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Potential Impact of BSE on the U.S. Beef Industry

On December 23, 2003, USDA announced that a dairy cow in Washington State had tested positive for Bovine Spongiform Encephalopathy (BSE or "Mad Cow" disease). The announcement brought an abrupt end to a period of unprecedented high prices in the beef industry. At the beginning of the week of December 23rd, fed cattle were selling for \$91 per hundredweight. Later that same week, few cattle were traded, but those that did change hands did so at \$75 per hundredweight. As USDA investigators scrambled to track down the origins of the infected cow as well as the destination of the processed meat, cattle producers grappled with the potential market impacts of the nation's first confirmed case of BSE.

In May 2003, the Canadian beef industry was devastated by a single confirmed case of BSE on a beef operation in the province of Alberta. Previous cases of BSE in Japan (in 2001) and in several countries in western Europe (throughout the 1990's) also wreaked havoc on beef industries in those countries. Now, U.S. producers find themselves facing the consequences of the disease. The most immediate effect of the confirmation of the U.S. BSE case was that most foreign markets closed their

borders to U.S. beef. This is the typical response to a positive BSE test as countries take time to assess the situation and try to determine the level of risk to human or animal health related to imported products from a BSE-positive country. In fact, this was exactly the U.S. response to the Canadian BSE episode last summer.

The loss of export markets for the U.S. beef industry will be temporary; however, it is difficult to predict how long any particular country will maintain its ban. USDA investigators have concluded that the infected cow was actually imported from Canada in 2001. It is most likely that the cow contracted BSE very early in her life from eating BSE-contaminated

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BSE is one of a family of diseases known as Transmissible Spongiform Encephalopathies (TSEs), which result in deterioration of brain and nervous tissue and are invariably fatal. (Scrapie in sheep and Chronic Wasting Disease in deer and elk are other relatively well-known TSEs). Ironically, while beef and dairy producers have good reason to fear the effect of BSE on their markets, consumers have relatively little cause for concern from the disease. While BSE has been linked to a similar brain-wasting disease in humans known as variant Creutzfeldt-Jakob Disease (vCJD), research has shown that the meat from BSE-infected animals is not at all likely to harbor the disease-causing agent (a small protein known as a prion). Rather, the prions that cause BSE are concentrated in the brain, the spinal cord, and the small intestine of an infected animal. Of course, there is some risk that meat from an infected animal could be contaminated by infected nervous tissue, and that is why any BSE event is treated seriously. However, since the early 1990s when BSE first emerged in Britain, significant steps have been taken to minimize the chance of these higher-risk materials entering the food supply. Finally, the CDC reports that milk and milk products (cheese, butter, etc.) do not pose any risk for transmitting the BSE agent.

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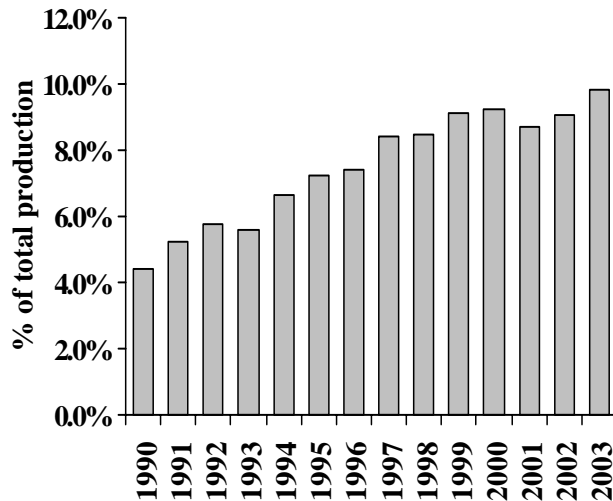
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feed. Records indicate that the cow was born about six months before a 1997 ban on feeding ruminant-derived by-products to cattle went into effect. The fact that the infected cow did not originate in the U.S. may help to expedite the lifting of the bans on U.S. beef by some of our key trading partners.

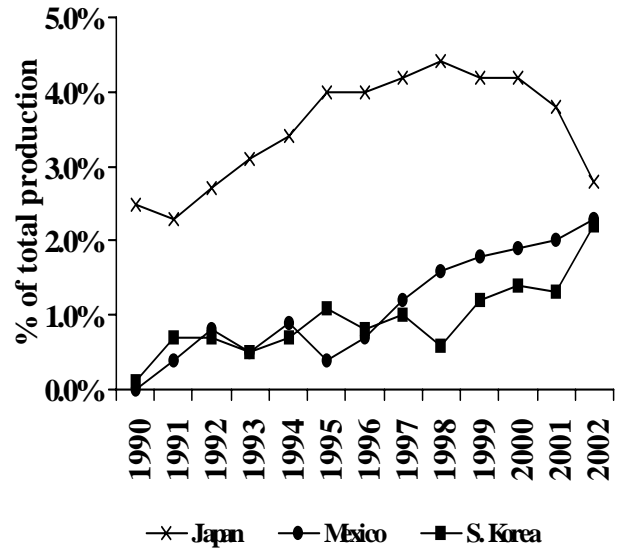
The U.S. is not as heavily dependent on exports as the Canadian industry. Exports amount to about 50% of total Canadian beef production. This accounts for the devastating effect of the BSE case in Canada on that country's beef industry. In Canada, fed cattle prices fell by as much as \$50 per hundredweight in response to the loss of foreign markets resulting from the discovery of BSE. By contrast, exports account for just under 10% of U.S. production (2003 data). Major export customers include Japan, South Korea, and Mexico, with exports to each of these partners accounting for between 2% and 3% of total U.S. production. Figure 1 shows total beef and veal exports as a percentage of total U.S. beef production from 1990-2003. Figure 2 shows exports to key trading partners from 1990-2002.

Figure 1. Total U.S. Beef & Veal Exports¹



¹As a percentage of total beef production (carcass weight)
Source: Livestock Marketing Information Center and USDA Economic Research Service.

Figure 2. U.S. Beef Exports to Key Trading Partners²



²As a percentage of total beef production (carcass weight)
Source: Livestock Marketing Information Center and USDA Economic Research Service.

While U.S. beef exports represent a relatively small percentage of total production, the effect of the complete loss of export markets will be significant. The loss of export markets will essentially result in about a 10% increase in the supply of beef for the domestic market. Given what is known about price and quantity relationships in the industry, this increase in supply will most likely result in a decline in cattle prices of a little more than 15%. For example, fed cattle prices in the first quarter of 2004 were expected to be in the high \$80s per hundredweight. A roughly 15% decrease from this expected level would put prices in a range from about \$72 to \$74 per hundredweight for the first quarter of 2004. This price range is consistent with the behavior of live cattle future prices during the last week of December. Following the announcement of the BSE case, April Live Cattle futures fell rapidly, finding support at about \$70 per hundredweight before beginning to rebound.

In many years, fed cattle prices in the mid \$70s would not look too bad; however, such prices seem very low coming only weeks after fed cattle were selling for over \$90 per hundredweight. This dramatic reduction in fed cattle price expectations will also immediately reduce bids for calves by a similar magnitude. Cattle feeders who placed high-priced feeder calves into feedlots in the last 60 days or so

are likely to suffer the most from BSE-related developments. Cow/calf producers and stocker grazers who were holding calves to market early in 2004 are also likely to lose a considerable amount of money due to the effect of BSE on the market.

The preceding price predictions assume that domestic demand is not adversely affected by the presence of BSE in this country. This is probably a realistic assumption as long as no (or at least very few) additional BSE cases are found (particularly since the infected cow did not originate in the U.S. herd). In Canada, domestic consumption did not decline in response to their BSE case. Also, preliminary reports from Cattle Fax indicate that restaurants and other retailers did not see any decline in demand in the week immediately following the announcement of the positive BSE test.

In addition to the immediate market impacts, the discovery of BSE in this country will have long-lasting effects on the U.S. beef industry. In the early days of the BSE investigation, USDA made several announcements regarding their monitoring and regulation of the beef industry that will remain in effect permanently. Notably, downer cattle are now banned from the human food supply. This applies to all downed animals, regardless of whether their condition is due to apparent illness or to injury. Also, carcasses from any other cattle tested for BSE as part of the USDA surveillance and monitoring program will be held until a rapid BSE screening test is complete. Many observers of the Washington State BSE episode were critical of the fact that all of the meat from the same lot as the BSE-positive cow had to be tracked down after the positive test result. Holding carcasses until BSE tests are complete will eliminate this problem.

Finally, on December 30, USDA announced the immediate implementation of a verifiable system of national animal identification. Secretary of Agriculture Ann Veneman reported that USDA has been working on a national system for over a year-and-a-half. With the discovery of BSE, implementation of this system is being expedited. It is not clear exactly what this system will look like at this time; however, it is clear that a national ID system for cattle is coming and that its development is a high priority for USDA.

The discovery of BSE in this country will also continue to shape the debate over Country of Origin Labeling (COOL). It may, in fact, put an end to the debate entirely. With a national ID system on the way, labeling beef as to its country of origin will become a trivial matter. Questions about the costs of COOL will become largely irrelevant since the costs of an ID system with traceability are now going to be incurred regardless. It is still not clear how much consumers care about country-of-origin information. In the past seven months, two cases of BSE have been discovered in

North America. Both apparently originated in Canada. If consumers begin to perceive that Canadian beef carries a higher risk of BSE contamination than U.S. beef, then country of origin labeling would certainly have some value. It is by no means certain that is the case now. Two BSE cases that were identified through normal surveillance and that apparently did not affect the food supply will not likely lead to any crisis of consumer confidence. However, since this past summer, the Japanese have insisted that beef exported to them be certified as U.S. product. Thus, country of origin labels may have some benefit in a key U.S. export market regardless of the perceptions of domestic consumers.

While the discovery of BSE in Washington State is not likely to have the kind of catastrophic effect in this country that the single BSE case in Canada had on that country's beef industry, it is a serious blow to the U.S. beef industry nonetheless. In the fourth quarter of 2003, beef and cattle prices reached all-time record highs. By the time of the BSE discovery, prices were already coming down in response to signs of increasing supply. The announcement of BSE and the subsequent loss of export markets rapidly accelerated that decline. It is possible that the loss of export markets will be over relatively quickly. USDA has taken several positive steps in response to the concerns of export customers, and the fact that the cow in question came from Canada should help to soothe export customer concerns. Still, a price recovery all the way back to those prices of mid-December is probably out of the question for 2004. Cattle feeders, stocker grazers, and cow-calf producers backgrounding 2003 calves were generally looking at very high break-even prices for the first quarter of 2004. Losses to these producers will be substantial. Looking beyond the first quarter of the year, the potential for a cattle price recovery will depend on how domestic consumers react to BSE news and how quickly our export markets return.

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Upcoming Events

Delta Ag Expo

January 20 and 21
Boliver County Expo Building—Cleveland,
MS

Ag UPDATE 2004

January 27
Tunica County Development Complex—
Tunica, MS

January 28
Grenada County Extension Office—Grenada,
MS

January 29
Delta Research & Extension Center—
Stoneville, MS

USDA

January 12

Cotton Ginnings
Crop Production
Grain Stocks

January 16

Milk Production
Cattle on Feed
Egg Products

January 21

Cold Storage
Catfish Processing

January 23

Cotton Ginnings
Livestock Slaughter

January 29

Chicken & Eggs (annual)
Vegetables (annual)

January 30

Agricultural Prices
Cattle
Chickens and Eggs
Hogs & Pigs (monthly)

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