

# USDA approves shot for cows aimed at E. coli

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(AP) -- A Minnesota company has won federal approval to become the first in the U.S. to market an E. coli vaccine for cattle, a new weapon against a foodborne disease that can cause serious illness in people and even death.

Epitopix LLC was given a [conditional license](#) from the U.S. Department of Agriculture to sell its [vaccine](#).

Nayyera Haq, a USDA spokeswoman, called it "an important step toward improving food safety in this country," and a major beef group agreed.

"It really is a major milestone for our industry," Michelle Rossman, director of beef safety research for the National Cattlemen's Beef Association, said Thursday.

Most E. coli bacteria are harmless but one kind, known as [O157](#), sickens an estimated 70,000 people in the U.S. every year, according to the [Centers for Disease Control and Prevention](#). Most people recover in a few days, but some get serious complications such as kidney failure. Contaminated beef is a common source of infection and has led to several big meat recalls in recent years.

James Sandstrom, general manager of Willmar-based Epitopix (ep-ih-TOH'-pix), said the vaccine works by preventing E. coli O157 present in cows' intestines from absorbing iron. The company's technology takes

the proteins that the bacteria uses to absorb iron from the host animal, and injects them back into cattle to generate an immune response against those proteins. Without the proteins, the bacteria can't absorb the iron and dies.

With fewer bacteria in the cows' intestines, the risk is reduced that the bacteria will contaminate the carcass at slaughter.

Sandstrom said the vaccine will enter commercial use this month, but it will be several months before it's widely available. He said some major packers and producers will be the first to use it, but declined to name them, saying they don't want their names associated with E. coli even for research.

It's not clear yet how widely the industry will embrace the vaccine.

"That's the \$64 million question," Sandstrom said.

E. coli O157 doesn't make cattle sick, so producers who already face slim profit margins may need incentives to use it on their animals. Sandstrom said privately owned EpiTopix hasn't set a price for the vaccine yet, but is hoping incentives will come from packers and retailers who would profit from being able to offer consumers safer beef.

A Canadian company that makes an E. coli vaccine for cattle sells it there for \$7 U.S. (\$9 Canadian) per cow.

A spokesman for Tyson Foods Inc., one of the nation's largest meat processors, declined to comment. A call to Cargill Meat Solutions wasn't immediately returned.

Rossmann said the support is likely to be there. She said the industry has

already spent millions of dollars on technologies to fight E. coli in packing houses, and is anxious for strategies that work before slaughter. Her group helped fund research at West Texas A&M University that led the USDA to grant the conditional license. Similar work was also done at Kansas State University.

Guy Loneragan, who led the research at West Texas A&M, said he did his study at a commercial feedlot to see how the vaccine worked in "real world" conditions. Among the cattle that got it, he said, there was an 85 percent reduction in animals shedding O157. Among those that still did, there were 98 percent fewer cells of the bacteris in their feces. He said that logically should mean fewer E. coli illnesses in people.

The conditional license allows Epitopix to market the vaccine immediately, but the company must continue conducting potency and efficacy studies to get full licensure.

Another E. coli vaccine for cattle, developed by Bioniche Life Sciences Inc. of Canada, received full approval there last October and Bioniche is seeking USDA approval to sell it in the U.S. Haq declined to say how soon that might be, but Rick Culbert, president of Bioniche's food safety division, said the main thing left is lining up manufacturing facilities in the U.S., as the USDA requires. A Colorado company, GeneThera Inc., is also working on a vaccine, but it's further away from approval.

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On the Net:

Epitopix LCC: <http://www.epitopix.com>

CDC FAQs on E. coli:

<http://www.cdc.gov/nczved/dfbmd/disease-listing/stec-gi.html#3>

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