NRI Biological Approaches for Food Safety 32.0A

- **PURPOSE**

  - The area of food safety remains a high National priority.

  - To fund research efforts that provide an increased knowledge of food-borne organisms and disease, and reduce food-borne illness.

  - Areas of focus will be assessed year to year to re-examine priorities and adjust the emphasis in response to emerging issues, as appropriate.

- **GOAL**

  - The long-term (10-year) goals of the 32.0A Food Safety Program are to reduce the number of food-borne illnesses in the U.S. & provide for the safe and economic regulation of food safety issues.

FY 2008 NRI RFA 32.0A Priorities

- **Applicants must address at least one of the following priorities:**

  - Human enteric viruses, *Vibrio* spp., *Salmonella spp.*, *Listeria spp,* or microbial toxins associated with seafood;

  - Human enteric viruses, *E. coli, Salmonella spp.*, *Listeria spp.*, or microbial toxins on fresh fruits, nuts, and vegetables;

  - *Salmonella spp.* or *Campylobacter spp.* in poultry and swine;

  - Economic or model-based analyses of these priority areas will also be considered for review, especially if they address issues of regulatory burden and impacts on trade.

FY 2008 NRI RFA 32.0A Changes

- Research proposed to examine antibiotic resistance mechanisms must include a direct connection to food safety (e.g., enhanced colonization potential, pathogen load issues)
- Therapeutic treatment of humans or the etiology of pathogenesis will not be considered for review
- *Listeria* and microbial toxins added to seafood and fresh cut produce areas
- *Salmonella* added to seafood priority
- Encourage more socio-economic based proposals, especially those dealing with regulatory and trade issues.
- 32.0 is now 32.0A

FY 2008 NRI RFA 32.0A Award Information

- Total 32.0A program funds ~ $5.2 million (approximately)
- Awards are up to $400,000 (including in-direct costs)
- Project Period of 2 – 4 years
- Smaller Awards for 1 to 2 year grants are available
- The project director will be required to attend annual investigator meetings. Reasonable travel expenses should be included as part of the project budget.

FY 2008 NRI 32.0A Recommended Award Statistics

- 98 Proposals were submitted
- 20 Proposals have been recommended for Award
- 20% Success rate
- Average Award Size ~ $251, 226*
- Example Award Type
  - Conventional Projects
    - Standard Research Grants
    - Conference Grants
  - Agricultural Research Enhancement Awards (AREA)
    - Postdoctoral Fellowships
  - Strengthening Awards
    - Career Enhancement (Sabbatical Awards)
    - Seed Grants
    - Equipment

*Includes all Award Type

32.0A Program Contacts:

- **Mark Poth, Ph.D.**
  - Research Director, Competitive Programs Unit
  - mpoth@csrees.usda.gov
- **Liang-Shiou Lin, Ph.D.**
  - Acting National Program Leader,
  - llin@csrees.usda.gov
- **Paularie N. Knox, M.S.**
  - Program Specialist, Competitive Programs Unit
  - pknox@csrees.usda.gov

NRI Epidemiological Approaches for Food Safety 32.0B

- Purpose
  - Develop an understanding of the factors involved in food safety and provide the science-based data for policy decisions
  - Identify and characterize pathogenic organisms, including their sources and reservoirs, and understand the transmission of the pathogen along the entire continuum

32.0B. Food Safety and Epidemiology: Epidemiological Approaches for Food Safety

- Long Term Goal (10-year)
  - Enhance the epidemiologic methods available for the study of foodborne diseases and other public health issues
  - Advance the understanding of the epidemiology of foodborne disease and the food system
  - Provide recommendations for specific intervention strategies (prevention and control of foodborne pathogens and antimicrobial resistance

FY 08 Food Safety and Epidemiology Priorities

- Develop novel epidemiologic approaches (with or without a microbial component) to evaluate the impact of intervention or management strategies on microbial contamination or food safety
  - Epidemiological methods for understanding of quantitative data on pathogen load within the farm-to-fork continuum
  - Link pre-harvest and post-harvest food safety outcomes to public health outcomes

FY 08 Food Safety and Epidemiology Priorities

- Conduct innovative studies to quantify the effectiveness of new or existing interventions or management strategies in reducing pathogen loads from farm-to-fork

- Conduct innovative studies to identify new risk factors or quantitative evaluation of existing risk factors that affect prevalence, transmission, or persistence of food-borne organisms from farm-to-fork

32.0B Food Safety and Epidemiology: Unique Program Strengths

- The only existing research program to fund large epidemiologic (population-based) studies in food safety
- Helps fulfill data needs for current risk assessments that cannot be accomplished through laboratory research
- Has brought together a cadre of epidemiologists and microbiologists that communicate regularly.
- A large Coordinated Agriculture Project was awarded in 2004 to a consortium of universities committed to epidemiologic and microbiologic research in food safety - The Food Safety Research and Response Network (www.fsrrn.net)

32.0B Food Safety and Epidemiology: Key Program Outcomes

- Advancement of the Science
- Leveraging of Resources
- Coordinated Scientific Presentations
- Enhanced Communications

FY 08 Food Safety and Epidemiology Statistics

- **Total Program Funds:** Approximately $5 million
- **Award Size:** Up to $1 million
- **Project Period:** 3-4 years
- **Number of Proposals reviewed:** 18
- **Number of Proposals awarded:** 5
- **Program Success Rate:** 28%
- **Average Award Size:** $826,000

FY 08 Food Safety and Epidemiology Contacts

- **Dr. Mark Poth**

Research Director

mpoth@csrees.usda.gov or 202-401-5244

- **Dr. Nancy Cavallaro**

National Program Leader

ncavallaro@csrees.usda.gov or 202-401-4082

- **Ms. Katrena Hanks**

Program Specialist

khanks@csrees.usda.gov or 202-401-5286

National Integrated Food Safety Initiative

- **The purpose of NIFSI is to support grants that:**
  - **Address selected priority issues in food safety**
  - **Use an integrated approach to solving complex food safety problems**
  - **Focus on applied research**
  - **Include research, education and extension components**

What is an Integrated Grant?

- At least 2 of 3 components must be included in each funded grant
  - Research and Education
  - Research and Extension
  - Education and Extension
- All components addressed should be absolutely necessary to the successful outcome of the grant project

Priority Issue Areas for 08

- Training, education & certification for industry, retail, and consumers
- Risk assessment
- Source, incidence, and control measures for pathogens in meat, poultry, and dairy

Priority Issue Areas for 08

- Alternative food processing technologies that improve food safety
- Nat'l support and coordination of integrated food safety programs and resources
- Food defense
- Safety of fresh and fresh-cut fruits and vegetables

Types of Awards

- **Standard Grants**
  - 3-years, up to $600,000
- **Special Emphasis Grants**
  - 4-years, up to $3 million
- **Conference Grants**
  - 2 years, up to $50,000
- **Bridge Grants**
  - 2 years, up to $100,000

Award Statistics – FY 2008

- 80 proposals
  - 22 standard grants
    - Average grant $570,000
  - 1 Special Emphasis Grant
    - $1.64 million
  - 4 conference grants
    - Average grant $50,000
- 34% success rate

NIFSI Program Contacts:

- **Jan Singleton, PhD, RD**
  - National Program Leader, Food Science and Food Safety
  - jsingleton@csrees.usda.gov
- **Ram Rao, PhD**
  - National Program Leader, Food Science and Food Technology
  - rrao@csrees.usda.gov
- **Jodi Williams, PhD**
  - Program Specialist, Food Science and Food Safety
  - jpowell@csrees.usda.gov

Biotechnology Risk Assessment (BRAG)

Program Goal

To Assist Federal regulatory agencies in making science-based decisions regarding introduction of transgenic organisms into the environment

- Risk Assessment Research
- Risk Mitigation/Management Research

Biotechnology Risk Assessment (BRAG) Program

Priorities

- Identify and develop appropriate management practices to minimize physical and biological risks to the environment
- Develop methods to monitor the dispersal of genetically engineered animals, plants, and microorganisms
- To further knowledge of characteristics, rates and methods of gene transfer

Biotechnology Risk Assessment (BRAG) Program

Priorities (cont)

- Compare the relative impacts of organisms modified through genetic engineering to other types of production systems
- Other relevant areas of research
- Contacts:
  Dr. Daniel Jones, djones@csrees.usda.gov
  Dr. Gail McLean, gmclean@csrees.usda.gov

Biotechnology Risk Assessment (BRAG) Program

Program Statistics – FY 2008

- # of Proposals Submitted: 42
- # of Awards: 14 (including 1 conference)
- % Success: 32% (for standard grants)
- Average Award Size: $293,810 (not including conference grant)
- Average Award Duration: 2.9 years