MAD COW HITS THE U.S.

Scientific Data
Offer No Proof
Of Beef Safety

By [Redacted] of The Wall Street Journal

After last week's discovery of the first case of mad-cow disease in the U.S.,
government officials sought to reassure the public. White House spokesman Scott
McClellan said President Bush had been eating beef, and U.S. Department of
Agriculture Secretary Ann M. Veneman said she'd serve it for Christmas.

Ms. Veneman even told CNN that beef from infected cows such as this one
"should be entirely safe to eat" because its brain and spinal cord had been
removed. Those tissues are known to be most infectious in cattle stricken with
bovine spongiform encephalopathy, or BSE.

But while federal officials' safety message was emphatic, the scientific evidence
behind those claims isn't as certain.

Steaks and hamburgers made from beef muscle haven't been shown to be
dangerous, but some leading experts in Europe and the U.S. say the risks of meat
from sick cattle remain unknown, and new studies have implicated muscles in
other species.

"They are making these sweeping statements for which they don't have the data,"
said Stanley Prusiner, the University of California, San Francisco, researcher who
won a Nobel Prize in 1997 for his work on the malformed prion proteins linked to
mad-cow and related ailments in humans, sheep and many other species.

Abnormal prion proteins, which build up in the brain and central nervous system
and damage it, can be spread through food, which is why the U.S. discourages
feeding of rendered cattle remains to other cattle, and why it previously banned
beef imports from any country affected by BSE. Sheep, cattle and even humans,
are affected by prion diseases.

Scientists have focused mostly on the dangers of cow brains and nervous system
tissue. But in 2002, Dr. Prusiner's lab detected misshapen prion proteins in the
muscles of mice infected with scrapie, a mad-cow-like disease of sheep. That was
a surprising find, but since then prion infection also has been found by other
researchers in the muscle of hamsters and of humans with Creutzfeldt-Jakob
disease.

Today, scientists in Dr. Prusiner's laboratory say they think it's inevitable that beef
cuts also will be shown to harbor mad-cow prions. Those tests are now under
way.
Some observers say agriculture officials have been too quick to play down the unknowns. Peter Sandman, a risk-communications consultant in Princeton, N.J., said the agency was doing a good job at sharing information, but had made a "gargantuan error" by "being vastly more reassuring about the safety of U.S. beef than it should be."

Mr. Sandman said the agency would be wiser to emphasize that the risk to the food supply, albeit probably small, is actually unknown.

An agriculture-department spokeswoman disagrees. "I would say [USDA statements] do take in account the unknowns. We are saying it's low risk. Very low risk," says Lisa Ferguson, a senior staff veterinarian.

The agriculture department stated that its voluntary recall of 10,410 pounds of hamburger and meat cuts was being undertaken out of "an abundance of caution, not because the meat poses a serious risk of transmitting BSE.

For those people who ate the recalled meat, or served it to their families, the agriculture department hasn't provided any advice or recommendations.

Suzy DeFrancis, a White House spokeswoman, said the administration has confidence in agriculture department experts. "Sound science has been a principle for this administration, and that is what the USDA is basing its answers on."

Critics say the agriculture department is playing down other risks. There's still no guarantee that other sick cattle haven't entered the food chain, brains and all. And it isn't clear that the sick animal's muscle tissue wasn't contaminated by spinal cord when it was slaughtered. Agriculture officials say the cow's spinal cord was sawed in half during the normal processing of its carcass, raising the possibility that it was contaminated by bits of infectious spinal cord.

The agency's assurances, if they prove wrong, could hurt the credibility of the U.S. government's food regulation-and-inspection process. That is what happened after the British government's efforts to convince consumers that BSE posed no health threat to humans in that country.

In 1990, for instance, British agriculture secretary John Gummer famously fed a hamburger to his four-year-old daughter in front of television cameras. Six years later, the first cases of human infections were discovered.

Other experts say the agriculture department is on solid ground calling the risk from the recalled meat negligible. In the U.K., tens of millions of people were exposed to contaminated beef and so far there have only been 143 human cases linked to cattle. By comparison it's estimated that 5,000 people in the U.S. die each year from other food-borne illness, including salmonella poisoning.

And over the last decade, British scientists scrutinized scores of parts from sick cows, grinding them up and injecting them into the brains of healthy calves. In those experiments, animals injected with brain tissue always died. But so far, none of the cattle inoculated with muscle have become sick. Paul Brown, an expert on prion diseases at the National Institutes of Health, says such studies are a strong point against muscle being infectious.

Scientists estimate that the brain is at least a million times more infectious than muscle tissue. "I think Veneman is right. Cuts of meat you just don't worry about. I certainly don't," Dr. Brown says.

The British studies have so-far identified bone marrow, parts of the gut and tonsils as also being infectious, according to Jiri Safar, a researcher in Dr. Prusiner's group which has advised the British government on mad-cow.

Then, in March, 2002, Dr. Prusiner's laboratory discovered that mice infected by sheep prions built up prions in their hind limbs. "Up until that paper, the idea was that there weren't any prions in muscle," Dr. Prusiner says.
Because of the obvious implications for mad cow, the European Commission's health and consumer protection directorate quickly called a special meeting of its science advisers in April 2002. The group concluded that Dr. Prusiner's findings were still inconclusive, and said Europe's testing of every animal over two and a half years old probably would keep most beef from infected cattle out of the food chain. Even if some got through, the EC experts felt the risk was negligible.

But evidence for prions in muscle has grown. Early this year a German team found deformed prion protein in hamsters. And then, two months ago, Swiss researcher Adriano Aguzzi wrote in the New England Journal of Medicine that he had found the dangerous prion protein in the muscles of eight out of 32 human patients suffering from Creutzfeldt-Jakob disease.

Now the debate is whether the same is true for cattle. "It's an unbelievably political question," says Dr. Aguzzi, who leads Switzerland's National Reference Center for Prion Diseases in Zurich. He's been working on the problem for six months, but says his data are far too preliminary to disclose.

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