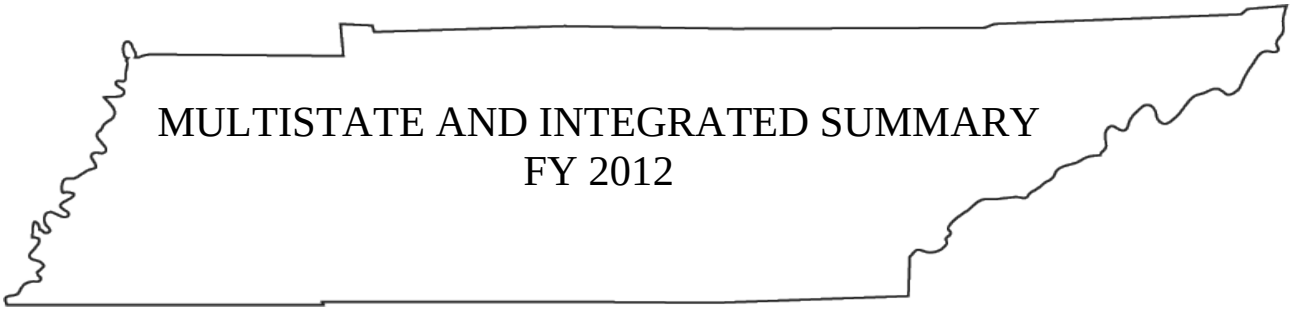
THE UNIVERSITY OF TENNESSEE EXTENSION



MULTISTATE AND INTEGRATED SUMMARY
FY 2012

AREERA SECTIONS 105 and 204

SMITH-LEVER FUNDS

Submitted to:

United States Department of Agriculture

National Institute of Food and Agriculture

April 1, 2013

TABLE OF CONTENTS

I. Introduction

In FY 2012, the University of Tennessee Extension met the multistate and integrated targets established for its Smith-Lever funds under Sections 105 and 204 of the Agricultural Research, Education and Extension Reform Act (AREERA) of 1998. The targets were recertified during FY 2008. This report is a summary of expenditures and specific program activities.

II. Multistate Extension Summary

UT Extension programs that represented both multistate and integrated efforts have been listed only in the integrated programs section of this report.

A. 4-H Positive Youth Development

4-H Health Rocks Partner States (North Carolina)

Tennessee Extension specialists and administrators provided technical assistance and instruction to North Carolina Extension personnel implementing the Health Rocks program. The principal investigator from North Carolina State made a site visit to Knoxville, Tennessee to learn best practices from Tennessee's highly-successful Health Rocks program. For several years, Tennessee has had the largest Health Rocks program in the nation, and in 2012, 18,850 youth completed 10 hours of the Health Rocks curriculum. The site visit focused on best practices for implementation, curriculum, fund development, accounting, accountability, and evaluation.

National 4-H Congress (National)

Tennessee Extension 4-H specialists worked cooperatively with Extension personnel from across the nation to implement the 2012 National 4-H Congress in Atlanta. Tennessee Extension personnel provided leadership and operating support for this national event.

Southern Region 4-H Horse Championships (Regional)

Tennessee Extension 4-H personnel assisted in conducting the Southern Region 4-H Horse Championships held in Perry, Georgia. Youth demonstrated their hands-on equine management skills and gained knowledge in equine science.

Southern Region 4-H Leader Forum (Regional)

Tennessee Extension 4-H specialists worked cooperatively with Extension personnel from across the Southern Region to plan and conduct the 2012 Regional 4-H Leader Forum in Arkansas. The forum helps volunteer leaders to develop their skill set, cooperate with other volunteers from throughout the region, and strengthen 4-H programs in their local communities.

Southern Region 4-H Teen Leadership Conference (Regional)

Tennessee Extension 4-H personnel worked collaboratively with State Extension Specialists in all Southern Region states in hosting a regional teen leadership conference at the Clyde M. York 4-H Camp in Crossville, Tennessee. This conference is jointly planned by the University of Tennessee, the University of Kentucky, and an advisory group of 15 teens. More than 150 members, Extension personnel, and volunteers from across the region gained practical knowledge in implementing service-learning programs and supporting project groups in their communities.

B. Agriculture and Natural Resources

Tri-State Beef Conference (North Carolina, Virginia)
Extension personnel from Tennessee, Virginia and North Carolina planned and conducted the first Tri-State Beef Conference in Northeast Tennessee in 2012. Regionally and nationally known speakers presented educational information on forage economics, cattle health management, risk management, nutrition, and marketing. The event was held in Abingdon, Virginia with 85 producers and 41 agribusiness representatives. The producers were from five states (Tennessee, Virginia, North Carolina, West Virginia, and Kentucky). All producers were surveyed at the end of the conference, and 100% indicated that they planned to adopt new practices. The economic impact of those new practices would total over $200,000 in additional farm income.

National Advanced Silviculture Program (National)
UT Extension specialists provided professional development for federal employees in advanced silviculture and formulating stand prescriptions in preparation for the USDA Forest Service certified silviculture panels. UT Extension conducted 17 days of training for 36 forest silviculturists from the Forest Service, Bureau of Land Management and Bureau of Indian Affairs in 2012. This training consisted of in-class lectures, field tours and exercises, and a stand prescription project that is conducted by six university silviculture professors (with four from outside Tennessee). Participants increased their knowledge about possible silvicultural options to meet various forest sustainability management objectives. An average of 85% (30 of the 35) of the participants annually receive the 4-year certification in silviculture resulting in more effective forest management operations on federal lands.

Household and Structural Integrated Pest Management Program (National)
The University of Tennessee Extension's Urban Integrated Pest Management (IPM) program has developed successful management strategies for pests found in and around structures. This success has brought our program national recognition as we were requested to teach 3,164 pest management professionals from throughout the country in 2012. Assuming that we saved at least one account for each of these contacts, our strategies were worth about $1.6 million to the pest management industry. In 2012, quiz scores from the four Wood-destroying Organisms and General Rodent Control sessions have increased from pre- to post-training by 15% and 18%, respectively.

Apicultural Programs (National)
Agriculture depends on healthy honey bees, maintained by beekeepers to pollinate numerous crops. We were funded as part of a 21-member national team representing 17 institutions to reverse managed bee decline. As lead institution, the University of Tennessee formed, certified and maintained the eXtension Bee Health Community of Practice with 38 leaders and 120 members from 37 states. These 38 leaders provided 298 pages of content and used the YouTube® Bee Health channel to provide 31 videos for stakeholders. In 2012 use of the Bee Health eXtension website increased 17.4% to 182,761 page views. YouTube® channel subscribers increased 49.4% to 1444, and views increased 54% to 394,510.

Extension Dairy Programs (Kentucky, Ohio)
In 2012, Extension specialists from the University of Tennessee, Ohio State University, and the University of Kentucky collaborated on a new project for dairy producer education. Dairy producers were taught the potential of composting bedded packs to improve milk quality and overall herd health.

C. Family and Consumer Sciences

Program Evaluation Network (Mississippi, Florida, Virginia, Maine, Michigan)
The Program Evaluation Network (PEN) is a custom-built software that contains valid and reliable questionnaires to measure the results of Extension programs. Since 2008, PEN has been used by Tennessee Extension Agents to survey 237,354 individuals in programs that served 900,586 individuals. PEN has helped Extension professionals to improve their programs and to communicate program results to stakeholders. As a result of UT Extension seminars and webinars, six institutions in five states used the PEN software in 2012: Alcorn State University, University of Florida, Virginia State University, Virginia Tech, University of Maine and Michigan State University.

eXtension Involvement (National)
Tennessee is represented by 108 eXtension members in 42 of the 59 approved Communities of Practice. Tennessee Extension personnel have addressed over 800 Frequently Asked Questions through eXtension. In 2012, highlights of Tennessee Extension's Family and Consumer Sciences eXtension involvement included the following:

- 12 Tennessee Extension personnel served on the Community of Practice for *Families, Food and Fitness*, and the leader is the Associate Dean of Family and Consumer Sciences for UT Extension.
- 11 Tennessee Extension personnel served on the *Financial Security for All* Community of Practice.
- Four Tennessee Extension personnel served on the *Food Safety* Community of Practice, including the leader, a specialist in the UT Extension Department of Family and Consumer Sciences.
- Two Tennessee Extension personnel served on the on the Community of Practice for *A,B,C's of Omega 3's*.
- Five Tennessee Extension personnel were active on the *Family Caregiving* Community of Practice.

Tennessee Extension personnel shared implementation strategies, outcome measurement, and evaluation protocols with their Community of Practice colleagues.

III. Integrated Research and Extension Summary

In cases where UT Extension integrated programs are also multistate programs, the states have been delineated in parenthesis.

A. 4-H Positive Youth Development

4-H Science Process Skills

2012 marked the third year that UT Extension 4-H programs have collected data on youth science process skills. The goal of this research is to improve 4-H programs and report outcomes to stakeholders. Results will help us to understand how hands-on science programs can best instruct youth.

B. Agriculture and Natural Resources

Forest Pest Research and Education (National)

Emerald Ash Borer was detected for the first time in Tennessee in Knox County in July, 2010. A Federal Quarantine was put into effect immediately to stop the movement of Ash products and firewood to try and slow the spread of the exotic insect. However by the fall of 2012 it has been found in 18 counties in East and Middle Tennessee. Thousand Cankers Disease was detected in Knox County within a week of the Emerald Ash Borer find; it had previously never been found east of the Mississippi River, nor in the native range of black walnut. This exotic pest also moves in wood (black walnut), so there was a great need for research and collaboration on these two new exotic pests, survey, and detection efforts and education on the regulations and restriction of movement of firewood and wood products. The University of Tennessee conducted an Emerald Ash Borer and Thousand Cankers Disease Conference in both 2011 and 2012 for 140 participants representing Extension, regulatory, research, and the general public. The conference was held in the Ellington Plant Sciences Building on the UT campus in Knoxville. The focus was to provide a forum for collaborators to discuss the current distribution status of these two new exotic pests, present the current research and outreach strategies, and discuss bio-control options. In addition, our goals were to discuss research needs and plan collaborative efforts. Open lab tours were held at UT with insect and disease specimens and wood samples. Presentations on these exotic pests were made by personnel from various agencies across the United States including United States Department of Agriculture, United States Forest Service, university research and Extension, and various regulatory personnel.

Quality Deer Management (National)

In 2012, we continued our integrated research and Extension program in Quality Deer Management. In Tennessee, 14 presentations were provided to 1,040 people. Two scientific articles were published and two articles were written for popular press outlets. Video segments were recorded for three outdoor shows broadcast nationally. A series of four one-day workshops were implemented with the Quality Deer Management Association in 2012. These workshops were held in four different states and attracted 239 landowners from 24 states and one Canadian province. Participants learned science-based strategies for managing white-tailed deer.

Agronomic Variety Testing Program (Kentucky)
Agronomic crop producers in Tennessee and Kentucky need unbiased variety performance data on which to base their purchasing decisions. Replicated variety tests were conducted on corn, soybeans, wheat, and some specialty crops at seven of UT's Research and Education Centers. County Standardized Variety Trails were conducted on corn, soybeans, and wheat in large strip-trials on producer's farms in approximately 28 Tennessee counties and five Kentucky counties. Data from all of these crop trials were compiled and published together on the variety trial website, and 5,800 printed copies were distributed to farmers, extension agents, seed industry representatives, consultants and other interested clientele. Based on surveys conducted by extension agents with grain producers in major row crop counties in northwest Tennessee, over 90% of the producers reported that they base their variety buying decisions on data provided in UT variety test publications. In 2012, the increased income per year to those grain producers was over $130 million.

Native Grasslands Management (Kentucky, Alabama)
Native grasslands were once abundant in the region and today can play a vital role in agricultural systems (forages, biofuels production) and conservation of imperiled ecosystems in Tennessee and across the eastern United States. An integrated, multi-disciplinary research and extension program has been established to develop and disseminate information about native grassland management strategies that are profitable and practical for Tennessee producers. During 2012, nine field days were conducted and demonstration projects were maintained on six Research and Education Centers. In addition, seven new demonstration projects were established in Tennessee, Kentucky, and Alabama; five multi-state in-service trainings were held; a native grass database with over 1,700 annotated abstracts was maintained; and two new technical bulletins were produced. This multi-state, integrated approach has allowed the Center for Native Grasslands Management to enhance Extension programs; more effectively meet producer needs, and reach larger audiences.

Making Better Railway Ties from Tennessee Timber
Railway tie stock is an important component of the wood products industry in Tennessee. However, wooden railway ties often fail prematurely in service due to insufficient preservative treatment and pre-treatment decay. UT Extension has partnered with a local wood protection company, railway tie producers, and railroads to develop a longer-lasting railway tie.
An applied research partnership that includes a Rockford, Tennessee-based pest control products company, major railway tie producers, and their railroad customers has been preparing and testing railway ties treated with a novel two-step process that incorporates a low-cost, environmentally-friendly preservative into the traditional railway tie production process. The research has led to the commercialization of the novel treatment process. The local pest control products company has increased the size and capacity of its plant to meet the growing demand for its products. Three treatment plants in the United States have been built that are producing ties for four Class-1 railroads.

Making Tennessee Black Walnut Logs Safe to Transport (Georgia)
Thousand canker disease of black walnut is killing trees in east Tennessee. Quarantines on black walnut wood products have been established to reduce the risk of spreading the fungal pathogen and its insect vector. Black walnut is a valuable wood species and these quarantines are hurting trade in black walnut veneer logs and lumber. An applied research partnership that includes the United States Forest Service, the University of Georgia, the Tennessee Division of Forestry and the University of Tennessee's Wood Products Extension program has been testing heat treatment and methyl bromide fumigation for Thousand Cankers Disease-infested walnut wood. Infested walnut trees have been located and wood samples have been treated and then monitored for signs of the Thousand Cankers Disease insect and fungus. The research has established the heat and fumigation treatment parameters that are effective at ridding black walnut of the fungus and its insect vector. This research will enable the development of phytosanitary regulations that will allow Tennessee producers to again move black walnut logs from Thousand Cankers Disease quarantine regions.

C. Family and Consumer Sciences

Tennessee Shapes Up
UT Extension Family and Consumer Sciences faculty implemented an integrated research and Extension program called *Tennessee Shapes Up* in 60 Tennessee counties in an effort to reverse the obesity trend in Tennessee. Over 150,000 direct contacts were made at group meetings, and one-on-one consultations. Impact data was collected using a behavior checklist survey. A select number of participants were surveyed to determine program impact. The behaviors measured are the healthy lifestyle practices essential in achieving and maintaining healthy weight and preventing chronic disease. Impacts in 2012 included:

- 7,518 participants ate more whole grains.
- 6,443 participants decreased consumption of high-sugar foods.
- 1,127 participants eat at least six meals together as a family each week.
- 6,975 participants engaged in physical activity for at least 30 minutes five or more days during most weeks.
- 1,119 participants improved their blood pressure.
- 2,228 participants lost weight: 12524 total pounds lost.
- 4,720 participants use labels to make healthier choices.

UT Obesity Research Center
In 2012, six UT Extension specialists from Family and Consumer Sciences, Animal Science, and Food Science and Technology continued their service on the UT Obesity Research Center, a multi-disciplinary team formed to study and take action in obesity prevention and treatment. The Associate Dean for Extension Family and Consumer Sciences serves on the steering committee for the Center, and it is collaboratively funded by the UT Office of Research, UT Extension, Tennessee Agricultural Experiment Station and the College of Education, Health and Human Sciences. UT Extension's involvement in the Obesity Research Center is primarily in two critical research and Extension areas: population research and clinical interventions. Integrated programs explore such issues as access to affordable food, creating a more walk-able community, and building inter-agency partnerships.

Healthy Steps (North Carolina)

Too many young children are gaining unhealthy amounts of weight leading to chronic disease at increasingly younger ages. *Healthy Steps*, a nutrition and physical activity curriculum produced by the UT Extension Department of Family and Consumer Sciences, uses popular preschool themes to teach nutrition and physical activity, such as counting, home, and family. *Healthy Steps* incorporates into these themes the *Color Me Healthy* curriculum from the North Carolina State University. *Healthy Steps* was implemented in 28 Tennessee counties in 2012; 4,677 direct contacts were made in Voluntary Pre-K, Head Start and center-based classrooms; and over 500,000 indirect contacts were made through exhibits, newspaper articles, publications and television. In addition 17,855 direct contacts were made by volunteers. Surveys were completed by teachers at the end of the program to document program outcomes:

- 98% (521 of 531) of teachers reported preschool children in their classes were more actively engaged in physical activity.
- 95% (509 of 536) of teachers reported preschool children in their classes were more willing to taste fruit.
- 91% (486 of 536) of teachers reported preschool children in their classes were more willing to taste vegetables.
- 93% (479 of 516) of teachers reported preschool children in their classes were more willing to taste whole-grain foods.
- 88% (275 of 311) of teachers reported using physical activities from *Healthy Steps* at least three times per week.

IV. Summary of Multistate and Integrated Expenditures with Smith-Lever Funds

U.S. Department of Agriculture
Cooperative State Research, Education, and Extension Service
Supplement to the Annual Report of Accomplishments and Results
Actual Expenditures of Federal Funding for Multistate Extension and Integrated Activities

Fiscal Year: 2012

Select One: ☐ **Interim** **X Final**
Institution: University of Tennessee Extension
State: Tennessee

	Integrated Activities (Hatch)	Multistate Extension Activities (Smith-Lever)	Integrated Activities (Smith-Lever)
Established Target %		7.4%	9.4%
This FY Allocation (from 1088)		$8,593,699	$8,593,699
This FY Target Amount		$635,933	$807,807
Title of Planned Program Activity			
A. 4-H Positive Youth Development		$186,532	$30,804
B. Agriculture and Natural Resources		$1,061,804	$3,717,034
C. Family and Consumer Sciences		$186,532	$1,386,186
Total		$1,434,868	$5,134,024
Carryover		-0-	-0-

Certification: I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays represented here accurately reflect allowable expenditures of Federal funds only in satisfying AREERA requirements.

Jim Cross

Tim L. Cross, Dean, UT Extension

April 1, 2013

V. Contact Information

Inquiries regarding this report should be directed to:

Dr. Tim L. Cross, Dean
The University of Tennessee Extension
2621 Morgan Circle
121 Morgan Hall
Knoxville, TN 37996-4530
phone: 865-974-7114
facsimile: 865-974-1068
email: tlcross@tennessee.edu