



[www.newsday.com](http://www.newsday.com)

Wednesday, July 28, 2004

## NEW TARGET FOR TERROR?

*Bioterrorism risk is re-examined as experts say that while an attack on a farm wouldn't kill many people, the economic impact could be huge*

**BY BRYN NELSON**  
STAFF WRITER

July 26, 2004

Amid the noisy election-year wrangling on how researchers and government officials are more quietly debating battle plans designed to protect the nation's farmland.

Experts say a biological attack on a Texas cattle ranch or a Kansas wheat farm would kill few, if any, people. But the economic impact of a deliberately introduced disease could prove disastrous, a realization that has prompted a rethinking of how the risk of agricultural bioterrorism, or agroterrorism, should be assessed in the United States.

"Agroterrorism is not about killing cows. It's about striking at the fundamental heart of our economy," says David Franz, director of the National Agricultural Biosecurity Center at Kansas State University.

Whether by terrorists or by Mother Nature, scientists say, potentially devastating plant and animal diseases will almost certainly continue to threaten farmers in the coming years, underscoring the urgent need for improved contingency plans.

"We can not prevent an earthquake. All we can do is be prepared for one," says R. James Cook, interim dean of the College of Agricultural, Human and Natural Resource Sciences at Washington State University.

Franz, Cook and many other researchers agree that the nation's porous borders pose enormous challenges for strategies focused mainly on prevention, especially when only about 2 percent of all imported agricultural products can be inspected.

Even within the United States, security can be problematic on farms that contain tens of thousands of animals or encompass tens of thousands of acres. At one feedlot with 10,000 cattle, Franz says, the security he observed consisted of "a dog and an old Model 94 Winchester hung above the door."

A 2002 report by the National Academies' National Research Council, "Countering Agricultural Bioterrorism," concluded that the large-scale enterprise of American agriculture has made it particularly vulnerable to malicious acts, since super-sized farms and feedlots are generally concentrated in specific regions.

Kansas, for example, produces nearly one-fifth of the nation's wheat, according to the Kansas Wheat Commission. An unchecked outbreak of the potentially devastating disease karnal bunt of wheat in that state could spread across the Great Plains, degrading the harvest and plunging the wheat export industry into economic instability.

Similarly, an outbreak of the highly contagious foot-and-mouth disease on a Midwestern dairy farm or a Texas cattle ranch could force the slaughter of tens of thousands of cows on one farm alone. And the high concentration of dairy or beef cows in the same geographical region greatly increases the odds of passing the disease from farm to farm and seriously damaging an entire industry.

### **Lesson from recent history**

Steven Becker, an associate professor of public health at the University of Alabama at Birmingham, points to the 2001 outbreak of foot-and-mouth disease in the United Kingdom as a prime example of the potential for catastrophe. For disease control purposes during the outbreak, an estimated 4.2 million sheep and cows were eventually slaughtered and their carcasses destroyed in huge bonfires.

More recently, the identification of mad cow disease in a Washington State heifer in December sent a new wave of fear through the beef industry.

Because security measures at U.S. borders are geared toward preventing accidental introductions of plant and animal pathogens, the research council's report concluded, those measures may be insufficient to halt intentional introductions. Cook, a report co-author, says the research council instead recommended better educational outreach and contingency plans based on risk.

But as researchers have found, prevention and preparation strategies aimed at the same general goal can sometimes work at cross purposes. The report's chapter on case examples, in fact, was

censored by the U.S. Department of Agriculture because of concerns that information that could be used to deliberately introduce diseases might fall into the wrong hands.

Cook and other committee members pointed out that all of the information was culled from freely available sources. "And the USDA came back and said, 'Yes, but nobody ever put it in one place before,'" Cook recalls.

James Stack, director of the Great Plains Diagnostic Center at Kansas State University, calls the debate the "transparency paradox," which is inescapable in talks about agroterrorism preparedness versus prevention.

"On the one hand, you want to disseminate as much information as possible," he says. "On the other hand, you do not want to put out so much information that you enable people who want to do harm."

The rift between the two sides may be narrowing somewhat, however. Several research journals have voluntarily initiated review policies to weed out the rare material that could threaten national security if published. And universities figure prominently in new government-funded initiatives to create diagnostic centers and national surveillance networks - something long advocated by many researchers.

So far, 19 universities and institutions have been tapped for the USDA-funded National Plant Diagnostic Network and its sister group, the National Animal Health Laboratory Network. A main goal of each is to create a first-line defense system in the event of a deliberate or accidental disease outbreak.

The networks' effectiveness will require coordinated outreach, observers say, and cooperative extension services will take on new prominence in their role of providing information about diseases like soybean rust to farmers, field-workers and others who have regular contact with farms.

"We want them to be our eyes and ears," says Jeremy Stump, the USDA's director of homeland security. Among the guidance materials sent to farmers and ranchers are reminders such as locking up pesticides at night, being aware of who has access to the farm during the day and establishing contacts with local law enforcement officials.

## Two national centers

Earlier this month, USDA and Homeland Security officials formally announced \$33 million in funding for two separate centers aimed at protecting crops and livestock. The University of Minnesota will house the National Center for Food Protection and Defense, while Texas A&M University will house the National Center for Foreign Animal and Zoonotic Disease Defense.

Both the Texas center and national animal health network are expected to coordinate their activities with the Plum Island Animal Disease Center, managed by the Homeland Security Department since last June. As the only lab in the country that studies foreign pathogens within live animals, Plum Island is by necessity a critical player in agroterrorism surveillance and education, as well as a potential target.

In June, the center beefed up its guard force in response to concerns about inadequate security. But the center's research and training fall squarely within the realm of preparedness.

"You do have to strike a balance between prevention, detection and response - your ability to recover," notes Dr. Elizabeth Lautner, the center's director. About 450 foreign animal disease diagnosticians from around the country have already completed a two-week course at Plum Island that gave hands-on experience in spotting diseased animal tissues. The center, Lautner says, also is working with the USDA on a distance-learning program to help other veterinarians "raise their antennae up about foreign animal diseases."

Lautner says the Department of Homeland

Security has provided funding for the center's effort to produce improved vaccines for high-impact pathogens such as foot-and-mouth disease, and to produce antiviral therapeutics that may treat animals in the interim or in the event of exposure. A main thrust of the center's current research is to develop vaccines that reduce the lag time between vaccination and acquisition of immunity.

Cook and other researchers say the nation's increased focus on preparedness can only help, no matter what the threat.

"I want to emphasize that what Mother Nature can deliver to us," Cook says, "could be far more important than what a terrorist could deliver to us."

1) QUOTE OF THE DAY. 'Agroterrorism is not about killing cows. It's about striking at the fundamental heart of our economy.' - David Franz, director of the National Agricultural Biosecurity Center at Kansas State University.

2) 'On the one hand, you want to disseminate as much information as possible. On the other hand, you do not want to put out so much information that you enable people who want to do harm.' - James Stack, director of the Great Plains Diagnostic Center at Kansas State University.