cities around Montana through the Burns Telecommunications Center at MSU in Bozeman.**

## Survey says...

### More responses from the spring readers' survey

**Q: What are the biggest challenges facing the livestock industry?**

- The ability to have tools available to assist producers with providing a consistent quality product. Maintain a viable ranching and farming family ag industry.
- Pork and poultry. Packer concentration.
- Packing companies consolidating into bigger monopolies.
- Exports, marketing, environmentalists, use of public lands.
- Reducing costs and inputs to produce cow/calf/stockers. Environmental issues.
- Profitability, high land and input costs.
- Marketing of our product and dollars we receive for our product.
- Convenience packaging for beef. Safety from e, coli, etc.
- Quality control, marketing.
- IRS-estate tax.
- Prices for what we produce, weather, dealing with forest service, plum creek for pasture we rent. We should be proud of what we produce and get paid a fair price.
- How to keep and afford to keep kids on the ranch.
- Government, environmental policies; far too regulated, only a few legislative for us.

## Voters repeal the inheritance tax

### How will it affect you?

by Marsha A. Goetting,  
MSU Extension family economics specialist



The Montana inheritance tax that was repealed by voters in November, 2000 applies to deaths occurring after Dec. 31, 2000. Thus, there is no longer a Montana inheritance tax on the transfer of real and personal property to the decedent's beneficiaries. However, what many voters may realize is that the Montana estate tax is still in existence.

State law provides for a Montana estate tax that is based on the total value of the assets. Generally, the tax applies to estates with a taxable value above the applicable exclusion amount, \$675,000 in 2001, that are subject to the federal estate tax. This state law provides Montana the benefit of the maximum state tax credit that is allowed against the federal estate tax.

Here is how it works. If an estate is required to pay federal estate taxes, a state death credit was allowed on the 706 federal estate tax return. Since the amount allowed for the state death tax credit is no longer paid as a Montana inheritance tax, then the difference is the Montana estate tax.

#### Example

Ray has a taxable estate of \$1,100,000. For computing, the state death tax credit \$60,000 is subtracted from the taxable estate. The tax is computed from a special table provided with the federal estate tax 706 form. The state death credit amount is \$38,000. This means Ray's estate owes a Montana estate tax of \$38,000.

One way of looking at the tax is that the \$38,000 would have been paid as a federal estate tax if not for the state death tax credit. So instead of the \$38,000 going to the federal level, the amount remains in Montana and becomes a part of the general revenue fund that is used to provide needed services for Montanans.

In the past the Montana estate tax was seldom applicable to the estate of a decedent because the inheritance taxes paid often exceeded the credit for state death taxes. However, since the referendum completely eliminated the Montana inheritance tax, estates that have federal estate taxes may also find that a Montana estate tax is due. For more information on estate planning, go to [www.montana.edu/publications](http://www.montana.edu/publications) and click on "consumer finances."

# Rancher Profile: Lon Reukauf

## Cherry Creek Ranch owner finds winter grazing success

by Gene Surber, Natural Resources Specialist, MSU Extension Service



Gene Surber

Maintaining an economically viable livestock operation is what keeps the beef industry number one in Montana. Every rancher has individual goals and objectives to accomplish this task. However, as public opinion influences how ranchers care for the environment, and as the cost of doing business compared to ranch income gets tighter, it is more important than ever for ranchers to share what techniques produce successful results on their operations.

“Winter Grazing Successes in Montana,” a publication from the Southwestern Montana Grazing Lands Conservation Initiative (GLCI), features 16 ranchers across Montana who share some of their management techniques, including practices to protect water quality, enhance ranch productivity and sustain or improve their vegetative resources.

One of these ranches, Lon Reukauf’s Cherry Creek Ranch, is in eastern Montana north of Terry. It operates with the objective of balancing the environmental feed source with the animals’ needs.

Lon says, “My goal is to avoid the deadly three I’s: Interest, Iron and Input costs and to maximize the two P’s: Profit and Product quality.” According to Lon, “When high input operations on naturally high productive lands can barely work, high inputs on low productive land results in a net financial loss.”

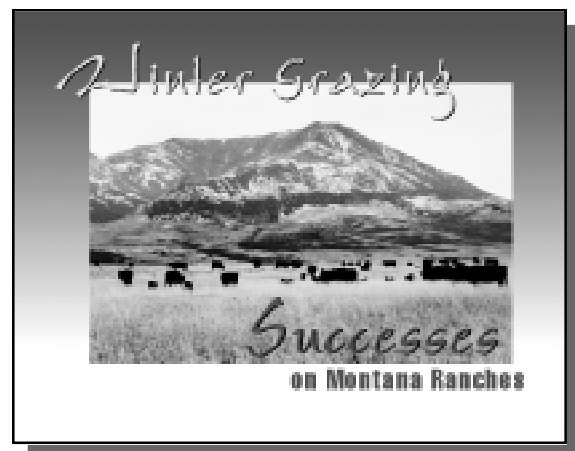
Lon has a lifetime of experience on Cherry Creek Ranch. He grew up on it, which helps him understand the environment and resources he has to operate with. He manages his cows so their reproductive cycle and nutritional needs can be more closely balanced with the environment.

Lon uses weather data to help make management decisions. One hundred and fifteen years of weather data shows his ranch location has a high chance of cold weather in early March and severe equinox storms around the end of March. Avoiding these weather conditions reduces feed needs and the cost of disease control,

which is why he adjusted his calving season, moving it later in the year to take advantage of the high level of nutrition provided by spring forage growth. Lon may not entirely avoid spring storms, but using early growing crested wheatgrass fields in the spring helps him match the higher nutritional needs of the cows during post-partum lactation through breed back time. Calving in larger pastures later in the spring has minimized the cost of disease control.

“Calf scours and diptheria are nonexistent,” says Lon.

Eighty percent of his cows calve as a result of exposure to the first heat cycle. The later calving date has increased the number of cows bred during the first heat cycle and gives him the opportunity to cull cows that don’t calve in two heat cycles. He does, however, run an 80-day breeding season that allows him to sell bred cull cows, which provides more profit than dry cows. Calves are weaned early, the middle to end of October. That



Ask for your free copy of “Winter Grazing Successes” from your local county Extension agent.

# New MSU Animal & Range class covers beef cattle nutrition topics

MSU's Animal & Range Sciences department offered a new two-credit course during the Spring 2000 semester entitled "Topics in Beef Cattle Nutrition." The 400-level course was taught by Jan Bowman and had an enrollment of 12 students. The goals of the course were to provide information about current topics in beef cattle nutrition, and to allow students to solve practical feeding problems by using currently available computer software.

In addition, students were given experience in critically evaluating scientific literature and its application to practical feeding manage-

ment. The most current NRC "Nutrient Requirements of Beef Cattle" was used as the textbook. The class went through the accompanying feedlot case study and cow-calf ranch case study. Some of the other computer software used included Kansas State University's "Grower" and "Balancer."

Following are some comments from students:

"This was one of the most worthwhile courses I have taken."


"I feel that the course material was very practical and useful. The material taught in this course

could be easily applied in a 'real life' situation."

"Course content was great. This will help me later in life."

"Everything I learned in this course will be very helpful to me. It also opened up a lot of avenues down which I can go to continue learning in this area."

"Learned a lot of useful information I can take to the ranch."

"Will use the NRC book and programs many times in the future. Homework's an excellent learning experience." 


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## Rancher profile, cont. from page 6

lowers the nutritional requirements of the cows for 60 days prior to entering the third trimester of gestation, again decreasing costs. Lon sees improved profit from early weaned, lighter calves that sell for more dollars per pound and are cheaper to raise.

Lon minimizes the cost of wintering by also extending the grazing season. To do this he makes use of three separate summer grazing systems, a six-pasture rest-rotation system and two different three-pasture deferred rotations. The use of the crested wheatgrass in the spring allows him to minimize the amount of supplemental hay he feeds plus saves the native range for later use. To get

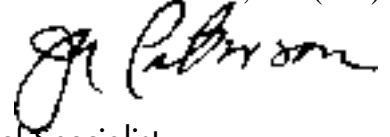
better use of fall and winter forages he strategically locates "bait stations" of mineral, salt and protein blocks in areas with extra forage and away from critical areas. None of these "bait stations" are placed within one-half mile of water during the winter. Lon says, "The condition of riparian areas are enhanced when grazed in the winter because cattle spend less time in the low riparian areas where the cold air stays."

Watch for other featured ranches in future Beef Q&A newsletters or contact your County Extension or NRCS office for a copy of "Winter Grazing Successes." 

# Show Me the Money!

Attend the spring nutrition conference May 1 and 2, 2001. Details will be in the next newsletter.

*Beef: Questions & Answers* is published every winter through Montana State University Extension. To subscribe, change your address, suggest article ideas, or for more information, call (406) 994-3414.

A handwritten signature in black ink, appearing to read "John Paterson". The signature is written in a cursive style with a large, stylized initial "J".

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