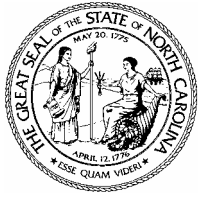


STATE OF NORTH CAROLINA

PERFORMANCE REVIEW
NORTH CAROLINA FOOD SAFETY SYSTEM

November 2002

OFFICE OF THE STATE AUDITOR
RALPH CAMPBELL, JR.
State Auditor



Ralph Campbell, Jr.
State Auditor

STATE OF NORTH CAROLINA

Office of the State Auditor

2 S. Salisbury Street
20601 Mail Service Center
Raleigh, NC 27699-0601
Telephone: (919) 807-7500
Fax: (919) 807-7647
Internet <http://www.osa.state.nc.us>

November 27, 2002

The Honorable Michael F. Easley, Governor
Commissioner Meg Scott Phipps
Department of Agriculture and Consumer Services
Secretary Carmen Hooker Odom
Department of Health and Human Services
Secretary William G. Ross, Jr.
Department of Environment and Natural Resources
Members of the North Carolina General Assembly

Ladies and Gentlemen:

We are pleased to submit this performance review of the *North Carolina Food Safety System* for your consideration. We undertook this review as a result of a request from the US General Accounting Office (GAO) to assist in the examination of physical safety at food processing plants and warehouses in light of the tragic events of September 2001. The request was coordinated through the Domestic Working Group consisting of federal, state, and local audit officials that had been established by GAO in March 2001. That group, of which I am a member, was formed to work on issues of mutual concern to strengthen accountability in government.

Members of the Domestic Working Group were asked to obtain preliminary data from their states on security changes made at food processing plants. As the work progressed, our performance audit staff, Arizona state auditors, and local auditors in Wisconsin determined that state and local level regulators did not have direct access to physical security data at these facilities. This lack of access also extended to the state and local audit personnel and prevented further participation in the GAO study. However, our audit team had gathered a considerable amount of information on North Carolina's food safety system and the various state and local entities involved. That work is the basis for this report.

November 27, 2002

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The team sought to answer three broad questions:

- ❑ What is the current organizational structure of North Carolina's food safety system?
- ❑ What are the processes for ensuring safe and wholesome food for the citizens of North Carolina?
- ❑ What action has the State taken to prevent, detect, and respond to food terrorist acts?

As you will see from the "Summary of Issues" on page 1 of the report, the majority of responsibility for food safety in North Carolina rests with the Departments of Agriculture and Consumer Services, Health and Human Services, and Environment and Natural Resources. County public health departments also play an important part in assuring the safety of the food we consume. These entities, along with a number of other State and local agencies, had a good system in place prior to September 11th. Since that time, led by the Governor's Anti-Terrorism Preparedness Task Force, those efforts have been intensified. Cooperation and coordination among the various agencies has increased.

Yet, the team identified a number of issues that we feel should be examined in more detail. We also feel that there are additional issues that would be identified in a more thorough review. I believe the issues in this report can affect the health and safety of our citizens. Therefore, these are issues that should be brought to the attention of the General Assembly and the public. We have outlined the identified issues in this *performance review*.

We wish to express our appreciation to Commissioner Phipps, Secretary Odom, Secretary Ross and their staffs for the courtesy, cooperation, and assistance provided us during this effort.

Respectfully submitted,



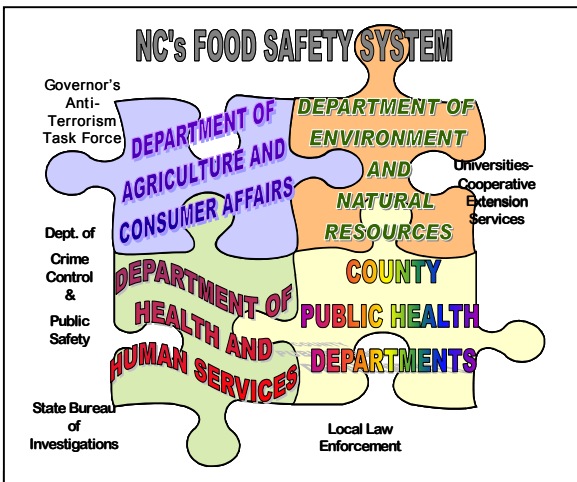
Ralph Campbell, Jr.
State Auditor

cc: Comptroller David Walker,
US General Accounting Office
Secretary Bryan E. Beatty,
NC Department of Crime Control and Public Safety

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SUMMARY OF ISSUES



MAJOR RESPONSIBILITIES

- Agriculture:**
- Test, inspect, monitor, enforce regulations for
 - All food commodities except milk and shellfish*
 - Pesticide, Animal feed
 - Seed, Fertilizer
 - Plant pest control
 - Apiary program
 - Apple / peach packing laws
 - State egg laws
 - Distribute USDA / donated food
 - Protect, sustain, improve livestock / poultry health; diagnose / prevent disease outbreaks
- DENR:**
- Administer shellfish sanitation program; monitor harvesting
 - Supervise sanitation inspection program at food retailers; county programs
 - Conduct sanitation inspections for state institutions, childcare facilities
 - Conduct inspections of dairy industry
- DHHS:**
- Surveill, monitor, test, investigate foodborne / transmitted illnesses
 - Test raw milk
- Counties:**
- Administer sanitation inspections program
 - Provide education / information

*most meat/poultry inspections done by federal inspectors

CONCLUSIONS:

1: Organizational Structure	2. Safety Processes	3: State Actions
Fragmented system splits responsibility; efforts to coordinate.	Established prevention, detection, and response options.	Statewide task forces; interagency cooperation.

ISSUES FOR FURTHER STUDY:

1	2	3
Staffing shortages hamper effectiveness	Limited enforcement actions allowed for violations	Need to upgrade antiquated labs; use of technology
<ul style="list-style-type: none"> a) Areas where staff limited <ul style="list-style-type: none"> ❑ 25 AG food specialists to do inspections for 8163 facilities ❑ 5 AG egg inspectors for State ❑ No bilingual food specialists ❑ County food sanitation inspection program understaffed b) Examine "dually served" areas <ul style="list-style-type: none"> ❑ # different inspectors annually ❑ Different purposes ❑ Consolidation opportunities? c) Food embargo authority split <ul style="list-style-type: none"> ❑ DENR/counties – milk and shellfish ❑ AG – all other foods, producers 	<ul style="list-style-type: none"> a) Inconsistencies in frequency of inspections / sample collection <ul style="list-style-type: none"> ❑ Exemptions for sanitation inspections / permits ❑ Programs where produce goes directly to consumer without testing b) No formal risk-based assessments for inspections <ul style="list-style-type: none"> ❑ Would require statutory changes c) Lack of master lists for many regulatory functions <ul style="list-style-type: none"> ❑ Questions re: self-reporting 	<ul style="list-style-type: none"> a) AG inspectors not well equipped <ul style="list-style-type: none"> ❑ Few computers / laptops ❑ Limited cell phones b) Lab equipment outdated <ul style="list-style-type: none"> ❑ Labs that cannot pass accreditation ❑ Labs can't perform needed tests; industry contracts out tests ❑ Test results from private labs not available to State for surveillance / monitoring

RECOMMENDATION:

General Assembly consider studying food safety system structure to identify: improvements, examine outcomes, review fee structures.

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REVIEW SCOPE AND METHODOLOGY

North Carolina General Statute 147-64 empowers the State Auditor with authority to conduct performance audits or reviews of any State agency or program, as well as local entities receiving State and federal funds. *Performance audits* are reviews of activities and operations to determine whether resources are being used economically, efficiently, and effectively. *Performance reviews* are more limited in scope, generally identifying major issues surrounding a broad topic that require further study and / or more resources than are available at the time.

This *performance review* of the **Food Safety System** within North Carolina was undertaken at the discretion of the State Auditor based on a request from the United States General Accounting Office (GAO). In March 2001, GAO formed a Domestic Accountability Working Group consisting of federal, state, and local government officials. The group's purpose is to work with GAO on issues of mutual concern. North Carolina's State Auditor is a member of this group.

Due to the tragic events of September 11, 2001, the State Auditor believed it to be beneficial to the citizens of North Carolina to participate in the GAO's Food Safety initiative. Based on discussions with GAO personnel and auditors from other states considering the topic, we formulated the following questions to explore:

- ❑ What is the current organization structure of North Carolina's food safety system?
- ❑ What are the processes for ensuring safe and wholesome food for the citizens of North Carolina?
- ❑ What action has the State taken to prevent, detect, and respond to food terrorist acts?

As the review progressed, the GAO narrowed its inquiries to physical security of food processing plants and warehouses. Since State Auditors have no direct authority to enter these establishments for the purpose of reviewing physical security, none of the states involved in the initial discussions with GAO were able to participate in a full performance audit. However, North Carolina's State Auditor felt it appropriate to report on the results of the research and survey work conducted to frame answers to the initial questions.

During the period March through September 2002, we conducted on-site survey work at the Department of Agriculture and Consumer Affairs (Agriculture), the Department of Health and Human Services (DHHS), and the Department of Environment and Natural Resources (DENR). To answer the initial questions, we employed various techniques, which adhere to the generally accepted standards as promulgated in *Government Auditing Standards* issued by the Comptroller General of the United States. These techniques included:

- Review of existing General Statutes, federal laws, and North Carolina Administrative Codes as they relate to food safety;
- Review of the Departments' internal policies and procedures;

REVIEW SCOPE AND METHODOLOGY

- Observation of key Agriculture and DENR employees performing various food safety related duties at farms, food retail stores, food processing establishments, food warehouses, and slaughterhouses;
- Review of existing audits and reports related to food safety;
- Review of organizational charts, job descriptions, and personnel data for the agencies involved with food safety in North Carolina;
- Interviews with key personnel within the Departments of Agriculture, Health and Human Services, and Environment and Natural Resources;
- Interviews with North Carolina State University personnel, as well as with other persons external to these departments;
- Obtain data on other states' food safety systems;
- Observation of food safety related task force, committee, or board meetings, including the Governor's Anti-Terrorism Preparedness Task Force; and
- Review of minutes for meetings conducted that were related to food safety.

We should note that all data presented in this report is unaudited since this was only a performance review.

SYSTEM OVERVIEW

*Department of Agriculture
and Consumer Services*



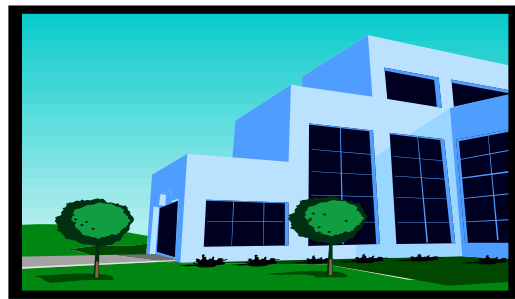
*Department of Environment
and Natural Resources*



***What is the
current
organizational
structure of North
Carolina's food
safety system?***



Department of Health and Human Services



County Public Health Departments

SYSTEM OVERVIEW

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SYSTEM OVERVIEW

This section of the report gives an overview of the system. We first summarize the current organizational structure in place for North Carolina's food safety system. While we did not have the resources needed to conduct a full performance audit, we did identify areas where coordination could be enhanced and areas that could possibly be combined (also see Issues for Follow-up on page 23). These areas impact the effectiveness of the food safety system. The issues are discussed below.

1. North Carolina has a fragmented food safety system that splits responsibility among several agencies.

Our State's regulatory system, which closely resembles the federal government's food safety system, did not emerge from a comprehensive design but rather evolved piecemeal. As with the federal food safety system, North Carolina's system grew in response to particular health threats that resulted in the creation of federal or state regulations.

At the federal level, 12 different agencies administer as many as 35 laws affecting food safety. Recent testimony¹ provided to the United States Senate by the General Accounting Office (GAO) indicated “. . .*the current [federal] food safety system is a patchwork structure that hampers efforts to adequately address existing and emerging food safety risks. . . Many states modeled their organizations' structure for food safety on the federal system and thus face the same issues.*” GAO went on to state “. . . *a single, independent food safety agency administering a unified, risk-based food safety system is the most effective solution to the current fragmentation...*”

The majority of North Carolina's food safety regulatory and surveillance programs are within the Departments of Agriculture and Consumer Services (Agriculture), Environment and Natural Resources (DENR), and Health and Human Services (DHHS). Table 1, page 8, lists the 10 agencies within state and local government that have some involvement with food safety.

¹ GAO testimony “Food Safety and Security, Fundamental Changes Needed to Ensure Safe Food”; report number GAO-02-47T; October 10, 2001.

SYSTEM OVERVIEW

TABLE 1 Food Safety Responsibilities State and Local Government Agencies	
Agency	Purpose
Department of Crime Control & Public Safety	Preparation, response, and recovery from man made or natural disaster.
Department of Agriculture & Consumer Services	<ol style="list-style-type: none"> 1. Test, inspect, monitor, and/or enforce regulations for: all food commodities (except fluid milk and shellfish), pesticide, animal feed, seed, fertilizer, plant pest control, apiary program, apple and peach packing laws, State egg laws and USDA egg surveillance. 2. Reduce vulnerability and minimize the impact from any disaster and facilitate rapid return to normalcy. 3. Distribute USDA or donated food products to NC school systems and non-profit organizations. 4. Protect, sustain, and improve livestock/poultry health. 5. Surveillance, detection, diagnose, and/or prevent livestock/poultry disease outbreaks.
Department of Environment and Natural Resources	<ol style="list-style-type: none"> 1. Administer the shellfish sanitation program and monitor harvesting waters. 2. Supervise the sanitation inspection program at food retailers. 3. Conduct sanitation inspections for State institutions and childcare facilities. 4. Conduct inspections of the Dairy Industry. 5. Provide assistance to shellfish, food retailer, and dairy industries, and State institutions. 6. Train and authorize Local health department staff.
Department of Health & Human Services	<ol style="list-style-type: none"> 1. Provide surveillance, monitoring, and testing of foodborne and food transmitted reportable illnesses. 2. Investigate foodborne illness outbreaks. 3. Test raw milk for acceptable content. 4. Test food and human fecal samples when related to foodborne illness outbreaks.
Governor's Office, Anti-Terrorism Task Force	Study the following areas: Threat Assessment and Reduction, Emergency Response, Training, and Public Information.
State Bureau of Investigation	Investigate deliberate food contamination or food tampering that is a criminal act.
Local Law Enforcement	Investigate deliberate food contamination or food tampering that is a criminal act.
NC State and A&T Universities, Cooperative Extension Services	Provide research-based educational programs and information regarding critical agricultural issues.
Counties 1. Cooperative Extension Services 2. Health Departments	<ol style="list-style-type: none"> 1. Provide research-based educational programs and information regarding critical agricultural issues. 2. Administer the sanitation inspections program.
Source: Agriculture, DENR, and DHHS and NCSU & NCA&T websites -- UNAUDITED	

SYSTEM OVERVIEW

2. Forty-seven percent of states have only two agencies with major food safety responsibilities.

Information from other states and the District of Columbia revealed several alternatives for assignment of food safety responsibilities. (Appendix B, page 39, shows these alternatives by state.) Exhibit 1 illustrates that 24 states (47.1%) have two agencies responsible for the majority of food safety functions.

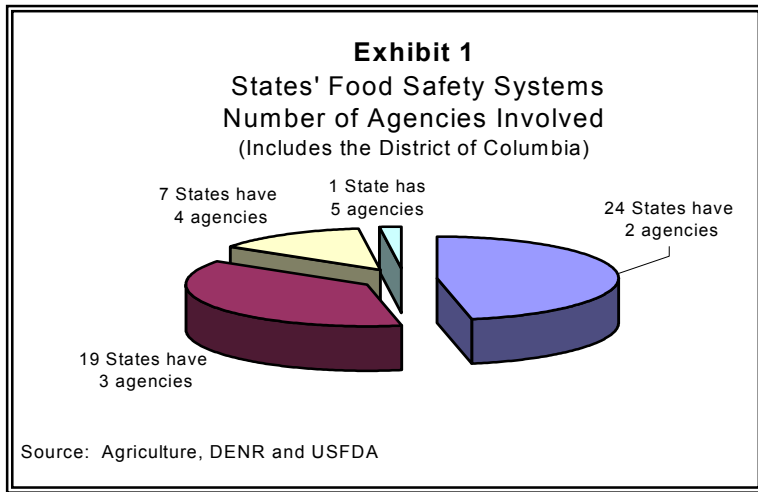


TABLE 2	
States' Food Safety System Structure*	
Agencies involved	Number of States
Dept. of Agriculture, and Public Health	21
Public Health and DENR	2
Dept. of Agriculture, Public Health and DENR	7
Dept. of Agriculture, Public Health and one other agency	11
Dept. of Agriculture, Public Health, DENR & another agency	2
Other Structures	8
Total	51
* Includes the District of Columbia	
Source: Agriculture, DENR and USFDA--UNAUDITED	

Of these 24 states, 21 (87.5%) empower their Departments of Agriculture and Health and Human Services (Public Health) to ensure the safety of food in their states. Six other states--California, Delaware, New Jersey, New Mexico, Illinois, and Louisiana--share the same food safety system structure as North Carolina. Table 2 summarizes the different food safety system structures. Programs administered include: Meat and Poultry, Eggs, Feed, Food

Production, Retail Food Service, Dairy, Shellfish, Seed, Fertilizer, Pesticides, and Laboratory Food Analysis.

SYSTEM OVERVIEW

3. North Carolina's food safety system contains areas that are "dually served" where inspections might be consolidated.

3a. Food establishments may be visited annually by a number of inspectors for different regulatory requirements.

Agriculture and DENR are responsible for all State food safety regulatory functions. DENR is responsible for regulating fluid milk and shellfish commodities and providing food sanitation inspection at State institutions. It has established the Dairy and Shellfish programs to fulfill this responsibility. Environmental Health Specialists in the Dairy program are decentralized, working out of their homes across the State.



Wholesale Meat Inspections

Environmental Health Specialists in the Shellfish program are located at offices in Morehead City, Manteo, and Wilmington. DENR also has oversight responsibility for the Food Sanitation Inspection Program administered by County Public Health Departments.

Agriculture has the majority of State food safety responsibility, covering all commodities except fluid milk and shellfish (covered by DENR). Agriculture's responsibility spans from the farm to the table, including protecting and sustaining animal and crop health to inspections at retail food stores and food processing plants. This split in regulatory responsibility can result in multiple inspectors entering food retailers to conduct annual regulatory inspections for different commodities. See Appendix A, page 35 for detailed list.

3b. The split in authority to embargo food hampers the effectiveness of the system.

GS 130A-20 empowers Agriculture to embargo any food commodity or close down food establishments and production facilities when there are critical violations cited. DENR and County Health Directors have been delegated this power for shellfish and fluid milk commodities. This split authority means that if an Agriculture inspector identifies problems with shellfish or fluid milk products while inspecting other commodities, DENR must be contacted since Agriculture does not have the authority to embargo these products. DENR must contact Agriculture to embargo finfish or food at restaurants.

2. Laboratory improvements are underway to address the need for facilities to test highly contagious diseases.



Lab Tests for Seed Purity

Each agency has laboratories under its authority to conduct random sampling testing and testing relative to complaints and/or foodborne illnesses. There are 15 laboratories located throughout the State as shown in Table 3. However, Agriculture has no biosafety level 3 (BSL3) laboratory to conduct tests for agents that are highly contagious and can cause serious or potentially lethal disease. While the State Laboratory of Public Health has a small BSL3 laboratory, it proved to be insufficient during the anthrax panic that occurred after September 11, 2001. Both agencies are in the process of building BSL3 facilities to address this deficiency.

TABLE 3 NC Food Safety Laboratories			
Agency	Laboratory	Location	Test
Dept. of Health & Human Services	State	Raleigh	Grade "A" milk and water samples provided by DENR and Counties and food samples related to all food outbreaks
	Regional Labs	Buncombe	
		Mecklenburg Pitt	
Dept. of Environment & Natural Resources	Main	Morehead City	Shellfish and harvest area water samples
	Branch	Wilmington	
	Branch	Manteo	
Dept. of Agriculture & Consumer Services	Seed	Raleigh	Seed purity and germination
	Constable	Raleigh	Food, pesticide residue, animal feed, pesticides, and fertilizer
	Rollins	Raleigh	
	Western Animal Disease	Arden	
	Northwestern	Elkin	
	Hoyle C. Griffin	Monroe	
	Rose Hill	Rose Hill	
	Poultry	Robbins	
		Specializes in poultry testing	
Source: Agriculture, DENR and DHHS --UNAUDITED			

SYSTEM OVERVIEW

Inspection of Meat Processor



Sanitation Inspection



What are the processes for ensuring safe and wholesome food for the citizens of North Carolina?



Water and Milk Microbiology Lab

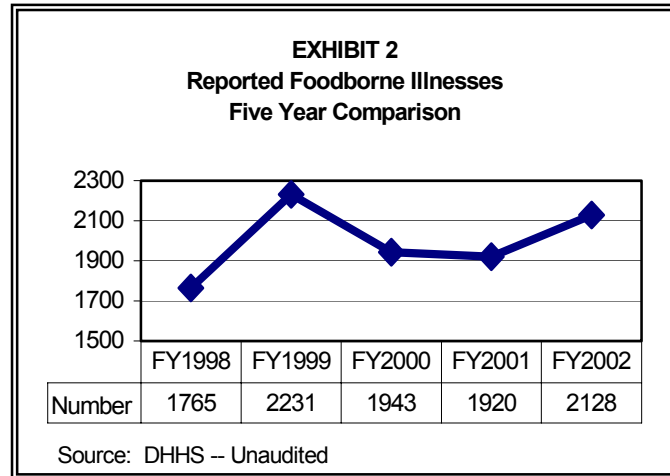


Seed Inspection

SYSTEM OVERVIEW

5. Prevention, detection, and response are the major ways North Carolina ensures safe and wholesome food.

As shown in Exhibit 2, the number of reportable foodborne illnesses fluctuate from year to year. DHHS annually investigates an average of 12 major foodborne illness outbreaks and approximately 2,000 reportable cases of foodborne illnesses. Salmonella is the most common foodborne illness. Data from the U.S. Center for Disease Control and Prevention ranks North Carolina 10th in the nation for reported salmonella illnesses during



calendar year 2000². It is feasible that the actual number of foodborne illnesses is higher than stated since most foodborne illnesses are treated at home and never reported to DHHS. Therefore, to combat foodborne illnesses, it is important to have a strong food safety process to prevent, detect, and respond to food illnesses. Agriculture, DHHS, and DENR have established processes for these purposes.

North Carolina uses regulation, education, and training in its **prevention** programs. Agriculture and DENR are responsible for regulatory processes. These two agencies have employees that monitor compliance with laws and regulations. All three agencies plus NC State University, and the county extension centers, to some extent, provide education and training to consumers and professionals. Types of education and training vary -- from farmers learning to reduce the risk of spreading animal disease to consumers learning the proper food handling methods to avoid cross contamination.



Livestock Market Testing

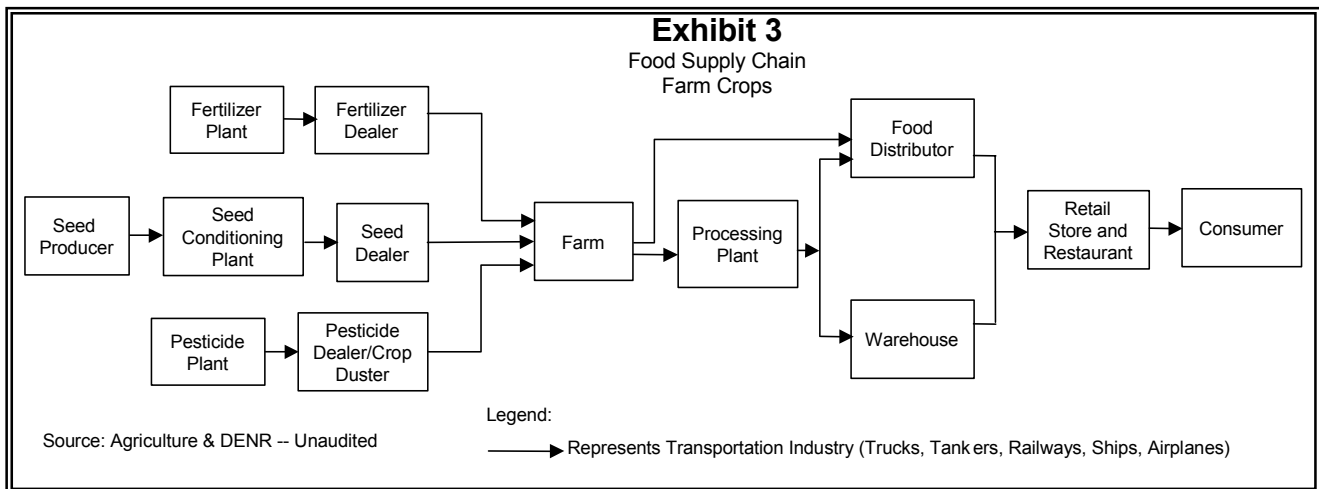
² Appendix C, page 41 lists all the states and the reported salmonella illnesses nationwide.

SYSTEM OVERVIEW

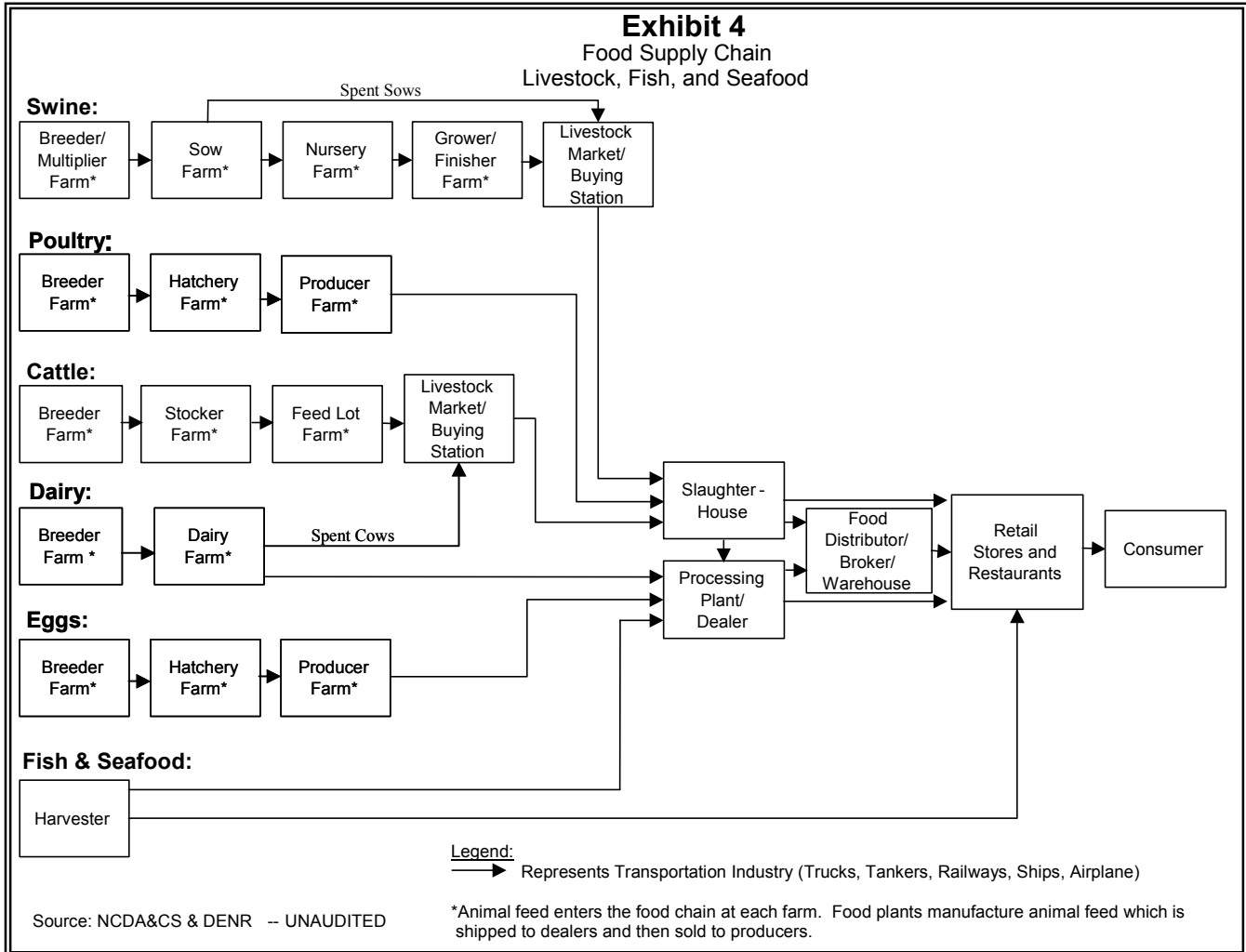
Detection processes are built into some of the regulatory functions and in the surveillance methods used by Agriculture and DHHS. DHHS has a surveillance network for monitoring foodborne illness outbreaks that includes the county health departments, the medical profession, and laboratory facilities. There are laws requiring laboratories and medical professionals to report certain diseases (salmonella, E Coli, listeria, botulism) to DHHS. These reportable diseases are monitored to identify foodborne illness outbreaks. Other laws require veterinarians to report animal diseases to Agriculture. Agriculture is responsible for surveillance of animal disease outbreaks and plant and apiary pest infestation.

Response activities for foodborne outbreaks involve all three agencies and the county health departments, with Agriculture also responding to animal disease outbreaks and pest infestations. Local and State law enforcement will respond when illegal acts are detected and Emergency Management is involved when a disaster occurs. DHHS, DENR, and Agriculture assist the counties in conducting investigations of foodborne illness outbreaks. Investigations include surveying sick individuals and their family members, gathering samples from food and sick individuals for testing at the State laboratory, and attempting to identify the sources of the outbreak. For animal diseases and pest infestation, Agriculture will survey farmers, gather samples, quarantine areas to contain spreading, try to identify the source, and eradicate plant and apiary pests.

Exhibits 3 and 4 shows simplistic views of the different facets of our food supply system and how food flows from the farm to the consumer.



SYSTEM OVERVIEW



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What action has the State taken to prevent, detect, and respond to food terrorist acts?

ACTIONS TAKEN

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ACTIONS TAKEN

Even before the events of September 2001, North Carolina had taken steps to review the food supply chain to identify and address the threat of agro-terrorism. Those efforts have been intensified since 2001 and cooperation and coordination among the various agencies has increased. Below we have listed the major actions taken to improve preventing, detecting, and responding to the threat of terrorism by the government task forces involved in food safety and the State Departments of Agriculture, Health and Human Services, and Environment and Natural Resources. This is not an all-inclusive list of State government actions against agro-terrorism.

1. THE GOVERNOR'S ANTI-TERRORISM PREPAREDNESS TASK FORCE is responsible for addressing security against all types of terrorism in North Carolina including food safety.

Task Force members included:

- Department of Crime Control and Public Safety--Divisions of Highway Patrol, National Guard, Emergency Management, and Alcohol Law Enforcement;
- Department of Health and Human Services (DHHS)--Division of Public Health;
- Department of Environment and Natural Resources (DENR);
- Department of Agriculture and Consumer Services (Agriculture)--State Veterinarian's Office;
- Department of Transportation--Division of Motor Vehicles;
- Department of Insurance--State Fire Marshall's Offices;
- Department of Justice--State Bureau of Investigation;
- Information Technology Services; and
- UNC School of Public Health.

The purpose of the Task Force is to assess North Carolina's current preparedness and response capabilities, make recommendations for strengthening our most immediate needs, pull together all the different agencies to provide coordination of efforts, and share knowledge on all agencies' individual efforts to better coordinate the remaining needs.

Some accomplishments of the Task Force related to food safety include:

- Obtaining State emergency funds from the North Carolina General Assembly to meet immediate critical shortfalls in the State's terrorism response capabilities, with authority to access up to \$30 million if necessary.
- Coordination between agencies in sharing information and resources including Agriculture's Multi-Hazard Threat Database Geographical Information System.
- Improved communication among State agencies.
- NC Terrorism Vulnerability Self-Assessment Tool.

While work has continued to identify and improve preparedness and response, the Task Force stopped holding official meetings after October 2001 because of the sensitivity of the information.

ACTIONS TAKEN

2. The INTER-AGENCY TASK FORCE ON FOOD SECURITY identified the need to develop regulations/guidelines for the trucking industry.

DHHS, DENR, and Agriculture recognized the need to create the Inter-Agency Task Force on Food Security to be able to learn from and share with each other. This Task Force was established to improve communication among agencies responsible for aspects of food safety and between government and private industry. The members share information in an attempt to identify and fill any gaps in the State's food safety system. Members of the Task Force include:

- State Agencies: DHHS, DENR, and Agriculture;
- Federal Agencies: US DHHS, Food and Drug Administration and USDA, Food Safety Inspection Services;
- Universities: NC State University;
- Private Industry: Grocery Stores, Bottled Water Company, Lobbyists, and Farm Owners; and
- Food Associations: NC Restaurant Associations, and Dairy Producer Association.

The Task Force identified security issues in the trucking industry as an area of weakness. There are little, if any, regulations or guidelines for this industry regarding employee background checks, and physical security of trucks or loading and unloading docks.

3. The DEPARTMENT OF AGRICULTURE AND CONSUMERS SERVICES, EMERGENCY PROGRAMS DIVISION has taken steps to reduce the risk of terrorist acts.

To address the issues identified by the Task Force and other vulnerabilities, the Department of Agriculture established the Emergency Programs Division. The division's purpose is to reduce the vulnerability to, or the impact from, any disaster, disease, or terrorist attack on the agriculture community of North Carolina. This division, along with others in Agriculture, has taken several steps to improve the prevention, detection, and response to agro-terrorism, including:

- Developed "North Carolina Food Retailers – Terrorism Preparedness" Compact Disc (CD). The CD includes "Terrorism Threat Vulnerability Self Assessment Tool" and "Terrorism Threat Reduction Tool." This information has been presented to the food retailers and law enforcement at the state, county and local levels and to public health departments.
- Published and disseminated brochures to the agriculture community entitled "Terrorism: North Carolina Agribusiness on Guard" and "Terrorism and North Carolina Farmers".
- Developing a Multi-Hazard Threat Database Geographical Information System computer database. The system houses key infrastructure and agriculture data, along with vulnerability and risk information.
- Developed a Foreign Animal Disease Plan and a Multi-Hazard Response Plan. The plans outline responding to any natural or man-made disaster in the agriculture community.
- Assisting County Animal Response Teams (CARTs) to develop response plans and coordinate CARTS with private practitioners, Public Health Regional Surveillance Teams, and the State's HazMat teams.

ACTIONS TAKEN

- Constructing a Biosafety Level 3 laboratory. The laboratory will conduct tests for animal agents that may cause serious or potentially lethal disease.
- Providing a veterinarian to serve on each public health regional surveillance team.

Agriculture has taken aggressive steps to educate local, county, and State government personnel as well as private industry personnel. Conferences were held in December 2001 with food retail firms to review their efforts to protect against terrorist acts and to assist them with implementing the *Terrorism Vulnerability Self-Assessment Tool* and the *NC Threat Reduction Plan*. However, the State's budget crisis has negatively affected Agriculture's preparedness educational outreach programs. Due to budget constraints, a major event to be held in May 2002, the NC Agriculture Bio-Security Symposium, was cancelled. This event would have addressed issues relating to bio-terrorism and foreign animal diseases and would have brought together commodity groups to identify vulnerable areas and what measures could be taken for improving security in their respective industries.

4. The DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DAIRY AND FOOD RETAIL SECURITY SUBCOMMITTEES³ has developed guidelines for the dairy industry.

In order to address agro-terrorism, DENR has worked diligently with the dairy industry (fluid milk) to reduce the risk of terrorist activities. DENR helped establish and is a member of the Dairy Security Subcommittee. Members of the subcommittee include individuals from farm production, transportation and hauling, processing, distribution, retail, regulatory, laboratory, academia, and extension services. This subcommittee reviewed each aspect of the dairy industry and assessed vulnerabilities at each level. The subcommittee developed voluntary guidelines for each level of the industry. DENR is also working with food retailers, including restaurants, to improve security at their establishments. The assessment tool is being tailored to the food retailers' industry. The tool will be used to identify vulnerable areas, to develop voluntary security guidelines, and provide educational opportunities.

At the time of the review no state-level security guidelines have been developed for the shellfish sanitation program. The shellfish sanitation program follows federal guidelines on prevention, detection, and response to terror attacks. No State action has been taken to assist the industry in identifying vulnerabilities and providing additional guidelines for security against intentional contamination.



Shellfish Inspection

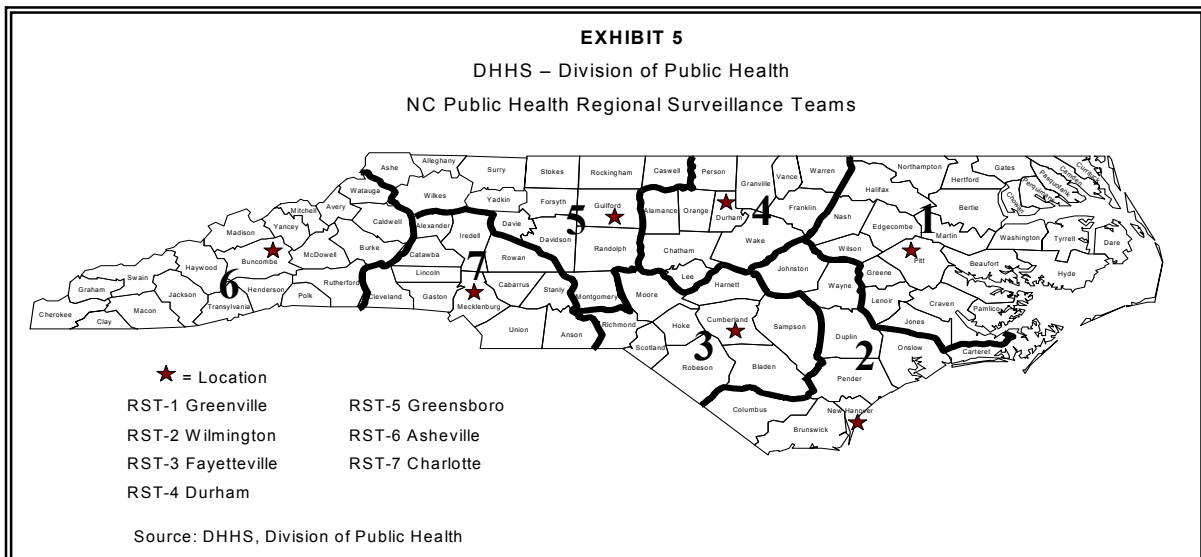
³ of the Interagency Task Force on Food Security Committee.

ACTIONS TAKEN

5. The DEPARTMENT OF HEALTH AND HUMAN SERVICES has obtained federal funds to improve bioterrorism preparedness and surveillance methods.

The Division of Public Health worked vigorously to obtain a \$22.9 million grant from the U.S. Department of Health and Human Services for enhancing bioterrorism preparedness and disease surveillance methods, including surveillance of foodborne illnesses in North Carolina. Public Health established the Office of Public Health Preparedness and Response, which is responsible for working with local governments and citizens to improve bioterrorism preparedness. This includes:

- Developed a computer system surveillance application for rapid communication between local, state, and federal governments. This includes the direct report of disease test results to local, county, state, and federal officials, alerting individuals by pager, fax, and/or email when there is a notification that needs their attention.
- Created seven Public Health Regional Surveillance teams located in seven county health departments as shown in Exhibit 5. Teams consist of Physician/Epidemiologist, Environmental Health Specialist/Industrial Hygienist, Nurse/Disease Investigation Specialist, veterinarian, and management support staff. The regions mirror the Division of Emergency Management HazMat regional teams for enhanced coordination. The purpose of these teams is to prepare to detect the release of bioterrorism agents as early as possible and take aggressive control measures to prevent the spread of deadly infections or chemical exposures.
- Expansion of the Biosafety Level 3 laboratory, testing agents that may cause serious and potentially lethal infection through inhalation such as anthrax. Also, added three branch laboratories.
- Developing a master plan that would identify, define, and prioritize surveillance activities statewide.



The Department plans to spend 77% (approximately \$17.7 million) of the federal funds at the local level since they would be the first to detect and respond to deliberate acts of food contamination. Funds will be used to develop and maintain a bioterrorism preparedness plan, provide training to the healthcare community, fund seven regional surveillance teams, and allow local responders to participate in State conducted training exercises.

***Are there issues
that need to be
studied further?***

ISSUES FOR FURTHER STUDY

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ISSUES FOR FURTHER STUDY

North Carolina has done much to bolster our food safety system since the events of September 2001. Even prior to that, North Carolina had a good system in place for assuring the safety of food products. However, as we gathered the information to assist GAO in its study, we did note a number of areas in North Carolina that we believe warrant further study. We briefly describe those issues in this section.

1. The State has limited enforcement actions that can be taken when violations are cited at a food establishment.

Currently, North Carolina's food safety agencies' enforcement tools are limited to warning letters, food embargo, or closing down a food processor or establishment, except Agriculture's Meat and Poultry Director can assess fines of up to \$5,000 for violations. Closing down a processor or establishment may require court action. Food embargos and closures occur for major offenses only, while a minor offense may receive a letter or no enforcement action. Such limited actions may weaken the food safety system. Some States, such as Florida and Georgia, assess fines for violations in an attempt to deter or reduce repeat offenses. Florida's fines range from \$1,000 to \$10,000. Table 4 shows the number of violations cited by North Carolina's food safety agencies for the last two fiscal years, and the enforcement actions taken for random inspections⁴.

	Agriculture Food Inspections		Agriculture Meat & Poultry Compliance		DENR Shellfish Inspections	
	FY01	FY02	FFY00	FFY01	FY01	FY02
Violations	969	935	26	41	6,293	6,041
Enforcement Total ¹	975	923	45	71	37	51
Warning Letters	157	131	16	37	3	6
Food embargo	587	569	26	28	7	16
Court Action	0	0	3	6	0	0
Food recall	18	13	0	0	0	2
Closures	108 ³	206 ³	0	0	27 ²	27 ²

1. A violation may generate more than one enforcement action.
 2. Average estimate by DENR Shellfish program.
 3. Frozen dairy machines closures
 Source: Agriculture and DENR—UNAUDITED

⁴ Random inspections do not include the results of Meat and Poultry Inspectors since they are stationed at the same plants daily and inspect all products slaughtered. Fines of up to \$5,000 can be assessed for violations.

ISSUES FOR FURTHER STUDY

2. There are inconsistencies in the frequency of inspections and sample collections that could hamper the effectiveness of the food safety system.

2a. Some venues where food is served are not required to obtain sanitation inspections or permits.

Most establishments that serve food, as well as events where food is served, must have a permit⁵ to serve food and undergo regular sanitation inspections. However, GS 130A-250 allows certain food establishments and certain events serving food to bypass any type of food inspection. This legislation results in

Establishment or Event	Number of	
	Events	People Served
Private Clubs	621	364,480
Service to elderly residence of 12 or less	1,379	15,829
Private homes offering lodging & board for special events	319	361
Boarding houses	278	25,555
Continental breakfast in hotels and motels	820	3,043,642
Charitable and political fund raising events	11,462	1,364,261
Total	14,879	4,814,128

Source: DENR and OSA--UNAUDITED

gaps in service and creates inconsistencies since businesses that serve similar foods to the public must be inspected or obtain permits to sell food. No State agency or central point has a complete listing of the special

food establishments or events that do not require inspections or permits. Based on a survey of county public health departments conducted by DENR, the estimated number of these venues and people served is shown in Table 5.

2b. Home food processors are not required to be inspected annually.

The Department of Agriculture's policy requires that food processors be inspected annually; however, this policy does not apply to home food processors. Home food processors make food products in their homes to sale to the public. These processors are only inspected prior to opening business, unless the food safety inspector deems it necessary to re-inspect them or unless a complaint is received. Agriculture has established the policy of only an initial inspection to help reduce the workload of the food specialists since current staffing is limited. However, the policy creates inconsistencies since businesses processing similar foods being sold to the public, such as a bakery, must have regular inspections. This policy also increases the risks to the public from improperly prepared food.

⁵ Must receive a sanitation inspection prior to serving food to obtain a permit.

ISSUES FOR FURTHER STUDY

2c. The farm-to-school and the gleaning⁶ programs are not subject to any type of food or pesticide testing.



Lab Tests for Contamination

Most food in North Carolina is subject to random sample testing by Agriculture to ensure safety and wholesomeness. However, there are two programs, the farm-to-school and the gleaning programs, where inspectors are not collecting samples for food or pesticide testing due to limited staffing. These programs provide produce directly from farms to schools or non-profit

organizations without undergoing any kind of inspections or processing. The schools and non-profits participating in these programs provide the produce to children and elderly persons, two groups most vulnerable to foodborne illness. On average, 45 to 50 school systems participate in the farm-to-school program annually. The gleaning program makes between 175 to 200 deliveries each year to seven food banks and several non-profit organizations throughout the State.

3. Staffing shortages, lack of risk assessment tools, and lack of comprehensive lists of establishments requiring inspections hamper the effectiveness of the food safety program.

3a. There are only 25 Agriculture food specialists responsible for periodic food safety and sanitation inspections at 8,163 identified food and beverage facilities.

State level food safety and sanitation inspections at 8,163 identified food and beverage facilities are conducted on a quarterly, semi-annual, annual, or bi-annual basis depending on the type of food being processed. Facilities inspected include warehouses, processing plants, distributors, and retail establishments. Table 6, page 28 shows the various establishments and the rate of completion for required inspections. In calendar year 2001, Agriculture was able to complete only 84% of required inspections (6,612 inspections of 7,888 required) at known facilities. Appendix D, on page 43, details specific inspection information. For example, there are 1,013 grocery stores required to be inspected annually. Records indicate the 25 Agriculture inspectors were able to complete 860

⁶ The gleaning program is secondary harvested produce donated by farmers to non-profit organizations to feed low income, elderly, and homeless individuals.

ISSUES FOR FURTHER STUDY

inspections, 85% of those required. The lack of resources is due to limited funding and reductions during the recent budget crisis.

Establishment Type	Inspections Completed	
	Number	% of Total
Frozen Desserts	2,290	109%
Retail Stores (grocery, ethnic food, convenience, department, drug, health food stores, etc.)	2,076	65%
Specialty stores (bakeries, candy, dip ice cream, popcorn, coffee shops, etc.)	824	84%
Warehouses and Distributors	388	117%
Processed foods (canneries, sandwiches, salads, nuts, grains, candy, etc.)	357	84%
Meat and seafood markets/processors (excludes shellfish processing plants)	310	57%
Home food processors	170	*
Beverages (bottled water, soft drinks, ice, coffee, tea, alcohol, etc.)	136	84%
Manufactured milk products	53	40%
Roadside vendors, farmer markets, and flea markets	8	47%
Total	6,612	84%
* Inspected once prior to opening		
Source: Agriculture--UNAUDITED		

3b. There are only 5 certified egg inspectors for the entire State.

As of July 1, 2002, Agriculture has only five⁷ certified egg inspectors who are responsible for conducting inspections at all places that serve, store, or sell eggs. Establishments to be inspected include the list in Table 6 plus nursing homes, schools, summer camps, and hospitals. The certified egg inspectors also conduct quarterly surveillances⁸ at all egg plants and egg packers in North Carolina. It is virtually impossible for only five certified egg inspectors to conduct annual inspections and quarterly surveillances at all these establishments. The inspectors entered 3,840 facilities to conduct inspections and surveillances during calendar year 2001. We are unable to determine what percentage of establishments were not inspected since there is no master list of all places selling, storing, or serving eggs.

⁷ Due to the budget crisis, Agriculture management had to reduce the number of certified egg inspectors from seven to five.

⁸ Surveillance is a sanitation and egg inspection conducted through an agreement with the U.S. Department of Agriculture.

ISSUES FOR FURTHER STUDY

3c. Agriculture has no bilingual food specialists conducting inspections.

Food specialists are also responsible for inspecting ethnic stores. Both the Hispanic and Asian populations have rapidly increased in North Carolina over the last 10 years (Table 7). However since there are no bilingual inspectors, communication barriers could limit the effectiveness of these inspections. During calendar year 2001, records show that Agriculture conducted 131 inspections (78%) at known ethnic stores throughout North Carolina.

Ethnic Origin	Census Year		Increase
	1990	2000	
Total Asian	49,970	113,689	128%
Chinese	8,859	18,984	114%
Asian Indian	9,847	26,197	166%
Vietnamese	5,211	15,596	199%
Other Asian	26,053	52,912	103%
Total Hispanic	76,726	378,963	394%
Mexican	32,670	246,545	655%
Puerto Rican	14,620	31,117	113%
Cuban	3,723	7,389	98%
Other Hispanic	25,713	93,912	265%

Source: US Census Bureau

3d. The county food sanitation inspection program is understaffed.

County	%	County	%	County	%	County	%
Alamance	100	Cumberland	100	Johnston	100	Randolph	100
Alexander	100	Currituck	100	Jones	40	Richmond	100
Alleghany	99	Dare	100	Lee	100	Robeson	100
Anson	100	Davidson	100	Lenoir	100	Rockingham	100
Ashe	67	Davie	100	Lincoln	100	Rowan	100
Avery	97	Duplin	97	Macon	100	Rutherford	100
Beaufort	100	Durham	89	Madison	78	Sampson	100
Bertie	68	Edgecombe	52	Martin	43	Scotland	100
Bladen	100	Forsyth	68	McDowell	100	Stanly	100
Brunswick	100	Franklin	88	Mecklenburg	65	Stokes	99
Buncombe	95	Gaston	100	Mitchell	95	Surry	100
Burke	85	Gates	72	Montgomery	100	Swain	100
Cabarrus	73	Graham	100	Moore	73	Transylvania	100
Caldwell	81	Granville	99	Nash	90	Tyrrell	100
Camden	100	Greene	84	New Hanover	86	Union	100
Carteret	77	Guilford	99	Northhampton	96	Vance	83
Caswell	98	Halifax	42	Onslow	100	Wake	63
Catawba	99	Harnett	82	Orange	70	Warren	97
Chatham	51	Haywood	100	Pamlico	67	Washington	91
Cherokee	88	Henderson	100	Pasquotank	99	Watauga	100
Chowan	100	Hertford	52	Pender	93	Wayne	100
Clay	63	Hoke	100	Perquimans	100	Wilkes	100
Cleveland	86	Hyde	90	Person	58	Wilson	99
Columbus	66	Iredell	100	Pitt	97	Yadkin	99
Craven	79	Jackson	91	Polk	74	Yancey	71

Source: DENR--UNAUDITED

The county food sanitation inspection program is supervised by DENR and administered by County Public Health Departments. Counties are responsible for quarterly food sanitation inspections at several types of food establishments. (See Appendix A, page 35.) Table 8 shows that 55 counties were not able to complete 100% of their required food inspections during fiscal year 2000-01. (Data for fiscal year 2001-02 was not

available at the time of this review.) Of the 55 counties that did not meet their inspection requirements, on average only 80% of food establishment inspections were completed. In some counties, the county inspectors may be responsible for

ISSUES FOR FURTHER STUDY

all environmental programs including food and lodging inspections, lead poisoning investigations, septic tank inspections, and plan reviews. For many counties, a higher emphasis is placed on septic tank inspections since that is tied to growth for the county.

3e. There are no formal risk-based assessments to identify adequate inspection frequencies to maximize inspection efforts.

None of the State's regulatory programs use a formal risk-based approach for determining the frequency of inspections needed at a given food establishment. Instead, there are formal, statutory requirements for quarterly, semi-annual, or annual inspections. As mentioned previously, inspectors are unable to conduct all required inspections. Using a risk-based method would allow inspectors to focus efforts on establishments with a history of repeat problems, especially those that could be most detrimental to citizens' health. Statutory changes would be required to allow risk-based assessments.

3f. Some regulatory programs do not provide inspectors with a master list of all establishments needing inspections.

We were unable to locate master lists for the Egg Regulatory and Apiary Inspection programs. Also, Seed and Fertilizer Inspectors are not provided a master list of establishment needing inspections even though master lists exist. Without a master list, it is difficult to ensure all establishments are being inspected at appropriate intervals for periodic or random inspections or sample collections.

4. A lack of technological resources and antiquated laboratory equipment could adversely impact the food safety program.

4a. Agriculture food safety inspectors performing similar duties are not similarly equipped.

Agriculture has many decentralized employees that travel throughout the State conducting inspections or providing assistance. Table 9, page 31, lists the types of employees and discrepancies between technological equipment provided to them. For example, Poultry Animal Health Technicians do not have State cell phones; instead, they use their personal cell phones to conduct work related business. Livestock Animal Health Technicians are, on the other hand, assigned State cell phones to use in their work. Increased availability of technology, such as cell phones and computers, could offer considerable savings to the State in terms of time and reduction of paperwork. Also, the availability of cell phones in remote areas would increase the safety of these State employees.

ISSUES FOR FURTHER STUDY

TABLE 9
NC Agriculture & Consumer Services
Technology Resources for
Employees with Home Duty Station

Position	Number of			
	Staff	Cell Phones	Lap Top Computers	Desk Top Computers
Animal Health Technician (Poultry)	13	0	0	0
Animal Health Technician (Livestock)	17	17	0	17
Meat & Poultry Compliance Officer	4	4	4	4
Food Regulatory Specialist	26	26	0	21
Egg Regulator	4	0	4	0
Pesticide Inspector	21	21	3	19
Feed Inspector	6	0	0	5
Seed Inspector	5	1	0	5
Fertilizer Inspector	7	7	0	7
Apiary Inspector	6	6	0	6
Plant Pest Specialist	19	19	0	19
Veterinary Medical Officer	8	8	1	7
Agriculture Marketing Specialist	2	0	0	1

Sources: Agriculture--UNAUDITED

4b. Many of the State’s laboratories are outdated and cannot provide needed tests.

Agriculture has a central laboratory in Raleigh and five satellite laboratories in various locations throughout the State, referred to as the Animal Disease Diagnostic Laboratory System. An independent study of Agriculture’s Veterinary Division laboratories was conducted in August 2002⁹. The study recommended closing the laboratory located in Robbins, which specializes in poultry testing, but retaining the field investigations functions. The study found that the laboratory would not pass accreditation and would require substantial expenditures to update the building, equipment, and provide a biosecure system. Closure of this lab would have a significant impact on testing conducted by Agriculture and services provide to the agriculture industry.

The second major finding from this study was that industry members are paying out-of-state laboratories to obtain needed tests because Agriculture’s laboratory system does not meet their needs for rapid electronic test results. As a result, test results from these private labs are not available to the State Veterinarian for surveillance and monitoring of animal diseases. Surveillance is an important part of the detection phase of a food safety system. Early detection allows for a quicker response, which could reduce herd or flock loss and minimize the impact on the food supply.

⁹ This was an evaluation of the Agriculture’s Veterinary laboratories conducted by Donald H. Lein, D.V.M., PhD, August 30, 2002.

ISSUES FOR FURTHER STUDY

A review of the fixed asset inventory list located in the Agriculture laboratories shows 92 pieces of laboratory equipment that is 25 years old or older. For example, an incubator purchased in 1958 is still in use at the Food and Drug Division's laboratory. A legislative study of the status of equipment in the State Laboratory of Public Health (March 2002) was recently completed. This study also showed outdated equipment. The State Laboratory of Public Health has 14 pieces of equipment purchased at least 25 years ago. A complete list of equipment over 25 years old, showing historical cost and purchase date, is contained in Appendix E, page 45. As summarized in Table 10, 12% of Agriculture's and 6% of State Laboratory's equipment was purchased prior to 1978. Using outdated equipment could hamper both the performance of employees and the accuracy of tests results. Additionally, this could also place the employees at risk should there be catastrophic failure of the equipment.

	Total Equipment		Purchased prior to 1978	
	Number	Historical Cost	Number	Historical Cost
Veterinary Laboratory	419	7,984,353	52	76,163
Food & Drug Laboratory	380	3,462,097	40	40,052
State Laboratory Public Health	243	6,556,838	14	180,757
Total	1042	18,003,288	106	296,972
Source: Agriculture--UNAUDITED				

5. The General Assembly should consider studying the present food safety system to determine if the structure could be improved.

In conducting this review of North Carolina's food safety system, we noted areas where we believe it may be possible to improve coordination. We also noted other areas where we believe regulation and inspections functions might be consolidated to more effectively ensure the safety of North Carolina's food supply. See Appendix A, page 35. As indicated earlier, it is conceivable that four different food safety inspectors may visit the same facility within a year for different purposes, some of which seem to overlap. We did not have the resources necessary to conduct a thorough audit of these areas. This is an area where the General Assembly may want to conduct a thorough review.

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APPENDICES

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APPENDICES

APPENDIX A

The table lists food regulatory and laboratory personnel from the county health department, NC Department of Agriculture and Consumer Services (Agriculture), Department of Environment and Natural Resources (DENR) and Department of Health and Human Services (DHHS). It shows the establishment entered, the personnel designated to conduct inspections or obtain samples, and the agency that tests specific food commodities.

APPENDIX A List of Food Regulatory and Laboratory Personnel																
Description	County Sanitation Inspectors	DENR						NCDA&CS								DHHS
		Dairy and Food Protection	Shellfish Inspector	Shellfish Laboratory	Water Quality	State Institution Inspectors	Childcare Center Inspectors	Meat & Poultry Inspectors	Food Specialists	Egg Regulators	Seed Inspectors	Fertilizer Inspectors	Food Distribution ¹	Meat & Poultry Compliance Officers	Laboratory	State Laboratory Public Health
Restaurants	Sanitation & Safety inspection	Authorization and Advisory Capacity							Ice cream Machine: Sanitation	Eggs: Sanitation, safe & proper label				Wholesome, Safe, sanitary, proper label	Ice cream	
Hotels/Motels/Bed and Breakfast	Sanitation & Safety inspection	Authorization and Advisory Capacity												Wholesome, Safe, sanitary, proper label	Complaint basis only	
Bagel/Donut Shop	Sanitation & Safety inspection	Authorization and Advisory Capacity							Wholesome, Safe, sanitary, proper label	Eggs: Sanitation, safe & proper label					Complaint basis only	
Ice Cream Shop	Safety & Sanitation if selling food items other than ice cream products	Authorization and Advisory Capacity							Sanitation inspection						Frozen dairy desserts	Test all foods if they are related to a food borne disease outbreak
Retail Bakeries	Safety & Sanitation if selling sandwiches and food items other than baked goods	Authorization and Advisory Capacity							Wholesome, Safe, sanitary, proper label	Eggs: Sanitation, safe & proper label					Complaint basis only	
Vending Machines									Complaint basis only						Complaint basis only	
Coffee Shop	Safety and Sanitation inspection if serving in washable cups	Authorization and Advisory Capacity							Sanitation inspection							

APPENDICES

APPENDIX A

APPENDIX A (continued)

List of Food Regulatory and Laboratory Personnel

Description	County Sanitation Inspectors	DENR						NCDA&CS						DHHS		
		Dairy and Food Protection	Shellfish Inspector	Shellfish Laboratory	Water Quality	State Institution Inspectors	Childcare Center Inspectors	Meat & Poultry Inspectors	Food Specialists	Egg Regulators	Seed Inspectors	Fertilizer Inspectors	Food Distribution ¹	Meat & Poultry Compliance Officers	Laboratory	State Laboratory Public Health
Seafood Market			Safety & sanitation If purchase directly from harvester or shipping out of state	Test only what shellfish inspectors are required to inspect				Wholesome, Safe, sanitary, proper label								
Grocery Stores	Deli & Meat sanitation inspection	Authorization and Advisory Capacity						Wholesome, Safe, sanitary, proper label	Eggs: Sanitation, safe & proper label. Bagged Apples & peaches for proper label					Wholesome, Safe, sanitary, proper label		
Pushcarts/Mobile Food Units/Food Stands	Safety and Sanitation inspection	Authorization and Advisory Capacity												Wholesome, Safe, sanitary, properly labeled	Test random samples of any food commodity or product stored, sold, produced or manufactured (except shellfish and fluid milk)	
Convenient Stores	Safety and Sanitation if selling hot food items	Authorization and Advisory Capacity						Wholesome, Safe, sanitary, proper label	Eggs: Sanitation, safe & proper label					Wholesome, Safe, sanitary, proper label		
Farmer/Flea Markets	If temporary food stand Safety & Sanitation inspection only to obtain permit	Authorization and Advisory Capacity						Wholesome, Safe, sanitary, proper label						Wholesome, Safe, sanitary, proper label		
Beverage Manufacturers								Wholesome, Safe, sanitary, proper label								

APPENDICES

APPENDIX A

APPENDIX A (continued)

List of Food Regulatory and Laboratory Personnel

Description	County Sanitation Inspectors	DENR						NCDA&CS						DHHS		
		Dairy and Food Protection	Shellfish Inspector	Shellfish Laboratory	Water Quality	State Institution Inspectors	Childcare Center Inspectors	Meat & Poultry Inspectors	Food Specialists	Egg Regulators	Seed Inspectors	Fertilizer Inspectors	Food Distribution ¹	Meat & Poultry Compliance Officers	Laboratory	State Laboratory Public Health
Food Processing Plants/Canneries/Creameries		Wholesome, Safe, sanitary, properly labeled at Creameries/Dairy Plants	Wholesome, Safe, sanitary, properly labeled at Shellfish Plants	Test random samples of shellfish commodities				Wholesome, Safe, sanitary, proper label at Meat and Poultry plants	Wholesome, Safe, sanitary, proper label at food processing plants (except shellfish and fluid dairy)	Sanitation, safe & proper label at Egg plants				Wholesome, Safe, sanitary, proper label at Meat and Poultry plants		
Meat & Poultry Slaughterhouses								Wholesome, Safe, sanitary, proper label						Wholesome, Safe, sanitary, proper label		
Food Warehouses/Distributors									Wholesome, Safe, sanitary, proper label	Eggs: Sanitation, safe & proper label			Administrative Review ²	Wholesome, Safe, sanitary, proper label		
Dairy Farms		Wholesome, Safe, sanitary, properly labeled							Wholesome, Safe, sanitary, proper label							
Nursing Homes/Hospital	Safety and Sanitation for Private Institutions	Authorization and Advisory Capacity					Safety & Sanitation if State Institutions			Eggs: Sanitation, safe & proper label				Wholesome, Safe, sanitary, proper label		
Hospital Cafeterias that serves public and patients	Sanitation Inspection	Authorization and Advisory Capacity					Advisory Capacity			Eggs: Sanitation, safe & proper label				Wholesome, Safe, sanitary, proper label		
Home Care Facilities	Sanitation and Safety inspection	Authorization and Advisory Capacity					Authorization and Advisory Capacity			Eggs: Sanitation, safe & proper label				Wholesome, Safe, sanitary, proper label		
Schools	Sanitation and Safety inspection	Authorization and Advisory Capacity					Authorization and Advisory Capacity			Eggs: Sanitation, safe & proper label			Administrative Review ²	Wholesome, Safe, sanitary, proper label		

APPENDICES

APPENDIX A

APPENDIX A (continued)

List of Food Regulatory and Laboratory Personnel

Description	County Sanitation Inspectors	DENR						NCDA&CS						DHHS	
		Dairy and Food Protection	Shellfish Inspector	Shellfish Laboratory	Water Quality	State Institution Inspectors	Childcare Center Inspectors	Meat & Poultry Inspectors	Food Specialists	Egg Regulators	Seed Inspectors	Fertilizer Inspectors	Food Distribution ¹	Meat & Poultry Compliance Officers	Laboratory
Food Banks/Food Pantries								Wholesome, Safe, sanitary, proper label	Eggs: Sanitation, safe & proper label			Administrative Review ²	Wholesome, Safe, sanitary, proper label		
State Institutions (univ, DOC facilities, juvenile detention Ctr)	May provide assistance to State Inspectors					Sanitation and Safety inspection			Eggs: Sanitation, safe & proper label			Administrative Review ²	Wholesome, Safe, sanitary, proper label		
Child Care Centers	Sanitation and Safety inspection						Authorization and Advisory Capacity		Eggs: Sanitation, safe & proper label				Complaint basis only		
Temporary Events	Sanitation Inspection	Authorization and Advisory Capacity							Eggs: Sanitation, safe & proper label						
Agricultural Supply Dealers/Retailers										Samples Seed	Samples Fertilizer			Test Seeds and Fertilizer	
Milk Testing		Collect Samples												Test Non-Grade A	Test Grade A
Water sample/testing	Sample drinking water	Authorization and Advisory Capacity	Sample shellfish harvest and recreation area		Sample recreation area only		Authorization and Advisory Capacity							Test bottle water only	Test Water Samples

Legend:

1. Food distribution reviews these entities only if they receive USDA commodities
2. Administrative Reviews include record-keeping, storage practices utilization, and accountability of USDA commodities

Source: NCDA&CS, DENR, and DHHS –UNAUDITED

APPENDICES

APPENDIX B

To develop the Table below, we reviewed the U.S. Department of Health and Human Services, Food and Drug Administration website and obtained information from North Carolina’s Department of Agriculture and Consumer Services, Department of Environment and Natural Resources, and Department of Health and Human Services. The Table reflects states’ organizational food safety structures. Programs administered by the agencies listed below are: Meat & Poultry, Eggs, Feed, Food Production, Retail Food Service, Dairy, Shellfish, Seed, Fertilizer, Pesticides, and Laboratory Food Analysis.

APPENDIX B States' Food Safety Agencies			
State	Food Program Agencies	State	Food Program Agencies
Alabama	Dept. of Agriculture & Industries	Missouri	Dept. of Agriculture
	Dept. of Public Health		Dept. of Health & Senior Services
Alaska	Dept. of Environmental Conservation	Montana	State Milk Board
	Dept. of Health & Social Services		Dept. of Agriculture
	Dept. of Natural Resources		Dept. of Livestock
Arizona	Dept. of Agriculture	Nebraska	Dept. of Public Health & Human Services
	Dept. of Health Services		Dept. of Agriculture
Arkansas	Dept. of Health	Nevada	Dept. of Health & Human Services
	Livestock and Poultry Commission		Dept. of Agriculture
	State Plant Board		Dept. of Human Resources
California	Dept. of Food and Agriculture	New Hampshire	Dept. of Agriculture, Markets & Food
	Dept. of Health Services		Dept. of Health & Human Services
	State Environmental Protection Agency		State Agricultural Experiment Station
Colorado	Dept. of Agriculture	New Jersey	Dept. of Agriculture
	Dept. of Public Health & Environment		Dept. of Environmental Protection
Connecticut	Dept. of Agriculture	New Mexico	Dept. of Health & Senior Services
	Dept. of Consumer Protection		Dept. of Agriculture
	Dept. of Public Health		Dept. of Environment
	State Agricultural Experiment Station		Dept. of Health
Delaware	Dept. of Agriculture	New York	Livestock Board
	Dept. of Health & Social Services		Dept. of Agriculture & Markets
	Dept. of Natural Resources & Environmental Control		Dept. of Environmental Conservation
District of Columbia	Dept. of Consumer & Regulatory Affairs	North Carolina	Dept. of Health
	Dept. of Health		State Agricultural Experiment Station
Florida	Dept. of Agriculture & Consumer Services	North Dakota	Dept. of Agriculture & Consumer Services
	Dept. of Business & Professional Regulations		Dept. of Environment & Natural Resources
	Dept. of Health		Dept. of Health and Human Services
Georgia	Dept. of Agriculture	Ohio	Dept. of Agriculture
	Dept. of Human Resources		Dept. of Health
	Dept. of Natural Resources		Dept. of Agriculture
Hawaii	Dept. of Agriculture	Oklahoma	Dept. of Health
	Dept. of Health		Dept. of Agriculture
Idaho	Dept. of Agriculture	Oregon	Dept. of Health
	Dept. of Health & Welfare		Dept. of Agriculture
			Dept. of Human Services

APPENDICES

APPENDIX B

APPENDIX B (continued) States' Food Safety Agencies			
State	Food Program Agencies	State	Food Program Agencies
Illinois	Dept. of Agriculture	Pennsylvania	Dept. of Agriculture
	Dept. of Natural Resources		Dept. of Health
	Dept. of Public Health		Rhode Island
Indiana	Dept. of Health	South Carolina	Dept. of Health
	Purdue University – State Chemist		Clemson University
	State Board of Animal Health		Dept. of Health & Environmental Control
	State Egg Board		Dept. of Agriculture
Iowa	Dept. of Agriculture & Land Stewardship	South Dakota	State Veterinary
	Dept. of Inspections & Appeals		Dept. of Agriculture
	Dept. of Public Health		Dept. of Commerce & Regulations
Kansas	University of Iowa Hygienic Laboratory	Tennessee	State Analytical Services Laboratory
	Dept. of Agriculture		State Dairy Laboratory
Kentucky	Dept. of Health & Environment	Texas	State Health Dept.
	Cabinet for Health Services		Dept. of Agriculture
	Dept. of Agriculture		Dept. of Health
Louisiana	Division of Regulatory Services	Utah	Dept. of Agriculture
	Dept. of Agriculture & Forestry		Dept. of Health
	Dept. of Health & Hospitals		Office of the State Chemist
	Dept. of Wildlife & Fisheries		Dept. of Agriculture & Food
Maine		Vermont	Dept. of Health
	Dept. of Agriculture, Food & Rural Resources		Agricultural Experiment Station & Extension Service
	Dept. of Human Services		Dept. of Agriculture
Maryland	Dept. of Marine Resources	Virginia	Dept. of Health
	Dept. of Agriculture		Dept. of Agriculture & Consumer Services
Massachusetts	Dept. of Health & Mental Hygiene	Washington	Dept. of General Services
	Executive Office of Environmental Affairs		Dept. of Health
Michigan	Executive Office of Health & Human Services	West Virginia	Dept. of Agriculture
	Dept. of Agriculture		Dept. of Health
Minnesota	Dept. of Community Health	Wisconsin	Dept. of Agriculture
	Dept. of Agriculture		Dept. of Health & Human Resources
Mississippi	Dept. of Health	Wyoming	Dept. of Health & Family Services
	Dept. of Agriculture & Commerce		Dept. of Agriculture, Trade & Consumer protection
	Dept. of Marine Resources		State Laboratory of Hygiene
	State Board of Health		Dept. of Agriculture
	State Chemical Laboratory		Dept. of Health

Source: NCD, DENR, USFDA--UNAUDITED -- UNAUDITED

APPENDICES

APPENDIX C

The U.S. Department of Health and Human Services, Center for Disease Control and Prevention (CDC) gathers data on many diseases including foodborne illnesses. The most common foodborne illness is salmonella. The table below is data collected by the CDC from each state and the District of Columbia for reported cases of salmonella for calendar year 2000.

APPENDIX C					
CDC Reportable Cases of Salmonella					
January through December 2000					
Rank	State	Salmonella	Rank	State	Salmonella
1	California	4300	26	Washington	659
2	Texas	2941	27	Minnesota	614
3	Florida	2816	28	Utah	487
4	New York	2490	29	Connecticut	418
5	Georgia	1689	30	Oklahoma	405
6	Ohio	1602	31	Kentucky	393
7	Illinois	1502	32	Kansas	379
8	Pennsylvania	1417	33	Iowa	373
9	Massachusetts	1236	34	Oregon	297
10	North Carolina	1149	35	Nevada	265
11	New Jersey	1138	36	New Mexico	239
12	Virginia	1020	37	Hawaii	237
13	Michigan	904	38	Nebraska	231
14	Louisiana	877	39	West Virginia	181
15	Maryland	804	40	Rhode Island	152
16	Arizona	798	41	New Hampshire	148
17	Tennessee	790	42	Idaho	132
18	South Carolina	781	43	Maine	127
19	Wisconsin	765	44	Delaware	125
20	Arkansas	729	45	Vermont	110
21	Missouri	713	46	South Dakota	100
22	Mississippi	705	47	Montana	97
23	Colorado	692	48	Wyoming	76
24	Indiana	678	49	North Dakota	73
25	Alabama	676	50	Dist. Of Columbia	64
			51	Alaska	61

Source: US Center for Disease Control and Prevention -- UNAUDITED

APPENDICES

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APPENDICES

APPENDIX D

Agriculture conducts food safety and sanitation inspections at various facilities as listed below. Inspection requirements can vary (quarterly, semi-annual, annual, or bi-annual) depending on the type of food being processed. The number of firms and inspections are maintained in a database by Agriculture. This database is limited to firms that have received an inspection.

APPENDIX D Agriculture Food Safety and Sanitation Inspections, 2001										
By Category				By Type of Business						
Type	Number of Firms	Number Inspections Conducted	Percent Completed	Type of Business	Inspection Frequency	Inspection Requirement	Number of Firms	Annual Inspections Required	Number Inspections Conducted	Percent Completed
Warehouse/ Distributor	607	388	117%	bottled water warehouse/dist	Annual	12	3	3	3	100%
				food salvage	Semi-Annual	6	18	36	18	50%
				food banks	Annual	12	15	15	7	47%
				multiple food warehouse	Bi-Annual	24	421	211	262	124%
				Beverage warehouse	**		5		1	**
				Soft Drink Warehouse	**		12		1	**
				bakery relay warehouse	Bi-Annual	24	133	67	96	144%
Retail Stores	2,790	2,076	65%	groceries w/seafood	Semi-Annual	6	389	778	354	46%
				grocery store	Annual	12	1,013	1,013	860	85%
				convenient store	Annual	12	980	980	536	55%
				general merchandise	Annual	12	29	29	25	86%
				department stores	Annual	12	87	87	66	76%
				drug stores	Annual	12	48	48	26	54%
				health food stores	Annual	12	12	12	8	67%
				good salvage retail stores	Annual	12	63	63	70	111%
				other retail stores, ethnic	Annual	12	169	169	131	78%
				Specialty Store	724	824	84%	wholesale bakeries	Semi-Annual	6
retail bakeries	Annual	12	401					401	390	97%
specialty stores (candy, ice cream, popcorn)	Annual	12	61					61	51	84%
Meat and Seafood Market	310	310	57%	seafood repacker	Semi-Annual	6	32	64	7	11%
				smoked fish	Semi-Annual	6	6	12	6	50%
				meat/seafood mkts/free standing	Semi-Annual	6	199	398	224	56%
				fish	Annual	12	73	73	73	100%
Farmer and Flea Markets/ Roadside Vendors	17	8	47%	roadside vendors	Annual	12	3	3	2	67%
				farmers market	Annual	12	7	7	5	71%
				flea markets	Annual	12	7	7	1	14%
Home Food Processor	1,112	170	***	home processors	***		1,112	170	***	

APPENDICES

APPENDIX D

APPENDIX D (continued)
Agriculture Food Safety and Sanitation Inspections, 2001

By Category				By Type of Business											
Type	Number of Firms	Number Inspections Conducted	Percent Completed	Type of Business	Inspection Frequency	Inspection Requirement	Number of Firms	Annual Inspections Required	Number Inspections Conducted	Percent Completed					
Beverages	128	136	84%	waters	Semi-Annual	6	30	60	54	90%					
				soft drinks	Annual	12	13	13	14	108%					
				ice	Annual	12	27	27	23	85%					
				beverages bases	Semi-Annual	6	3	6	3	50%					
				coffee and tea	Annual	12	16	16	11	69%					
				alcoholic beverages	Annual	12	39	39	31	79%					
Manufactured Milk Products	33	53	40%	milk	Quarterly	3	4	16	2	13%					
				cheese	Quarterly	3	13	52	26	50%					
Processed Foods	332	357	84%	ice cream	Quarterly	3	16	64	25	39%					
				milled grain	Semi-Annual	6	33	66	70	106%					
				noodles	Semi-Annual	6	3	6	1	17%					
				bean sprouts producer	Semi-Annual	6	4	8	4	50%					
				fresh cut salad	Semi-Annual	6	3	6	2	33%					
				sandwiches sub/listeria	Semi-Annual	6	16	32	34	106%					
				sandwiches	Semi-Annual	6	16	32	34	106%					
				soups	Semi-Annual	6	3	6	2	33%					
				prepared salads	Semi-Annual	6	15	30	24	80%					
				snack foods	Annual	12	18	18	11	61%					
				vegetable protein	Annual	12	2	2	4	200%					
				fruits	Annual	12	12	12	12	100%					
				apple cider	Annual	12	12	12	7	58%					
				nuts	Annual	12	28	28	22	79%					
				vegetables	Annual	12	35	35	32	91%					
				vegetable oil	Annual	12	1	1	1	100%					
				dressings	Annual	12	16	16	9	56%					
				spices	Annual	12	8	8	5	63%					
				candy w/o chocolate	Annual	12	21	21	16	76%					
				chocolate	Annual	12	36	36	29	81%					
				gelatin	Annual	12	1	1	3	300%					
				food sweeteners	Annual	12	5	5	4	80%					
				multiple food dinners	Annual	12	39	39	29	74%					
				food additives	Annual	12	5	5	2	40%					
				Frozen Desserts	2,110	2,290	109%	frozen dessert	Annual	12	2,110	2,110	2,290	109%	
				8,163				6,612				84%			
								Total							

* Database includes firms that have had prior inspections. See page 30 for discussion on lack of master list.

** Inspection conducted only when a complaint is received.

*** Home processors are inspected only prior to opening. See page 26 for additional discussion.

Source: Agriculture --UNAUDITED

APPENDICES

APPENDIX E

The Table below shows laboratory equipment that was purchased over 25 years ago. The information was obtained from the NC Department of Agriculture and Consumer Services (Agriculture) fixed asset inventory list. The table lists the antiquated laboratory equipment, date of purchase, and cost of equipment at the time purchased.

APPENDIX E NCDA&CS and DHHS Antiquated Laboratory Equipment			
Date Acquired	Asset Description	Cost	Division
Mar-33	Balance	\$ 939.40	Food & Drug Protection
Jul-58	Incubator	600.00	Food & Drug Protection
Feb-60	Microtome	1,063.35	Veterinary
Feb-61	Microscope	800.00	Veterinary
Mar-61	Microscope	733.00	Veterinary
Jan-63	Incubator, Napco CO2 Model 5100	7,746	State Laboratory
May-63	Commercial Refrigerator	800.00	Food & Drug Protection
May-63	Incubator	940.00	Veterinary
Jul-63	Microscope	2,384.80	Veterinary
Feb-65	Microscope	800.00	Veterinary
Jun-65	Incubator	600.00	Veterinary
Mar-69	Microscope	629.00	Veterinary
May-69	Laboratory Bath-Rotary Shaker Bath Model	1,500.00	Food & Drug Protection
Jan-70	28 microscopes	60,592.56	State Laboratory
Jan-70	Centrifuge, IEC Refrigerated Floor Model	6,354	State Laboratory
Aug-70	Balance	800.00	Food & Drug Protection
Sep-70	Extraction and Digestion Apparatus	560.00	Food & Drug Protection
Nov-70	Incubator	1,860.00	Veterinary
Dec-70	Incubator	932.00	Veterinary
Apr-71	Postal Scales	868.00	Veterinary
Jul-71	Incubator	535.15	Food & Drug Protection
Jul-71	Incubator	535.15	Food & Drug Protection
Dec-71	Microtome	1,603.98	Veterinary
Jan-72	Autoclave	12,000.00	State Laboratory
Jan-72	Lab Isothermal Sterilizer	12,000.00	State Laboratory
May-72	Cabinet, KSE	6,433.44	State Laboratory
Jul-72	Balance	930.00	Food & Drug Protection
Sep-72	Spectrophotometer	600.00	Veterinary

APPENDICES

APPENDIX E

APPENDIX E (continued) NCDA&CS and DHHS Antiquated Laboratory Equipment			
Date Acquired	Asset Description	Cost	Division
Nov-72	Balance	1,312.00	Food & Drug Protection
Nov-72	Microscope	1,212.00	Veterinary
Nov-72	Microscope	1,212.00	Veterinary
Dec-72	Microscope	800.00	Veterinary
Dec-72	Microscope	667.00	Veterinary
May-73	Microscope	9,975.35	Veterinary
May-73	Balance	1,145.00	Veterinary
May-73	3 Refrigerators/Freezers	4,623.84	State Laboratory
Jun-73	Camera for microscope	664.95	Veterinary
Jun-73	Autoclave, Brnstd	5,621.62	State Laboratory
Jul-73	Balance	1,012.55	Food & Drug Protection
Jul-73	Microscope	1,212.00	Veterinary
Jul-73	safety cabinet	2,995.00	Veterinary
Jul-73	safety cabinet	2,995.00	Veterinary
Sep-73	Spectrophotometer	3,800.00	Veterinary
Oct-73	Balance Model P1200	1,450.00	Food & Drug Protection
Oct-73	Balance Model P160	1,295.00	Food & Drug Protection
Nov-73	Spectrophotometer	675.00	Veterinary
Feb-74	Incubator	908.45	Food & Drug Protection
Feb-74	Balance	1,220.00	Food & Drug Protection
Mar-74	Balance	975.00	Food & Drug Protection
Mar-74	Incubator	635.25	Food & Drug Protection
Apr-74	Centrifuge	1,629.32	Food & Drug Protection
May-74	Commercial Refrigerator	995.00	Food & Drug Protection
May-74	Incubator	625.00	Veterinary
Jun-74	Incubator	635.25	Food & Drug Protection
Jul-74	Balance	930.00	Food & Drug Protection
Nov-74	Grinder Mill Laboratory	1,079.66	Food & Drug Protection
Dec-74	Refractometer	1,195.00	Food & Drug Protection
Dec-74	AHP Gas Chromatog	12,953.39	State Laboratory
May-75	Densitometer	2,175.00	Veterinary
May-75	Microscope	1,347.00	Veterinary

APPENDICES

APPENDIX E

APPENDIX E (continued) NCDA&CS and DHHS Antiquated Laboratory Equipment			
Date Acquired	Asset Description	Cost	Division
May-75	Saw, Electric Band Meat	1,295.00	Veterinary
Jul-75	Cylinder Dispenser	1,140.00	Food & Drug Protection
Aug-75	Incubator, Bacteriological	850.00	Veterinary
Sep-75	Balance	1,695.00	Food & Drug Protection
Oct-75	Recorder	1,240.00	Veterinary
Oct-75	Cabinet, Biological Safety	2,553.00	Veterinary
Dec-75	Seam Scope	715.00	Food & Drug Protection
Jan-76	Rotary Evaporator	795.00	Food & Drug Protection
Apr-76	Laboratory Bath-Rotary Shaker Bath Model	1,500.00	Food & Drug Protection
Oct-76	Gas Chromotagraph, Tracor	12,471.47	State Laboratory
Dec-76	Analytical Balance	900.00	Food & Drug Protection
Dec-76	Spectronic 20 Colorimeter	525.00	Food & Drug Protection
Dec-76	Balance Top Loading Mettler	1,040.00	Food & Drug Protection
Dec-76	Oven Laboratory	500.00	Food & Drug Protection
Dec-76	Centrifuge	1,095.00	Food & Drug Protection
Dec-76	Microscopes	950.00	Food & Drug Protection
Dec-76	Analytical Balance	900.00	Food & Drug Protection
Dec-76	Analytical Balance	900.00	Food & Drug Protection
Dec-76	Autoclave, Vertron	14,934.40	State Laboratory
Jan-77	Incubator	600.00	Veterinary
Jan-77	Microscope	800.00	Veterinary
Jan-77	Microscope Microstar	1,252.82	Veterinary
Jan-77	Incubator	600.00	Veterinary
Jan-77	Incubator	500.00	Veterinary
Jan-77	Microscope	700.00	Veterinary
Jan-77	Microscope Fluorescence	8,000.00	Veterinary
Jan-77	Microscope	800.00	Veterinary
Jan-77	Cryostat	2,500.00	Veterinary
Jan-77	Spectrophotometer	900.00	Veterinary
Jan-77	Balance, Analytical	500.00	Veterinary
Jan-77	Microtome Model 820	1,246.71	Veterinary
Feb-77	Incubator	500.00	Veterinary

APPENDICES

APPENDIX E

APPENDIX E (continued) NCD&CS and DHHS Antiquated Laboratory Equipment			
Date Acquired	Asset Description	Cost	Division
Feb-77	Microscope	600.00	Veterinary
Feb-77	Recorder	1,000.00	Veterinary
Feb-77	Microscope	500.00	Veterinary
Mar-77	Centrifuge	1,025.00	Veterinary
Mar-77	Microscope	800.00	Veterinary
Mar-77	Filling Machine	786.00	Veterinary
Nov-77	Fume Hood	1,300.00	Veterinary
Dec-77	Cutter Food Processor	2,975.00	Food & Drug Protection
Dec-77	Cabinet Solvent Storage	650.00	Food & Drug Protection
Dec-77	Cabinet Solvent	650.00	Food & Drug Protection
Dec-77	Cabinet Solvent	650.00	Food & Drug Protection
Dec-77	Centrifuge, Sorval	5,611.84	State Laboratory
Dec-77	Radiation Detector LI, PGT	12,000.00	State Laboratory
Nov-78	Microscope, Zeiss	7,414.59	State Laboratory
	Total Recorded Book Value	\$296,972.48	
Sources: Agriculture and DHHS			

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