

Department of Agriculture

April 1998

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Senate Committee on Government Operations
The Honorable Mike Kernell, Chair
House Committee on Government Operations
and
Members of the General Assembly
State Capitol
Nashville, Tennessee 37243

Ladies and Gentlemen:

Transmitted herewith is the performance audit of the Department of Agriculture. This audit was conducted pursuant to the requirements of Section 4-29-111, *Tennessee Code Annotated*, the Tennessee Governmental Entity Review Law.

This report is intended to aid the Joint Government Operations Committee in its review to determine whether the department should be continued, restructured, or terminated.

Very truly yours,

W. R. Snodgrass
Comptroller of the Treasury

WRS/sk
97-021

State of Tennessee

Audit Highlights

Comptroller of the Treasury

Division of State Audit

Performance Audit
Department of Agriculture
April 1998

AUDIT OBJECTIVES

The objectives of the audit were to review the department's legislative mandate and the extent to which the department has met its mandate; to evaluate the efficiency and effectiveness of the department's activities and programs, and to make recommendations that might result in more efficient and effective operation of the department.

Findings

Regulation of Food Safety Needs Improvement*

Lack of systematic testing of non-dairy food was identified as the major area of weakness in the Food and Drug Section's efforts to regulate food safety. Because department inspectors did not use a systematic approach to collect non-dairy food samples for microbiological testing, non-dairy foods in some areas of the state received little or no testing in calendar year 1996. In addition, inspectors appear to collect far fewer samples than they could, given current sampling schedules. Finally, the department does not conduct routine testing for E. coli 0157:H7 in ground meats (page 12).

More Could Be Done to Promote Tennessee's Agricultural Products

Agricultural products are Tennessee's leading export, totaling \$2.1 billion in 1995, according to the department's 1996 annual report. In order to deal with a decline in Tennessee's market share in a nine-state southeastern region, Governor Sundquist formed the Governor's Council on Agriculture and Forestry in August 1995 "to develop a strategy for improving and enhancing economic opportunities for Tennessee's agricultural and forestry industries." Six of the council's recommendations pertained to the marketing of agricultural products—the department's progress in carrying out those recommendations is detailed in this audit report. The need for the department to develop benchmarks for measuring the success of its marketing efforts is also discussed (page 18).

The Division of Forestry Cannot Meet Landowners' Needs for Technical Assistance

Although both the state and individual landowners appear to benefit from the Division of Forestry's landowner assistance activities, the division is currently unable to meet the public's need for this type of assistance. According to the division's area foresters, landowners may wait as long as one and one-half

years before the division can deliver assistance. There are several possible causes for the division's inability to provide timely assistance: (1) the increased demand for timber, (2) the lack of staff trained to provide assistance, and (3) the large amount of time spent on non-program activities, such as building maintenance (page 22).

The Department Should Continue Improving Its Regulation of the Nursery Industry

According to the 1996 report by the Governor's Council on Agriculture and Forestry, the "nursery industry in Tennessee has fallen from fifth in the nation to a rank of nineteenth during recent years." The report added that "problems encountered in the nursery business vary and include Japanese beetle infestation, dogwood anthracnose, gypsy moths, fire ants, and less than sufficient regulatory oversight." Comments from federal regulators and plant regulatory officials in other states indicate that improvements in department regulation have had a positive impact on the reputation and quality of Tennessee-grown nursery plants in recent years. However, perceptions of quality problems linger. The department's regulation of Tennessee nurseries could be improved by (1) the development and implementation of policies and procedures relating to plant health regulations, (2) the implementation and use of civil penalties to enforce regulations, (3) the implementation of a complaint-handling system, and (4) a change in the minimum qualifications for department plant inspectors (page 28).

Regulation of Apiaries Needs to Be Improved*

The Tennessee Apiary Act of 1995 reauthorized the department's apiary regulatory program which had ceased to function in 1990. State beekeepers as well as U.S. Department of Agriculture and University of Tennessee bee research specialists have been complimentary of the department's recent efforts. However, further improvement, particularly in the area of inspections, is necessary to help protect Tennessee's honeybee population (page 30).

The Division of Forestry Lacks Physical Fitness Standards for Its Firefighters

Many of the division's firefighters may not be physically fit to perform fire suppression activities effectively. The exact number is unknown because the division does not administer physical fitness tests and does not require personnel involved in fighting forest fires to achieve and maintain minimum levels of physical fitness (page 32).

There Is a Potential Financial Risk in the Division of Forestry's Timber Sale Practices

The Division of Forestry sells timber from state forests, as a method of managing particular stands of trees, and deposits the resulting revenues in the general fund. However, to ensure that all the state's costs are considered and that timber is not sold at deflated prices, the division may need to reevaluate certain of its timber sale practices: (1) the division does not charge logging companies for division labor and equipment used during the timber sale, and (2) the method the division uses to establish minimum bids does not provide a reasonable estimate of the timber's value (page 34).

Management's Information on Monitoring of Pest Control Businesses Is Inadequate*

Management of the Pest Control Section does not appear to have sufficient information to ensure that regulation of pest control businesses in Tennessee is adequate or to evaluate the performance of field staff. Management stated that the section does not routinely inspect all pest control businesses in the state each year. Additionally, the central office does not maintain a list of pest control businesses inspected, nor does it document the percentage of pest control businesses inspected on time. Routine inspection records are

kept in inspectors' homes, and the central office has no method to track which businesses have or have not been inspected (page 38).

Termite Clearance Letters Are Not Regulated

The department appears to lack the authority to regulate the termite clearance letters issued by pest control companies as part of the closing requirements for the sale of buildings. Department staff and regulators in other states expressed concerns that some pest control companies may issue letters without having done a thorough inspection or may intentionally withhold information regarding current or past termite infestations (page 40).

Retail Food Stores Are Repeatedly Violating Package Weight Standards

The department's Weights and Measures Section inspects retail food stores to ensure, among other things, that the weights printed on labels are correct. Violations of package weight standards are common—nearly 26 percent of the 453 establishments inspected between July 1 and December 31, 1996, were in violation of these standards. Department staff stated that there is also a high incidence of repeated violations of package weight standards. In fact, a file review of 100 stores with violations in 1996 found that 70 percent of these stores had been cited for previous violations (page 41).

* Related issues were also discussed in the September 1994 performance audit of the department.

OBSERVATIONS AND COMMENTS

The audit also discusses the following issues that affect the operations of the Department of Agriculture and the citizens of Tennessee: (1) the potential effect of recent staffing changes on the department's ability to adequately monitor and train entities receiving food from the U.S. Department of Agriculture; (2) the lack of financial self-sufficiency in the department's regulatory programs; (3) the use of the Agricultural Nonpoint Source Pollution Fund; (4) the monitoring of the welfare of dogs and cats commercially sold; and (5) the need for the Division of Marketing to focus its marketing efforts on a few specific commodities at a time (page 5).

ISSUES FOR LEGISLATIVE CONSIDERATION

The General Assembly may wish to consider (1) revising the Tennessee Insecticide, Fungicide, and Rodenticide Act to authorize the Department of Agriculture to regulate termite clearance letters or (2) developing other legislation to protect consumers from companies that issue inaccurate clearance letters (page 40).

"Audit Highlights" is a summary of the audit report. To obtain the complete audit report which contains all findings, recommendations, and management comments, please contact

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Performance Audit Department of Agriculture

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Performance Audit Department of Agriculture

INTRODUCTION

PURPOSE AND AUTHORITY FOR THE AUDIT

This performance audit of the Department of Agriculture was conducted pursuant to the Tennessee Governmental Entity Review Law, *Tennessee Code Annotated*, Title 4, Chapter 29. Under Section 4-29-219, the department is scheduled to terminate June 30, 1998. The Comptroller of the Treasury is authorized under Section 4-29-111 to conduct a limited program review audit of the department and to report to the Joint Government Operations Committee of the General Assembly. The performance audit is intended to aid the committee in determining whether the department should be continued, restructured, or terminated.

OBJECTIVES OF THE AUDIT

The objectives of the audit were

1. to determine the authority and responsibility mandated to the department by the General Assembly,
2. to determine the extent to which the department has met its legislative mandate,
3. to evaluate the efficiency and effectiveness of the department's activities and programs, and
4. to recommend possible alternatives for legislative or administrative action that may result in more efficient and effective operation of the department.

SCOPE AND METHODOLOGY OF THE AUDIT

Certain activities and procedures of the Department of Agriculture were reviewed, with the focus on the period July 1994 to May 1997. The audit was conducted in accordance with generally accepted government auditing standards and included

1. review of applicable legislation, rules and regulations, and department policies and procedures;

2. examination of the department's files, reports, and other performance data;
3. a review of performance audit and financial and compliance audit reports, and audit reports from other states and the federal government; and
4. interviews with department staff, personnel of similar departments in other states, faculty of the University of Tennessee, participants in the Governor's Council on Agriculture and Forestry, and staff of the U.S. Department of Agriculture and the U.S. Food and Drug Administration.

ORGANIZATION AND RESPONSIBILITIES

In 1854, the Bureau of Agriculture was organized as the first state agency in Tennessee—eight years before the U.S. Department of Agriculture. The bureau's purpose was to promote agriculture through fairs and livestock shows. In the 1890's, the agency began using the name Tennessee Department of Agriculture. The department's 1996 annual report states that the department's "mission has remained the same—to promote Tennessee agriculture and its products."

In July 1997, the department was formally reorganized into four divisions (see organization chart). These divisions are Forestry, Grants and Administration, Market Development and Promotion, and Regulatory Programs.

Division of Forestry

The division conserves and develops Tennessee's forest lands for public benefit through programs of forest protection, forest management, and reforestation. The division manages more than 150,000 acres of public forest land in 13 forests.

Division of Grants and Administration

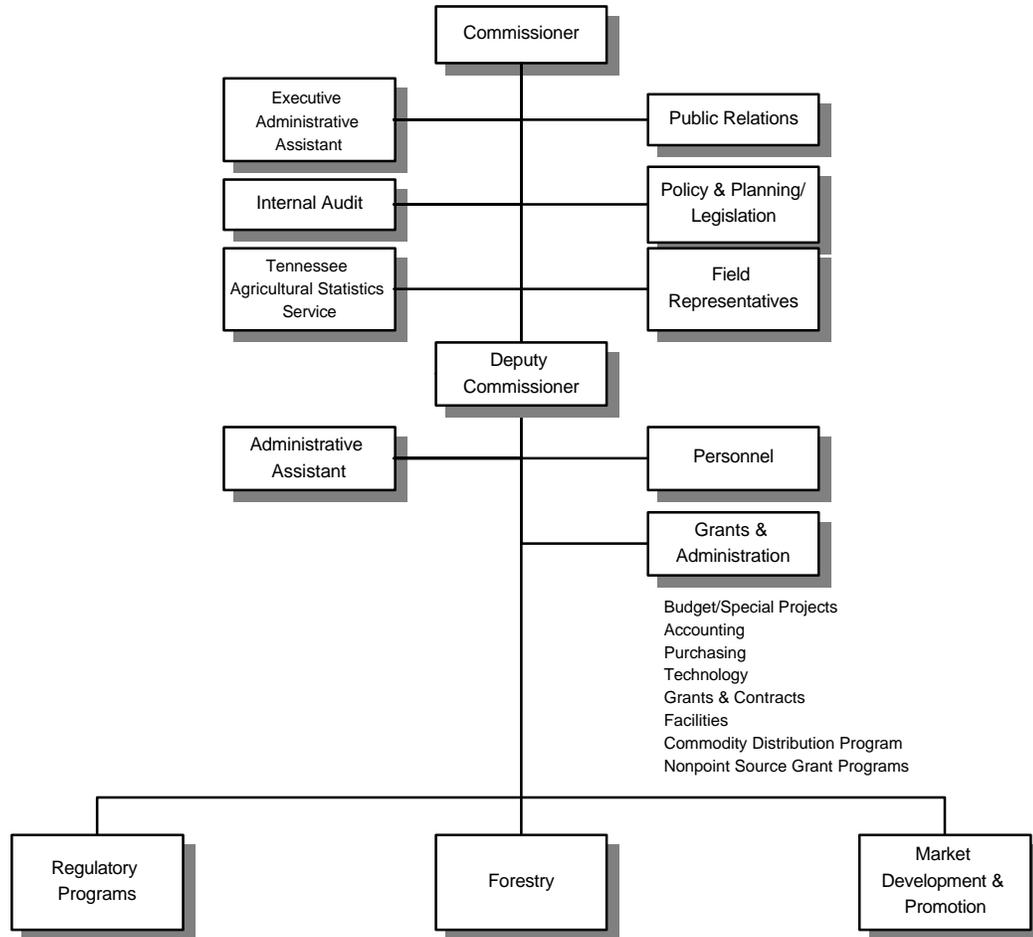
This division has several functions; among them are (1) requisitioning and distributing USDA-donated commodities to eligible Tennessee public and charitable institutions and (2) administering cost-sharing programs funded by the state's Agricultural Nonpoint Source Pollution Control Fund, which assist landowners technically and financially to establish soil conservation and water quality improvement practices on their farms. The division also has accounting, budgeting, and purchasing responsibilities for the entire department.

Division of Market Development and Promotion

The division identifies marketing opportunities and creates innovative, responsive programs and services to enhance and expand farming and agribusiness in Tennessee. Promotional activities are directed toward both domestic and international markets.

Department of Agriculture Organization Chart

July 1, 1997



Food & Drug
 Dairy
 Acting State Veterinarian
 Livestock
 Feed, Seed, & Fertilizer
 Pesticides
 Plant Certification
 Apiaries
 Pest Control
 Weights & Measures
 Motor Fuel Quality
 Laboratory Support

Forestry Operations
 Greeneville
 Knoxville
 Chattanooga
 Cookeville
 Columbia
 Lexington
 East Tennessee Nursery

Forestry Specialists
 Fire Chief
 Management Chief
 State Forests
 Markets/Utilization
 Urban Forestry
 Entomology
 Water Quality
 Information/Education

Domestic Marketing
 International Marketing
 Agribusiness Development
 Market Grading Services
 Fairs and Junior Agricultural Clubs
 Farris Agricultural Museum

Source: Department of Agriculture

Division of Regulatory Programs

This division is responsible for enforcing laws and regulations concerning weights and measures; motor fuel quality; food and drugs; dairies and dairy products; commodity dealers and warehouses; feed, seed, and fertilizers; agricultural limestone; insect and plant pests and diseases; and pesticides. The division is also responsible for the control and eradication of diseases that threaten the state's livestock population. The division's laboratory provides technical support for these regulatory programs.

The department had revenues and expenditures of \$39,388,000 in fiscal year 1996. Sources of revenues included \$29,327,000 in state appropriations, \$5,869,000 in federal revenues, and \$4,192,000 from other sources (e.g., fees). The department had 1,150 staff positions (817 full-time and 333 seasonal/part-time) during that period.

OBSERVATIONS AND COMMENTS

The issues discussed below did not warrant findings but are included in this report because of their effect or potential effect on the department's operations and on the citizens of Tennessee.

FOOD DISTRIBUTION

Recent staffing changes may affect the ability of the Division of Grants and Administration to adequately monitor and train entities receiving food from the U.S. Department of Agriculture (USDA). The division requisitions and distributes USDA-donated commodities throughout the state. The food is channeled to needy people through school lunch programs, the Emergency Food Assistance Program, nonprofit organizations, and state institutions.

As distributor of this food, the division is responsible for fulfilling certain USDA program requirements. Federal regulations state, "Each State agency shall provide an adequate number of consultative, technical and managerial personnel to administer programs and monitor performance in complying with all Program requirements." Division monitors are responsible for teaching commodity recipients (i.e., schools and nonprofit agencies) how to adhere to administrative and accounting requirements. USDA officials expressed concern about the department's ability to meet its obligations with so few monitors.

Since 1995, the department has reduced the number of personnel in its commodity distribution section, including the number of monitors. The table below shows the organizational changes in the Commodity Distribution Program between 1995 and 1997.

Filled Positions	February 1995	May 1997
Director	1	0
Secretary	1	1
Program Specialist	2	2
Processor	2	2
Commodity Technician	1	0
Monitor	6	2*
Accountant	1	1
Total Staff	14	8

* One retired October 1997

In fiscal year 1996, Tennessee distributed \$17.3 million of commodities. The list below shows the breakdown by program:

- National School Lunch Program \$15,825,940
- Emergency Feeding Assistance Program \$564,953
- Charitable Institutions \$344,905
- Food Banks and Soup Kitchens \$582,930

According to USDA staff, there are potential negative ramifications for the department if it does not meet USDA program requirements. For example, USDA could withhold grants to Tennessee to pay for administrative costs associated with the commodity programs. These costs amounted to \$163,474 during federal fiscal year 1996 (October 1 through September 30). USDA could disburse entitlement funds, which Tennessee uses to buy commodities, monthly rather than annually. USDA could also reduce the amount of commodities given to Tennessee, although USDA has yet to use such an action as an enforcement tool.

USDA-imposed sanctions are not the only possible negative effects of poor monitoring and training. USDA officials stated that if for any reason commodities do not reach their destination, Tennessee can be held liable. Once commodities are received in Tennessee warehouses, they become the property, and thus the responsibility, of the state. School systems can also be negatively affected if they do not receive training on how to complete reimbursement requests. For instance, if USDA discovers reimbursement amounts based on ineligible claims, USDA can reclaim those funds. The department should redirect adequate resources to fulfill the monitoring and training requirements by either cross-training inspectors or exploring the benefits of outsourcing that service.

REGULATORY PROGRAMS' LACK OF FINANCIAL SELF-SUFFICIENCY

As earlier reported in the 1988 and 1994 performance audits, the department's regulatory programs do not generate sufficient revenues to cover their expenditures (see Exhibit 1). These programs charge fees for inspections, registrations, licenses, and other services. The total deficit for the five divisions during fiscal year 1996 was \$10,184,035 and ranged from \$1,013,420 to \$4,070,777. The 1996 deficit represented a 20.7% increase from the \$8,436,468 deficit in fiscal year 1993.

The deficits occurred because the revenues generated under the current system of fees do not cover program expenditures. To offset program deficits, state appropriations are used to maintain service delivery efforts. In other words, the public subsidizes the individuals and businesses that are regulated under these programs. For example, the public pays to ensure the accuracy of gasoline pumps rather than the business owner who earns a profit from using the pumps. The General Assembly may wish to consider allowing the department to increase existing fees and begin assessing fees for services currently provided at no charge.

Exhibit 1

Regulatory Divisions (a)
Fiscal Year 1996 Revenues and Expenditures

	<u>Animal Industries</u>	<u>Plant Industries</u>	<u>Quality & Standards</u>	<u>Marketing (b)</u>	<u>Technical Services (c)</u>	<u>Total</u>
Current Services	\$14,753	\$459	\$555,492	\$167,425	\$99,536	\$837,665
Federal Funding	\$331,777	\$791,953	\$44,907	\$18,000	\$0	\$1,186,637
Interdepartmental Revenue	<u>\$0</u>	<u>\$1,231,899</u>	<u>\$166,634</u>	<u>\$0</u>	<u>\$129,908</u>	<u>\$1,528,441</u>
Total Revenues	\$346,530	\$2,024,311	\$767,033	\$185,425	\$229,444	\$3,552,743
Total Expenditures	<u>\$1,539,992</u>	<u>\$3,150,530</u>	<u>\$4,837,810</u>	<u>\$1,198,845</u>	<u>\$3,009,601</u>	<u>\$13,736,778</u>
Difference	<u>\$(1,193,462)</u>	<u>\$(1,126,219)</u>	<u>\$(4,070,777)</u>	<u>\$(1,013,420)</u>	<u>\$(2,780,157)</u>	<u>\$(10,184,035)</u>

Notes:

- a. All regulatory divisions, other than Marketing, were combined into the Division of Regulatory Programs on July 1, 1997. The Division of Marketing became the Division of Market Development and Promotion.
- b. The Division of Marketing had two specific regulatory programs: Fruit and Vegetable Inspection and Livestock Grading. The combined revenues (all from current services) and expenditures of these programs were \$164,689 and \$586,168, respectively in fiscal year 1996. Expenditures exceeded revenues by \$421,479.
- c. Although Technical Services was not a regulatory division, fees were charged for some services.

Source: State of Tennessee Accounting and Reporting System.

USE OF THE AGRICULTURAL NONPOINT SOURCE POLLUTION FUND

Money from the Agricultural Nonpoint Source Pollution Control Fund (Ag Nonpoint Fund) is to be used for implementing goals and programs aimed at reducing pollution caused by agricultural activities, according to Section 67-4-409 (1)(2), *Tennessee Code Annotated*. A majority of the fund's revenues (which come from taxes levied on real estate transfers) are used to assist landowners in installing best management practices to control soil erosion and improve water quality. (This assistance takes the form of grants to soil conservation districts.) Fund

revenues are also used to match federal dollars available to states under Section 319 of the Clean Water Act. The Division of State Audit's review of the uses of the Ag Nonpoint Fund raised three potential areas of concern: (1) allocation of grants to areas of the state with the greatest needs, (2) weaknesses in the department's process for determining grant amounts, and (3) use of Ag Nonpoint Funds to match Section 319 dollars.

Areas of Greatest Need

It is not clear that the department always targeted the areas with the greatest needs when allocating Ag Nonpoint grants. During fiscal year 1996, soil conservation districts in East Tennessee received \$633,000 in grants, districts in Middle Tennessee received \$903,000, and districts in West Tennessee received \$473,000. Many factors can be considered in determining the areas most in need of Ag Nonpoint funding. In evaluating whether grants were directed toward the areas of greatest need, auditors focused on areas with high erosion rates and/or poor water quality attributable to agricultural activities. Such activities greatly increase the potential for erosion, which causes topsoil to be washed away, polluting rivers, streams, and lakes with sediment, fertilizers, and pesticides. Other sources of agricultural nonpoint source pollution include runoff caused by poorly managed logging operations and poorly controlled animal waste.

Although 72 percent of Tennessee's 1992 soil loss from erosion occurred in West Tennessee, only about 20 percent of the Ag Nonpoint grant dollars were awarded to West Tennessee counties in fiscal year 1995. (The latest available information on soil loss is from 1992.) In contrast, 7 percent of soil loss occurred in East Tennessee, but those counties received about 33 percent of the funds. Twenty-one percent of soil loss occurred in Middle Tennessee counties, which received 47 percent of the funds.

Based on a review of the Department of Environment and Conservation 1994 report *The Status of Water Quality in Tennessee*, West Tennessee also appears to have the highest percentage of streams that do not support their designated uses. In addition, the West Tennessee streams with major water quality problems seemed much more likely to be affected by agricultural activities, i.e., the types of pollution that the Ag Nonpoint fund was created to address.

Weaknesses in Grant Process

Although the department uses a rating system to determine grant amounts for each soil conservation district (SCD), the process has several weaknesses. The rating system contains six variables on which each district's grant request is scored (see table).

Variable	Maximum Points Possible
Geographic Information System (GIS) Analysis	20
Demonstration/Documentation of Need	20
Capability to Complete Project	18
Sources of Assistance (Technical and Administrative)	18
Range of Beneficiaries	18
Economically Depressed Area	6
Total Maximum Points Per Grant Request:	100

Source: Division of Grants and Administration.

This set of variables has two weaknesses. The first variable, Geographic Information System Analysis, seems to indicate a quantitative computer-based analysis. The department does have access to detailed quantitative information (developed by the Natural Resources Conservation Service) on the location and sources of nonpoint source pollution. However, this information has not been updated in the past five years and, according to staff, has other weaknesses. In addition, although the department has used this information to help identify priority areas, there is no direct relationship between the Geographic Information System analyses and the department's allocation of funds to individual counties. The second variable, Demonstration/Documentation of Need, refers to how well the district presents its grant request. Urban areas may have an advantage over more rural areas of the state simply because they may have more resources to dedicate to packaging their requests.

A district's score seems to have little bearing on the amount of funds a district receives. The highest scoring district receives only slightly more funding than others. Department staff stated that since all counties' citizens contribute to the fund, all districts that request grants get some funding. However, it seems more reasonable to direct a higher proportion of funds to areas with the most significant problems since the whole state's economy and environment benefit from reduced nonpoint pollution.

Use of Ag Nonpoint Funds to Match Section 319 Dollars

The department currently uses some money from the Agricultural Nonpoint Source Pollution Fund (Ag Nonpoint Fund) to match federal dollars available to states under Section 319 of the Clean Water Act. (Section 319 focuses on working with states to implement management programs to control nonpoint source pollution.) However, it is not clear whether this use of the

money is consistent with statutory requirements. Section 67-4-409(1)(3), *Tennessee Code Annotated*, states:

Expenditures from the agricultural nonpoint water pollution control fund shall be made only for the implementation of those on-the-ground best management practices which contribute to the abatement of agricultural pollution and improvement of water quality; provided, that the commissioner of agriculture may spend up to five percent (5%) of the annual appropriations from this fund on education of landowners concerning pollution abatement.

In fiscal year 1996, 21.1 percent (\$528,333) of total fund expenditures were used to match Section 319 federal grants from the U.S. Environmental Protection Agency. According to department staff, the projects funded with Section 319 grants are for demonstration and education purposes. The use of over 5 percent of fund expenditures for education appears inconsistent with statutory requirements. However, the Section 319 projects are also fully functional, use best management practices, and contribute to the abatement of agricultural pollution—attributes consistent with statutory requirements.

Ag Nonpoint Fund expenditures for Section 319 demonstration and education projects decrease the money available to Tennessee farmers for the implementation of best management practices on their lands, especially if these lands are not centrally located. Because these fully functional projects are intended for demonstration and education, they may be located in central areas that are easily accessible, but are in less urgent need of pollution abatement.

If possible, the department should consider using other funding sources to match Section 319 grants. If no other sources are available, the department should ensure that “abatement of agricultural pollution and improvement of water quality” are the priorities in funding projects, rather than usefulness for demonstration or education purposes.

WELFARE OF DOGS AND CATS

Section 44-17-115, *Tennessee Code Annotated*, gives the department the authority to inspect pet dealers’ premises at any reasonable time to ensure the humane treatment of dogs and cats sold there. (A “dealer” is defined by Section 44-17-102(4) as any person who, for compensation or profit, buys or sells 25 or more dogs or cats in a calendar year, or anyone who, for compensation or profit, buys or sells dogs or cats at a flea market.) However, Division of Regulatory Programs staff stated that they do not monitor the welfare of dogs and cats commercially sold because an inspection program has never been funded. Although the Animal and Plant Health Inspection Service of the U.S. Department of Agriculture monitors animal welfare at pet stores, kennels do not receive such monitoring.

The department should examine the need for monitoring the welfare of dogs and cats not sold at pet stores. If there is a need to monitor dog or cat dealers not licensed as pet stores, the

department should request that the General Assembly fund this program. If there is no need for monitoring, the department should request that the General Assembly repeal the sections of the law which address the department's monitoring of the welfare of dogs and cats for sale by dealers.

NEED TO FOCUS MARKETING EFFORTS

One of the major concerns expressed by farmers during the Governor's Council on Agriculture and Forestry public information sessions was the limited marketing opportunities for their agricultural products. Because the Division of Marketing has a small staff (five as of January 1997), it is difficult to extensively market the wide variety of agricultural products raised in Tennessee. Therefore, it appears that the division might more effectively use staff by focusing its scarce resources on promoting a few specific commodities for a given period (e.g., choosing three commodities to promote per year). One positive step in this direction is a new program the division initiated in 1997 with the Tennessee Nurserymen's Association and the University of Tennessee. As part of this program, one tree, shrub, perennial, and annual will be selected each season for three years, and wholesale and retail sales of these plants will be promoted. (See finding 2 for additional information on the Division of Marketing.)

FINDINGS AND RECOMMENDATIONS

1. Regulation of food safety needs improvement

Finding

The department's Food and Drug Section is responsible for regulating the safety of food and drugs. One major area of weakness was identified in the section's efforts to regulate food safety—lack of systematic testing of non-dairy food. In addition, the department needs to continue expanding food safety training and public informational efforts.

Lack of Systematic Testing of Non-Dairy Food

Department inspectors do not use a systematic approach to collect non-dairy food samples for microbiological testing; as a result, non-dairy foods in some areas of the state received little or no testing in calendar year 1996. In addition, inspectors appear to collect far fewer samples than they could, given current sampling schedules. Finally, the department does not conduct routine testing for E. coli 0157: H7 in ground meats.

Food and Drug Section management reported that inspectors are basically on their own in deciding where to collect food samples. They are given general instructions to collect samples from larger grocery stores because of the volume of food sold and from businesses that have had problems before. Inspectors reported selecting stores from which to collect samples by “flipping a coin,” collecting at stores where follow-up inspections were due anyway, and selecting stores where problems had previously been noted or where no samples had been taken that year.

Technical Services Division records for non-dairy food testing in 1996 indicate that inspectors collected food samples at 124 retail outlets in Tennessee, only about 2 percent of the approximately 6,800 stores. Very little testing was conducted in East Tennessee. In contrast, stores in West Tennessee, which is less densely populated, were tested more thoroughly (see Exhibit 2). In nine counties, food samples were collected from only one store, and no non-dairy food testing was conducted in 59 counties (including Knox County). In contrast, routine samples were collected from 23 stores more than once in 1996, including two stores in one city where routine samples were collected three times, and another store in the same city where routine samples were collected four times.

Presumably, a more balanced approach to non-dairy food testing, based on population densities, could lower the per capita instances of food-borne illnesses by encouraging better food storage and handling practices at all retail outlets. The incidence of food poisoning from salmonella and E. coli was less in West Tennessee than East Tennessee in 1996. According to Department of Health records, the western part of the state had 123 cases of salmonella or nine

Exhibit 2

cases reported for every 100,000 people, and one case of E. coli or 0.074 cases per 100,000 people. Records for the eastern part of the state indicate 13.8 cases of salmonella reported per 100,000 people, 53 percent more cases per capita than West Tennessee. East Tennessee had 1.6 cases of E. coli reported for every 100,000 people, 21 times the rate of West Tennessee.

In 1996, 508 cases of salmonella, 42 cases of E. coli, and five cases of listeria were reported in Tennessee. According to Department of Health staff, reported cases represent only about 30 percent of actual cases. If this percentage is accurate, there could have actually been as many as 1,693 cases of salmonella, 140 cases of E. coli, and 17 cases of listeria in 1996.

The department apparently has the capacity to collect and test additional samples, using current sampling schedules. Each inspector typically collects samples one day per quarter; 15 of the 19 inspectors were scheduled to collect samples during the first six months of 1997. (In addition to collecting samples, inspectors conduct routine sanitation inspections, respond to consumer complaints, and assist the U.S. Food and Drug Administration upon request.) Inspectors estimated that, on average, they could collect samples from 4.33 stores in one day. If all 19 inspectors collected samples four days a year, at 4.33 stores per day, they should be able to collect samples from approximately 329 stores annually—substantially more than the 124 stores sampled in 1996.

The Food and Drug Section also has not been routinely testing ground meats for E. coli 0157:H7, the strain of E. coli currently known to be harmful to humans. Staff stated that because of the length of time it takes to positively identify this strain of E. coli (up to 52 hours), testing would not necessarily protect the public from exposure because the tainted lot of meat would normally be sold out by the time the test was confirmed. (According to USDA research staff, a new test being developed could enable the department to detect harmful E. coli within eight to twelve hours.) However, positive tests for the bacteria could be referred to the U.S. Department of Agriculture (USDA), which is responsible for conducting meat processor inspections. The USDA could then track the tainted lot of meat back to the processor to check slaughter and sanitation practices.

A balanced and systematic approach to non-dairy food testing could help ensure that retail food stores in all areas of the state have their products tested for microbiological and other contaminants. The possibility of testing may give stores more incentive to follow proper sanitation and food-handling procedures between routine inspections. If stores do not follow proper procedures (e.g., cleaning the grinder before grinding different types of meat), contaminants such as salmonella, listeria monocytogenes, E. coli 0157:H7, and other food-borne bacteria could be transmitted to other products in the store, increasing the risk that customers could be exposed to these bacteria and become ill.

Need to Continue Improvements in Food Safety Training and Public Informational Efforts

The U.S. Food and Drug Administration (FDA) evaluated the Retail Food Store Sanitation Program in the department's Food and Drug Section from August 1994 through

August 1995 and found several improvements in the program, as well as some deficiencies. The resulting September 1995 report outlines the following findings:

- Retail Food Inspectors needed specific training on topics such as smoking meats and vacuum packaging at retail, E. coli 0157: H7, listeria, salmonella, and hepatitis A.
- Managers of food stores were unaware of many sanitary hazards related to their stores and the foods they were retailing. Because inspectors cannot be present in stores at all times, food store managers should be trained about these hazards. Training should be sponsored by the retail food store industry and monitored by the Tennessee Department of Agriculture.
- Because it is the health of the public the Retail Food Store Sanitation Program is intended to protect, and because the public bears the cost of this program, the public should be informed about exactly what the program is doing and how well it is doing its job.

As of December 1997, the FDA was redesigning its evaluation procedures and had no plans to re-evaluate Tennessee's Retail Food Store Sanitation Program. Since the 1995 FDA review, Food and Drug Section staff have received training on several topics, including retail food protection, low-acid canned foods, and evaluation of retail food store plans. However, it appears that improvements could be made in monitoring retail food store manager training and public information efforts.

The FDA believes implementing the recommendations in its report will minimize the risk to the health of Tennessee citizens. Food store managers who are aware of potential sanitary hazards and methods to deal with those hazards are less likely to have stores with major problems. Finally, public information about the Retail Food Store Sanitation Program not only would be good public relations and have a positive effect on the program, as the FDA reports, but also would keep the public better informed about potential health hazards related to food. An additional benefit of informing the public about the program would be that the public, once they know of the program and where to report violations, could act as a "watchdog" for the Food and Drug Section.

Recommendation

The Food and Drug Section should plan non-dairy food testing for the state based on population and attempt to cover the state more evenly. Section management should adjust schedules so that inspectors can collect samples from as many stores as possible.

The Food and Drug Section should begin routinely testing ground meats for E. coli 0157: H7.

Food and Drug Section management should continue to implement the recommendations outlined in the FDA's evaluation of the Retail Food Store Sanitation Program.

Management's Comment

We concur in part.

Lack of Systematic Testing of Non-Dairy Food

Sampling schedules could be designed with more structure by giving more directives to inspectors in their selection of which samples to obtain within sample types. Management will pursue this when assigning samples to be obtained next quarter. We do not concur that inspectors haphazardly choose which stores from which they sample. We must continue to provide flexibility to the inspectors to obtain samples when they observe indications that contamination of food products may exist. Such flexibility is provided for in the Food Inspectors Manual under the Sampling section. Inspectors conduct "Surveillance Sampling" as directed by the Nashville office and also "Adverse Condition Sampling" where inspectors have discretion on obtaining a sample when there is evidence of unsanitary conditions or suspected adulterated or misbranded product.

While in some laboratory determinations there are safe levels or tolerances where specific regulations provide mandated actions to be taken, in microbiological analyses there are only guidelines for suggested upper limits. Microbiological results give us an indication of the sanitary conditions in which the food product was processed, handled, stored and/or packaged. The findings reported regarding microbiological analyses inform inspectors and the facility owner of the need to direct attention to an area where the sample was obtained. This may result in a follow-up inspection and/or sample as well as a written explanation by facility owners/managers as to the action they took to improve the conditions indicated by the microbiological result.

An infinite number of samples could be collected by our inspectors. The major limiting factor is the amount of time and resources devoted to analytical determinations of samples. The increase in laboratory productivity because of the utilization of new technologies has allowed development of new methodology which allows more tests to be conducted on the same number of samples. While the number of samples analyzed may not seem adequate, the number of tests run per sample has increased. This provides more information as to the many different possible contaminants affording a higher level of vigilance of the safety of our food supply on fewer number of samples obtained and submitted to our laboratory. More microbiological testing of non-dairy food could possibly be beneficial to food safety in Tennessee; however, the low percentage of samples indicating bacteria counts higher than desirable may not justify the extra time and cost involved.

We do not concur that increased sampling of meat for E. coli 0157:H7 would necessarily result in significant improvements in food safety for Tennessee consumers. As the audit report indicates, the length of time to confirm a sample positive for E. coli 0157:H7 is approximately five days. Product would normally be sold from the store and probably consumed by the time the

confirmation has been determined. The audit findings indicated that it would be advantageous to inform USDA if a positive sample was determined at the retail level in order for trace-back to the source. Over two years ago an instance occurred involving USDA and a positive E. coli 0157:H7 meat sample obtained at a retail outlet in Tennessee by that agency. USDA informed our agency of its findings at the retail level and made no effort to trace the sample back nor to assist us in our investigation.

It is true that new procedures are being developed which would lower the confirmation time to approximately 24 hours. An investment of approximately \$17,000 would be necessary to have this capability. We will evaluate the test and consider the investment once the procedure has been finalized. The solution to preventing ill effects associated with E. coli 0157:H7 is consumer education. Each package of meat is required by the USDA to provide information relative to the safe handling and preparation of the product. If the product is cooked to the proper temperature the bacteria would be destroyed and rendered harmless.

Need to Continue Improvements in Food Safety Training and Public Informational Efforts

We concur that appropriate training is necessary. Specific training in smoking meats at retail, to vacuum packaging at retail has been covered during training classes provided by the FDA State Training Branch in both August 1996 and April 1997. Further training in these two areas is scheduled with U.T. Food Science professors and is to be conducted in the near future as their schedule allows.

We concur in part that additional specific training on E. coli 0157:H7, listeria, salmonella, and hepatitis A would be beneficial to Food and Dairy inspectors. All inspectors are provided with informational books and pamphlets covering these topics and are given any new information on any of these on a weekly basis as they become available.

Additional training on E. coli 0157:H7, listeria, salmonella, hepatitis A, and other pathogens would assist the inspectors in understanding the reasons why we have concerns about contamination in food handling. Pathogens cannot be identified unless they are analyzed in a laboratory. Our inspectors are well trained (and continuous training is planned and occurring) to identify the critical points in food establishments that can allow pathogens to multiply.

An increase in food safety knowledge and a more technical background would benefit the food safety program. We intend to increase the minimum requirements for the Food and Dairy position. The department's Personnel Office filled a position in November 1997 to focus on staff classification and training issues. A college degree requirement would improve the level of professionalism and would allow the inspectors to be more capable in explaining potential problems which may exist to managers and employees of food establishments. Our experience is that those employees with degrees in food technology are much more easily trained and can better understand the importance of their responsibilities.

We concur that food store managers should receive as much training as possible. We also concur that this training should be provided by the retail food store industry with our input. We

offer assistance to retail food stores with hands-on training. For the past two years we have averaged one training session per month, usually with food store chains.

We concur that more public information regarding the Food and Dairy Program and food safety in general should be provided to the public and efforts have been made to do the same. Unfortunately the news media in general does not want to disseminate good news or strictly informational news, they are mostly looking for negative or sensational news.

2. More could be done to promote Tennessee agricultural products

Finding

Agricultural products are Tennessee's leading export, totaling \$2.1 billion in 1995, according to the department's 1996 annual report. In order to deal with a decline in Tennessee's market share in a nine-state southeastern region, Governor Don Sundquist formed the Governor's Council on Agriculture and Forestry (GCAF) in August 1995 "to develop a strategy for improving and enhancing economic opportunities for Tennessee's agricultural and forestry industries." GCAF, in developing this strategy, was to develop recommendations that were "doable, financially responsible proposals." The council's final recommendations were presented to the Governor in May 1996 and were included in a June 1, 1996, report.

Six of these recommendations specifically pertain to the marketing of agricultural products and are discussed below. Auditors also identified one additional area where changes could improve the effectiveness and efficiency of the department's marketing efforts: the need to develop benchmarks for measuring the success of these efforts.

Implementation of GCAF Marketing Recommendations

Recommendation 1.1: Establish an Agricultural Industry Development and Recruitment Initiative Within the Tennessee Department of Agriculture to Work in Cooperation with the Department of Economic and Community Development.

As of April 14, 1997, the Division of Marketing had not hired an agribusiness development specialist to work with the Department of Economic and Community Development (ECD) in promoting agribusinesses in the state. (Division staff stated that such a specialist would be hired effective July 1, 1997.) Duties of the specialist would include conducting research on the types of industries to recruit, recruiting the desired agribusinesses, and helping existing companies expand their operations.

According to Economic and Community Development staff, current cooperation between the two departments is informal in nature, concentrating on specific agribusinesses, and the initiative to enhance interdepartmental cooperation has not yet been developed. A formal cooperation

agreement (including common goals) would help the departments maximize their development and recruitment efforts without duplicating activities.

Recommendation 1.2: Increase the Demand for and Profitability of Tennessee Agricultural Products in Domestic Markets.

This recommendation focuses on the promotion of nursery products, feeder cattle, and fruits and vegetables. The promotion of nursery products is discussed in finding 4. Regarding feeder cattle, the department is considering implementing a series of private and/or public demonstration projects in association with the Tennessee Cattlemen's Association. These projects would emphasize the need for producers to become more involved in marketing their cattle and the need to increase the weight and quality of the cattle. Regarding the promotion of fruits and vegetables, the department (according to division staff) is starting to contract with private inspectors to ensure high quality products are being exported out-of-state. In addition, a private firm is being contracted to assist in selling produce from an East Tennessee farmers' market. The development and implementation of formal plans for marketing products help ensure that department efforts in this area are efficient and effective.

Recommendation 1.3: Establish a Private Corporation Through the Tennessee Department of Agriculture to Enhance Promotional Efforts for Tennessee Agricultural and Forest Products.

The department is considering establishing a private corporation similar to North Carolina's Agricultural Promotions, Inc., a quasi-private firm dedicated to promoting that state's agricultural products. The corporation, managed in conjunction with the North Carolina Department of Agriculture, provides seed money for a coordinated marketing effort among the department and producers, wholesalers, and retailers of a particular commodity. About three different commodities are promoted each year. The department provides 5 percent of the funding, and the other participants contribute the remaining 95 percent. In a March 1997 interview, the North Carolina Director of Marketing stated that the corporation had spent approximately \$3 million over the last nine years, generating annual sales of \$60 to \$70 million.

The commingling of private and public funds is a major consideration when creating such an organization. The department has concerns about the legal implications if the corporation's financial internal controls were not adequate to ensure that these funds were spent for their intended purpose. Before a decision is made to establish such a corporation, it would be prudent for the department to explore methods to ensure the integrity of these internal controls.

Recommendation 1.4: Increase the Demand for and Profitability of Tennessee Agricultural and Forest Products in International Markets by Expanding the Marketing Efforts of the Tennessee Department of Agriculture.

As of April 1997, the Division of Marketing had not hired an international marketing specialist. (Division staff stated that such a specialist would be hired effective July 1, 1997.) Duties of the specialist would include identifying products with the best international export potential and assisting Tennessee producers and agribusinesses in developing this potential.

Export Office staff in the Department of Economic and Community Development stated that Division of Marketing staff have too many responsibilities to consistently promote exports, thus the need for such a specialist.

Export Office staff also stated that the division's lack of a dedicated international marketing specialist impedes cooperation between the two departments in promoting international exports and hinders the division's participation in the export programs of such organizations as the U.S. Department of Agriculture's Foreign Agricultural Service and the Southern United States Trade Association.

Recommendation 1.5: Support the Establishment of an Agricultural Development Center Administered by the University of Tennessee Agricultural Extension Service Working in Cooperation with the Tennessee Department of Agriculture. The Proposed Program Will Focus on Feasibility Studies and Market Analysis of Food Processing, Packaging, Value-added Technologies, and Niche Markets.

Funding for the creation of this center was proposed for fiscal year 1998 but was not budgeted. According to a professor of food technology at the University of Tennessee, Knoxville, who has worked extensively with small food processing businesses, food processors in the state are in substantial need of marketing assistance. Businesses need assistance in marketing products and getting funding to support such marketing efforts. He added that the high turnover of department marketing specialists contributes to the problem. As of April 1997, the marketing specialist position dedicated to helping food processors had been vacant for two years.

Recommendation 1.6: Develop Policies to Guide State Investments in Agricultural Facilities (Livestock Pavilions, Farmers Markets, etc.).

The department has developed general policies in this area.

- Completion of existing agricultural facilities should be given priority over initiation of any new livestock pavilions and/or farmers' markets.
- Any additional state funding in either new or existing agricultural facilities should not exceed the available local match. In-kind contributions should be discouraged.
- State funding would be limited to those elements of the overall project that provide direct economic benefits to the agriculture and forestry industry in Tennessee.
- State assistance to the growth of livestock and produce industries in Tennessee should be focused on enhancing existing research, marketing, and extension programs.

Need to Develop Marketing Benchmarks

Although the division has a system for documenting the activities of its marketing specialists, it has not established formal benchmarks for measuring the effectiveness of those specialists.

The benchmarks could include a minimum number of trade shows to attend, a minimum number of contacts with buyers/producers, and targets for increases in product market share. Formal benchmarks could help identify areas in which staff need additional assistance, resources, or training. Benchmarks could also help management evaluate specialists' performance.

Recommendation

The department should continue its efforts to implement the Governor's Council on Agriculture and Forestry's marketing recommendations. The Division of Marketing should set specific goals (including timetables) for implementing the recommendations, assign responsibility, and monitor the progress of implementation. In addition, division management should establish benchmarks for measuring the performance of marketing specialists.

Management's Comment

Implementation of GCAF Marketing Recommendations

We concur in part. All of the six findings which are listed were derived from recommendations of the Governor's Council on Agriculture and Forestry, completed June 1, 1996. While the recommendations had not been fully put in place at the time of the audit, they were well underway. In the ensuing time, significant progress has been made. Specific responses to each of the six items are:

Establish an Agricultural Industry Development and Recruitment Initiative—This program was initiated June 1, 1997 with the employment of an agribusiness coordinator. Considerable work has been conducted since this time including efforts to attract poultry, forest products, and produce companies. In addition, the agribusiness specialist has been working closely with officials of Clay County, Tennessee to seek agribusinesses to reduce the county's high unemployment rate. We work closely with officials of ECD, as evidenced by the recent success of the Governor's Economic Summit. A formal cooperative agreement has never been necessary, but will be discussed with ECD.

Increase Profitability of Tennessee Agricultural Products in Domestic Markets—Work is proceeding in association with the Tennessee Cattlemen's Association to promote Tennessee beef, with the Tennessee Nurserymen's Association to promote horticultural products, and with the University of Tennessee and private companies for the promotion of fruits and vegetables.

Establish a Private Corporation—The department has decided to hold implementation of this project because of concerns about internal financial controls for the proposed corporation. Currently, we have the capability to utilize private funds channeled through traditional state financial systems. This will provide for adequate oversight and control of

expenditures. We have identified suitable incorporation models should this private corporation be deemed beneficial in the future.

International Agricultural Marketing—The division has promoted agricultural products in international markets. While an international marketing specialist was employed in October 1997, many international efforts were completed before that time. These efforts include promoting Tennessee agricultural products in China, dairy cattle in Mexico, horticultural products in Europe, and other activities. We have participated fully in SUSTA (Southern United States Trade Association) activities. A representative of the division has participated on the International Trade and Export Advisory Council which is facilitated by the Department of Economic and Community Development. Our recent staff addition will allow us to provide more dedicated effort to this topic.

The University of Tennessee Agricultural Development Center—This project has been established at the University of Tennessee, Institute of Agriculture. While the Department of Agriculture has supported the establishment of the center it is a THEC/UT project. Our staff will work closely with the Agricultural Development Center personnel in seeking to add value to Tennessee agricultural products. The center was formally established in the Summer of 1997. In September, we employed an agricultural marketing specialist to work in the value-added area. This specialist will maintain a close working relationship with the UT Agricultural Development Center.

Policies to Guide State Investments and Agricultural Facilities—These policies were developed and have helped to guide departmental actions relative to funding proposals.

Need to Develop Marketing Benchmarks

We concur. In an effort to better evaluate the work of our division, we are currently analyzing methodologies used by other states and agencies involved with market development work. This review should enable us to select a methodology that will provide the best measure or “benchmark” of individual and collective performance. This analysis should be in place early in 1998.

3. The Division of Forestry cannot meet landowners’ needs for technical assistance

Finding

Although both the state and individual landowners appear to benefit from the Division of Forestry’s landowner assistance activities, the division is currently unable to meet the public’s need for this type of assistance. According to the division’s area foresters, landowners may wait as long as one and one-half years before the division can deliver assistance. In addition, some

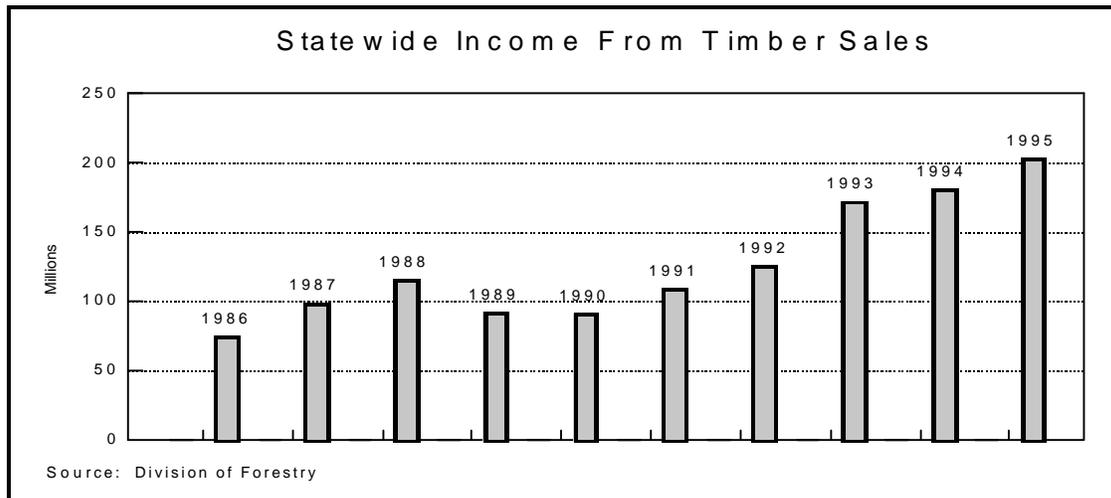
forestry districts do not advertise their landowner assistance services because they anticipate the response would be overwhelming.

Section 11-4-701, *Tennessee Code Annotated*, authorizes the Division of Forestry “to provide technical forestry information, advice, and related assistance to landowners, managers, forest operators, wood processors, agencies, organizations, and individuals.” The division’s director stated that one of the division’s goals is to educate the public about the value of their timber. Division staff advise landowners but do not become directly involved in matters such as appraising timber or representing landowners’ interests in negotiations with logging companies. In addition to helping landowners receive a reasonable price for their timber, foresters can help landowners better manage their forests. Staff stated that poor timber management and inappropriate practices during timber sales can cause landowners to lose more revenue and cause more damage than all natural disasters (e.g., insect blights, ice storms, fire) combined.

There are several possible causes for the division’s inability to provide timely assistance, including (1) the increased demand for timber, (2) the lack of staff trained to provide assistance, and (3) the large amount of time spent on non-program activities, such as building maintenance.

Increased Demand for Timber

An increased demand for paper products and increased building construction because of relatively low mortgage rates have resulted in a growing demand for Tennessee lumber. Statewide income from the sale of standing timber has steadily increased since 1986. Total sales were \$74,421,707 in 1986 and \$202,876,494 in 1995. Below is a graph of total sales since 1986.



Lack of Sufficiently Trained Staff

The division has relatively few personnel who have the education and/or training necessary to provide landowner assistance. Field staff fall into five categories: district forester, area

forester, forestry technician, forestry aide II, and forestry aide I. The staff best qualified to provide technical assistance to landowners are the seven district and 33 area foresters who are required to have college degrees. However, these persons have many other programmatic responsibilities, as well as administrative and managerial duties. The forestry technicians' duties also include providing landowner assistance, but most technicians do not have extensive formal training in this area. Currently, the minimum education requirement for forestry technicians is a high school diploma or equivalent degree.

Most of the division's management indicated that a higher minimum education requirement would increase the forestry technician's ability to deliver landowner assistance. A two-year associate's degree in forest management or a related field would equip new forestry technicians with a foundation of knowledge that now must be learned on the job. In addition, requiring forestry aides to have at least a high school diploma (in conjunction with specialized training) could also increase the number of staff capable of providing some assistance, such as gathering the initial information needed before specific technical assistance can be given.

Large Amount of Time Spent on Nonprogram Activities

An excessive amount of time apparently is spent on activities, e.g., building maintenance, not directly related to the division's mission. Building maintenance includes activities such as working on county work centers and equipment sheds, mowing lawns around district offices (owned by the state), and other grounds keeping. The table below details the activities that consumed the most time for each district (by percentage) from May through November 1996.

District Number	Top Four Time-Consuming Activities
District 1	Fire Control (46%) Building Maintenance (17%) Landowner Assistance* (12%) Equipment Maintenance (6%)
District 2	Building Maintenance (23%) Fire Control (21%) Equipment Maintenance (8%) Landowner Assistance* (6%)
District 3	Fire Control (33%) Building Maintenance (29%) Equipment Maintenance (8%) Landowner Assistance* (4%)
District 4	Fire Control (34%) Building Maintenance (30%) Information and Education (7%) Landowner Assistance* (7%)

District Number	Top Four Time-Consuming Activities
District 5	Building Maintenance (16%) Fire Control (16%) Landowner Assistance* (13%) Equipment Maintenance (12%)
District 6	Fire Control (56%) Building Maintenance (11%) Equipment Maintenance (8%) Landowner Assistance* (7%)
District 7	Fire Control (33%) Building Maintenance (29%) Landowner Assistance* (9%) Equipment Maintenance (8%)

* Landowner Assistance includes division categories “Stewardship Assistance” and “Other Forest Management Assistance.”

Source: Division of Forestry.

Fire control activities consumed the most amount of time in all districts with two exceptions. Districts 2 and 5 spent more hours on building maintenance than any other activity during the period reviewed; in all other districts, building maintenance ranked second. In total, division staff spent 77,181 hours on building maintenance during the period reviewed. According to division management, a possible explanation for the apparent excessive amount of time spent on building maintenance is that this category is used as a catch-all. For example, if an employee is performing a task that is not directly related to a specific category listed on the division’s timesheet (or if the employee has no work to do), that employee is likely to record the time spent in the building maintenance category.

As discussed earlier, many of the division’s staff (including seasonal workers hired primarily for fire control) may be limited in their activities by lack of education and/or training. However, with additional direction and specialized training it seems reasonable that at least some of these staff could redirect their activities to landowner assistance or other division programs.

Potential Effects of Insufficient Landowner Assistance

The Division of Forestry’s inability to promptly deliver landowner assistance creates the potential for three negative consequences. First, landowners may receive significantly less money when selling their timber. According to division staff, when landowners receive assistance from division staff on topics such as harvesting and marketing, they tend to get substantially more money for their timber.

The second consequence is the negative effect on the environment. In addition to helping landowners harvest and market timber, the Division of Forestry provides information on best management practices (BMPs), practical guidelines to lessen the environmental impact of forest management activities, such as the construction of roads, skid trails, and log landings. Division staff stated that this information has been effective in reducing environmental damage, such as soil erosion and decreased water quality, caused by logging operations.

Third, the amount of high quality timber may decrease. According to a Department of Forestry, Fisheries, and Wildlife professor at the University of Tennessee at Knoxville, many landowners sell lumber companies the rights to “selectively” harvest timber, or take the best timber on the land, leaving only trees of marginal value. Although many of these landowners believe that this practice is better for the environment, it actually is not an accepted “best management practice”—high quality trees take longer to replace and often will not grow back in areas which already have some forested cover. Division staff can advise landowners on which trees to harvest and which ones to leave standing.

Recommendation

The Division of Forestry should increase the number of staff capable of providing landowner assistance by (1) raising the minimum education requirements for the forestry technician and forestry aide positions and/or (2) providing special training, thus allowing forestry technicians and aides to contribute more to the landowner assistance program.

Division of Forestry management should evaluate the time spent on various activities, particularly building maintenance, and the extent to which each activity furthers the attainment of division goals. Management should then work with each district to establish priorities relating to the amount of effort spent on particular activities and monitor the district’s performance.

Management’s Comment

We concur in part. The Division of Forestry first made technical assistance available to forest landowners in the early 1940s. By the mid-1960s the division employed 21 service foresters, four-year college graduates with a major in Forestry, who provided assistance to landowners on a full-time basis. In the mid-1970s the division was reorganized such that all personnel became involved in the delivery of all programs and services (e.g., fire control, landowner assistance, reforestation, forestry promotion), and the number of area foresters (formerly service foresters) was increased to 36. Currently 35 foresters are available to deliver technical assistance services, albeit on a part-time basis.

In 1960, there were less than 200,000 owners of forest land in Tennessee. In 1993, a nationwide survey showed that the number of forest landowners had grown to 470,000—the result of fragmentation of larger forest land holdings. Based on the number of formally educated foresters available and the large number of forest landowner clientele, the division has always been

aware that it is prepared to provide technical forestry assistance on a limited basis at best. The same situation prevails in all other states. Division records show that during the past 21 years the number of landowners assisted annually has not varied significantly, a clear reflection of the limited number of college-educated foresters the division employs.

Increased Demand for Timber. We concur. The demand for Tennessee forest products has grown significantly during the past eight to ten years. As a result, timber prices have increased almost exponentially. This, more than any factor, has whetted landowners' appetites to market existing timber and grow more in the future—thus, the increased demand for technical assistance services.

The division has taken a number of steps to ensure that as many landowners as possible have access to information and technical assistance. For example, the division annually identifies and prepares a list of private forest consultants and their services and provides copies to all field foresters who, in turn, distribute them to landowners who may benefit from consultants' services. Landowners are also regularly referred to foresters employed by the wood-using industries when appropriate. Thus, referrals to other forestry professionals help satisfy landowners' technical assistance needs.

In addition, the division plans to expand its traditional approach of working with individual landowners to provide information to more landowners working with groups through workshops, field days, and demonstration tours.

Lack of Sufficiently Trained Staff. We concur. The division recognizes the potential of non-professional technicians and aides in assisting landowners. Although many are unprepared to provide the depth and breadth of advice and technical assistance furnished by college-educated foresters, there are many jobs they can and do perform to reduce foresters' workloads and enable them to reach more landowners.

In the past, technicians and aides have been given formal training by the Nashville staff, such as proper care and planting of forest tree seedlings. This has enabled them to monitor and exercise quality control on tree planting jobs carried out on private lands. The staff is currently training technicians and aides in the use of best management practices (BMPs) used for prevention of erosion and protection of water quality in forestry operations. They are also familiarized with procedures used to contact and provide on-site technical assistance to loggers in the use of BMPs. Such training saves foresters thousands of man-days and enables them to work with more landowners that seek assistance.

Beginning three years ago, the division also contracted with the University of Tennessee's Department of Forestry, Wildlife, and Fisheries to conduct a three-week course of study for division technicians and aides to broaden their understanding of the various facets of forestry and natural resource management which would not only enable them to better relate to their own jobs but communicate more effectively with the public. Thus far, 90 technicians and aides have completed the course at an overall cost to the division of \$120,000. During the next two years, almost all technicians and aides will have been exposed to the course.

Large Amount of Time Spent on Nonprogram Activities. Auditors related that “an excessive amount of time apparently is spent on activities, e.g., building maintenance, not directly related to the division’s mission.” The organization maintains an extensive network of work centers, most of which are considered essential to maintain forest fire protection capability throughout the state. As long as these facilities are retained, it is felt that the state’s investment they represent must be properly maintained. However, the time reported for building and equipment maintenance on division time accountability report forms is probably inflated since these categories become a catch-all for time not otherwise accounted for.

While a certain amount of efficiency may be realized by strengthening educational requirements and providing additional training for non-professional personnel, the only substantive way to satisfy the growing technical assistance demands of private forest landowners is to employ more college-educated foresters.

4. The department should continue improving its regulation of the nursery industry

Finding

According to the 1996 report by the Governor’s Council on Agriculture and Forestry, the “nursery industry in Tennessee has fallen from fifth in the nation to a rank of nineteenth during recent years.” The report added that “problems encountered in the nursery business vary and include Japanese beetle infestation, dogwood anthracnose, gypsy moths, fire ants, and less than sufficient regulatory oversight.” Comments from federal regulators and plant regulatory officials in other states indicate that improvements in department regulation have had a positive impact on the reputation and quality of Tennessee-grown nursery plants in recent years. However, perceptions of quality problems linger. Effective department regulation (including technical assistance) is necessary to help ensure that the Tennessee nursery industry—which, according to a 1993 survey, added \$480.5 million to the state’s economy—regains and maintains a reputation for quality plants. The department’s regulation of Tennessee nurseries could be improved by (1) the development and implementation of policies and procedures relating to plant health regulations, (2) the implementation and use of civil penalties to enforce regulations, (3) the implementation of a complaint-handling system, and (4) a change in the minimum qualifications for department plant inspectors.

During a November 17, 1994, meeting of the General Assembly’s Fiscal Review Committee, plant regulatory officials from Indiana, Missouri, and Kansas voiced concerns about pest infestations in Tennessee-grown nursery stock imported into their states. More recently, USDA’s State Plant Director for Tennessee and plant regulatory officials and nurserymen in several other states cited improvements in the department’s efforts (e.g., improved inspections and follow-ups) to remedy pest infestations. However, concerns were still expressed about several other areas—poor cultivation practices (e.g., not clearing the weeds around plants) and inappropriate handling

and packaging of plants. These practices contribute to pest infestations and can result in the delivery of dead or seriously damaged plants.

Need to Develop Policies and Procedures

According to the National Plant Board's guidelines, plant regulatory agencies, like the department, often develop and issue policies and procedures to ensure plant inspectors' enforcement actions are fair, uniform, and consistent. These policies and procedures could also act as educational tools for both inspectors and nursery operators. According to staff, the department is in the process of developing such policies and procedures.

Need to Implement Civil Penalties

The department has not yet implemented a schedule of civil penalties to deal with violations of the Plant Pest Act (Section 43-6-101 et seq., *Tennessee Code Annotated*). A proposed schedule calls for penalties not exceeding \$500 per violation, as allowed by Section 4-3-204. According to department staff, the only recourse the department currently has against an uncooperative violator (one who ignores warning letters) is a court injunction, which is obtained through a lengthy process, or the suspension or revocation of the violator's license. Without civil penalties, violators (or potential violators)—who may hurt the reputation of the Tennessee nursery industry—have less incentive to comply with laws and regulations in a timely manner.

Need for Complaint-Handling System

The Plant Certification Section has no system in place to accept and investigate consumer complaints concerning poor quality nursery plants. As a result, consumers usually file complaints with local agricultural extension offices, bypassing the section and leaving it uninformed about the complaints and their resolution. Information on consumer complaints could help the section identify problem nurseries that need closer scrutiny and additional technical assistance.

Need for Changes in Inspector Qualifications

According to National Plant Board guidelines, plant inspectors should have a degree from an accredited college or university in a biological science (agronomy, biology, entomology, horticulture, plant pathology, or zoology) as well as two or more years' experience in plant pest prevention. The department's job qualifications for such inspectors (Plant Inspector 1, Plant Inspector 2, Plant Inspector 3, and Plant Administrator) allow related work experience to substitute for a college degree on a year-by-year basis (i.e., one year of experience substituted for one year of college). The qualifications of the vast majority of the department's current inspectors meet the National Plant Board's guidelines. However, without specifying the need for a college degree in job descriptions, the department may not be able to ensure that qualified plant inspection staff are hired in the future. Such staff are needed to adequately regulate nursery operators and educate them concerning proper cultivation, handling, and pest prevention practices.

Recommendation

The department should continue efforts to improve the quality and the reputation of Tennessee nursery stock. As part of that effort, the department should implement policies and procedures for plant inspectors and implement and enforce a schedule of civil penalties against violators of plant health laws and regulations. In addition, the Plant Certification Section should implement a system to accept and investigate consumer complaints and should use that information to identify problem nurseries. Finally, the department should, in cooperation with the Department of Personnel, change job descriptions of plant inspectors to require a four-year college degree in a related biological science.

Management's Comment

We concur.

Need to Develop Policies and Procedures. A policy and procedures manual is being developed at this time. It should be in the hands of the inspectors by February 1998. A book containing the Plant Law and its regulations and regulated pest fact sheets was disseminated to plant inspectors in August 1997.

Need to Implement Civil Penalties. At the present time, the civil penalties are being finalized by the Tennessee Department of Agriculture's Regulatory Services to be put in place as a rule. The rule should be given to staff attorneys by November 1997 to go through the legislative process.

Need for Complaint-Handling System. A system was put in place in October 1997.

Need for Changes in Inspector Qualifications. This will be pursued during calendar year 1998 during evaluation of our entire range of regulatory job classifications.

5. Regulation of apiaries needs to be improved

Finding

The Tennessee Apiary Act of 1995 (Section 44-15-201 et seq.) emphasizes the importance of honeybee pollination in propagating many important "agricultural crops, wildflowers, and forest plants" and the need for the state to "take appropriate actions to help assure the continued availability of an adequate population of honeybee pollinators." The act reauthorized the department's apiary regulatory program which had ceased to function in 1990. State beekeepers as well as U.S. Department of Agriculture (USDA) and University of Tennessee bee research specialists have complimented the department's recent efforts. However, further improvement, particularly in the area of inspections, is necessary to help protect Tennessee's honeybee population.

The department's first step in developing the apiary regulatory program is to register all bee colonies in the state. Only 5,438 of the estimated 40,000 colonies in Tennessee had been registered with the Division of Regulatory Programs as of January 1997. (Staff are attempting to register the remaining colonies.) The second step in the development of a regulatory program is to perform periodic inspections of the bee colonies for pests like Tracheal and Varroa Mites and American Foulbrood, a bacterial infection. During calendar year 1996, the division or affiliated county-level staff inspected only 22 percent (1,199) of the registered colonies. Lack of inspectors has hindered the division's efforts. In January 1997, there were only two available inspectors: the state apiarist, at the division level, and an inspector from a county beekeepers' association under contract with the division. As of May 1997, the number of county-level inspectors under contract had increased to six.

USDA bee research staff and the University of Tennessee Extension Service's Apiculturalist stated that ideally, colonies should be inspected annually for pests. However, given the state's limited resources, a two- or three-year inspection cycle would be reasonable. In addition to quarantining infected colonies and providing treatment advice, inspectors educate beekeepers on pest prevention and gather information on the extent of pest problems in Tennessee. Pests, especially Tracheal and Varroa Mites, have been devastating for honeybees in Tennessee. According to staff, beekeepers' losses average 20 percent annually, but 80 to 90 percent of wild honeybee colonies have been destroyed. Wild colonies have been so greatly affected because they did not have access to the timely treatment necessary for survival.

Recommendation

The Division of Regulatory Programs should ensure that all honeybee colonies are registered with the state and are inspected every two to three years for pests. The division should aim for annual inspections as a long-term goal.

Management's Comment

We concur. Registration of all apiaries and beekeepers is the first necessary step in an active bee regulatory program. To achieve this goal we are currently:

- disseminating beekeeper registration cards to all state and local beekeepers' associations;
- meeting at least once a year with all state and local beekeepers' associations and giving presentations regarding the prevention of bee diseases and treatments for mites as well as the requirements for registration;
- obtaining the assistance of county agents who are issuing registration cards to beekeepers in their areas;
- requiring local association inspectors to register the beekeepers they inspect.

Educating the beekeepers on how to prevent American Foulbrood and how to treat for the mites is more effective than inspecting every colony in Tennessee each year. It is necessary to do annual inspections of apiaries that raise and sell queens and packages in Tennessee or other states because of the high risk of spreading disease.

A voluntary inspector program is being implemented where beekeepers that demonstrate they have the ability to recognize diseases can inspect their own colonies for movement within the state of Tennessee. Beekeepers that are not under this program are required to be inspected prior to movement.

We will continue to monitor the apiary program to determine if additional resources should be directed to increased monitoring efforts.

6. The Division of Forestry lacks physical fitness standards for its firefighters

Finding

Many of the division's firefighters may not be physically fit to perform fire suppression activities effectively. The exact number is unknown because the division does not administer physical fitness tests and does not require personnel involved in fighting forest fires to achieve and maintain minimum levels of physical fitness. Firefighting is one of the most dangerous occupations in the United States, according to Vanderbilt Corporate Health Services (a Vanderbilt University Medical Center affiliate), which was asked to submit a proposal to the division on such standards. Firefighting personnel need to be physically and mentally competent since their duties are physically demanding and highly stressful.

Staff stated that the division needs to have healthier employees and voiced concerns that injuries and even fatalities could result if physical fitness is not improved. (In such cases, the state could potentially be held liable.) Furthermore, a firefighting force that is not physically fit could limit the division's effectiveness in fighting forest fires. Between 1990 and 1994, Division of Forestry staff fought about 2,400 forest fires annually. In 1995, staff fought approximately 3,500 fires.

Agencies such as the U.S. Forest Service and the Florida Division of Forestry use physical fitness tests to determine if their firefighting staff meet minimum standards. The U.S. Forest Service uses a "pack test" to relate physical condition and ability to effectively perform forest fire control activities. The test consists of a three-mile hike with a 45-pound pack over level terrain. A time of 45 minutes is a passing score for the test. According to the U.S. Forest Service, the test is a valid, job-related test of the firefighter's capacity for arduous work.

The Florida Division of Forestry implemented physical fitness standards in 1993. (The standards apply to firefighters hired or rehired after January 1, 1993.) Firefighters are required to

meet the physical standards and continue to meet these standards each year. The test evaluates, among other things, aerobic and muscular fitness. If a firefighter cannot pass the test after four attempts, the division recommends the employee be transferred to a vacant non-fire position for which he or she is qualified. Florida plans to adopt the U.S. Forest Service's pack test to replace its current physical fitness test because the pack test is less costly and easier to administer.

The Division of Forestry has held meetings with the Department of Personnel and the Office of the Attorney General over the last several years to discuss the implementation of physical fitness standards for firefighters. The division, however, has been concerned about what to do with firefighters who fail to meet the standards.

Recommendation

The Division of Forestry should develop and implement physical fitness standards to ensure that those foresters engaged in fire control and suppression are physically able to perform the necessary tasks.

Management's Comment

We concur. The Division of Forestry is directing its efforts toward implementation of the U. S. Forest Service (USFS) *Job-Related Work Capacity Test for Wildland Firefighters*.

The implementation plan is to require Division of Forestry firefighting personnel to participate in training for and testing of the Work Capacity Test. The walk test, one mile in 16 minutes, is the standard level tentatively set to be tested on May 31, 1998. The field test, two miles in 30 minutes with a 25-pound pack, is the standard level tentatively set to be tested on May 31, 1999. Testing is done on a flat course utilizing basic, inexpensive timing and measuring devices.

The value of implementing this policy rests in the ultimate objective of helping to reduce the number of heart attacks and other related illnesses and injuries experienced by firefighters. Instituting this policy will also provide impetus for employees to maintain fitness awareness. Fireline accidents, injuries, and entrapments are expected to diminish when firefighting personnel's physical conditioning is improved. In turn, medical expenses, productivity losses, and administrative costs may be reduced.

Feasibility of the Work Capacity Test policy is enhanced by virtue of the comprehensive background studies conducted by the USFS. Also, USFS approval of the Work Capacity Test will lead to its widespread acceptance throughout the U.S. The Work Capacity Test has been designed to the specific tasks required of wildland firefighters, including performing under adverse conditions and escapes to safety zones which require a reserve of stamina. This Work Capacity Test has been shown to be a valid, reliable, and objective measure of firefighting work capacity. Studies have shown the Work Capacity Test to have no adverse impact because of gender, ethnicity, age, height, or weight based on the Equal Employment Opportunity Commission standard.

The Department of Agriculture does have concerns pertaining to firefighters who fail to meet the standards. A strategy to deal fairly and compassionately with those failing to pass is being developed.

7. There is a potential financial risk in the Division of Forestry's timber sale practices

Finding

The Division of Forestry sells timber from state forests as a method of managing particular stands of trees and deposits the resulting revenues in the general fund. However, to ensure that all the state's costs are considered and that timber is not sold at deflated prices, the division may need to reevaluate certain of its timber sale practices.

Logging Companies Not Charged for Work Done by Division Staff

The Division of Forestry does not charge logging companies for division labor and equipment used during the timber sale. Although loggers are required to maintain the roads they use while harvesting timber in state forests, including purchasing and spreading gravel on roads that will be used by heavy equipment, division personnel are sometimes used to spread gravel and work on roads and skid trails. Division staff also may construct water bars (to allow effective drainage on temporary roads and trails) or correct poorly constructed water bars for loggers. In addition, division employees are often times used to conduct slashing operations after logging companies have completed harvesting operations. (Slashing involves cutting remaining unmerchantable tree material so that the new forest can begin to grow.)

Value of Timber Sold Underestimated

The method the division uses to establish minimum bids does not provide a reasonable estimate of the timber's value. The division sells timber from state forests through an open bidding process. The minimum bid, which is not disclosed by the division until the bidding process is completed, is the amount below which a company's offered price will be rejected. A review of 44 timber sales between fiscal year 1991-1992 and fiscal year 1995-1996 revealed a significant variation between minimum bids and purchase prices (see Exhibit 3).

- On average, buyers were willing to pay 62.8% more money for state timber than the Division of Forestry estimated it to be worth.
- The percentage difference between minimum bids and purchase prices ranged from 3.1% to 193%.
- On eight occasions, timber was purchased for over 100% more than the Division of Forestry valued it, and on 15 occasions was purchased for between 50% and 100% more.

Exhibit 3

Timber Sale Minimum Bids and Purchase Prices
Fiscal Years 1992 Through 1996

	<u>Fiscal Year</u>	<u>Minimum Bid</u>	<u>Purchase Price</u>	<u>Percentage Increase</u>
1	1992	29,696	50,762	70.9%
2	1992	32,479	86,966	167.8%
3	1992	106,999	125,000	16.8%
4	1992	49,677	96,256	93.8%
5	1992	35,227	60,577	72.0%
6	1992	30,000	35,203	17.3%
7	1992	48,500	73,107	50.7%
8	1992	39,822	68,900	73.0%
9	1993	41,577	103,333	148.5%
10	1993	67,298	153,000	127.3%
11	1993	101,857	151,035	48.3%
12	1993	34,104	42,751	25.4%
13	1993	46,177	135,300	193.0%
14	1993	19,097	22,380	17.2%
15	1993	2,302	6,500	182.4%
16	1993	67,362	106,945	58.8%
17	1994	39,660	62,100	56.6%
18	1994	28,214	36,125	28.0%
19	1994	16,170	33,861	109.4%
20	1994	47,575	57,564	21.0%
21	1994	56,099	64,277	14.6%
22	1994	44,197	76,100	72.2%
23	1994	72,902	135,162	85.4%
24	1994	9,734	18,000	84.9%
25	1994	49,657	72,045	45.1%
26	1994	52,930	71,045	34.2%
27	1995	8,760	10,192	16.3%
28	1995	88,095	130,110	47.7%
29	1995	35,763	53,827	50.5%
30	1995	61,500	126,651	105.9%
31	1995	40,600	66,605	64.1%
32	1995	48,748	67,100	37.6%
33	1995	78,800	103,127	30.9%
34	1995	78,204	80,600	3.1%
35	1995	48,052	61,026	27.0%
36	1996	94,500	105,675	11.8%
37	1996	83,378	135,571	62.6%
38	1996	63,838	111,261	74.3%
39	1996	1,500	2,800	86.7%
40	1996	76,759	106,152	38.3%
41	1996	64,474	81,893	27.0%
42	1996	98,135	118,712	21.0%
43	1996	57,016	125,152	119.5%
44	1996	19,942	24,677	23.7%
			Average Percent Increase:	62.8%

Source: Division of Forestry.

The district foresters are responsible for establishing minimum bids for timber sales in state forests under their jurisdiction. The foresters generally follow the same informal procedure. They collect data on species, quality, and estimated board feet of timber in the sale area and also obtain information on delivered prices of types of timber from the *Tennessee Forest Products Bulletin*, which the division publishes quarterly. A logger's estimated operating costs and maintenance costs are deducted from the delivered price. (An example of maintenance costs is the cost of buying and spreading gravel on roads that will be used during logging operations.) Because each timber sale has different characteristics, district foresters can exercise discretion in determining the timber's worth by considering other factors such as harvesting difficulty and local sawmill prices.

The U.S. Forest Service has two methods for determining timber value—the transaction evidence method and the residual value method. The transaction evidence method establishes an appraisal price based on an average for comparable timber sales. The residual value method establishes an appraisal price that would enable a purchaser of average efficiency to harvest and process the timber at a reasonable profit. The division uses a form of the residual value method. The U.S. General Accounting Office determined in 1990 that (1) the transaction evidence appraisal method results in advertised prices closer to fair market value than does the residual value method and (2) the residual value method has many problems in its implementation because of nonstatistical and outdated data.

“Market price” can be defined as what a buyer is willing to pay for a product at a particular time. Accepting that definition, the Division of Forestry appears to be receiving market value for state forest timber because of the competitive bidding process. In a normal market situation where there are numerous competitors, local prices will reflect external pressures such as the sale of Tennessee timber to international buyers. The risk to the division arises if the market demand for timber decreases, resulting in fewer bidders and an increased possibility of collusion among those bidders. That situation, coupled with the bidders' knowledge that the Division of Forestry consistently underestimates the value of timber it sells, could result in bid prices substantially below market value.

Recommendation

The division should consider developing a formal cost-accounting system to identify costs associated with timber sales such as assisting loggers in constructing water bars, spreading gravel, and preparing sites for forest regeneration. These costs should be incorporated into the timber appraisal system to protect the state's interest in publicly owned timber.

To guard against selling timber at deflated prices, the division should explore alternative methods for determining timber value so that minimum bids more closely reflect what the market is willing to pay for state timber.

Management's Comment

We concur in part. Uniform procedures for the sale of timber from state-owned lands were developed through cooperation between the Division of Forestry and the State Board of Standards in the mid-1970s. Since then, administration of timber sales on the state forests has proceeded with few or no adverse incidents. It is believed that timber is not being sold at deflated prices.

Logging Companies Not Charged for Work Done by Division Staff. Division personnel, not loggers, construct truck roads on state forests to make sure they are properly located and contain proper drainage structures to ensure that they are not subject to excessive erosion. This includes spreading gravel provided by loggers on road surfaces which armors sections of roads subject to erosion during timber operations. In future years when timber is cut from the same area of the forest, road construction will be unnecessary.

Following logging, state personnel also use equipment to smooth haul roads and landings, repair water bars on skid trails, and apply seed and fertilizer to minimize erosion on all bare soil. These activities, separate from logging operations themselves, are conducted to improve public access, protect the soil from erosion, prevent pollution of streams and lakes, and enhance wildlife habitat at relatively minor cost. They are part of the cost of doing business like maintenance of roads, buildings, and other state-owned facilities.

It should be noted that so called "slashing operations" are entirely separate activities from logging operations. Severing all unusable remaining stems remaining after harvest of merchantable stems is a cultural operation applied to ensure natural regeneration of timber on logged sites. Loggers are not and should not be required to assume responsibility for site preparation for natural regeneration. Slashing is the proper role of the state to perform and constitutes another cost of the state's doing business.

To help reduce natural regeneration costs, however, the division encourages maximum utilization of trees on sale areas. In recent years, expanding markets for lower grade and smaller pulpwood-size material has made it economical for loggers to utilize more of the timber on a given sale area. As additional markets for this material becomes available, the state's cost to cut such trees to achieve natural regeneration will be reduced or eliminated.

Value of Timber Sold Underestimated. With respect to establishment of minimum bids for timber offered for sale, it is true that the method used by the division does not always provide an accurate estimate of the timber values for individual sales, which, based on past experience, may vary widely from one area of the state to another because of topography, distance to markets, logging costs, seasonal price fluctuations, and unpredictable market conditions. In the future, the division will not only refer to recent timber sales on state forests, but also attempt to determine prices of timber sold on nearby private lands and consult published literature regarding recent timber sales in the state from publications such as Timber Mart South in establishing minimum bids for timber offered for sale on state forests.

It should be noted that the vast majority of sales attract a minimum of three to five bidders. Exhibit 3 in the audit report provided the minimum bid and the purchase price (high bid) for 44 sales conducted between 1992 and 1996. It failed to note the full range of bids received, which serves to mislead the reader.

Because of the smoothness of operations during the past 20 years, it is felt that the procedure used to market state timber is sound and that the state consistently receives fair market value for timber, as stated in the audit report.

It is believed that costs of other activities such as maintaining roads, preparing sites for forest regeneration, planting food plants for wildlife, and other activities on the state forests should not be incorporated into the timber appraisal system for the reason that state forests are managed for multiple-use purposes (not solely timber), in accordance with Section 11-4-801, *Tennessee Code Annotated*. While it may be desirable to offset non-timber expenses to the extent possible through sale of timber products, it should not be made a requirement.

8. Management's information on monitoring of pest control businesses is inadequate

Finding

The Pest Control Section of the Division of Regulatory Programs is responsible for regulating all pest control businesses in Tennessee. However, section management does not appear to have sufficient information to ensure that regulation is adequate or to evaluate the performance of field staff. Management stated that the section does not routinely inspect all pest control businesses in the state each year. Additionally, the central office does not maintain a list of pest control businesses inspected, nor does it document the percentage of pest control businesses inspected on time. Routine inspection records are kept in inspectors' homes, and central office has no method to track which businesses have or have not been inspected.

Management stated that one reason routine inspections were not always made was that inspectors spend a great deal of time responding to complaints against pest control businesses. However, central office's information on complaints is limited because the office has no information on complaints in the East and West Tennessee regions. (Middle Tennessee complaints are kept in the central office.) Although section staff appear to be responding to Middle Tennessee complaints in a timely manner and adequately documenting complaint resolution, central office has little information to determine how staff in the other regions have resolved complaints or whether staff's response was timely and appropriate.

Adequate management information is essential to ensure appropriate monitoring of pest control businesses. Failure to routinely inspect all pest control businesses or to adequately investigate complaints gives unscrupulous owners more of an opportunity to falsify records, perform incomplete or inadequate pest control treatments, and employ less than the required

number of licensed applicators (they are required to have at least one licensed applicator on their payroll at all times). These deficiencies could result in poor service to customers, as well as severely damaging their property or negatively affecting their health in some cases.

Recommendation

Pest Control Section management should develop a system to track routine inspections of pest control businesses and complaint investigations throughout the state. Management should then use that information to evaluate inspectors' performance and reallocate staff or workload, as necessary, to ensure that all pest control businesses are regularly inspected and that all complaints are appropriately resolved.

Management's Comment

We concur. As noted in the findings, the field staff spend a large portion of their time responding to consumer complaints relative to pest control businesses. These complaints are time consuming and generally involve contractual disputes between the consumer and the pest control operator (PCO), or allegations of shoddy workmanship relative to termite treatments. PCO complaints rarely involve documentable adverse effects to human health or the environment. Protection of human health and the environment from adverse effects resulting from the misuse of pesticides is our primary mission.

The recent reorganization of the department has yielded an entirely different management scheme, both in philosophy and in program management personnel. We recognize the need for case files to be housed in the main office. It is our intent to accomplish this objective during the current fiscal year. We are in the process of developing a wide variety of policies, including how to manage case files and have issued a complaint priority policy which should further ensure timely response to complaints. Additionally, we are in the process of upgrading work documentation of the field staff. This will serve to better manage and allocate time and mileage resources, and to properly document a variety of fee bill and federal grant activities. By January 1998, an up-to-date pesticide inspector's manual will be completed and implemented.

We also recognize the need to upgrade our case tracking system. The compliance secretary position has been vacant since soon after reorganization, but it appears we will be able to fill the position soon. Once filled, we will implement a case tracking system to monitor case status in the main office to ensure timely investigation and complaint resolution. All field inspectors enter their investigation reports in the EPA-developed Compliance Assurance Tracking System (CATS) software program. A case tracking report can easily be generated by CATS. EPA Region 4 will assist in developing the tracking system.

9. Termite clearance letters are not regulated

Finding

The Division of Regulatory Programs appears to lack the authority to regulate the termite clearance letters issued by pest control companies as part of the closing requirements for the sale of buildings. These letters state whether the buildings pest control companies inspected are infested with termites and are intended to protect the new owners against existing termite infestation. However, division staff and regulators in other states expressed concerns that some pest control companies may issue letters without having done a thorough inspection or may intentionally withhold information regarding current or past termite infestations. The Tennessee Insecticide, Fungicide, and Rodenticide Act does not specifically require the regulation of termite clearance letters. According to staff, the division once had authority (through its rules) to regulate these letters; however, that authority, which was very vague, was removed from the rules in 1985 because of workload and questions about the extent of the department's power.

States such as Arkansas and Arizona regulate termite clearance letters. In Arkansas, State Plant Board staff randomly inspect structures that have been issued clearance letters and also perform inspections at the request of homeowners. Companies that have issued inaccurate letters may be subject to criminal penalties and/or license revocation. The Arizona Structural Pest Control Commission performs spot checks and follow-up inspections as a result of consumer complaints. Inaccurate clearance letters may result in several types of administrative actions against companies, including warnings, probation, suspension or revocation of licenses, and civil penalties.

Regulation of termite clearance letters could help provide increased assurance to building purchasers that they will not face unanticipated repair costs as a result of structural damage caused by termites. In addition, regulatory authority could enable the division to take direct enforcement action (such as the issuance of civil penalties and license suspension or revocation) against problem companies.

Recommendation

The General Assembly may wish to consider (1) revising the Tennessee Insecticide, Fungicide, and Rodenticide Act to authorize the Department of Agriculture to regulate termite clearance letters or (2) developing other legislation to protect consumers from companies that issue inaccurate clearance letters.

Management's Comment

We concur with the caption, but respectfully do not concur with the recommendation. It is true the department has no authority to regulate clearance letters. The protection of human health and the environment from adverse effects from the misuse of pesticides is our primary mission. Clearance letters are basically an inspection of the property for live termites or termite

damage at the time of the sale and are required by lenders. The letters are usually obtained by the realtor whose primary interest is in selling the property. The real solution for the clearance letter problem is for prospective buyers to obtain an independent inspection of the property, and not rely on the seller or the realtor who obviously have a vested interest in obtaining a “clean” clearance letter.

Additionally, HUD and FHA builders, not the PCOs, are now required to guarantee against termite damage for five years. Holding the builders liable for five years will help ensure a proper termite treatment was made on the front end and help alleviate the clearance letter problem when the home is resold. With an adequate chemical barrier applied during construction, the chance for infestation is significantly reduced.

The Tennessee Department of Agriculture (TDA) is currently under Governor Sundquist’s directive to streamline programs and to not introduce legislation that creates additional regulatory burden on the industries with which we interface. Putting a consumer protection spin on our stated mission impacts more than clearance letters. Service contracts, solicitation, service representation, contract renewals, and guarantees are a few areas of potential concern to consumers of pest control services. Of course, the pest control industry would vigorously object to any additional regulatory requirements, and would strongly oppose any additional consumer protection legislation, although that would not be a major concern if legislation directly impacted our mission.

In summary, we respectfully submit that a consumer protection-type law in the pest control industry should not fall within the jurisdiction of TDA. Our mission is to safeguard human health and to protect the environment from adverse effects resulting from the misuse of pesticides in both structural and agricultural venues. The additional manpower, training, equipment, field and office supplies, office space and laboratory costs required of TDA to do such are not feasible in today’s budget, nor absolutely necessary. Consumer advocacy is best done by consumer advocates, i.e., the Consumer Affairs Division of the Department of Commerce and Insurance, the Better Business Bureau, or civil litigation.

10. Retail food stores are repeatedly violating package weight standards

Finding

The Weights and Measures Section of the Division of Regulatory Programs inspects retail food stores to ensure, among other things, that the weights printed on labels are correct. The section performs these inspections under authority of Section 47-26-909, *Tennessee Code Annotated*. Violations of package weight standards are common—25.6 percent of the 453 establishments inspected between July 1 and December 31, 1996, were in violation of these standards. Department staff stated that there is also a high incidence of repeated violations of

package weight standards. In fact, a file review of 100 stores with violations in 1996 found that 70 percent of these stores had been cited for previous violations.

Section staff offered two reasons for the excessive number of repeated violations: (1) not enough staff to inspect every establishment and also follow up on those establishments with violations and (2) the absence of a system to assess civil penalties against violators. Weights and Measures' policy is to inspect every food retail store once a year and the larger stores two to three times a year. However, only 77 percent of the scales that required inspection were inspected in fiscal year 1996. The section is focusing its inspection efforts on larger retail food stores because of those stores' high volume of business. Annual inspections may be even more difficult to achieve in the future—effective July 1, 1997, the number of staff performing package weight inspections decreased from 23 to 17 persons.

Although the department has the authority to assess penalties against violators, it has not implemented a schedule of civil penalties. The Weights and Measures Administrator has drafted proposed regulations that would allow assessment of civil penalties against those establishments not in compliance. As of May 1997, the Director of Regulatory Programs was still reviewing these regulations. Civil penalties can act as a financial disincentive to current and potential violators.

Businesses that offer items for sale on the basis of weight are responsible for accurately reporting that weight to the consumer. Although individual consumers may lose fractions of a cent on purchases, the cumulative loss to consumers is substantial.

Recommendation

The department should take steps to reduce repeat violations of package weight labeling standards. Such steps should include the timely inspection of all scales, follow-up inspections of violators, and implementation of a schedule of civil penalties.

Management's Comment

We concur. Violations of package net quantity labeling has been an on-going problem. We agree that the implementation of civil penalties for repeat offenders will provide an incentive for retail food stores to better comply with the Weights and Measures Act. Inadequate clerical staffing in the weights and measures program area has prohibited the implementation of civil penalties because of the resources required to issue notices, monitor responses, schedule hearings, process revenue, etc.

It is the department's intent to implement civil penalties for violations of net quantity labeling by March 1998 and we feel that this is obtainable because of the recent reorganization.

The department is also reevaluating our policy regarding the frequency of inspection of scales within retail food stores. Statistical sampling of the establishments would provide the department with better information as to the condition of scales in regard to compliance. Such a process has been implemented in our inspections of fuel meters and appears to be successful.

The department also has implemented new regulations which will also provide for better sampling of packaged products and will yield more accurate information as to the compliance of packages offered to consumers.

The high percentage of violations found in net quantity labeling is not because of inaccurate scales, but is primarily due to the high turnover rate in personnel and the lack of adequate training provided by management to their employees.

RECOMMENDATIONS

LEGISLATIVE

This performance audit identified one area in which the General Assembly may wish to consider statutory changes to improve the efficiency and effectiveness of the Department of Agriculture's operations.

1. The General Assembly may wish to consider (1) revising the Tennessee Insecticide, Fungicide, and Rodenticide Act to authorize the Department of Agriculture to regulate termite clearance letters or (2) developing other legislation to protect consumers from companies that issue inaccurate clearance letters.

ADMINISTRATIVE

The following areas should be addressed to improve the efficiency and effectiveness of the Department of Agriculture's operations.

1. The Food and Drug Section should plan non-dairy food testing for the state based on population and attempt to cover the state more evenly. Section management should adjust schedules so that inspectors can collect samples from as many stores as possible.
2. The Food and Drug Section should begin routinely testing ground meats for E.coli 0157:H7.
3. Food and Drug Section management should continue to implement the recommendations outlined in the FDA's evaluation of the Retail Food Store Sanitation Program.
4. The department should continue its efforts to implement the Governor's Council on Agriculture and Forestry's marketing recommendations. The Division of Marketing should set specific goals (including timetables) for implementing the recommendations, assign responsibility, and monitor the progress of implementation. In addition, division management should establish benchmarks for measuring the performance of marketing specialists.
5. The Division of Forestry should increase the number of staff capable of providing landowner assistance by (1) raising the minimum education requirements for the forestry technician and forestry aide positions and/or (2) providing special training, thus allowing forestry technicians and aides to contribute more to the landowner assistance program.

6. Division of Forestry management should evaluate the time spent on various activities, particularly building maintenance, and the extent to which each activity furthers the attainment of division goals. Management should then work with each district to establish priorities relating to the amount of effort spent on particular activities and monitor the district's performance.
7. The department should continue efforts to improve the quality and the reputation of Tennessee nursery stock. As part of that effort, the department should implement policies and procedures for plant inspectors and implement and enforce a schedule of civil penalties against violators of plant health laws and regulations. In addition, the Plant Certification Section should implement a system to accept and investigate consumer complaints and should use that information to identify problem nurseries. Finally, the department should, in cooperation with the Department of Personnel, change job descriptions of plant inspectors to require a four-year college degree in a related biological science.
8. The Division of Regulatory Programs should ensure that all honeybee colonies are registered with the state and are inspected every two to three years for pests. The division should aim for annual inspections as a long-term goal.
9. The Division of Forestry should develop and implement physical fitness standards to ensure that those foresters engaged in fire control and suppression are physically able to perform the necessary tasks.
10. The Division of Forestry should consider developing a formal cost-accounting system to identify costs associated with timber sales such as assisting loggers in constructing water bars, spreading gravel, and preparing sites for forest regeneration. These costs should be incorporated into the timber appraisal system to protect the state's interest in publicly owned timber.
11. To guard against selling timber at deflated prices, the Division of Forestry should explore alternative methods for determining timber value so that minimum bids more closely reflect what the market is willing to pay for state timber.
12. Pest Control Section management should develop a system to track routine inspections of pest control businesses and complaint investigations throughout the state. Management should then use that information to evaluate inspectors' performance and reallocate staff or workload, as necessary, to ensure that all pest control businesses are regularly inspected and that all complaints are appropriately resolved.
13. The department should take steps to reduce repeat violations of package weight labeling standards. Such steps should include the timely inspection of all scales, follow-up inspections of violators, and implementation of a schedule of civil penalties.