

Terrorism, Pandemics, and Natural Disasters: Food Supply Chain Preparedness, Response, and Recovery

***A symposium co-sponsored by The Food Industry Center, the
National Center for Food Protection and Defense, & the
Trucking Industry Program***

November 1, 2006

7:45 am – 4:30 pm

A.I. Johnson Great Room McNamara Alumni Center

University of Minnesota

200 Oak Street SE Minneapolis, MN 55455



UNIVERSITY OF MINNESOTA



MORNING AGENDA

7:45 – 8:30 REGISTRATION AND CONTINENTAL BREAKFAST

8:30 – 9:15 WELCOME & OVERVIEW

Frank Busta, Director of the National Center for Food Protection and Defense
Shaun Kennedy, Deputy Director of the National Center for Food Protection and Defense
Jean Kinsey, Co-Director of The Food Industry Center
Chelsea (Chip) White, Executive Director of the Trucking Industry Program

9:15– 10:00 AVIAN INFLUENZA: SECOND, THIRD AND FOURTH ORDER EFFECTS

Speaker: Col. John T. Hoffman,
USAR, Ret., Sr. Research Scholar, National Center for Food Protection and Defense

Responder: Steven H. Olson
Executive Director
Minnesota Turkey Growers Association

10:00 – 10:15 BREAK

10:15 – 11:00 ROLE OF INSURANCE IN DISASTER RECOVERY

Speaker: Erwann O. Michel-Kerjan
Managing Director, Risk Management and Decision Processes Center &
OPIM Department
The Wharton School, University of Pennsylvania

Responder: Joel Vander Kooi
Assistant Treasurer, Risk Management
Kellogg Company

11:00 – 11:45 RISK COMMUNICATION WITHIN A COMPANY AND TO THE OUTSIDE WORLD

Speaker: Will Hueston Professor, Veterinary Population Medicine &
Director, Center for Animal Health and Food Safety

Responder: Tom Whelan
Executive Vice President & Chief Operating Officer
Nemer Fieger

11:45 – 12:00 SET UP SCENARIOS FOR BREAKOUT GROUPS DURING LUNCH

AFTERNOON AGENDA

12:00 – 1:15 WORKING LUNCH

Roundtable Workshops – solving disaster response issues with a mix of people at each table representing private and public sector

1:15 – 2:45 3 CASE STUDIES ON BEST PRACTICES

1. “Hurricane Preparedness and Recovery for the Quick Service Industry”
George Hoffman, President & Chief Executive Officer
Restaurant Services Inc. (Supplier to Burger King)
2. Best Practices Among Food Companies Along the Food Supply Chain - Results of Benchmarking Survey Conducted by National Center for Food Protection & Defense
 - Transportation Sector
Alan Erera
Assistant Professor, H. Milton Stewart School of Industrial and Systems Engineering
Georgia Institute of Technology
 - Manufacturing Sector
Omar Keith Helferich
Project Leader, Michigan State University Supply Chain Management Standards Process
 - Retail, Food Service and Wholesale Sectors
Jean Kinsey
Professor of Applied Economics & Co-Director of The Food Industry Center
University of Minnesota
3. “Food Defense Mitigation Countermeasure: An Industry Perspective”
Dave Wankowski, Regulatory Affairs Manager
Kraft Foods Global, Inc.

2:45 – 3:00 BRIEF REPORT ON DECISIONS FROM BREAK OUT LUNCH GROUPS

3:00 – 3:15 BREAK

3:15-4:00 **Keynote Speaker: Jeff Noddle**
Chairman & Chief Executive Officer
SUPERVALU

“Disaster Recovery: What We Have to do Right”



4:15 – 4:30 CONCLUSIONS & SUMMARY STATEMENTS



Francis (Frank) F. Busta, Ph.D.

Professor Busta is the Director of the National Center for Food Protection and Defense (NCFPD) based at the University of Minnesota. Previously he held faculty positions at the University of Minnesota, North Carolina State University, and the University of Florida. He served as Chair of the Department of Food Science and Human Nutrition from 1984 to 1987 at the University of Florida and Head of the Department of Food Science & Nutrition, University of Minnesota from 1987 to 1997. Dr. Busta's research areas are in food safety, growth and survival of microorganisms after environmental stress in food, and microbial ecology. He has published more than 125 refereed research papers. He served as Chief Technology Advisor on a UNDP project in China on agri-processing within the WTO framework. After 15 years of service, Dr. Busta retired from the International Commission on the Microbiological Specifications for Food (ICMSF). Dr. Busta is a Fellow of the Institute of Food Technologists, of the American Academy of Microbiology, of the American Association for the Advancement of Science, of the Institute of Food Science and Technology (UK), and of the Academy of the International Union of Food Science and Technology. He was President of the Institute of Food Technologists (IFT) in 1995/96 and currently is Senior Science Advisor of IFT's contract from FDA entitled: Analysis and Review of Topics in Food Safety, Food Security, Food Processing, and Human Health. He has had sabbatical leaves at CSRIO (Australia), Ecolab, and 3M and became Professor Emeritus in 1999. Professor Busta was named as the first Director of NCFPD in 2004.



David J. Closs, Ph.D.

Dr. Closs is the leader of the Supply Chain and Information Management research team for the National Center for Food Protection and Defense (NCFPD). He is also the leader researcher of the Manufacturing Sector of the Benchmarking Survey being conducted by NCFPD. Dr. Closs holds John H. McConnell Chaired Professor of Business Administration, Michigan State University. He received his Bachelor of Science degree in mathematics and his MBA and Ph.D. degrees in logistics from Michigan State University.



Alan Erera, Ph.D.

Dr. Erera is an Assistant Professor in the School of Industrial & Systems Engineering at the Georgia Institute of Technology. His research interests include logistics and transportation systems design and control, vehicle routing, dynamic and stochastic logistics problems, and transportation system security and efficiency. He received a Bachelor of Science Engineering in Civil Engineering and Operations Research *summa cum laude* from Princeton University and his Masters Degree and Ph.D. from the University of California, Berkeley in Industrial Engineering and Operations Research. He is a member of the Institute for Operations Research and Management Science and the Transportation Research Board.



Omar Keith Helferich, Ph.D.

Dr. Helferich works with the Michigan State University research team on the Food Supply Benchmark Survey conducted by National Center for Food Protection and Defense to develop an improved process for national food supply security. Dr. Helferich is also a senior consultant and university faculty member with experience in supply chain, decision support systems, incident management, and continuity planning. He was Director of the Supply Chain Management Outreach Program at Michigan State University from 1992 through 1999. His areas of focus are supply chain strategy, logistics risk management, application of decision support tools to system optimization, vehicle routing, scheduling, inventory planning, layout, process reengineering, forecasting, environmental impact and business continuity planning. Dr. Helferich received a Doctor of Business Administration with concentrations in operations, logistics and information management (1970) from Michigan State University. He received an MBA with concentration in Quantitative Methods, an M.S. in Environmental/Sanitary Engineering, and a B.S. in Civil Engineering from the University of Michigan. During the past ten years, Dr. Helferich has been a disaster logistics instructor and volunteer for the American Red Cross. His response experience includes fires, storms, train derailments, the Oklahoma City bombing, the 2001 World Trade Center terrorist incident, and the 2005 Katrina catastrophic incident.

Dr. Helferich is the lead author for the chapter on securing the supply chain in a forthcoming Handbook (Summer 2006) on Supply Chain management published by Sage. He is co-author with Air Force Major Mary Kay Allen, Ph.D. of the 1992 Council of Logistics Management sponsored monograph, "Putting Expert Systems to Work in Logistics."



George Hoffman, Ph.D.

George Hoffman is President and Chief Executive Officer of Restaurant Services, Inc., (RSI) located in Coral Gables, Florida. RSI is an independent purchasing and distribution services cooperative formed in 1992 for the purpose of purchasing the products and services necessary to operate all the Burger King restaurants in the United States, company and franchised. The cooperative purchases over \$3 billion in food, packaging, premiums, kitchen equipment, uniforms, signs and decor and distribution services for approximately 8,000 Burger King Restaurants in the U.S.

Prior to joining RSI in 1997, Dr. Hoffman held various positions over a nine year period at Burger King Corporation, including Vice President of Worldwide System Supply Management, Vice President of Quality and Cost for Europe, Middle East and Africa, based in London, and General Manager of Burger King Restaurants of Canada, based in Toronto. Before moving to Miami with Burger King Corporation as Vice President of Purchasing in 1988, he was Director of Business and Commodity Analysis with the Pillsbury Company, in Minneapolis, Minnesota.

Dr. Hoffman has served on The Food Industry Center's Board of Advisors and is on the Board of Trustees of the Farm Foundation. He has a Bachelor and Master's Degree from Colorado State University and a Ph.D. in Agricultural Economics from the University of Minnesota.



Colonel John Hoffman

Col. John T. Hoffman worked with the U.S. Department of Homeland Security, as the Food and Agriculture Program Manager, focusing on national food and agriculture security and threat issues within the Infrastructure Coordination Division. In this capacity, he works directly with the food and agriculture industry and assisted industry in founding the Food and Agriculture Sector Coordinating Council. He has also worked with USDA and FDA to found the Food and Agriculture Government Coordinating Council. In addition to a variety of duties focused on food and agriculture sector security and preparedness, Col. Hoffman is also serving as the Chair for the U.S. Department of Homeland Security Avian Influenza Task Force Agriculture Working Group. In this capacity, he is playing a significant role in the formulation of the Department's plan to reduce the risk of Pandemic Flu for the nation. Col. Hoffman served on the design task force for the National Bio-Surveillance Integration System (NBIS), a new bio-situational awareness capability that integrates biological monitoring and reporting across all the federal agencies and that is now being deployed within the Department of Homeland Security. Col. Hoffman serves as a consultant to local and regional governments on emergency service response systems, disaster consequence management and implementation of GIS and digital cadastral mapping systems. Col. Hoffman is also DOD trained anti-terrorism Instructor and provided anti-terrorism training to numerous state and local police organizations as well as military units.

Col. Hoffman was originally commissioned as a Second Lieutenant in the Regular Army upon graduation from Georgetown University and was the Distinguished Graduate of the 1969 ROTC program. He served in the Republic of Vietnam as a helicopter pilot and infantry platoon leader. Col. Hoffman is also a graduate of numerous other military schools including the U.S. Army Ranger School, the U.S. Army Special Security Officer's (SSO) Course, numerous National Security, anti-terrorism and WMD training courses, a Distinguished Graduate from the U.S. Air Force Air-Ground Operations School, the U.S. Army National Guard Future Planning Course, U.S. Army Command and General Staff College, and the U.S. Army War College in Carlisle, PA. He retired in March of 2000 as a Colonel from the North Carolina Army National Guard after serving on active duty for five and one half years and 25 years in the National Guard.



William D. Hueston, DVM, Ph.D., DACVPM

Dr. Hueston is an internationally recognized expert on bovine spongiform encephalopathy (mad cow disease), is the director of the University of Minnesota Center for Animal Health and Food Safety, and a Professor in the College of Veterinary Medicine and School of Public Health. In this capacity, he leads a team of faculty addressing surveillance, risk analysis and policy issues related to food-borne illnesses and emerging infectious diseases. Well known for his expertise in risk communications, Dr. Hueston works with academia, government, industry, and producers to assure that threats to our food supply are prevented and, in the worst case, detected and managed.

Dr. Hueston holds a Doctor of Veterinary Medicine (DVM) degree and a Ph.D. in epidemiology from the Ohio State University. His career has spanned both the private and public sectors, including private practice, serving as a resident veterinarian for a large agricultural cooperative, a faculty appointment at Ohio State and senior positions in the USDA. He has also been a visiting scientist at the Ministry of Agriculture in the United Kingdom. He served on an international panel of experts assisting Canada in evaluating their response to the emergence of BSE and also participated on the team tasked to investigate the U.S. Washington State case. Prior to joining the University of Minnesota, Dr. Hueston was professor and associate dean for the University of Maryland campus of the Virginia-Maryland Regional College of Veterinary Medicine.

Dr. Hueston has received awards from multiple organizations including the National Academy of Practice, USDA, FDA, the American Veterinary Epidemiology Society, the National Association of Federal Veterinarians, the American College of Veterinary Preventive Medicine, and the National Honorary Extension Fraternity.



Shaun Kennedy, Ph.D.

Shaun Kennedy is Deputy Director of the National Center for Food Protection and Defense (NCPFD), a Department of Homeland Security Center of Excellence. He is also the Associate Director of the University of Minnesota's Center for Animal Health and Food Safety. At the University, Dr. Kennedy leads research and education programs that advance animal health, food safety, and food system biosecurity. Prior to the University, he held executive research and development positions at Ecolab where he was vice president of global food and beverage research and development. At Procter & Gamble, his positions included leading research and development programs in Japan and China.



Jean Kinsey, Ph.D.

Jean Kinsey is a Professor in the Department of Applied Economics at the University of Minnesota, where she has been on the faculty since 1976. She is also the Co-Director of The Food Industry Center, a University wide center started by the Sloan Foundation in 1995. She received her Ph.D. from the University of California at Davis in 1976. She was on the Board of the Federal Reserve Bank of Minneapolis from 1991-1997 and served as board chair from 1996-1997. She was named a Distinguished Fellow of the American Council on Consumer Interests in 1997 and of the American Agricultural Economics Association in 2000. Dr. Kinsey was President of the AAEA in 2002. She is on the Board of Trustees of the International Food Policy Research Institute in Washington D.C. and on the Board of Managers of PJM in Philadelphia, PA. Her research and teaching has been on topics of food consumption trends, obesity issues with food consumption, consumer buying behavior, consumer attitudes about food terrorism, food industry preparations for food protection and defense against potential terrorism, and urban access to healthy food in urban neighborhoods. She has published widely in academic journals and is co-author of a 1991 book titled *Food Trends and the Changing Consumer*.



Erwann O. Michel-Kerjan, Ph.D.

Erwann Michel-Kerjan is Managing Director of the Wharton School's Risk Management and Decision Processes Center, a center with 20 years of experience in developing strategies and policies for dealing with catastrophic risks. Dr. Michel-Kerjan joined the Wharton School in 2002 where his research since has been focused on managing and financing extreme events, primarily natural disasters and mega-terrorism, and on the consequent strategic crisis management. In particular, his interest is in the creation, implementation and development of private-public collaboration among top decision-makers to deal with emerging large-scale risks. His work also includes several projects on national security and the protection of critical infrastructure in partnership with Lockheed Martin and several federal agencies. Between 2003 and 2005, he served on the Organisation for Economic Cooperation and Development Task Force on Terrorism Insurance and in 2005 he co-led, with Howard Kunreuther, the Wharton initiative on the future of terrorism risk financing in the United States (*TRIA and Beyond*). His first book, *Treatise on New Risks* (with O. Godard, C. Henry and P. Lagadec) was published in 2002. As part of a joint GMU-Harvard-Wharton initiative, he is finishing a new book, *Seeds of Disaster; Roots of Response. How Private Action Can Reduce Public Vulnerability* (with P. Auerwald, L. Branscomb and T. LaPorte); Cambridge University Press, 2006. Michel-Kerjan is a member of the American Economic Association, the American Risk and Insurance Association, the Econometric Society, and a faculty research associate at the Ecole Polytechnique in Paris. He also serves as an expert for the Division of Financial Affairs of the OECD and he is a member of the Global Risk Network of the World Economic Forum (Davos).



Hamid Mohtadi, Ph.D.

Hamid Mohtadi is the Acting Co-Director of The Food Industry Center and a Visiting Professor in the Department of Applied Economics at the University of Minnesota for 2006-2007 and Professor of Economics at the University of Wisconsin in Milwaukee. He has also taught at Columbia University and the University of Denver. Dr. Mohtadi has been a Faculty Associate at The Food Industry Center for six years and Adjunct Faculty in the Department of Applied Economics for 10 years. He has conducted extensive research and published on food industry topics over the past six years. Currently, he is the recipient of three separate research grants from the Department of Homeland Security to study the risk of bio-terrorism to the food industry and to develop metrics for such risks and firms' best response to them. He has also received a research grant, through the Alfred P. Sloan Foundation, to study the food industry's adoption of information technology. Dr. Mohtadi has published extensively in the area of growth and technological change. He has also collaborated with the Carlson School of Management and is Associate Faculty at that school's department of Management Information Systems. He is the Co-Editor of the International Economic Journal and a Fellow of the Economic Research Forum. Dr. Mohtadi received his M.S. from Columbia University and his Ph.D. in economics from the University of Michigan in Ann Arbor.



Jeff Noddle

Jeff Noddle has been at the helm of SUPERVALU since being elected as the company's chief executive officer in 2001. Today, as chairman and CEO, Noddle oversees a company that is at once the third-largest grocery retailer and the leading U.S. food distributor in the U.S. Noddle, who earned a bachelor's degree from the University of Iowa in 1969, joined SUPERVALU in 1976 as director of retail operations for the company's J.M. Jones division in Champaign, Ill. During his time in the J.M. Jones division, he held a number of positions, including director of merchandising and vice president, marketing. Between 1982 and 1985, Noddle served as president of the company's Fargo division and its former Miami division. In 1985, he was named corporate vice president, merchandising, and a series of promotions followed. By 1995, Noddle had been named corporate executive vice president and president and chief operating officer of SUPERVALU's Distribution Food Companies. In 2000, Noddle was named SUPERVALU's president and chief operating officer, responsible for all of the company's operations. He was named president and CEO in 2001, then elected to the position of chairman of the board in 2002.

In addition to his role as Chairman of the SUPERVALU board of directors, Noddle serves on a number of industry and corporate boards. He is currently chairman of the board for The Food Marketing Institute (FMI), as well as a board member for the Independent Grocers Alliance, Inc. (IGA). He is also a member of The Business Council. Noddle serves on the board of The Food Industry Center at the University of Minnesota and the Academy of Food Marketing at Saint Joseph's University, Pa. He also serves on the corporate boards of Donaldson Company, Inc. and Ameriprise Financial, Inc. He is active in Minneapolis civic affairs, currently serving on the Greater Twin Cities United Way board of directors and executive committee, the University of Minnesota Carlson School of Management's board of overseers, and as a member of the executive committee of the Minnesota Business Partnership.



Steve Olson

Steve Olson is the Executive Director for the Minnesota Turkey Grower's Association (MGTA) and serves as the chief operating officer of the MTGA and MTRPC. He is responsible for overseeing the MTGA's legislative and regulatory affairs, financial management, human resources, membership relations, and maintaining liaison activities. Olson also serves as Executive Director of the Midwest Poultry Federation MPF and the Broiler & Egg Association of Minnesota BEAM.



Michael T. Osterholm, Ph.D., MPH

Dr. Osterholm is director of the Center for Infectious Disease Research and Policy (CIDRAP), associate director of the Department of Homeland Security's National Center for Food Protection and Defense (NCFPD), and professor in the School of Public Health, University of Minnesota. He is also a member of the Institute of Medicine (IOM) of the National Academy of Sciences. In June 2005, Dr. Osterholm was appointed by Michael Leavitt, Secretary of the Department of Health and Human Services (HHS), to the newly established National Science Advisory Board on Biosecurity.

Dr. Osterholm, in addition to his role at CIDRAP, served as a Special Advisor to then-HHS Secretary Tommy G. Thompson on issues related to bioterrorism and public health preparedness. He was also appointed to the Secretary's Advisory Council on Public Health Preparedness. Previously, Dr. Osterholm served for 24 years (1975-1999) in various roles at the Minnesota Department of Health (MDH), the last 15 as state epidemiologist and chief of the Acute Disease Epidemiology Section. While at the MDH, Osterholm and his team were leaders in the area of infectious disease epidemiology. Dr. Osterholm has been an international leader on the critical concern regarding our preparedness for an influenza pandemic. The author of more than 300 papers and abstracts, including 20 book chapters, Dr. Osterholm is a frequently invited guest lecturer on the topic of epidemiology of infectious diseases. He serves on the editorial boards of five journals, including *Infection Control and Hospital Epidemiology* and *Microbial Drug Resistance: Mechanisms, Epidemiology and Disease*, and he is a reviewer for 24 additional journals, including the *New England Journal of Medicine*, the *Journal of the American Medical Association*, and *Science*.



Benjamin Senauer, Ph.D.

Dr. Senauer is the Co-Director of The Food Industry Center and Professor of Applied Economics at University of Minnesota, where he has been on the faculty for 27 years. His research focuses on issues in the food industry, particularly consumer trends and their implications. His primary areas of expertise are consumer behavior, food marketing, household economics, and food and nutrition policy. He has taught courses in consumption economics, food marketing, microeconomic theory, and world food problems. He served as Director of the Center for International Food and Agricultural Policy at the University of Minnesota from 1993-1999. During 1984-85 and again in 1999-2000, he was a visiting research fellow at International Food Policy Research Institute.

He received a B.A. degree with high honors in Economics from the University of California in 1968, received his Master's Degree in Economics from Harvard in 1972, and Ph.D. in 1974 from Stanford University. Dr. Senauer has published over 35 research papers in such academic journals as the *American Journal of Agricultural Economics*, has contributed chapters to several books, and has over 50 other publications. He is a co-author of the books *Food Trends and the Changing Consumer* and *Ending Hunger in Our Lifetime: Food Security and Globalization*.



Dave Wankowski

Dave Wankowski has 24 years of quality, operations and regulatory affairs experience and currently serves as the regulatory affairs manager for Kraft Foods Global Inc. Among the responsibilities in Dave's current position, is the coordination of all North America Food Defense regulatory compliance and agency interaction initiatives. Mr. Wankowski is a recognized leader in the area of food defense and is a member of the Processor-Manufacturer Sub-Council of the Food and Agriculture Sector Coordinating Committee (FASCC) and serves as a member of the FDA/IFT CARVER Software Advisory Panel, as well as the FDA/USDA Sector Specific Plan Working Group (SSP). He holds a BS degree in Biology and Chemistry from the University of Wisconsin Whitewater.



Tom Whelan

Mr. Whelan joined Nemer Fieger as Executive Vice President and Chief Operating Officer in October, 2004. His entire career had been in sales management and publishing. He previously spent nearly 9 years as Associate Publisher/Advertising Director at *Minnesota Monthly* magazine, more than 13 years with the *Star Tribune* in the Twin Cities, and 6 years with the Chicago *Tribune* in Chicago and New York City.

His current professional affiliations include membership on the membership committee for the Minneapolis Regional Chamber of Commerce, the Board of Directors for the Bloomington Convention and Visitors Bureau, Memorial Blood Centers, the Better Business Bureau of Minnesota and North Dakota, the Explore Minnesota Tourism Council and the advisory board for the University of Minnesota's Tourism Center. In 2004, he was honored by the Advertising Federation of Minnesota, receiving the Silver Medal Award for outstanding contributions to advertising. Also in 2004, he was honored as Outstanding Individual in Tourism from Explore Minnesota Tourism, the State's tourism division. Whelan is a graduate of the University of Notre Dame and, with wife Marty, lives in Minnetonka.



Chelsea C. White III

Dr. White is the H. Milton and Carolyn J. Stewart School Chair of the H. Milton Stewart School of Industrial & Systems Engineering and holds the Schneider National Chair of Transportation and Logistics at the Georgia Institute of Technology, where he is the Director of the Trucking Industry Program (TIP) and the former Executive Director of The Logistics Institute. He has previously served as department chair of Systems Engineering at the University of Virginia, department chair of Industrial and Operations Engineering at the University of Michigan (UM), and Senior Associate Dean at the UM. He received his Ph.D. from the University of Michigan (UM) in 1974 in Computer, Information, and Control Engineering. His most recent research interests include analyzing the role of real-time information and enabling information technology for improved logistics and, more generally, supply chain productivity and risk mitigation, with special focus on the U.S. trucking industry.

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The Food Industry Center
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The Food Industry Center located at the University of Minnesota was founded in January 1995. We are one of several Alfred P. Sloan Foundation industry centers and the only one that studies the food industry. The Food Industry Center is a community of scholars made up of faculty, students, and industry leaders from across the nation and the world. The Center provides forward-thinking identification of major issues that have the potential for profound change in the food industry. Currently, TFIC has three strategic areas of research on which it is focused – food security, healthy foods and lifestyles, and educating future food industry leaders. Through research, educational programs, and industry collaboration, it is a leading source of knowledge on how food reaches consumers efficiently and contributes to safe and healthy lives.

NATIONAL CENTER FOR
FOOD PROTECTION AND DEFENSE
A HOMELAND SECURITY CENTER OF EXCELLENCE

The National Center for Food Protection and Defense (NCFPD) was officially launched as a Homeland Security Center of Excellence in July 2004. Developed as a multidisciplinary and action-oriented research consortium, NCFPD addresses the vulnerability of the nation's food system to attack through intentional contamination with biological or chemical agents. NCFPD takes a comprehensive, farm-to-table view of the food system, encompassing all aspects from primary production through transportation and food processing to retail and food service.

NCFPD's research and education program is aimed at reducing the potential for contamination at any point along the food supply chain and mitigating potentially catastrophic public health and economic effects of such attacks. The program incorporates cutting-edge research across a wide range of disciplines, including supply chain management, logistics, epidemiology, risk assessment, economics, molecular biology, food microbiology, biomedical engineering, toxicology, and risk communication.



The Trucking Industry Program is engaged in comprehensive research on issues associated with labor, the firm, and the operations and technology in the trucking industry. The Program is noted for conducting a survey of the nation's truck drivers at select truck stop interview sites to address issues of truck driver safety, pay, performance, and quality of life (And Lord Let It Be Palletized: A Portrait of Truck Drivers' Work and Lives). Research is on-going to identify security concerns of the trucking industry and to explore trucking fleet management issues associated with security and efficiency for the intermodal movement of freight.

The Program continues to be actively addressing forces affecting the industry and their impact on firm core competency dynamics, the impact of information technology on the industry, driver wage and safety issues, LTL best practices, the role of the owner-operator, a cross-industry transportation and logistics best practices study, and the impact of globalization on innovation in the industry.

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