

Food Safety
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Food Safety Initiative Activities

Category	1. A New Early-Warning System for Foodborne Disease Surveillance	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity	Sub Activity					
	1. A New Early-Warning System for Foodborne Disease Surveillance				\$1.5	Two sites will become operational in 1998 in FoodNet, with three more underway. Epidemiologists and other scientific personnel have been added to several of the sites. State sites are also being networked into the developing database on DNA fingerprinting of pathogenic microbials. Results of Vermont Salmonella outbreak investigations are being studied and other monitoring of microorganisms' antimicrobial resistance, including sampling results of large meat plants under FSIS/HACCP.
	1.a Conduct surveillance of Human Pathogens in Food-Animal Populations and Enhance Oversight of Animal Foodstuffs, Feeds and manures for the Effect of Drugs and Other Therapies					
	1.a.1 USDA, CDC, FDA and EPA will convene a working group to discuss how to conduct surveillance of human pathogens in food animals and their manures, and should target one pathogen on which to begin surveillance in FY99.	Tollefson & Falci (FDA); Buntain (FSIS); Wachsmuth (FSIS)	10/1/97	9/30/98		USDA formed a task force on manure management. A manure document is being prepared.

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	1.a.2 FDA should increase the monitoring of animal-feed processing to determine the nature and extent of pathogen contamination and the effect of control strategies on pathogen reduction in animals.	Tollefson (FDA); Wachsmuth (FSIS)	10/1/97	9/30/00		work is ongoing.
	1.b Create a National Electronic Network for Fingerprint Comparison					
	1.b.1 CDC will provide resources and technical assistance to state health departments for DNA fingerprinting of E.coli O157:H7 and S.typhimurium, and begin to establish a centralized national electronic database of DNA fingerprint patterns.	CDC; Wachsmuth (FSIS)	1/25/97	9/30/97		(1) Process was initiated in January 1996. FDA/CFSAN site will be connected to CDC net to share isolate results by early 1998. The FSIS fingerprinting network site in Athens, GA became operational in February. (2) CDC has contracted the set-up of sites in the states of Washington, Minnesota, Texas and Massachusetts. Debugging of the program is underway. (3) Plans are underway to expand the CDC Net to five additional sites.
	1.b.2 The national electronic database of DNA fingerprint patterns of E.coli O157:H7 will continue to be expanded.	CDC; Wachsmuth (FSIS)	10/1/97	9/30/98		See Activity Above.
	1.b.3 In collaboration with participating state health department laboratories, FDA and FSIS CDC will develop standardized methods for DNA fingerprinting of Salmonella serotypes Typhimurium and Enteritidis and will transfer the techniques to health depts.	CDC; Wachsmuth (FSIS)	10/1/97	9/30/98		Group met in Seattle, WA, 3/30-4/3/98, on standardizing methods and exploring extension of fingerprinting for S. Typhimurium and evaluating faster turnaround on fingerprinting for O157:H7 and S. Enteritidis. Selected a method for S. Typhimurium subtype Newport.
	1.b.4 CDC, ASTPHLD, and CSTE will develop guidelines for maximizing the utility of DNA fingerprinting at state health departments in foodborne disease surveillance and outbreak investigations.	CDC; Wachsmuth (FSIS)	10/1/97	9/30/98		FSIS is monitoring progress in merging/meshing its database with theirs over Pulsenet.

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	1.b.5 CDC, FDA, and FSIS will set up centralized national electronic databases of DNA fingerprint patterns of S. Typhimurium and Enteritidis.	Falci (FDA); Wachsmuth (FSIS)	10/1/97	9/30/98		See Activity 1.b.1 under Create a National Electronic Network for Fingerprint Comparison.
	1.b.6 CDC should continue to develop standardized DNA fingerprinting methods for other foodborne disease-causing bacteria as appropriate and should transfer the methods to health depts. and federal labs.	CDC; Wachsmuth (FSIS)	10/1/97	9/30/00		In process --will occur as result of the CDC Net expansion.
	1.b.7 CDC should begin implementing automated foodborne disease outbreak dimension algorithms based on the DNA fingerprint patterns submitted by state health department laboratories.	CDC; Wachsmuth (FSIS)	10/1/97	9/30/00		
1.c Enhance and Expand Foodborne Disease Active Surveillance						
	1.c.1 Two new active surveillance sites in New York and Maryland, will begin FoodNet activities	Falci (FDA); Wachsmuth (FSIS)	1/25/97	1/15/98	(\$1.5)	October 1, 1997 started the FoodNet sites in Rochester, NY and Baltimore, Maryland. Exchange of data at these sites is operational. The two new sites funded, in part, by a transfer from USDA/FSIS will expand the portion of the U.S. population under surveillance.
	1.c.2 CDC, FDA, FSIS and the Council of State and Territorial Epidemiologists (CSTE) will add at least one site to FoodNet.	Falci (FDA); Wachsmuth (FSIS)	10/1/97	9/30/98		Site selection has not been made, but is expected by fall of 1998, with participation in 1999.
	1.c.3 CDC will enhance personnel resources at all sites to improve surveillance, analysis of data, and timely and appropriate release of information.	CDC; Wachsmuth (FSIS)	10/1/97	9/30/98		3 to 4 part-time epidemiology interviewers have been hired by the states that have FoodNet Sites.
	1.c.4 CDC and the FoodNet sites will develop and conduct case-control studies of Salmonella,	Falci (FDA); Wachsmuth (FSIS)	10/1/97	9/30/98		(1)Salmonella, and E.coli O157:H7 case control studies are completed and will be discussed and

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	E.coli O157:H7, and Campylobacter and Cryptosporidium infections to guide control efforts.					reported on at the March 8, 1998 Infectious Disease Conference in Atlanta, GA. E. coli study completed, discussed, and reported. (2) Campylobacter case control study has begun and is expected to be completed during 1999. (3) A letter has been sent to CDC requesting better surveillance of reported Cryptosporidium cases at the FoodNet sites.
	1.d Enhance Early Detection of Foodborne Disease Nationwide					
	1.d. 1 Council for State and territorial Epidemiologists (CSTE) and CDC, in conjunction with FDA and FSIS, will develop a protocol for evaluating epidemiological outbreak data.	Falci (FDA); Wachsmuth (FSIS)	1/25/97	9/30/97		A protocol has been drafted and was discussed at the June 1997 CSTE Meeting. FSIS and CSTE met on a USDA/FDA protocol on March 4. Discussions continue on the draft and changes are still being incorporated.
	1.d. 2 CSTE and CDC, in conjunction with FDA and FSIS, will develop criteria for local and state health officials to provide information on outbreaks to federal authorities for review and necessary action.	Falci (FDA); Wachsmuth (FSIS)	1/25/97	5/1/98		Criteria have been drafted and were discussed at the June 1997 CSTE meeting. The draft criteria is being discussed and updated.
	1.d. 3 FoodNet sites will gather epidemiologic data on cases of HUS.	CDC; Wachsmuth (FSIS)	1/25/97	9/30/97		Active Surveillance for HUS was implemented in 5 FoodNet sites. Efforts are underway to expand this effort to the newly added New York and Maryland FoodNet Sites. Pediatric nephrologist were contacted monthly. 23 HUS cases have been reported at the 5 sites. A full report was presented at the March 8, 1998, Infectious Disease Conference.
	1.d. 4 CSTE and CDC in conjunction with FDA and FSIS, will conduct an inventory of state and local health departments to conduct surveillance, investigation, control and prevention of foodborne illness.	Greenblat (?); Falci (FDA); Wachsmuth (FSIS)	10/1/97	9/30/98		Preliminary draft has been started. The drafts will be further discussed at CSTE meeting in June.

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	1.d. 5 CDC will help states remedy identified deficiencies.	CDC; Wachsmuth (FSIS)	10/1/97	9/30/98		
	1.d. 6 CDC and CSTE will develop an electronic module for collecting and transmitting data to USDA and FDA on outbreaks and response to multi-state outbreaks of foodborne illness.	Ostroff (CDC); Falci (FDA); Burkhead (CSTE); Wachsmuth (FSIS)	10/1/97	9/30/98		Discussions have been held at CDC. Draft paper and funds for the system have not been put in place.
	1.d. 7 CDC will begin a case-control study of hepatitis-A to determine the proportion of cases due to contamination of food so that optimal control strategies could be determined.	CDC; Wachsmuth (FSIS)				Will not be done.
	1.d. 8 Epidemic assistance, in the form of EIS Officers, for outbreaks of foodborne diseases will be expanded when states request direct CDC participation in investigations.	CDC; Wachsmuth (FSIS)	10/1/97	9/30/98		In process.
	1.d. 9 CDC and, where appropriate, FDA and FSIS, will collaborate with state health departments to improve diagnostics, outbreak detection, and electronic communications.	CDC; Majkowski (FSIS)	10/1/97	9/30/98		In process.
	1.d.10 Vibrio surveillance will be strengthened by CDC, FDA and states by increasing personnel, epidemiologic and laboratory resources devoted to the Gulf Coast Vibrio surveillance program.	Falci (FDA)	10/1/97	9/30/98		(1) Retail market survey for the quantitative occurrence of vibrio vulnificus started. (2) Samples of molluscan shellfish are being analyzed in state laboratories. Vibrio paraheamolyticus in molluscan shellfish is being planned for 1999.
	1.d.11 Surveillance and investigative systems should continue to improve the ability of state and local health departments to promptly and accurately identify foods that are the source of foodborne illness.	Falci (FDA); Wachsmuth (FSIS)	10/1/97	9/30/00		In process.

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	1.e Increase National Surveillance for Antimicrobial Resistance of Foodborne Pathogens					
	1.e.1 CDC, FDA and FSIS will conduct surveillance of antimicrobially resistant Salmonella and E.coli O157:H7 isolates	Tollefson (FDA); Wachsmuth (FSIS)	1/25/97	9/30/00		Process began January 1996 and is ongoing.
	1.e.2 CDC, FDA, and FSIS will initiate surveillance of antimicrobial resistance in isolates of Campylobacter from humans and animals, including poultry.	Tollefson (FDA); Wachsmuth (FSIS)	10/1/97	9/30/00		Campylobacter testing from human isolates began January 1997; Campylobacter testing from poultry isolates began January 1998.
	1.e.3 FDA and CDC will conduct surveillance and epidemiologic studies to monitor and reduce the incidence of foodborne disease associated with emerging and drug resistant pathogens.	Tollefson (FDA); Wachsmuth (FSIS)	10/1/97	9/30/98		An outbreak investigation of Salmonella Typhimurium DT104 problem on a Vermont dairy farm has been initiated in collaboration with USDA/ARS, USDA/APHIS, and the Vermont State Health Department. Samples were collected January 7 -9, 1998 as a followup to the original Vermont investigation. These will be susceptibility tested to determine the status of DT104 colonization and shedding in cattle and other animal species on the farm.
	1.e.4 CDC, FDA, and FSIS should continue monitoring, comparing and testing the antimicrobial resistance of E.coli O157:H7, Salmonella, and Campylobacter strains in humans and animals.	Tollefson (FDA); Wachsmuth (FSIS)	10/1/97	9/30/00		(1) System is on-going; a preliminary report of the 1997 results will be available in March 1998. A large scientific symposium on the National Antimicrobial Resistance Monitoring Program and related epidemiology research is planned for August 31 - September 3 in Athens, GA. (2) USDA has arranged to have all Salmonella isolates collected as part of the implementation of HACCP for meat and poultry in the large USDA-inspected slaughter plants sent to ARS for susceptibility testing and inclusion in the National Antimicrobial Resistance Monitoring Program. This will greatly increase the number of

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						non-clinical isolates and aid in the interpretation of the data. (3) In July 1998, USDA has plans to begin targeted <i>Campylobacter</i> testing for poultry in the large USDA-inspected slaughter plants sent to ARS for susceptibility testing and inclusion in the National Antimicrobial Resistance Monitoring Program. This will greatly increase the number of non-clinical isolates and aid in the interpretation of the data.
	1.e.5 FDA and CDC should conduct physician and veterinary drug prescribing surveys, including patients and animal producers, to assess the effect of antimicrobial drug use on resistance patterns and prevalence to guide regulatory policy and education.	Tollefson (FDA)	10/1/97	9/30/00		CDC is in the process of conducting pediatric prescribing practices. FDA has purchased a database of antimicrobial use in beef cattle, dairy cattle, and swine, and will receive and analyze these data in 1998. FDA is also in the planning stages for veterinary prescribing practices and producer antimicrobial use surveys with USDA/APHIS for feedlot cattle; the actual survey will take place in late 1999. This survey will combine antimicrobial use information with on-farm sampling to determine the resistance pattern among the enteric pathogens.
	1.e.6 FDA should assist the WHO in the development of a veterinary database within the WHONET system.	Tollefson (FDA); Wachsmuth (FSIS)	10/1/97	9/30/00		FDA participated in a meeting at WHO/FAO in Berlin, October 13-17, 1997, on the medical impact of use of antimicrobials in food animals that included a workshop on mechanisms for international monitoring. A report of this meeting including recommendations has been completed. During 1998 and 1999, FDA will continue to investigate and support WHO efforts to develop an international veterinary monitoring program on antimicrobial resistance.
	1.f Modernize Public Health Laboratories					
	1.f.1 CDC will collaborate with Food Net sites to determine serotypes of <i>E. coli</i> other than	CDC; Wachsmuth (FSIS)	1/25/97	9/30/97		Protocol (including forms) for collecting and testing stool and serum have been developed. The protocol

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	O157:H7 that cause HUS in children.					will be finalized following the completion of E.coli O157:H7 HUS.
	1.f.2 The Association of State and Territorial Public Health Laboratory Directors (ASTPHLD) and CDC will improve diagnostic assays and provide additional resources to improve the capacity of state laboratories to detect foodborne pathogens.	ASTPHLD; Wachsmuth (FSIS)	10/1/97	9/30/98		Discussions were held in Atlanta on 12/15/97.
	1.f.3 CDC will provide sufficient funds to states to support the production of serotyping reagents for Salmonella, which are critical for outbreak identification.	CDC; Wachsmuth (FSIS)	10/1/97	9/30/98		USDA will be monitoring progress to harmonize methodology and technology for human and animal serotypes.
	1.f.4 CDC will develop DNA amplification-based tests for foodborne pathogenic bacteria that are difficult to detect by culture.	CDC; Wachsmuth (FSIS)	10/1/97	9/30/98		
	1.f.5 CDC will provide resources and technical assistance to states to improve their capacity in diagnosing those pathogens which are difficult to detect by culture.	Falci (FDA); Wachsmuth (FSIS)	1/25/97	9/30/98		SEE FIRST ITEM (1.b.1) UNDER CREATE A NATIONAL ELECTRONIC NETWORK FOR FINGERPRINT COMPARISON.

Category	2. Interstate Outbreak Containment and Response Coordination	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
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2. Interstate Outbreak Containment and Response Coordination

\$0.0

Foodborne Outbreak Response Coordination Group (FORCG) has been established. An MOU was made to establish FORCG.

Description: Improve coordination among Federal, State, and local agencies through enhanced communication systems coordination and a new management system that will improve the exchange of critical information and clarify or consolidate the Federal agencies' role in foodborne illness outbreak containment.

2.a Enhance State and Local Infrastructure for Foodborne Outbreak Detection, Evaluation, and Response Coordination

2.a.1 FORCG, with assistance from AFDO, ASTHLD, CSTE, and NASDA will begin a nationwide audit to catalogue the existing state and local food safety program infrastructure.

Oliver (FDA) and Mondschieen, Joan (FSIS)

1/27/97 9/30/97

FDA contract with NASDA signed. NASDA will catalog all federal and state food statutes in the country.

2.a.2 FORCG, in consultation with the appropriate outside organizations, will establish working groups with appropriate federal, state, and local officials to develop recommended procedures for outbreak-response coordination at the state and local level.

Oliver (FDA) and Mondschein (FSIS)

8/7/97 9/30/97

Ongoing

2.a.3 CDC, EPA, FDA, and FSIS will assist states and local governments in developing the infrastructure necessary to ensure proper detection, evaluation, and coordinated response to foodborne outbreaks. FORCG to be discussed at National Meetings (AFDO).

Oliver (FDA) and Mondschein (FSIS)

10/1/97 9/30/98

Preliminary discussions held as part of the 7/28/97 FORCG meeting. In process of writing SOPS.

2.b Improve Outbreak Containment Through Better Federal-State-Local Coordination of the Evaluation of and Response to Foodborne Illness

Category	2. Interstate Outbreak Containment and Response Coordination	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
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	2.b.1 CDC, EPA, FDA, and FSIS will establish, through a formal MOU, an intergovernmental group, the Foodborne Outbreak Response Coordinating Group (FORCG), to improve the approach to interstate outbreaks of foodborne illness.	Oliver (FDA) and Mondschein (FSIS)	1/25/97	7/28/97		End of March, the group developed and cleared an MOU to establish FORCG. Development of the MOU is underway. An informal FORCG group has been established. Representatives: CDC-Ostroff, Broome; USDA-Wachsmuth, Mondschein; FDA -Pendergast, Oliver, Morrison; EPA-Schaub; AFDO-Richardson; CSTE-Osterholm; ASTPHLD-(Bradford);NASDA-(USDA to supply contact). First meeting held on 7/28/97. A meeting was held March 31, 1998.
	2.b.2 FORCG will review and evaluate outbreak response. Based on these reviews, FORCG will assess the infrastructure for outbreak response, make recommendations, and work with impacted groups to implement beneficial changes.	Oliver (FDA) and Mondschein (FSIS)	1/27/97	9/30/97		(1) FORCG Subcommittee has been established. Members: FDA-Carson, Ralston; USDA-Majkowski; EPA-Schaub, McKinnon; AFDO-Richardson; CDC-Shapiro. (2) FORCG Subgroup review of the Hepatitis A Outbreak has been completed on 11/25/97. It was determined that overall the outbreak response went very well. Several areas of improvement were identified. Three documents are under development by FDA, USDA, and CDC. These documents will be consolidated into one final product.
	2.b.3 Establish as a formal institutional position, with appropriate backup designees, an outbreak coordinator for each department or agency.	O'Hara (HHS), Woteki (USDA), Goldman (EPA)	1/27/97	9/30/97		Formal Institutional Position: HHS-Assistant Secretary for Health; USDA-Under Secretary for Food Safety; EPA-Assistant Administrator for Water with backup designees positions of Deputy Secretary for Health, Administrator, FSIS, and Assistant Administrator for pesticides.
	2.b.4 Develop standard procedures for the rapid exchange of data and information associated with foodborne illness outbreaks between involved agencies and for dissemination to the public.	Oliver (FDA); Mondschein (FSIS)	1/27/97	9/30/97		In process.

Category 3. Risk Assessment

Lead/Contact

**Start End
Date Date**

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3. Risk Assessment

\$4.7

Description: Improve the capability to estimate risks associated with foodborne and waterborne contaminants, especially microbial pathogens, in order to make faster and more accurate regulatory decisions, more effectively target program resources, and facilitate the development and evaluation of surveillance plans and risk reduction strategies, such as pathogen reduction practices implemented from the farm to the consumer.

The Risk Assessment Consortium was established in November 1997 as part of the Joint Institute for Food Safety and Applied Nutrition (JIFSAN), which is a collaborative activity of FDA's Center for Food Safety and Applied Nutrition (CFSAN) and Center For Veterinary Medicine (CVM). The Consortium has had several meetings, with two teams (Microbial Risk Assessment Team [MRAT] and the Advisory Group) formed within CFSAN. Efforts are underway to identify data gaps and modeling deficiencies to help set research priorities and, at the same time, eliminate duplicate activities among consortium agencies. An example in application is recently completed (April 1998) risk assessments of shell eggs and egg products and related ANPR drafts being reviewed prior to incorporation into inspection and compliance functions.

3.a Establish a Risk Assessment Consortium

3.a.1 Establish as part of the Joint Institute for Food Safety and Applied Nutrition, a risk assessment consortium. An interagency policy group will be established.

Long (FDA); Etzel (FSIS); Ahi (ORACBA) 1/27/97 9/30/98

(1) Risk Assessment Consortium Established. The first meeting of the Risk Assessment consortium was held 11/12-14/97. Two additional meetings were held 1/23/98 and 2/25/98. Two teams with CFSAN, the Microbial Risk Assessment Team (MRAT) and the

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						Advisory Group have been formed. MRAT has meet, assignments have been made and work is underway. The Advisory Group composed of CFSAN Senior managers will contribute to a number of related activities, such as guiding the development of the "white paper", determining needs for outside expertise, developing Risk Assessment Training, and mentoring the members of MRAT. (2) Policy group was established.
	3.a.2 The Consortium will begin the process of establishing a clearinghouse that will collect and catalogue available methodology.	Long (FDA); Etzel (FSIS); Ahi (ORACBA)	1/17/97	9/30/97		Existing clearinghouses are being studies/evaluated to help determine budgeting and potential applications and formats. The "Bad Bug Book" will be posted on the clearinghouse section of the food safety webpage (FoodSafety.gov).
	3.a.3 The Consortium will work with its member agencies to catalogue their microbial risk assessment research advances and identify data sets that would provide the scientific data needed to develop new models.	Long (FDA); Etzel (FSIS); Ahi (ORACBA)	1/25/97	9/30/97		An example of recent cooperation is a risk assessment on shell eggs; the ANPR has been drafted and is in clearance (See subactivity 5.a.4).
	3.a.4 A strategic plan will be developed for research into dose-response calculations, chronic sequelae, biomarkers, and adapting surveillance data.	Long (FDA); Etzel (FSIS); Ahi (ORACBA)	10/1/97	9/30/98		
	3.a.5 A series of public meetings will be held to develop a strategy to address long-term research needs for the analysis of farm-to-table scenarios, including potential pathogen introduction at each level, food consumption data, and computer modeling.	Long (FDA); Etzel (FSIS); Ahi (ORACBA)	10/1/97	9/30/98		A public meeting to discuss dose-response issues is tentatively planned for March 1998. The Dose-Response Workgroup met on Dec. 1, 1997 to identify the key dose-response issues. The Dose-response workgroup met again in January to begin preparations for the public meeting.
	3.a.6 Begin a comprehensive review of existing data and federal information collection programs to determine the extent to which they may fill	Long (FDA); Etzel (FSIS); Ahi (ORACBA)	10/1/97	9/30/00		

Category	3. Risk Assessment	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
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	existing data gaps, and suggest additional data needs to better support risk assessments.					
	3.a.7 The Consortium will continue to collectively identify critical research needs, propose effective research on analytical approaches and methods, and reach consensus on the priority of these needs.	Long (FDA); Etzel (FSIS); Ahi (ORACBA)	10/1/97	9/30/00		Identification of research needs is ongoing. A draft of the RFAs and RFPs is expected to be distributed to the Consortium members during mid-January 1998 with two tentative meetings to discuss RFAs and RFPs scheduled for 1/23/98 and 2/25/98. RFPs are scheduled to be finalized and issued by mid-July 1998.
	3.b Develop and Validate Exposure Assessment Models Based on Probabilistic Methodology				(\$4.6)	
	3.b.1 Working with FDA, EPA, and USDA, the consortium will identify priority research programs in two areas needing augmentation: exposure assessment methods and techniques for acquisition and analysis of experimental data for model development.	Long (FDA); Etzel (FSIS); Ahi (ORACBA)	10/1/97	9/30/98		
	3.b.2 Future initiatives would be fluid to adjust to results of short-term research, emerging food safety needs, and changes in the direction of research programs within individual agencies.	Long (FDA); Etzel (FSIS); Ahi (ORACBA)	10/1/97	9/30/00		
	3.c Develop and Validate Dose-Response-Assessment Models for Use in Risk Assessment				(\$0.1)	
	3.c.1 Working with FDA, EPA, and USDA, the consortium will identify priority research programs in dose-response-assessment methods and models that need to be augmented.	Long (FDA); Etzel (FSIS); Ahi (ORACBA)	10/1/97	9/30/98		

Category 3. Risk Assessment

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3.c.2 Risk assessment research priorities for development and validation of dose-response-assessment models will be collectively established by the interagency consortium.

Long (FDA); Etzel (FSIS); Ahi (ORACBA)

10/1/97 9/30/00

Category	4. Research	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
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4. Research	<i>Description:</i> Provide Federal, State, and local agencies (and indirectly the agriculture and food industries, the retail food industry and consumer) practical and effective science-based practices and technologies that improve the safety of food. Research is also needed to support HACCP implementation to verify that critical control points in HACCP are working, especially where there are data gaps hampering HACCP application and risk assessment.				\$56.6	USDA research on detection methods for Cyclospora has been underway since July 1997, but culturing problems with the Cyclospora have slowed the progress as alternative culture methods are explored. There has been more success with E. coli O157:H7 and Salmonella, with work on non-O157:H7 E. coli continuing. Less, but significant, progress has been made for detecting Cryptosporidia. Research on pathogens in farm and aquaculture animals and feeds has been coordinated and duplication eliminated. Basic and applied methods (steam pasteurization, competitive exclusion, irradiation, etc.) research has been conducted by USDA for meat, poultry, egg, seafood, and produce.
	4.a Improved Detection Methods				(\$12.4)	
	4.a.1 EPA, CDC, ARS, CSREES, and FDA, in conjunction with states and academia, will conduct research to develop detection methods and control measures for Cyclospora.	Cebula (FDA); Robens (USDA); Wachsmuth (FSIS)	1/25/97	9/30/97		(1) ARS continues to work with FDA and CDC, and the University of Arizona to develop detection methods, however problems in obtaining reliable cultures of Cyclospora have greatly slowed the work. (2) A protocol has been developed for Concentration and Preparation of Oocysts from Produce for the PCR and microscopy. A public meeting to review the science was held on 7/23/97. NACMCF/Fresh Produce Working Group meetings held 8/12-14/97.

Category 4. Research

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4.a.2 ARS, FDA, and EPA will enhance ongoing research test methods for Campylobacter, Salmonella, Toxoplasma, E.coli O157:H7 & other Shiga-like toxin-producing E. coli, Cryptosporidium, hepatitis A & Norwalk viruses, mycotoxins, marine toxins.

Cebula (FDA);
Robens (USDA);
Wachsmuth (FSIS)

10/1/97 9/30/98

Tissue culture assays were conducted using monolayers of cultured intestinal epithelial cells. Culturing using conventional monolayer technology yielded limited success. A new cell culture system, the rotary cell culture system (bioreactor) was chosen to propagate *C.cayetanensis*. Preliminary data indicates that both monolayer and bioreactor tissue culture systems can be used for oocyst viability studies. Data also suggest that *C.cayetanensis* may be culturable in the bioreactor. Preliminary feeding studies for the development of an animal model for the mechanisms utilized by these parasites have been completed. Antibodies to be used in detection methods have been raised in rabbits to both whole and homogenized oocysts.

(1) ARS has worked closely with the FSIS to develop methods for Campylobacter culture and identification in the regulatory environment. Antibodies have been identified which appear to be specific to *C. jejuni* and *E. Coli*, and confirmation is ongoing. (2) ARS has developed a rapid test for detecting *E.coli* O157:H7 for use by producers and industry. Serologic tests to detect animals which have experienced infection but which may not be actively shedding *E.coli* or *Salmonella* have been developed. (3) ARS has developed a single procedure Multiplex PCR assay for detection of *E.coli* O157:H7 and *Salmonella*. Development of methods for detecting non-O157:H7 *E.coli* is ongoing. (4) ARS is augmenting their ongoing Cryptosporidia methodology research to include molecular probes. This research has already developed PCR and immunohistochemical methods to detect Cryptosporidia. (5) ARS has improved methods to sample and identify Campylobacter. The methods will be evaluated during May and June and applied in poultry studies in July.

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Activity	Sub Activity					
	4.a.3 FDA will expand its ongoing research on the development of methods for detecting foodborne pathogens in animal feeds.	Alderson; Wachsmuth (FSIS)	10/1/97	9/30/98		Conducted interagency coordination of effort and identified specific areas for targeted investigation. Development of resources for intramural programs is underway.
	4.a.4 FDA, ARS, CSREES, and EPA should undertake research to develop test methods for <i>Vibrio vulnificus</i> in foods.	Cebula (FDA); Wachsmuth (FSIS)	10/1/97	9/30/00		
	4.b Understanding Resistance to Traditional Preservation Technologies				(\$0.1)	
	4.b.1 ARS/CSREES and FDA should undertake research into physiological, genetic, and other factors that cause foodborne disease causing microorganisms to develop resistance to preservation techniques.	Cebula (FDA); Wachsmuth (FSIS)	10/1/97	9/30/00		
	4.c Understanding Antibiotic Drug Resistance				(\$1.0)	
	4.c.1 FDA and ARS will conduct research to identify and characterize the factors that lead to the development of multiple drug (antibiotic) resistance in foodborne pathogens in farm and aquaculture animals.	Alderson; Wachsmuth (FSIS)	10/1/97	9/30/98		Conducted interagency coordination to ensure non-duplication of effort and identify specific areas for targeted investigation. In the process of developing resources for intramural programs.
	4.c.2 ARS and FDA will investigate techniques for manipulating the microbial ecology of the intestinal tract of agricultural and aquaculture animals to prevent the development of antibiotic resistance or select for nonresistance.	Alderson; Wachsmuth (FSIS)	10/1/97	9/30/98		
	4.d Prevention Techniques: Pathogen Avoidance, Reduction, and Elimination				(\$33.5)	

Category 4. Research**Activity****Sub Activity****Lead/Contact****Start Date** **End Date****FY 1998**
USDA
Funding
(millions)**Status/Notes**

4.d.1 Expand research into the microbial ecology of foodborne pathogens and how initial colonization in plants and animals can be prevented.

Alderson and Cebula (FDA); Robens (USDA); Wachsmuth (FSIS)

10/1/97 9/30/98

(1) CVM continues to advise companies on the approval of foodborne competitive exclusion products. (2) ARS is developing infection models of O157:H7 in neonatal and weaned calves. (3) ARS is initiating an epidemiological study of Salmonella and Campylobacter to help describe how broilers contract these pathogens. (4) Studies into the on-farm ecology of E.coli O157:H7 and Salmonella in beef cattle are ongoing. These are focused on quantifying transmission from animal to animal and from reservoirs of infection. (5) ARS is developing techniques to augment natural immunity to help prevent initial infection with intestinal pathogens in newly hatched poultry and in weaning pigs.

4.d.2 Expand research on new methods to reduce or eliminate pathogenic microorganisms and mycotoxins from agricultural and aquacultural animals before slaughter or harvest, including the use of probiotics.

Cebula (FDA); Robens (USDA); Wachsmuth (FSIS)

10/1/97 9/30/98

(1) Initial ARS studies are underway to ascertain the host response genes responsible for genetic resistance to Salmonella in calves. (2) ARS is developing vaccines to prevent pathogens in food producing animals, and has demonstrated 2 factors, intamin and Shiga toxin, are necessary for colonizing E.coli in weaned calves. (3) Studies to describe the mechanisms of how pathogens attach to poultry carcasses and selected fruits and vegetables are being initiated in order to provide the knowledge for preventing biofilm formation. (4) ARS has demonstrated that viable Cryptosporidia can be transmitted into oysters, clams and other aquaculture animals. The source of the infection has not been proven, but is theorized to be C. parvum from cattle or deer feces.

4.d.3 Develop new methods to reduce or eliminate pathogenic microorganisms and mycotoxins from plants before harvest.

Cebula (FDA); Robens (USDA); Wachsmuth (FSIS)

10/1/97 9/30/98

(1) ARS is developing the use of non-aflatoxin producing Aspergillus flavus strain to competitively exclude the toxin producing fungi and thus proven

Category 4. Research**Activity****Sub Activity****Lead/Contact****Start Date** **End Date****FY 1998
USDA
Funding
(millions)****Status/Notes**

4.d.4 Develop new disinfection methods and systems for improved sanitation of production processing and marketing equipment and facilities.

Cebula (FDA);
Robens (USDA);
Wachsmuth (FSIS)

10/1/97 9/30/98

aflatoxin in cottonseed. (2) Genetic markers of resistance to *Aspergillus* colonization and aflatoxin formation in corn have been identified.

ARS research is identifying factors to prevent the formation of biofilms (bacterial films that are difficult to remove from surfaces) in poultry processing facilities; developing spray scalding to reduce cross contamination in poultry processing plants; and developing new methods to prevent spillage of fecal matter during initial processing and evisceration.

4.d.5 Expand research on new methods of decontamination of meat, poultry, seafood, fresh produce, and eggs.

Cebula (FDA);
Robens (USDA);
Wachsmuth (FSIS)

10/1/97 9/30/98

(1) ARS demonstrated that a hot water and quick chill (thermoflux) significantly reduced *Salmonella* incidence in meat from specific areas of pork. (2) ARS is developing steam pasteurization for poultry to kill pathogens on poultry skin. (3) ARS has demonstrated that irradiation will kill *Cyclospora* on certain fruits and vegetables.

4.d.6 Initiate research to develop new technologies for eliminating animal feeds as a source of foodborne pathogens.

Alderson; Wachsmuth (FSIS)

10/1/97 9/30/98

Conducted interagency coordination to ensure non-duplication of effort and identify specific areas for targeted investigation. Development of resources for intramural programs is underway.

4.d.7 ARS, CSREES, and FDA should undertake research to develop new decontamination methods for contaminants such as *Vibrio* and Norwalk virus on or in marine-harvested and aquaculture-reared seafood and for *Cyclospora* and hepatitis A on produce.

Cebula (FDA);
Wachsmuth (FSIS)

10/1/97 9/30/00

4.d.8 ARS, CSREES, and FDA should work with industry and academia to develop new techniques that provide alternatives to traditional thermal processing from eliminating pathogens.

Cebula (FDA);
Robens (USDA);
Wachsmuth (FSIS)

10/1/97 9/30/00

ARS has worked closely with industry to develop bacterial cultures to competitively inhibit *Salmonella* in broiler chicks, and substances to enhance the immune response in chicks and neonatal swine. ARS received FDA approval for competitive

Category	4. Research	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity						
Sub Activity						
						exclusion product (PREEMPT) to reduce Salmonella population on chicks. May be effective against other pathogens.
4.d.9	FDA, FSIS, and EPA should work with industry and academia to develop criteria for evaluating the efficiency and safety of new intervention technologies.	Cebula (FDA); Robens (USDA); Wachsmuth (FSIS)	10/1/97	9/30/00		In conjunction with a pork slaughter plant ARS will develop approaches to determine where in the process Critical Control Points should be located.
4.e Food Handling, Distribution, and Storage					(\$9.6)	
4.e.1	ARS, CSREES, and FDA should undertake research to identify factors that contribute to the spread of microorganisms during transportation of live animals and fresh produce and develop techniques for eliminating cross-contamination.	Cebula and Alderson (FDA); Robens (USDA); Wachsmuth (FSIS)	10/1/97	9/30/00		(1) ARS has carried out preliminary studies with broilers demonstrating that Salmonella and Campylobacter are increased during transportation to slaughter and that consumption of litter during fasting is a contributing factor. Similar transportation studies with swine are being planned. (2) ARS has demonstrated that fecal shedding of E.coli O157:H7 is increased in cattle that are alternatively fasted and fed. (3) The Salmonella serotypes in trailers used for hauling swine were found to be identical to those found in preslaughter holding pens, confirming common belief that animals are carrying Salmonella into the slaughter plant.
4.e.2	FDA, ARS, and CSREES should work with industry and academia to develop and assess the effectiveness of in-or on-package sensors of storage conditions to alert consumers of products not stored safely.	Cebula (FDA); Wachsmuth (FSIS)	10/1/97	9/30/00		
4.f Charge an Interagency Committee Convened by the Office of Science and Technology Policy (OSTP) to Coordinate Federal Research Priorities and Planning						

Category 4. Research

Activity

Sub Activity

Lead/Contact

**Start End
Date Date**

**FY 1998
USDA
Funding
(millions)**

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4.f.1 Review food safety responsibilities and research programs of the various agencies with a view to recommending direction of research funds and programs.

Cebula (FDA);
Robens (USDA);
Wachsmuth (FSIS);
Kennedy (USDA)

1/25/97 9/30/97

Interagency review of research related to the Produce Initiative began in September 1997. A research plan for FY 99 will be available in early 1998 for fruits and vegetable related research.

Category	5. Improving Inspections and Compliance	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity						
Sub Activity						
5. Improving Inspections and Compliance					\$0.6	
<i>Description:</i>	Develop and implement more efficient and effective procedures for monitoring the safety of the Nation's food supply at all levels, and promote the adoption of HACCP in the food industry at all governmental levels.					
						<p>Risk assessments of shell eggs and egg products are nearing completion and related ANPR drafts are being reviewed. HACCP training has been conducted, with FSIS completing inspector training for large plants inspection staff in January. Evaluation of cross-utilization of FSIS inspectors for non-meat production areas is underway and an MOU is being developed to document the procedures. FSIS held several public meetings on the impact of HACCP on inspection and the application of HACCP to other components of the farm-to-table continuum. Federal-State-local meetings of public health officials have been held, training has been planned, and other cooperative ventures--including legislative review of interstate shipment of State-inspected meat and poultry--have been conducted or are underway in developing an integrated regulatory approach to food safety. A review of foreign food safety programs and requirements is nearing completion. Meetings have been held, and guidance shared, with industry--including transportation--to foster increased HACCP-based compliance.</p>

Category	5. Improving Inspections and Compliance	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity	Sub Activity					
5.a Enhance Development of HACCP Procedures						
5.a. 1	Based on the best science available, FDA will propose appropriate regulatory and non-regulatory options, including HACCP, for the manufacture of fruit and vegetable juice products.	Tolen (FDA)	5/1/97	9/30/97		Juice HACCP Proposal drafted and being reviewed by HHS and it is anticipated the regulation will be issued in March 1998. Juice Warning Labels proposed drafted and being reviewed by General Counsel. Proposal is expected to issue in March 1998.
5.a. 2	Based on the best science available, FSIS will propose appropriate regulatory and non-regulatory options, including HACCP, for egg products.	Wachsmuth (FSIS); Ahl (ORACBA-USDA)	5/1/97	9/30/98		FSIS conducting risk assessment that is expected to be completed in early 1998. FSIS will issue an ANPR (sent to OGC 1/28/98) to solicit public comment.
5.a. 3	FDA and USDA will immediately identify preventive measures to address public health problems, such as those recently associated with fruits and vegetables, e.g., hepatitis A virus associated with frozen strawberries.		5/1/97	9/30/97		FDA, at the request of AMS (Processed Products Branch), is reviewing the PPB's instructions and procedures for employee hygiene, product sampling, product grading, equipment sanitation, and field grading facilities. FDA has visited 5 PPB field offices and observed PPB procedures of grading and production sample collection. (2) Good Agricultural Practices and Good Manufacturing Practices Broadscope Guidance has been drafted. Final Guidance is scheduled to publish in March 1998. (3) Six domestic and one international grassroots meetings have been held on Broadscope Guidance.
5.a. 4	FSIS and FDA will jointly publish an ANPR in which they will evaluate the public health, food technology, and regulatory issues involved in reducing the risk of human illness from Salmonella Enteritidis in shell eggs.	Troxell (FDA); Stolfi (FSIS)	5/1/97	9/30/98		(1) Salmonella in egg products guidance has been developed. Risk assessment has been completed. Responses to OMB comments are being prepared. Responses will be completed and package resubmitted to OMB by the end of March. (2) Draft labeling proposal is under review within CFSAN. Target date for clearing CFSAN is the end of March. (3) Shell eggs refrigeration at retail proposal is

Category	5. Improving Inspections and Compliance	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity						
Sub Activity						
						expected to go to OMB by the end of March.
						FSIS is currently completing a risk assessment on shell eggs; the ANPR has been drafted and is in clearance.
	5.a. 5 FDA will evaluate whether and how to propose to require the use of HACCP in other appropriate food commodities and animal feeds.		5/1/97	9/30/97		On hold until the regulatory effectiveness of the seafood HACCP regulation is reviewed and after proposing HACCP for fresh fruits and vegetable juices.
	5.a. 6 FDA will provide additional training in seafood HACCP and FSIS will complete HACCP Training of inspectors in large meat and poultry plants.	Mina (FSIS)	5/1/97	9/30/98		Completed development of a training course for regulators that could be provided to many training sites simultaneously by satellite, with facilitation at each site. The course was offered and attended by about 800 Federal and State Inspectors and other personnel located in many sites nationwide in March 1997. The course was subsequently held in Boston, New York, Annapolis, Seattle, and Detroit for regional exposure. An additional 103 Federal and State regulators were trained during the first quarter of FY 1998. (2) FSIS completed training of inspectors for 1st HACCP implementation phase. Large plants completed in January 1998. (3) Seafood Alliance, in cooperation with FDA, Provided Seafood HACCP training to an additional 1352 students bringing the total to 6861.
	5.a. 7 FSIS and FDA will evaluate expanding existing cooperative agreements so that plants producing meat and nonmeat foods are inspected by FSIS inspectors trained in FDA inspection standards.	Mayl (FDA) and Derfler (FSIS)	1/15/98	9/30/98		Joint meeting held 2/19/98 to discuss MOU development. Agreed to form smaller working groups to begin process. Next meeting to be held in March.
	5.a. 8 FSIS will conduct a series of public meetings to discuss the design and testing of new inspection concepts consistent with HACCP	Derfler (FSIS)	5/1/97	9/30/98		The first public meeting was held on June 24, 1997 in Washington, DC. Another meeting is planned for late 1998.

Category	5. Improving Inspections and Compliance	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity						
Sub Activity						
	Principles to achieve food safety and other consumer protection objectives.					
	5.a. 9 FSIS will conduct a series of public meetings to discuss how HACCP requirements will be implemented in slaughter plants and how the roles and responsibilities of inspection personnel will change with that implementation.	Derfler (FSIS)	1/20/97	1/30/98		Meeting held December 16, 1997 in Washington, DC. Additional meetings held January 14 (Des Moines, IA), January 16 (Denver, CO) and January 21 (Memphis, TN).
	5.a.10 FDA and USDA will cooperate in evaluating the feasibility of HACCP for commodities such as fresh fruits and vegetables.	Kelly (USDA)		9/30/98		Redirected to Guidance by president's Directive (Produce and Imported Food Safety Initiative).
	5.a.11 FDA will implement seafood HACCP by hiring approximately 80 investigators to conduct inspections to ensure the proper implementation of seafood HACCP.			9/30/98		A vacancy announcement for 19 microbiologist and 61 CSO/CSIs for seafood HACCP should issue by the end of February 1998.
	5.a.12 A performance-based organization (PBO) will be created as the organizational structure for the voluntary fee-for-service seafood program currently located at NMFS.	Spiller, P.	5/1/97	9/30/98		PBO legislation has been drafted. Commerce has given its approval for the PBO. Draft legislation is being reviewed by HHS and OMB. Discussions continue between the Department of Commerce and FDA's Budget Office to resolve pending budget issues.
	5.a.13 FDA should further the use of HACCP principles, as appropriate, for other foods, including animal feeds, and use risk assessment techniques where possible.	Tolen (FDA)	10/1/97	9/30/00		
5.b Enhance the Safety of Foods in Retail Food Establishments Particularly at State and Local Levels						
	5.b.1 FDA and FSIS will hold a series of meetings with state and local regulators in five	Guzewich (FDA) and Stafko (FSIS)	1/25/97	9/30/98		(1) Six grassroots meetings have been held. (2) Draft Model State Retail Food Program Standards

Category 5. Improving Inspections and Compliance

Lead/Contact

Start Date **End Date**

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Activity

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regions to establish retail program standards in accordance with the 1997 model state code (the Food Code) to enhance national uniformity.

are being developed and will be presented at the Conference For Food Protection on 4/2/98.

5.b.2 FSIS and FDA will provide HACCP training to state and local inspectors that will augment the training program for federal inspection personnel, more fully covering the farm-to-table process.

Tolen (FDA) and Mina (FSIS)

10/1/97 9/30/98

(\$0.6)

Plan being developed for training State and local public health officials inspecting retail establishments in HACCP principles.

5.b.3 The Food Code should be adopted by all 50 States.

Guzewich (FDA) and Stafko (FSIS)

10/1/97 9/30/98

USDA and FDA are developing a strategy to encourage State adoption of the Code. Currently, eight states have adopted the Code.

5.c Enhance Federal-State Inspection Partnerships

5.c.1 FSIS will hold two public meetings on the issue of interstate distribution of state-inspected meat and poultry products.

Stafko (FSIS)

1/25/97 9/30/98

Two meetings have been held. June 16-17, 1997, in Sioux Falls, SD and July 22, 1997, in Washington, DC. Concept paper reviewed by the USDA Meat and Poultry Advisory Committee and new legislation is being drafted.

5.c.2 FDA will develop additional federal-state partnerships to improve coordination between the federal food safety agencies and state regulators for the training of state inspectors in food safety standards applicable at all levels.

Tolen (FDA)

1/25/97 9/30/98

A model Federal-State partnership agreement for Seafood HACCP-based inspection has been developed. The Model is being used by the FDA District Offices as a basis for negotiations with States for partnerships.

5.c.3 FDA will expand the number of federal-state partnerships to include more extensive HACCP training of state inspectors, the seafood industry, and the retail food industry.

Tolen (FDA)

10/1/97 9/30/98

5.c.4 FSIS will initiate HACCP training for state inspectors with respect to meat and poultry

Smith (FSIS)

10/1/97 9/30/98

FSIS will conduct train-the-trainer session for State employees.

Category	5. Improving Inspections and Compliance	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity	Sub Activity					
	products.					
	5.c.5 FDA and FSIS should work more closely with industry, professional and trade associations, and academia to ensure effective implementation of HACCP principles, particularly at the production, processing, and retail levels.	Tolen (FDA) and Smith (FSIS)	10/1/97	9/30/00		The First Edition of the "Fish and Fishery Products and Hazards Control Guide" published in September 1996. An addendum to the First Edition is being developed, among other things, it will respond to comments received on the first edition.
	5.c.6 FDA should create a data system to compile inspection data from federal and state inspections, as well as provide the states with equipment and technology for the rapid sharing of inspection results.	Tolen (FDA)	10/1/97	9/30/00		A low cost, low tech data system ("Cardiff") by which both Federal and State inspection programs could transmit the results of inspections into a common national database has been identified. Acquisition of the equipment and software has been initiated.
	5.d Enhance Coverage of Imported Foods with Specific Attention to Foods Regulated by FDA					
	5.d.1 FDA will work to increase the number of mutual recognition agreements (MRAs) with trading partners.	Tolen (FDA)	10/1/97	9/30/98		Draft guidance containing the criteria FDA intends to use to decide whether another country's regulatory system for food safety is equivalent to the US System published on June 4, 1997. CFSAN is currently analyzing the information received from countries about their regulatory systems in preparation for making equivalence determinations.
	5.d.2 FDA will initiate a federal-state communication system through which states can inform federal agencies of problems found with imported products in their jurisdictions.		10/1/97	9/30/98		
	5.d.3 FDA will initiate a system for certifying and accrediting private laboratories, including use of a quality-assurance procedure, that will be authorized to test samples of food products for contaminants.	Tolen (FDA)	10/1/97	9/30/00		

Category	5. Improving Inspections and Compliance	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity	Sub Activity					
	5.d.4 When FDA and FSIS become aware of possible public health problems associated with a regulated food product, the agencies will provide technical assistance to the foreign country importing the product.	Tolen (FDA); Wachsmuth and Prucha (FSIS)	10/1/97	9/30/00		FSIS requires foreign inspection programs to submit detailed descriptions of corrective actions they will take or have taken to address public health problems associated with meat or poultry products processed for export to the United States. Appropriate technical advice is provided when requested.
	5.d.5 FSIS should continue to verify foreign government-inspection progress for conformance with the new HACCP and Pathogen Reduction Requirements.	Wachsmuth and Prucha (FSIS)	9/30/97	9/30/00		FSIS has contacted all 37 countries eligible to export meat or poultry to the U.S. to determine whether they have implemented requirements equal to those contained in the PR/HACCP rule regarding SSOP's and E. coli. Most have implemented both requirements, but discussions continue on the equivalency of alternative approaches used in some countries. Eligible countries are also being asked about the number of large plants in their programs that would be affected by the mandatory U.S. implementation in January.
	5.d.6 The laboratory-certification process should be extended to include assessing the utility of existing accrediting bodies with FDA providing performance standards and oversight to the process.	Tolen (FDA)	10/1/97	9/30/00		
	5.d.7 FDA should expand the Federal-state communication system states use to inform the federal agencies of problems found with imported products in their jurisdictions.	Tolen (FDA); Majkowski (FSIS)	10/1/97	9/30/00		
	5.d.8 FDA should evaluate the feasibility of combining the communication system with the Federal-state inspection data system, making the data and information more widely accessible.	Tolen (FDA); Majkowski (FSIS)	10/1/97	9/30/00		
	5.d.9 FDA should review and evaluate ways to	Tolen (FDA)	10/1/97	9/30/00		

Category	5. Improving Inspections and Compliance	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity	Sub Activity					
	increase coverage of imports through such means as increased personnel, increased partnerships, or innovative information-sharing with the states.					
	5.e Enhance Safety of Foods During Transportation					
	5.e.1 FDA and FSIS will evaluate the comments and information received in response to the ANPR as a basis for determining what, if any, regulatory approach to take, including development of guidelines.	Troxell (FDA) and Stafko (FSIS)	10/1/97	9/30/98		Agencies have been meeting with industry which is developing voluntary guidelines for consideration.
	5.e.2 FDA and FSIS, through partnerships with states, should provide training and training materials to the transportation industry on safe food transportation.	Tolen (FDA) and Stafko (FSIS)	10/1/97	9/30/00		Joint meeting held in January. Industry has put together guidance and declined partnership offer.
	5.f Good Agricultural Practices and Good Manufacturing Practices					
	5.f.1 Reissuance of the Prepared Cut Vegetable Salad Manufacturers Survey. The Survey is intended to establish baseline data on the industry to assist in preparation of GMP guidance documents.	Gardine (FDA)	10/2/97	9/30/98		Survey reissued on 1/12/98.
	5.f.2 HHS and USDA, in partnership with the agricultural community, will issue within 1 year guidance on good agricultural practices and good manufacturing practices for fruits and vegetables.	Gardine (FDA) and Kelly (FSIS)	10/2/97	10/2/98		(1) A Public Meeting on GAPs was held 11/17/97. Grassroots Meetings in 6 regions were held 12/1-12/12--Over 400 individuals in attendance. Over 100 individuals in attendance at the International Meeting held 12/8/97--32 foreign governments were represented, as well as trade and consumer organizations and Congressional Staff. (2) Draft GAP document prepared for minimally processed produce

Category 5. Improving Inspections and Compliance

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Status/Notes

Activity

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as science based non-biding guidance to industry to reduce, to the extent possible, microbiological risks in fresh and minimally processed produce. Over 30 written comments on the draft have been received. Comment review is planned to begin January 12th. (3) A Task Group, consisting of representatives of involved federal agencies (including FDA, USDA, EPA, OSHA) and various State Departments of Agriculture or Health, has been established to evaluate comments received from the Grassroots and International Meetings and to revise the draft GAP document. Publication of the revised draft guidance is planned for late March 1998 with a 45 day comment period.

5.f.3 Status report and complete schedule for the GAPs and GMPs, assistance to foreign countries, prevention of the importation of unsafe produce.

Gardine (FDA) and Kelly (USDA)

10/2/97 1/2/98

Status report is under review.

5.f.4 Accelerate food safety research needed for GAPs, GMPs, assisting foreign countries and preventing importation of unsafe food products.

Cebula (FDA) and Robens (USDA)

10/2/97 9/30/99

Category	6. Education	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity						
Sub Activity						
6. Education					\$2.8	Food Safety Education Partnership established by MOU in May 1997 and includes industry, consumer groups, FDA, CDC, USDA, and the Dept. of Education. Food Safety Campaign launched on 10/24/97. Community action and supermarket kits ordered for distribution to begin in March. Food Safety Information Kits (Education Packets) sent by FDA to thousands of Food Safety Educators. FDA/CFSAN has met with the Educational Foundation to plan 1998 National Food Safety Month. Expansion of National Food safety Month is underway in cooperation with the Education Foundation of the National Restaurant Association to plan 1998 activities and the Department of Education for America Goes Back to School. The Research Plan submitted on October 31, 1997. The 1997 survey to identify trends in the quality of food handling practices, safe food selection, and food safety knowledge and concern results will be available in April 1998. Various technologies have been applied in sharing information, including videoconferences and the Internet with E-mail. For example: (1) a single, agency-neutral address "FoodSafety.gov" was established with an e-mail address of foodsafety.gov and (2) launched EdNet on 10/27/97.
<i>Description:</i>	Develop new and innovative strategies to improve farm-to-table food-handling practices by assessing the current effectiveness of the Food Safety Initiative and identifying needs, priorities, and future food safety directions through a dialogue with stakeholders (e.g., Federal and State agencies, consumers, academia, and the food industry).					

Category	6. Education	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity						
Sub Activity						
6.a Improve Consumer, Retail, and Food Service Education					(\$2.5)	
6.a.1 Establish a Consumer Food Safety Education Partnership.		Durham (FDA) and Conley (FSIS)	1/25/97	9/30/98		Food Safety Education Partnership Established. A memorandum of understanding was signed in May 1997, formalizing a food safety education partnership that includes industry, consumer groups, FDA, CDC, USDA, and the Dept. of Education.
6.a.2 Launch a nationwide food safety education campaign for the general public.		Durham (FDA) and Conley (FSIS)	5/12/97	5/31/98		Food Safety Campaign launched on 10/24/97. Hold videoconference for State/local and Extension Health Educators. Community action and supermarket kits ordered for distribution to begin in March.
6.a.3 Promote September as National Food Safety Month.		Durham (FDA) and Conley (FSIS)	5/12/97	9/30/98		Food Safety Information Kits (Education Packets) sent by FDA to thousands of Food Safety Educators. FDA/CFSAN has met with the Educational Foundation to plan 1998 National Food Safety Month. Expansion National Food safety Month is underway in cooperation with the Education Foundation of the National Restaurant Association to plan 1998 activities and the Department of Education for America Goes Back to School.
6.a.4 Form alliances with industry, consumer, trade, state and local food protection agencies, and academic organizations to share food safety education materials and to conduct joint food safety activities.		Durham (FDA) and Conley (FSIS)	1/25/97	9/30/97		(1) The Food Safety Education Conference was held on June 12-13, 1997. Over 500 persons attended including Hillary Clinton. 88% of the attendees rated the conference as very good. (2) Retail Food Service Education Alliance Formed. Meeting held in July and October 1997. Subcommittees have been formed to implement the actions. (3) The Consumer Education Alliance-EdNet (ednet@foodsafety.gov) launched on October 27, 1997.

Category	6. Education	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity	Sub Activity					
	6.a.5 FDA, CDC, FSIS and CSREES will promote and incorporate food safety education into school programs.	Durham (FDA) and Conley (FSIS)	1/25/97	9/30/98		Food safety standards developed and being reviewed by States for inclusion in Family Consumer Science curriculum. Final release by States expected in May. Study is underway to help determine in which subjects and at what grades food safety education would be best received.
	6.a.6 FDA, FSIS and CSREES will form an alliance, joining expertise of federal, state, and local agencies, industry, and professional and trade associations to promote and implement the 1997 food Code and develop multilingual communication techniques.	Durham (FDA) and Conley (FSIS)	1/25/97	9/30/97		Completed a Spanish Translation of the brochure "If you eat raw oysters you should know..." The National Hispanic Healthy Nation Symposium was held September 10-13, in California. FDA serves on the Committee and food safety was included as part of the forum.
	6.a.7 Convene the National Food Safety Education Council, an Independent scientific review board to periodically review safety education messages.	Durham (FDA) and Conley (FSIS)	1/25/97	9/30/97		Several internal planning meetings were held with FSIS. Multiple options are being explored including a possible subcommittee to the Micro Advisory Committee or as group of government communicators and scientists from several federal agencies.
6.b Conduct Research to identify Barriers to Safe Food Handling, Upon Which Educational Programs Will Be Centered						
	6.b.1 HHS and USDA will develop national safe-food-handling guidelines like the Dietary Guidelines and review them periodically.	Durham (FDA) and Conley (FSIS)	1/25/97	9/30/97		Broad guidelines have been developed by the Partnership for Food Safety Education and will be assessed and refined in FY 98 and FY99. More detailed guidance for each of the four major guidelines is planned for FY99.
	6.b.2 Conduct additional research necessary to determine the best way to communicate key safety food principles in order to achieve behavior change.	Durham (FDA) and Conley (FSIS)	10/1/97	9/30/98		The Research Plan submitted on October 31, 1997. The 1997 survey to identify trends in the quality of food handling practices, safe food selection, and food safety knowledge and concern results will be available in April 1998.

Category	6. Education	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity						
Sub Activity						
6.b.3	Conduct research necessary to develop a visual communication tool that conveys food safety principles, as the food guide pyramid does for nutrition principles.	Durham (FDA) and Conley (FSIS)	10/1/97	9/30/00		A visual communication tool has been developed by the Partnership for Food Safety. This tool will be assessed and refined in FY99.
6.b.4	Through partnerships and alliances, implement an education campaign to use the new education tools especially targeted to school programs and specific at-risk audiences.	Durham (FDA) and Conley (FSIS)	10/1/97	9/30/00		
6.c Expand Existing Information Systems						
6.c.1	Expand existing information systems while laying the groundwork for a National Clearinghouse for Food Safety Education.	Durham (FDA) and Conley (FSIS)	1/25/97	9/30/97		National Clearinghouse for Food Safety Education is being developed. A FoodSafe Listserve is established. A single, agency-neutral address "FoodSafety.gov" established with an e-mail address of foodsafety.gov.
6.c.2	Explore innovative methods for sharing food safety information including consolidation of government Internet sites to reach larger audiences and provide easier access to information through a single site.	Durham (FDA) and Conley (FSIS)	1/25/97	9/30/97		(1) A single, agency-neutral address "FoodSafety.gov" established with an e-mail address of foodsafety.gov. (2) Launched EdNet on 10/27/97.
6.c.3	Establish a National Clearinghouse for Food Safety Education.	Durham (FDA) and Conley (FSIS)	10/1/97	9/30/98		First steps of researching and cataloguing existing activities and developing options is underway.
6.c.4	Consider use of food labels and other point-of-sale materials to convey food safety information.	Durham (FDA) and Conley (FSIS)	10/1/97	9/30/98		Point of sale materials are being used in the Partnership for Food Safety Education Campaign. The food safety research activities will assess the effectiveness of point of sale and labeling materials.
6.c.5	Develop and initiate a targeted multilingual program to change food workers' unsafe food	Durham (FDA) and Conley (FSIS)	10/1/97	9/30/98		First steps of cataloging existing activities and identifying options are underway.

Category	6. Education	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity	Sub Activity					
	preparation behaviors.					
	6.c.6 Evaluate education program and continue to support those programs initiated in FY97 and FY98.	Durham (FDA) and Conley (FSIS)	10/1/97	9/30/00		
	6.d Improve Veterinarian and Producer Education				(\$0.3)	
	6.d.1 Use existing mechanisms to strengthen and implement programs to educate producers, veterinarians, and state and local regulators about proper drug use and incorporation of HACCP principles into industry QA program to reduce foodborne pathogens.	CVM	10/1/97	9/30/00		
	6.d.2 Encourage evaluation and improvement of veterinary and producer education at veterinary and agricultural colleges to address foodborne pathogens in animals and their manures.	CVM	10/1/97	9/30/00		
	6.d.3 Develop and disseminate guidelines and educational materials through existing networks to food producers and the veterinary medical community.	CVM	10/1/97	9/30/00		
	6.e Improve Health-Professional Education					
	6.e.1 In cooperation with FDA, FSIS and CSREES, CDC should train public health professionals on foodborne disease and clinical microbiology and foodborne illnesses with non-traditional symptoms by using multimedia, distance-learning techniques and NLTN.	Durham (FDA) and Conley (FSIS)	10/1/97	9/30/00		

Category 6. Education

Activity

Sub Activity

Lead/Contact

Start Date **End Date**

FY 1998
USDA
Funding
(millions)

Status/Notes

6.f Improve Industry Education in the Transportation Area

6.f.1 Form an alliance among government agencies and the private sector to develop educational materials and train food transportation vehicle owners and operators and food processing establishments on hazards associated with the transportation of food.

Durham (FDA) and
Conley (FSIS)

10/1/97 9/30/00

Category	7. Strategic Planning	Lead/Contact	Start Date	End Date	FY 1998 USDA Funding (millions)	Status/Notes
Activity						
Sub Activity						
7. Strategic Planning					\$0.0	White House Meeting held on June 11, 1997. White Paper will be ready for agencies' review by end of March.
<i>Description:</i> Develop an inclusive, public process to identify priorities, outline strategies for change, and ways to measure progress, which will be incorporated into a strategic plan for improving the food-safety system.						
7.a Initiate a Longer-Term Strategic Planning Process to Develop a Strategic Plan for Improving the Food-Safety System						
7.a.1	Initiate a longer-term strategic planning process giving interested parties an opportunity to comment on the possible approaches for structuring dialogue before implementation.	Hulabak (FDA); Mondschein (FSIS)	10/1/97	9/30/98		White House Meeting held on June 11, 1997. White Paper will be ready for agencies' review by end of March.
7.b Prepare a 3 to 5 Year Strategic Plan						
7.b.1	Prepare a 3 to 5 year Strategic Plan and incorporate the relevant parts of the plan into the GPRA strategic plan commensurate with the budget.	Hulabak (FDA); Mondschein (FSIS)	10/1/97	9/30/98		
7.c Measure Progress to Evaluate the Effectiveness of the Plan in Reducing the Annual Incidence of Foodborne Illness						
7.c.1	Review progress of Strategic Plans implementation to determine the plan's effect on the annual incidence of foodborne illness.	Hulabak (FDA); Mondschein (FSIS)	10/1/98	9/30/99		