

Mission: *To defend the safety and security of the food system through research and education.*

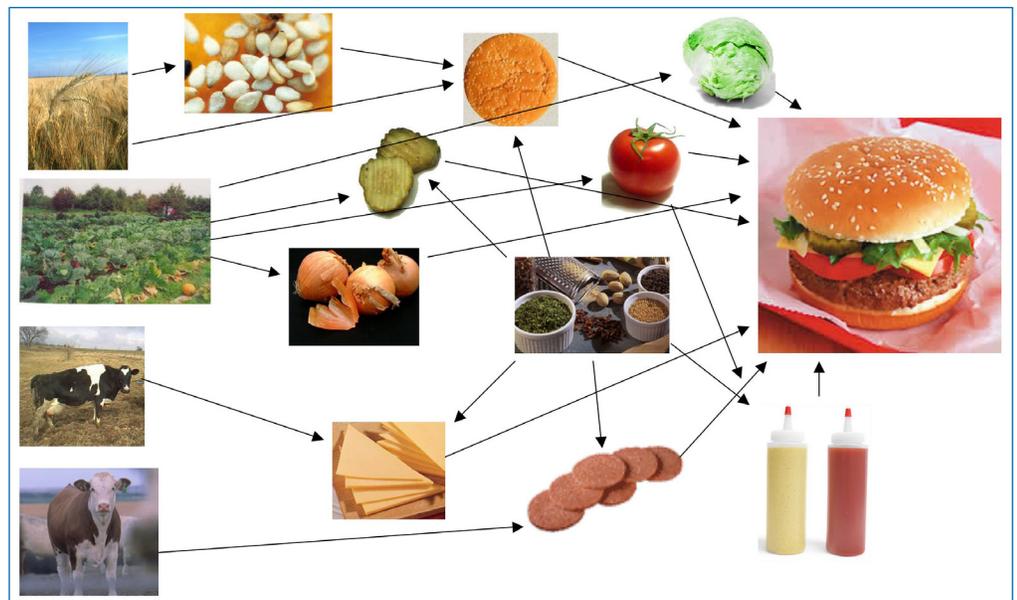
Goals

- Reduce the vulnerability of the nation's food system to terrorist attack by contamination with biological, chemical, or radiological agents at any point along the food supply chain, from primary production through transportation and food processing to retail and food service.
- Strengthen the food system's preparedness and resiliency to threats, disruption, and attacks.
- Mitigate the potentially catastrophic public health and economic effects of food system attacks.

Consortium Participants

- Led by the University of Minnesota, National Center for Food Protection and Defense's (NCFPD's) consortium includes Michigan State University, University of Wisconsin-Madison, North Dakota State University, Georgia Institute of Technology, University of Tennessee-Knoxville, plus individual investigators from many other universities and private sector research organizations, professional organizations, and food and agriculture agencies.
- NCFPD-funded research and education projects currently involve over 140 experts, selected through approval of peer-reviewed research proposals submitted by teams of researchers.

- A large cadre of graduate students and postdoctoral research trainees is successfully working in nearly all NCFPD research and education projects, demonstrating the capability of the academic research community to respond flexibly and rapidly to the need for professional expertise in all aspects of food protection and defense.



Partnerships to Solutions Strategy

- To leverage expertise and resources programmatically, NCFPD works in close partnership with federal and state regulatory agencies, state and local health and agriculture departments, first responder communities, professional organizations, other DHS Centers of Excellence, the national laboratories, and private sector stakeholders.
- Over 30 food industry experts serve as advisors, providing technical advice, critical end-user feedback, and strategic oversight.

Primary Production ~ Harvest ~ Transportation ~ Storage ~ Processing ~ Retail/Food Service ~ Consumer

Background

- The University of Minnesota-led consortium was selected on the basis of a national, competitive, merit-based review process for a three-year, \$15 million grant from DHS effective July 2004.
- NCFPD follows the specific mandate for a university-based food protection and defense center in Homeland Security Presidential Directive 9, *Defense of United States Agriculture and Food* (Jan. 2004).
- Developed as a multidisciplinary and mission-focused research consortium, NCFPD incorporates cutting-edge research aimed at food defense from a variety of disciplines, including supply chain management, logistics, epidemiology, public health, risk assessment, economics, molecular biology, food microbiology, biomedical engineering, toxicology, and risk communication.
- Following initiatives outlined in DHS's Broad Agency Announcement, 32 NCFPD-funded projects are in progress across eight research teams, all of which include collaboration across multiple teams and organizations.

NCFPD's Highlights to Date

Consequence Management System

Developed through NCFPD's public and private partnerships, the Consequence Management System (CMS) serves as an integrative tool across the breadth of NCFPD projects to provide the most advanced visual model for predicting, tracking, and assessing the public health and economic impact of a catastrophic food system incident. The prototype tool incorporates real industry-supplied data on food movement and consumption, along with a range of realistic estimates of public health response capabilities, health effects, and costs. As both a preparedness and response tool, the CMS enables informed users to identify the most likely routes for progression of a foodborne illness outbreak, map out actual occurrences, and eliminate unlikely sources of disease spread. The CMS system's ability to rapidly narrow an investigation's focus enables much quicker and more effective response and containment. Federal stakeholders involved in development and utilization of the CMS, and in NCFPD research projects that support the system, include: DHS-NBACC, DHS-OIP, Los Alamos National Lab, FDA-CFSAN, USDA-FSIS, and CDC.

Risk Communication

In collaboration with the food industry, the International Food Information Council, the Dairy Marketing Institute, and others, NCFPD's Risk Communication project team has identified best practices, key messages, and delivery methods to address the communication needs of the many audiences and stakeholders before, during, and after a catastrophic foodborne outbreak. Targeted training modules and instructional resources are being developed to enhance organizational risk and crisis communications capabilities and to improve the effectiveness of risk

communication in such emergencies. In partnership with USDA-FSIS and private sector organizations, these communication strategies and key messages are being validated for use with under-represented and minority populations.

FoodSHIELD

Developed in partnership with regulatory and laboratory associations and further supported by a grant from USDA-CSREES, FoodSHIELD addresses a major unmet need for communication, coordination, and just-in-time training across a wide range of state and local food and agriculture laboratories. Envisioned as a user-focused, one-stop location for sharing information and educational resources, FoodSHIELD (<http://www.foodshield.org>) is now being populated by lead users.

Economic Analysis

Through a combination of (1) surveys of consumer attitudes toward risks of deliberate food contamination and support for expenditures on food defense activities, and (2) economic modeling of public and private sector investments in food defense, NCFPD's economic analysis team has developed preliminary guidance information for policymakers and private sector stakeholders on resource allocation for food system defense.

Summaries of research accomplishments in all NCFPD research areas are available on request: Supply Chain & Information Management, Public Health Response & Epidemiology, Economic Analysis, Detection & Diagnostics, Inactivation and Food Processing, Decontamination and Disposal, Risk Communication, and Education.