

SCIENCE & EDUCATION Impact

Benefits from USDA/Land-Grant Partnership

Farmland Security

Keeping America's food supply safe; protecting its citizens.

Terrorist threats come in many destructive forms, and one of the most frightening is the intentional contamination of our food supply. Even without deaths or illnesses, such an attack would cripple our economy, destroy confidence in our food supply and threaten our food security. The USDA and Land-Grant universities are working together to protect public well-being and this cornerstone for the U.S. economy.

Payoff

- **Casting a wide net.** Critical to any bioterrorism attack response is detection, minimizing the impact and ensuring public safety. Communications will be critical in easing public fears. With offices in nearly every county, Cooperative Extension staff are ideally positioned as first responders should a bioterrorism strike occur. The USDA-funded Extension Disaster Education Network – commonly called EDEN – a project led by **Purdue** and **Louisiana State**, will bring all agricultural bioterrorism response and dissemination efforts together. Cooperative Extension Services in more than 40 states and Puerto Rico are participating.
- **Security shield in place.** To protect the nation's food supply from agricultural terrorism, Land-Grant universities developed the National Plant Diagnostic Network. The effort will allow the U.S. Department of Homeland Security to unify defenses against human, animal and plant diseases that could be used as terrorist weapons. All 50 states and Puerto Rico are participating. Regional representatives include **California-Davis**, **Cornell**, **Michigan State**, **Florida** and **Kansas State**. This Web-based network will allow participants to share diagnostic information immediately. It includes an Agricultural Alert System, which can warn producers and consultants of pest outbreaks.
- **Rebuilding after tragedy.** The September 11 tragedy, its aftermath and ripple effects continue to affect family and community well-being. **Cornell** stepped in with a variety of programs. The Resilient Communities program and its Web site (www.cce.cornell.edu/issues/cceresponds/) – active 24 hours after the attack – helped adults talk with children about terrorism and war. Personal financial manage-

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ment programs for those who lost jobs or income were launched, and a series of translated financial management publications reached 4,500 Chinese and Spanish garment-industry workers. Elsewhere across the nation, USDA and many Land-Grants, including **Ohio State** and **Missouri**, responded with localized Web-based resources.

- **Guarding the \$72 billion cattle gates.** Land-Grant veterinarians stand as the first lines of defense against livestock disease outbreaks caused by accident or acts of biological terrorism. **Nebraska** Extension developed a program to help producers adopt biosecurity practices and train food processors in awareness of potential bioterrorism. This training has helped at least 1,460 Nebraska livestock producers and food processors guard against intentional or accidental biosecurity threats. **North Dakota State** launched the North Dakota Reserve Veterinary Corps to train veterinarians in the use of laptops, Global Positioning System units and digital photography to rapidly investigate unusual cases and send those findings electronically to experts. **California** is also educating veterinarians and producers about bioterrorism and made fact sheets available in Spanish and Portuguese. **Texas A&M** established a national center with surveillance networking systems, satellite imaging technology, field and lab techniques using biotechnology, and an information system to predict and track the spread of toxins or infectious organisms on our nation's farms.
- **Safeguarding food.** **Tennessee** researchers have developed new antimicrobial nanocapsules to keep food safe throughout the processing and distribution system. The new antimicrobials require smaller concentrations to inhibit growth of pathogens, can be easily added during food formulation and require minimal processing but are shelf-stable. Because these tiny nanocapsules protect food longer, scientists believe they might help against a bioterrorism attack.
- **Rural watchdogs.** Rural residents have become the eyes and ears for biosecurity breaches, thanks to Land-Grant universities. **Purdue** veterinarians developed protocols to prevent human transmission of devastating livestock diseases, developed biosecurity guides with the National Pork Board's Homeland Security initiative and established a National Biosecurity Resource Center.

Louisiana State is heightening awareness of potential bioterrorism activities through community meetings, farm visits and letters to 4-H livestock exhibitors.

Missouri's Fire and Rescue Training Institute conducted nearly 1,100 continuing professional education courses and enrolled 21,200 firefighters and EMT personnel, disseminating information on homeland security and terrorism response.

- **Air quality fallout.** Along with the tragedies associated with the collapse of the World Trade Center towers have come questions about human health risks from the resultant air pollution. **California's** DELTA (Detection and Evaluation of Long-range Transport of Aerosols) group extensively analyzed air quality in lower Manhattan. They found the air laden with small particles that could cause serious health problems. Researchers recommended specific cleaning methods for contaminated indoor spaces. Knowing the composition of the dust may help doctors better evaluate rescue workers' and residents' health problems.
- **A humanitarian push.** While it once accounted for half of Afghanistan's gross national product and employed 80 percent of the work force, war and drought have cut agricultural production in Afghanistan to 30 percent of its 1992 level. With funding from the U.S. Agency for International Development, **Purdue** faculty are redeveloping agricultural education at Kabul University as well as setting up a distance-learning pilot program. These outreach efforts promote greater stability in the region and open new avenues of economic opportunity for people in this embattled country.



**Cooperative State Research, Education,
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Cooperative State Research, Education, and Extension Service in cooperation with the Extension Committee on Organization and Policy, the Experiment Station Committee on Organization and Policy, the Academic Programs Committee on Organization and Policy, the International Programs Committee on Organization and Policy, and the Louisiana State University Agricultural Center.

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