

**NATIONAL CENTER FOR FOOD  
PROTECTION AND DEFENSE  
(NCFPD)**

**NATIONAL EDUCATION PROGRAM  
(NEP)**

**SUMMARY OF  
JANUARY 20-21, 2005  
NEP WORKSHOP**

**MICHIGAN STATE UNIVERSITY**

## **NCFPD NATIONAL EDUCATION PROGRAM PROJECT DESCRIPTION**

A lack of food protection and defense expertise nationwide threatens the security of our food supply. Awareness and concern for the need for food protection and defense have prompted an urgent need for experts to cope with intentional food contamination. Currently, however, there are few academic programs available to address this shortage.

The NCFPD has received a charge and accepted the challenge to serve as an education repository for food protection and defense for the nation. Food protection and defense is a national and global responsibility. This responsibility requires the strategic thinking, input and collaboration of vast educational resources.

Stewards of the NCFPD Educational Program will utilize a variety of resources available in universities, combined with those in industry and government, to form "full-service" and "just-in-time" educational programs for those working in and with the food industry. Though fragmented, resources are found distributed throughout academic institutions of higher education in all of our 50 states. In addition, targeted and specific educational resources are found in the private sector and at all levels of government.

It is the responsibility of the NCFPD Educational Program to fulfill the need for food protection and defense by engaging in the mission set before us by the DHS. Such a challenge requires evaluation and strategic planning never before undertaken.

### **National Center for Food Protection & Defense**

University of Minnesota  
Frank Busta, Director  
(612) 624-2164  
fbusta@umn.edu

### **National Education Program**

National Food Safety & Toxicology Center  
Michigan State University  
Edward Mather, PI  
(517) 432-3100  
mather@cvm.msu.edu

## INTRODUCTION

*"This is an unparalleled meeting – this will set a standard in food protection & defense."*

*"Collaboration is critical – collaboration across universities & across DHS Centers."*

One mandate of the Department of Homeland Security NCFPD is the development of a NEP for food protection professionals in both public and private industry.

More than 30 professionals from academia, industry and government were invited to Michigan State University on January 20-21, 2005, to engage in the development of the NEP as it related to:

- Public and private partnership
- Identifying national needs for food defense education
- Online education infrastructure
- Online education best practices

This document attempts to capture participants' thoughts and insights in charting a plan for the development of the NCFPD NEP.

## DEMAND DISCUSSION

### ***Who are AUDIENCES for our education efforts?***

*"Is there a demand driving us to create awareness (of food protection measures)?"*

*"Will this demand be created by regulations?"*

*"Is there going to be a cost effective ration in the industry to take (protection measures) on?"*

*"Are other countries as concerned as we are?"*

Crucial to presenting education tools to end-users is the identification of potential or targeted audiences for those products. Suggested audiences for the NCFPD NEP include:

**Academia:** While both undergraduate and graduate are recognizable recipients, administration and faculty should also be considered. K through 12 audiences are also recommended.

**Government:** Federal, state and local government should be considered, with consideration given to public and private participants in government. Within this audience, policy makers and political representatives could be recipients, as well as DHS personnel.

**Industry/Private sector:** Audience needs run from farm to retail, line level to laboratory, security to CEO. Included in this grouping are

|   |  |
|---|--|
| <i>"What about import regulations &amp; preferences?"</i>   | professional audiences within transportation, equipment, ingredients, food service, and marketing and communication.<br><br>First responders: Representative first responders can include official governmental responders as well as laboratory crisis responders.  |
| <i>"Are there opportunities for (international) students?"</i>  | Laboratories/Health care: FERN, public health employees, technologists and organizations assisting government should be considered.  |
| <i>"What about working on a framework for presenting nuggets of information – audience dependent?"</i>      | International audiences: These could include overseas suppliers, governments and bodies charged with the establishment of global standards.<br><br>Business:<br><br>Opinion leaders:<br><br>Public:<br><br>Media:<br><br>Internet community:   |
| <i>"We need a framework to partner with industry. We need to find out and provide what industry needs."</i> | Stage in learning: NEP materials could be segregated based on audience needs for non-credit training, courses or continuing education.   |
| <i>"How do we subdivide this group based on our products?"</i>  | Ultimately, in serving audience needs, formation of the NEP must be built upon an understanding of product demand, awareness of audience needs, audience incentives in acquiring knowledge, the realization and communication of regulations as they pertain to food protection, and the communication of funding resources.                         |
| <i>"In identifying pieces, don't forget local partners as well."</i>  | In providing opportunities for recipients, consideration should be given to the consecutive relationships of management events and audience needs at various stages. For instance, pre-crisis or preparedness programming could be followed with response or crisis programming, with different stages being more important for differing audiences. |
| <i>"Do you believe that the demand side is hot because they don't know what they need?"</i>                 |  |
| <i>"The demand is there – we do not need to create one."</i>  |  |

*"There are two types of demand: academic training & public training."*

*"We do not know the science piece yet."*

*"Is the demand and lack of awareness closer to the farmer – what is the economic breakpoint?"*

*"Will we charge for this training?"*

*"Is there a standard approach?"*

*"Do we need to create information standards?"*

*"What is the difference between education & training?"*

*"Where are the people and what do they need?"*

*"What is the best way to present information?"*

*"Depending on where your heart & soul are will decide if it is education & / or training."*

Building on existing NCFPD partner's existing relationships with audiences can provide opportunity to collaborate, enhance, combine and segregate programming to meet audience needs.

Lastly, though some sectors display a demand, others have an unacknowledged need for information. Clearly, diplomacy must be practiced in urging such groups to be accepting of useful knowledge without "talking down" to such audiences or confusing such audiences with mixed messages.

### **What do audiences need in the way of INFORMATION / SKILLS?**

The provision of information to meet audience needs can be couched in the context of preparedness, detection, response and recovery. Operational Risk Management (ORM), crisis management, awareness and threat analysis are also areas of importance.

Risk communication should be considered in integration with education and response planning, with both experts and non-experts in mind. Along these lines, there is a critical need for decision makers to obtain skills in communicating effectively with and establishing relationships with media.

These subjects are considered with the understanding that information demand can be audience dependent. For example, awareness, jurisdictional and recovery content could be useful to law enforcement specialists. Regulators may seek insight on awareness, appropriate prevention and response actions, and key contacts during crises. Various facets or segments of industry, as an example, could also be singled out based on specific needs within that audience.

Other informational needs consist of current processes and plans, vulnerability assessment and prioritization, mitigation, detection and traceability, decontamination and recovery. Additionally, it is believed that food protection data, problem solving tools, best practices in food protection, training for trainers, and details on biological, chemical and radiological hazards are key areas that must be conveyed.

*"We need to set up a clearinghouse for communication during the crisis for real time updated communications so rumors do not spread."*

*"Only 60 percent of public health agencies have Internet connections – we need intercommunications between agriculture, public health, security people."*

*"It is critical to think about the diplomatic issues / global issues of how our foreign trading partners are going to act if borders are closed."*

*"Are there English as second language problems?"*

*"Training the trainer is really important, along with third party & good table tops."*

*"How much information do you tell the public about being prepared?"*

In conveying information, it is recommended that levels of informational need be considered. Levels include appreciation, knowledge, understanding, organizational needs and skills.

Lastly, singular messages delivered quickly, e.g. just-in-time, are essential.

### **What available VEHICLES can be used?**

The range of means for conveying information is vast. While the online format is a key tool in educational enhancement, within this format, options range from entire curricula to single courses, industry short courses, specific modules and certificate programs.

Non-electronic programs can also play a role. Face to face education such as traditional classroom education, national association meetings and road shows, white papers, workshops, cooperative education, government conferences, private health and education institutes, and the use of existing programs such as schools and lunch programs, are all examples.

It is suggested that a number of vehicles could be self-driven, allowing the user to derive benefit on his or her own terms. Some examples are self-audit tools, brochures, Web site directories, scenario and table top exercises, just-in-time meetings, and video conferencing.

Use of the media as an outlet for information source awareness is possible, providing insight into print, television, radio, Internet and contact information for information seekers.

Lastly, much like gearing types of information for specific audiences, vehicles can also be defined based on audience types and accessibility.

## SUPPLY DISCUSSION

*"How much do you convey about a food contamination issue if persons do not know a lot about how the food is prepared?"*

### **What are we currently providing in the way of INFORMATION/SKILLS?**

While specific information is being conveyed through current resources, food security awareness, placed in the context of risk / threat assessment and response seems to be universal.

*"After Tommy Thompson's food supply comments, the 1-800 food safety hotline rang off the hook all weekend."*

These overarching themes are reflected in the emphasis placed upon developing multi-disciplinary knowledge and skills, along with information sharing between concerned parties.

*"It is hard to give the public a little bit of information, while still keeping them in the loop."*

Specific examples include the provision of certificate and academic programs at a variety of universities, table top activities, and print resources such as scientific journals.

*"We need to train Congress on interacting with the Media and on getting information out to the general public."*

Current vehicles also include independent workshops, modeling simulations, the Institute for Food Technologists task order, the Aynich Psychological Aspects of Terror at Saint Joseph's University, the Asynah food security program (FDA), the USDA General Agriculture / Food and Animal Health procedures, FDA and USDA Terrorism Awareness, HACCP training at North Dakota State University, Louisiana State University Preparation and Response to Agricultural Terror programming, the CARVER+SHOCK tool, and the DHS Fellows and Scholars Program.

*"Also, the public needs to know what to do with the contaminated food in their refrigerators."*

Specific organizations are cited as resources for preparation and response. These include the National Institute for Public Policy, National Resource Partners, the Public Health Institute, FDA, USDA's Food Safety and Inspection Service, Food and Nutrition Service, and Agricultural Marketing Service, and EDEN.

*"The Media is a very powerful tool if used correctly."*

Some specific areas of emphasis include biosecurity, farm security, agro terrorism, carcass disposal, diagnostics and product characteristics and packaging.

*"The message has to be tailored (& in the language) of the audience you are trying to reach."*

**To which AUDIENCES is information/skills currently being conveyed?**

*"We need to think about risk communication & core competence."*

The audience make-up is vast with opportunity available within academia, to public-private stakeholders, working professionals, consumers, and food industry representatives ranging from farm to fork.

*"Leadership training has the ability to train leaders, couple with industry's problem solving skills."*

It is also clear that emergency managers, law enforcement employees, military personnel, inspectors, Federal, state and local regulators, and many facets of industry are audiences considered by current information and programming providers.

*"Sometimes there are opportunities where the government & industry need to step back & let someone else without an unencumbered eye view the situation."*

**Which VEHICLES are currently utilized to convey information/skills?**

The vehicles currently being utilized are reflective of the vehicles under demand as described earlier.

Face-to-face communication continues to play a vital role, through activities such as train-the-trainer, table top and workshop exercises, training activities and traditional coursework.

*"The Internet is nice, but face to face is best – use the Internet as an adjunct."*

Web courses, curriculum and certificate programs, downloadable documentation Powerpoint lectures, and live interaction utilize electronic mediums for sharing information.

*"Exploiting sources or creating new stand alone courses – is that what we are doing now?"*

Lastly, self-driven information tools are available via CD and DVD, published guidance documents, and printed materials.

*"We need to have a shopping list of what is available now."*

In response to this specific area of questioning, several specific vehicles are cited by workshop attendees as currently available resources. These include trade organizations, Environmental Modeling Center, Incident Command System tools via the National Incident Management Systems community, AgLearn/CFL, the Forest Service, World Health Organization, the Centers for Disease Control and Prevention, and academic institutions, including Saint Joseph's, the University of Pittsburgh, Louisiana State, Minnesota, North Dakota State, and Michigan State.

*"We need to have a researchable data base, when trying prepare an entire city for a crisis."*

## RESULTS AND OUTCOMES EVALUATION DISCUSSION

*"We need to identify gaps & brainstorm what needs to be done down the line."*

*"A lot of areas are short – it's the old issue of pre-event vs. real time crisis management."*

*"Who is able to deliver this education, raising issues of quality, quality standards?"*

*"If an online course is given a XYZ, how can others of us have access to it?"*

*"Information sharing?"*

*"(We need to) be there before & after the fact."*

*"Some want a checklist to know what to do – Industry people just want to know what to do."*

*"We need a risk communication seminar to reach all groups of people."*

### **Where is SUCCESS being achieved?**

Fueled by synergy, enthusiasm, mutual respect and an atmosphere of partnership, networks for the delivery of information and collective intelligences have been developed. This creation has permitted the delivery of new courses and products.

Attributed to current levels of success is overwhelming interest in food protection and defense. Educational workshops are meeting with great response, and in return, new materials and programs are being developed and adopted at a rapid rate. Additionally, the establishment of the DHS Centers of Excellence is seen as a boon to educational efforts.

While the structure of content delivery may not be as well structured as desired, the integration of food and agriculture security into state emergency responses is symbolic of successful delivery and partnering. Examples include North Dakota, Minnesota, Michigan and New York via Rutgers University. Examples of integration include the conducting of table top and field exercises, use of the EDEN system, and the recognition of food protection and defense as a vital issue via higher level congressional support.

Many of the resources available to recipients are successfully conveyed in a face-to-face format and provide for increased interaction amongst interested parties. Examples include responsiveness to FDA programming and the CARVER+SHOCK guidelines, state activities, the ARG-Global Knowledge Network, the Federal Emergency Management Agency, Emergency Operations Center training, and private and trade association educational training.

Academic interest in food protection and defense has also increased. This interest is being actualized through traditional classroom settings, and through online training and just-in-time resources. One example is the development of and increasing interest in the DHS Fellow and Scholars program. Additionally,

*"We need to reach out to the law enforcement community – the big question is, who is in charge?"*

*"Should (sociology) be covered with this group? Should that be included in our education – to reduce fear & mitigate panic?"*

*"We need an understanding of what constitutes social sciences, things around economics, looking at social sciences & social fear factor issues."*

*"What is our method of collaboration? We are here, working together – As we leave & are not together, will we continue to work together?"*

*"There is a message that we have to get out beyond our group – that we all need to collaborate, go across universities & barriers."*

business schools and other divisions of academic study are integrating food and agricultural defense into existing programs.

Fueling the academic involvement in food protection and defense education is the development of multiplier materials and the initiation of multi-discipline and multi-institution program development.

Currently available funding has also attributed to organization's abilities to successfully deliver needed programming resources.

### **Where have past and current efforts met with SUB-OPTIMAL RESULTS?**

Clearly, the greatest resources limiting the success of education efforts are time and people. Achieving methods of collaboration, reaching underserved audiences and overlooked organizations (such as local agencies), and bridging gaps with other disciplines such as social and medical sciences are all achievements that, with continued effort, could come to fruition.

Within academia, challenges faced include low program turnout, the appropriate structuring of programming, and a failure to integrate small producers and minority groups. Other challenges include institutional envy, a lack of administrative support, and a clash with established systems as educators push towards technological innovation within the educational programming context.

In a more general sense, specific areas of improvement include consensus on communication and jargon within the subject of food protection and defense. Additional stumbling blocks include the inability to swiftly foster cooperative international relationships or cater to the need for an international view on food protection, the cost of desired technological tools, a lack of food protection scenarios therefore limiting optimal vulnerability assessments, the integration of crisis communication into current programming, and the slow pace of actual food protection protocol implementation.

The conveyance of resources could be aided by the development of a universal inventory of offerings and resources.

*"We should be linking to non-Center based faculty."*

*"We have reached out to universities with competing proposals – we are trying to reach out & it is needed."*

*"Look for other players who are committed to finding ways to leverage the resources that we have."*

*"Our success is based on selling nothing – when no problem occurs or we stop something from happening. It's hard to build a political agenda this way – it's not like trying to sell a shirt."*

*"We have set up individual research projects – we need to continually add information (to the data base)."*

*"This is not a complete context of what happens on the farm and what happens on the consumer side."*

Lastly, an understanding of how success and barriers are defined in the context of food protection and defense education and training, and the evaluation of those efforts is lacking. Better development of this area could enhance the effectiveness of the deployment of funding, as well as improve the coordination of appropriate quality standards for program development.

### **How have current efforts ADDED and DELIVERED VALUE?**

While collaboration and expansion continue to be areas of need, at this time, efforts within these areas are adding value to increasingly larger numbers of audiences.

Successful cross-disciplinary and cross-institutional collaboration has permitted the identification of resources and leveraging of existing capabilities.

Results from this collaboration have included increased awareness of the need for food protection and defense, the development of faculty versed in the subject, increased support for small companies in areas such as HACCP, enhanced abilities within Extension, and improvements to existing technological and equipment resources (including mobile lab and diagnostic tools),

Import and export rules and guidelines have enhanced the need for international collaboration/cooperation, reflective of the emphasized benefits of increased domestic collaboration.

The recognition of food protection and defense as a vital component of homeland security has been shown in politics, security, industry, broader protection and insurance, prevention and risk analysis.

Lastly, value has been added to the identification of what resources and tools are available.

## GAP ANALYSIS DISCUSSION

*"International involvement is desired & good. Underrepresented groups participation is encouraged, especially Native American involvement."*

*"Wouldn't it be nice if we didn't have to worry about who got the credit?"*

*"Most university presidents are not looking for the long-term, but something that has been put together for the present."*

*"Please grow this enthusiasm."*

*"More attention needs to be made for more diversity. There are not enough women and we need to incorporate underrepresented groups."*

**What GAPS exist between the supply and demand sides and within our current efforts?**

**What BARRIERS need to be overcome to be able to address these gaps?**

**What ALTERNATIVES exist that are deserving of further attention by us, collectively or individually?**

Crucial steps toward NEP founding and formation were addressed during the January 20-21, 2005 workshop. Assessing appropriate initiatives is suggested as a starting point. Within this assessment, support is offered for the creation of an education research database or clearinghouse with an inventory of educational and training materials.

## EDUCATION DATABASE

Such a database, as charged to the NCFPD and other COEs, could overcome the barriers associated with the complexity of establishing such a tool, avoiding duplication of effort and information overload, avoiding confusion attributed to jargon and terminology, and providing chance for a quality-driven, sustainable information tool that provides opportunities across institutions. An additional barrier could be the differences in defining an incident management system and the lingo, frameworks and professional culture differences contained therein.

It is believed that this database and representative educational materials be made appropriate for specific audience types. Integral to this step is an assessment of audience characteristics and needs in relationship to educational offerings. For instance, examination of non-academic audiences such as small farm operators could lead to useful tools for that audience.

Within such a database, the involvement of and presentation of international standards is seen as a means toward overcoming sensitive data resources and furthering international involvement in food protection and defense.

*"Two groups, knowledge generation & people development, integrated with education & research, will be responsible for more than half of the products coming out of the university."*

The database platform could also serve as an announcement site for rfps, current research and mentoring for faculty and students.

It is suggested that providing education offerings be made with the understanding that educational and communication tools do not always come from "great scientists" – that concise, targeted and appropriate messages can be more meaningful to some audiences. Conversely, a resource of multidisciplinary views could be useful in providing a less narrow, and more analytical "big picture" view. Such an approach could permit knowledge transfer to other issues.

Lastly, the database could be seen as a credible, authoritative "central brand" on the subject of food protection and defense.

### **GAINING INSTITUTIONAL BUY-IN**

Integral to the development of such a database is institutional "buy-in." Barriers to this involvement can include overhead return, accolades for the contribution of effort, and tuition practices and sharing. Funding pheromones could be a conversely powerful barrier.

DHS is suggested as a source of "incentives" for breaking down barriers to participation (particularly within academia), with the inclusion of "praise" plus departmental chair buy-in. These approaches are suggested as a means of encouraging experts to address specific issues or gaps.

### **ROLES OF THE CENTERS OF EXCELLENCE (COE)**

Within such a database, COEs are seen as serving multiple roles. One could be to serve as a venue for linking science and discovery within food protection and defense to "real world" applications. Another suggestion is COE and the interdisciplinary development of methods for quantitative risk assessment.

Additional steps include bridging gaps that exist between the scientific world pushing for increased focus on food protection and defense and a lack of communication with Congressional representatives on this subject. Establishing stronger communication ties and collaborative partnerships are suggested as a means for overcoming conflicting politics or objectives.

Making Congress and others aware of this project could be accomplished through an activity similar to CAST (Center for Agricultural Science and Technology) that provides concise, science-based briefings.

### **COMMUNICATION**

It is believed that significant and coherent national communication on the subject of food protection and defense is needed, spanning the gap not just from science to politics, but within the farm to fork universe. A suggested alternative is the development of a National Forum on Food Protection and Defense, possibly springing from groups such as IAFP and the COEs.

Upon such as stage, it is believed that leader-driven institutional mandates and curricula review could address proper procedures for establishing coherent methods for standardization and certification. Statutory limits is one barrier that could be addressed within this context.

Additionally, communication activities are seen as a means of generating funding results. Specific activities include the NCFPD communication of administrative and financial concerns faced within the context of institutional research.

### **UNITING MULTIPLE PARTNERS**

The current atmosphere of information exchange within industry/regulatory/university environs is hindered by turf, pace and culture. Academia, linking government and industry, is suggested as the lynch-pin toward bridging these gaps.

Failure to include other centers and non-COE funded institutions is seen as a significant gap.

**NEXT STEPS to be addressed collectively:**

Develop components of education component  
database/clearinghouse  
Develop criteria for accepting information into clearinghouse  
Develop glossary of terminology  
Create listing of skills and knowledge  
Kansas State to provide to MSU listing of available programming  
Develop risk communication component  
CREATE to use food safety issue and develop a module for risk  
assessment  
Establish broad awareness  
Facilitation of contacts  
Develop a meeting summary and press release  
Initiate project development across groups  
Establish food protection and education component talking points  
Enlist international and congressional partners and representation,  
maybe through workshop format  
Encourage University of Arkansas Law School to join  
Enlist a core council  
Develop a COE course that can then segment into other areas of  
study  
Develop branding, promotion and marketing of NCFPD NEP  
resources  
DHS/Wyn Jennings to contact and interact with institution  
administrators to encourage institutional support of participating  
faculty  
Establish a professional conference lead by DHS/Wyn Jennings  
and COE directors  
Develop an NCFPD conference for November 2005 lead by Frank  
Busta  
Coordinate technology efforts