

Career Curriculum Vitae for

William A. Bailey

**Extension Professor
Dark Tobacco Extension Specialist
Department of Plant and Soil Sciences
University of Kentucky**

**Department of Plant Sciences
University of Tennessee (adjunct)**

I. Statement and Program Narrative

William A. Bailey

Associate Extension Professor – Dark Tobacco, Employed September 16, 2002 as Assistant Extension Professor, promoted July 1, 2008.

DOE: 75% Extension, 25% Research

University Appointment: 75% University of Kentucky, 25% University of Tennessee

Location: University of Kentucky Research and Education Center, Princeton, KY

Most Significant Accomplishments:

Extension:

- **Extensive Agent training and grower education programs**
- **Tobacco Good Agricultural Practices (GAP) Program**
- **Innovative Tobacco Grower Program (ITGP)**
- **Kentucky & Tennessee Tobacco Production Guide**
- **Development of dark tobacco websites**
- **\$338,440 in total extension funding**

Research:

- **26 refereed journal articles**
- **\$2,001,423 in total research funding**
- **Extensive activity in CORESTA and Tobacco Workers Conference**

Twenty-eight counties in western Kentucky and northwestern Tennessee produce nearly 90% of the world's dark tobacco. Grown on approximately 22,000 acres by some 1,500 growers, dark tobacco accounts for over \$105 million in revenue for the economy of Kentucky and over \$59 million for Tennessee. Although dark tobacco production is confined to a relatively small area, the crop is segmented into dark fire-cured and dark air-cured types, and each type is further segmented into two subtypes that correspond to production regions. Dark tobacco cultural practices can vary substantially between types and regions and these variations help define the distinctive styles of tobacco that dark leaf buyers and manufacturers desire for their products. My role is to help growers improve their production and profitability while preserving these distinctive qualities that add value to the dark tobaccos they produce.

I have designed my research and extension programs to supply timely information for the most common production problems that growers encounter. The overall objective of my research and extension programs has been to develop economically and environmentally sound production systems for the dark tobacco growers of Kentucky and Tennessee. This responsibility encompasses all aspects of dark tobacco production and management. In addition, I work extensively to support burley tobacco production throughout the dark tobacco region and beyond. I routinely receive requests for dark tobacco production information from around the world. I believe that I have become the national expert in dark tobacco production in the United States, and a leading expert in dark tobacco production throughout the world.

Extension (75% DOE)

Since I have been at UK I have been involved in extension projects receiving \$338,440 in total funding, with \$160,987 going to my program for extension projects such as the Innovative Tobacco Grower Program (ITGP), Good Agricultural Practices (GAP) training, promotion of conservation tillage practices, publication support, and general extension program support. Through my extension efforts, I have given 227 presentations at county grower meetings, county and regional field days, and tobacco expos. In addition, I have made 97 presentations for television, radio, and newspapers. I have been involved in planning regional field days at Princeton, KY, Springfield, TN, and Murray, KY, serving as overall Field Day Chairman for the UK College of Agriculture All-Commodity Field Day in 2011 and as tobacco tour coordinator for all of the Princeton and Murray field days.

Training extension agents is a major responsibility of an extension specialist. I have presented 22 agent training sessions, assisted in coordinating a 3-day training for Tennessee agents, and helped organize 10 trainings for agents in Kentucky and Tennessee with dark tobacco responsibilities. As another means of interacting and collaborating with extension agents and growers, I have conducted 102 replicated on-farm research trials in Kentucky and Tennessee since 2003 to answer production questions asked by growers. Many of these on-farm trials have included a field day to present the work to larger audiences. I have been particularly proud of the high evaluations I have received from agents in the agent's evaluation of specialists that is conducted every 2-3 years. In each evaluation I have scored well above the average for the department and the college. I was honored to receive the Outstanding New Specialist Award from the Kentucky Association of State Extension Professionals in 2007 and the Outstanding Specialist Early Career Award from the Kentucky Association of County Agricultural Agents in 2011.

Although traditional methods of extension such as county grower meetings and local field days have been effective in disseminating information, I have also focused on larger regional events and publications. I have been heavily involved in planning and providing grower educational seminars in two regional events: the annual TN-KY Tobacco Expo in Springfield, TN, 2003-2014, and the Western KY Tobacco Expo in Murray, KY, 2007-2009. Over 7,000 people have attended these tobacco expo events since 2003. Since 2010, tobacco extension specialists in the U.S. have been heavily involved in developing and implementing training modules for the industry-mandated U.S. Tobacco Good Agricultural Practices (GAP) program. I developed GAP training modules focusing on crop, environmental, and labor management for dark and burley tobacco, and trained approximately 4,200 tobacco growers through the GAP program since 2010. I have authored or co-authored 24 peer-reviewed extension publications. Our most comprehensive and collaborative extension publication is ID-160: Kentucky & Tennessee Tobacco Production Guide, which involves 19 authors from 5 departments at the University of Kentucky, and 3 departments at the University of Tennessee. I am primary author or co-author for 8 chapters in ID-160.

I have also heavily adopted electronic and social media as a means of reaching out to growers and others interested in dark tobacco production. I have developed and maintain the Dark Tobacco Website and the Dark Tobacco Agent's website since 2003. I added a Dark Tobacco Facebook page in 2014.

Although I have no formal appointments outside of Kentucky and Tennessee, I have tried to assist tobacco growers in other areas of the U.S. where there are no tobacco specialists at the land grant university. I have spent time with and supported burley tobacco growers in northwest Missouri, where about 35 growers produce around 1 million lbs of burley annually, as well as about 100 cigar binder tobacco growers in southern Wisconsin. For these efforts, I received the Tobacco Service Award from the Wisconsin Leaf Tobacco Dealers and Growers Association in 2015.

Research (25% DOE)

A strong research program is needed to supply information for effective extension programs. Research programs must receive adequate funding to have sustained productivity. Since 2003, I have procured a total of \$2,001,423 in research grant funding, with \$1,763,623 going directly to my program. The majority of these funds (84%) have come from the tobacco industry, with other funding coming from the agrochemical industry (14%), and the fertilizer industry (2%). I have had 30 research proposals funded since 2003 that have addressed topics such as curing, pest control and pesticide residue, crop nutrient use and efficiency, and variety evaluation. A large portion of these research projects, as well as my Hatch Project, have focused on changes in agronomic methods to reduce harmful constituents in raw tobacco leaf, including tobacco-specific nitrosamines (TSNA) and benzo- α -pyrene. My research in this area has resulted in a patent in 2007 in collaboration with Swisher International, Inc. on a method for reducing nitrosamines in tobacco. I was honored to receive the High Impact Research/Extension Award from the UK Research Office in 2007. My research has resulted in me authoring or co-authoring 26 refereed journal articles and 1 invited refereed book chapter with another book chapter submitted and in review. I have also published 2 articles in our departmental research outlet *Plant & Soil Science Research Reports*.

Tobacco Worker's Conference is the premier national tobacco research association in the U.S. I have been very active in TWC since 2004, publishing 40 abstracts and serving as chair and vice chair of the Agronomy section and on numerous other committees. I am serving as co-Chair for the 47th TWC in Nashville, TN in 2016. CORESTA is the premier international tobacco research association with the purpose of promoting international cooperation in scientific research relative to tobacco. I have been very involved in CORESTA since 2003, publishing 9 abstracts and 4 manuscripts as well as one book chapter in review. I have been chairman of the CORESTA subgroup for TSNA since 2007, as well as the chairman of the weeds section for the IPM subgroup. I have developed a website for the TSNA subgroup where all of the group's documents are accessible.

Through my involvement with CORESTA and service and leadership on various task forces and sub groups, I will receive the CORESTA bronze medal in 2014. CORESTA medals are awarded to those who have made significant contributions to the work of CORESTA for at least 6 years.

WILLIAM ANTHONY BAILEY
Curriculum Vitae, updated September 1, 2016

Extension Professor – Dark Tobacco, Employed September 16, 2002
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II. EDUCATION, PROFESSIONAL APPOINTMENTS, AND MAJOR AWARDS

HIGHER EDUCATION

Ph.D., Plant Pathology, Physiology, and Weed Science, Virginia Tech, 2002
M.S., Crop Science, North Carolina State University, 1999
B.S. (summa cum laude), Agronomy, North Carolina State University, 1997

PROFESSIONAL APPOINTMENTS

Extension Professor, Plant & Soil Sciences, University of Kentucky, 2015 to present
Associate Extension Professor, Plant & Soil Sciences, University of Kentucky, 2008 to 2015
Assistant Extension Professor, Plant & Soil Sciences, University of Kentucky, 2002 to 2008
Research Assistant, Plant Pathology, Physiology, and Weed Science, Virginia Tech, 1999 to 2002
Research/Teaching Assistant, Crop Science, North Carolina State University, 1997 to 1999

MAJOR AWARDS AND HONORS

2015 Tobacco Service Award, presented by Wisconsin Leaf Tobacco Dealers and Growers Association.
2014 CORESTA Bronze Medal, presented by CORESTA (Cooperative Center for Research Relative to Tobacco) for significant contributions to the work of CORESTA, the international organization for tobacco research.
2011 Outstanding Specialist Early Career Award, presented by Kentucky Association of County Agricultural Agents.
2007 High Impact Research/Extension Program Award, University of Kentucky College of Agriculture, presented by University of Kentucky Research Office.
2007 Outstanding New Extension Specialist Award (Faculty), University of Kentucky College of Agriculture, presented by Kentucky Association of State Extension Professionals.

III. EXTENSION (75% DOE)

Funded Extension Projects: \$338,440 total funding, \$160,987 to my program

Extension Proposals Submitted and Funded:

- **Dark Tobacco Extension Efforts.** Extension program support, grower meetings, field days, farmer updates, agent training, etc. Andy Bailey. U.S. Smokeless Tobacco Co./Altria Client Services. 2009-2014. \$95,000.
- **Conservation Tillage Management Programs for Tobacco.** On-farm demonstrations of conservation tillage strategies with large regional field days in Kentucky. Andy Bailey and Bob Pearce. Altria Client Services, Research Group. 2013. \$48,640.
- **Conservation Tillage Programs for Tobacco Growers.** On-farm demonstrations of no-tillage and strip-tillage tobacco production with large regional field days in KY and TN. Andy Bailey, Bob Pearce, and Paul Denton. Altria Client Services, Sustainable Agriculture Funding. 2010-2011. \$90,000.

Other Extension Support:

- **Support for Tobacco Grower GAP Training.** A. Bailey and B. Pearce. R.J. Reynolds Tobacco Co., \$6,500 (\$3,500 to my program); Gallatin Redrying and Storage Co., \$1,500 (all to my program). 2011-2012.
- **Support for Tobacco Extension Programs.** B. Pearce, A. Bailey, and P. Denton. Alliance One International. 2009-2012. \$20,000.
- **Support for Tobacco Extension Programs.** B. Pearce, A. Bailey, W. Snell, K. Seebold, and J. Wilhoit. Kentucky Farm Bureau Federation. 2010-2011. \$10,000.
- **Support for Innovative Tobacco Growers Program (ITGP).** B. Pearce, A. Bailey, W. Snell, K. Seebold, and J. Wilhoit. Burley Grower's Cooperative Association, \$20,000; Farm Progress Publications, \$2,000; Chemtura Corporation, \$1,800. 2009-2012.
- **Information, Networking, and Education for Tobacco Growers.** Funding used to enhance agent and grower tobacco training and support production of the Kentucky Tobacco Production Guide and Innovative Tobacco Grower Program. Gary Palmer, Bob Pearce, Andy Bailey, Kenny Seebold, and Jimmy Henning. Burley Grower's Cooperative Association. 2006-2007. \$43,000.

Major Extension Educational Programs:

- **Innovative Tobacco Growers Program (ITGP):** This is a tobacco short course designed for tobacco growers and is a 3 to 4 day course conducted at 4 to 5 locations throughout Kentucky and Tennessee to provide growers with extensive tobacco production knowledge with the goal of improving their profitability. Coordinators: Bob Pearce, Andy Bailey, Paul Denton, Laura Powers, Kenny Seebold, Will Snell, John Wilhoit, and Lee Townsend. ITGP has been conducted at multiple locations annually since 2007.
- **Good Agricultural Practices (GAP) Training Program for Tobacco Growers:** This is an industry-wide standardized GAP training program across all tobacco types that is being conducted for all tobacco growers that market tobacco with major manufacturers and dealers/exporters in the U.S. Extension specialists helped develop the tobacco GAP program and GAP training is being conducted by tobacco extension specialists nationwide. Training includes best

management practices for crop, environmental (soil and water quality), and labor management. This industry-wide GAP training program was implemented in 2013 and we (Andy Bailey and Bob Pearce (KY), and Paul Denton and Joe Beeler (TN)) have trained over 5,000 tobacco growers annually at over 80 GAP training events in KY and TN in 2013 and 2014.

Major Extension Events and Other Programs:

- **Tennessee-Kentucky Tobacco Expo:** One-day annual event held in Springfield, TN for tobacco producers and industry representatives. Includes trade show and educational seminars. I help coordinate this event with Paul Hart, Robertson Co. (TN) extension agent, and present dark tobacco production seminars each year. 2003-2013. Average annual attendance is approximately 300.
- **Western Kentucky Tobacco Expo:** This is another one-day annual event held in Murray, KY for tobacco producers and industry representatives. The format is similar to the TN-KY Tobacco Expo and includes a trade show and educational seminars. I assisted in coordination of this event with Todd Powell, Calloway Co. extension agent, and presented tobacco production seminars. The Western KY Tobacco Expo was held annually from 2007 to 2009 with annual attendance of approximately 200.
- **University of Kentucky Dark Tobacco Variety Displays.** Major industry event where we present cured leaf samples from experimental dark tobacco varieties and other research plots to dark tobacco buyers. Company representatives make blind quality evaluations of dark fire-cured and air-cured tobacco from three locations. Coordinated all events and compiled summary report submitted to participants and Dark Leaf Dealer's Association. December 2004, January 2007, January 2010, and January 2013, Expo Center, Murray, KY.
- **Kentucky and Tennessee Dark Tobacco Research and Education Forums.** Two 1-day events for dark tobacco growers and University representatives to discuss current dark tobacco programs being conducted by various departments and gain input from growers on focusing future research efforts. I organized and coordinated both of these events and presented dark tobacco programs in UK Plant & Soil Sciences and UT Plant Sciences. Kentucky Dark Tobacco Forum held at UKREC, Princeton, KY, October 10, 2006. Tennessee Dark Tobacco Forum held at HRREC in Springfield, TN on November 7, 2006.
- **Kentucky Burley Tobacco Leadership Forum.** This was a 1-day event for burley tobacco growers and University representatives to discuss current burley tobacco programs and gain input from growers on focusing future research programs. I assisted in coordination of this event and participated in panel discussions. A field tour followed at Spindletop farm where I discussed burley tobacco sucker control with growers. Lexington, KY, August 3, 2006.
- **Dark Tobacco Acreage Survey.** Annual survey where agents in every county producing dark tobacco in Kentucky and Tennessee (approximately 30 counties) are asked to complete a survey of acreage of dark air-cured tobacco, dark fire-cured tobacco, and burley tobacco. An average of 87% of agents respond to the survey and a crop production report is compiled and presented to tobacco company representatives and the Dark Leaf Dealer's Association.

Major Field Days and Demonstrations:

- **University of Kentucky All-Commodity Field Day, UKREC, Princeton, KY.** Biannual field day that is the largest field day in the College. I assisted in field day planning, served as tobacco tour coordinator, and made presentations on current dark tobacco research each year. Approximately 100 participants for tobacco tour each year, approximately 2,000 total participants. 2005, 2007, 2009, 2011. I served as Field Day Chairman for the 2011 All-Commodity Field Day.
- **University of Kentucky Corn/Soybean/Tobacco Field Day, UKREC, Princeton, KY.** New commodity-specific field day that began in 2012 with plans to be held annually. I have coordinated the tobacco tour for this grain and tobacco field day and made presentations on dark tobacco production practices. I co-coordinated this field day with Edwin Ritchey in 2013.
- **University of Tennessee Tobacco Field Day, HRREC, Springfield, TN.** Annual field day. Assisted in field day coordination and made presentations on current dark tobacco research. 2003-2013, approximately 300 attendees each year.
- **University of Kentucky/Murray State University Tobacco Field Day, Murray, KY.** Annual field day. Coordinated field day each year and made presentations on current dark tobacco research. 2003-2013, approximately 100 attendees per year.
- **U.S. Smokeless Tobacco Twilight Tour, Murray, KY.** August 2006. Coordinated field tour and presented information on current research to USST representatives. 36 attendees.
- **University of Tennessee Milan No-Till Field Day, Milan, TN.** July 2006. Assisted in coordination of weed control tour and presented information on glyphosate-resistant horseweed control. Approximately 250 attendees.

Agent Trainings

- **UK/UT Agent In-service Tobacco Training.** A one-day training conducted for west Kentucky and west Tennessee agents to discuss all aspects of dark and burley tobacco production. I coordinated this training and invited Gary Palmer (2003 and 2004) and Kenny Seebold (2007) to assist in presentations. UKREC, Princeton, March 11, 2003 (20 participants: 14 KY; 6 TN); March 24, 2004 (16 participants: 10 KY, 6 TN), April 5, 2007 (12 participants: 10 KY, 2 TN).
- **UT Agent In-service Tobacco Training.** A three-day training conducted for Tennessee agents with the assistance of other UT faculty to discuss all aspects of burley and dark tobacco production. Lebanon, TN; October 26-28, 2004 (55 participants). I assisted in coordination of this training with other members of the TN Tobacco Priority Team and conducted a three hour dark tobacco training session. Annual one-day UT tobacco agent trainings have also been conducted in 2008-2014 at the UT Highland Rim Research & Education Center in Springfield, TN. I assisted in coordination of these trainings with Paul Denton and made presentations on dark tobacco production. Other presentations made by UT Plant Pathology and Entomology faculty.
- **UK Agent In-service Tobacco Buyout Training.** A one-day training for Kentucky agents with the assistance of other UK faculty to discuss implications of the tobacco buyout. UKREC, Princeton, KY; November 30, 2004 (24 participants). I presented

information on dark tobacco production efficiency related to impacts of the tobacco buyout.

- **UK Agent Updates.** A three-day, multi-disciplinary agent training held in November at 3 locations throughout Kentucky. I conducted 1-hour dark tobacco training sessions. 2005, 2006, 2008, 2010, 2012.
- **UK Plant & Soil Sciences Basic Agent Training.** A one-day agent training held at 3 locations throughout Kentucky. I conducted 3-hour tobacco training sessions. 2005, 2006, 2009.
- **2009 UK Tobacco Agent Trainings.** 2009 tobacco agent trainings were three 1-day trainings, one that focused exclusively on tobacco transplant production (Princeton and Lexington), another on field production (Lexington and Georgetown), and another on curing (Lexington).

On-Farm Research:

I have conducted 102 replicated research trials on private grower sites with county agent and grower collaboration between 2003 and 2013. These on-farm trials have focused on variety evaluation (dark fire-cured, dark air-cured, and burley variety trials), fungicide evaluation for spotting disease and black shank control, nitrogen rate and source comparisons, potassium response evaluations, plasticulture irrigation and fertigation, nitrogen stabilizers, sucker control, and conservation tillage systems. I have conducted on-farm research in nearly every county where dark tobacco is grown in KY and TN, including Caldwell, Calloway, Carlisle, Christian, Daviess, Graves, Henderson, Hopkins, Logan, Lyon, Marshall, Muhlenberg, McLean, Ohio, Simpson, and Trigg counties in Kentucky; and Cheatham, Henry, Montgomery, Robertson, and Stewart counties in Tennessee.

2005 County Agent Evaluation of Specialists:

Maximum score = 3.0, Agents responding for my evaluation varied from 38 to 49.

	<u>Responses</u>	<u>My Score</u>	<u>College Average</u>
Overall Quality of Extension Program	41	2.41	2.41
Provides Resources for Agents	38	2.37	2.45
Willingness to Travel	42	2.80	2.52
Rapport with Clientele	45	2.64	2.49
Quality of Educational Material	42	2.80	2.46
Responds to Phone Calls	49	2.88	2.47
Responds to Emails	44	2.93	2.50
Overall mean evaluation score		2.69	2.47

2008 County Agent Evaluation of Specialists:

Maximum score = 3.0, 21 agents responded for my evaluation

	<u>My score</u>
Degree of interaction	2.52
Overall responsiveness	2.95
Quality of assistance/support	3.00
Value of assistance/support to local program efforts	3.00

2010 County Agent Evaluation of Specialists:

Maximum score = 3.0

	<u>My score</u>	<u>Department average</u>	<u>College average</u>
Degree of interaction	2.71	2.28	2.05
Overall responsiveness	3.00	2.87	2.81
Value of assistance/support	3.00	2.85	2.80
Effectiveness of assistance	3.00	2.84	2.78

2012 County Agent Evaluation of Specialists:

Maximum score = 3.0

	<u>My score</u>	<u>Department average</u>	<u>College average</u>
Degree of interaction	2.22	2.24	2.01
Overall responsiveness	3.00	2.88	2.84
Value of assistance/support	3.00	2.79	2.83
Effectiveness of assistance	3.00	2.82	2.80

2014 County Agent Evaluation of Specialist:

Maximum score = 3

	Degree of Interaction	Overall Responsiveness	Value of assistance	Effectiveness of assistance
Andy Bailey	2.5	3	3	3
Plant & Soil Sciences Mean	2.38	2.94	2.91	2.9

Summary of Extension Meetings, Media Presentations, and Consultations

Program	Number
Winter County Grower Meetings	168 in KY(4152 attendees), 36 in TN(1106 attendees)
County Field Days	14 in KY (516 attendees), 11 in TN (257 attendees)
Television Presentations	26
Radio Presentations	48
Newspaper Interviews	23
Industry Tours of Research	29
Farm Visits	427

Other Extension Activities:

Since the retirement of Paul Denton, former University of Tennessee burley tobacco extension specialist, in May 2013, I have been more active in the large burley production areas of middle TN (Macon, Sumner, Trousdale Counties) in order to fill in until a new burley tobacco extension specialist can be hired. I was active on the search committee for this position which has been recently filled by Eric Walker.

IV. RESEARCH (25% DOE)

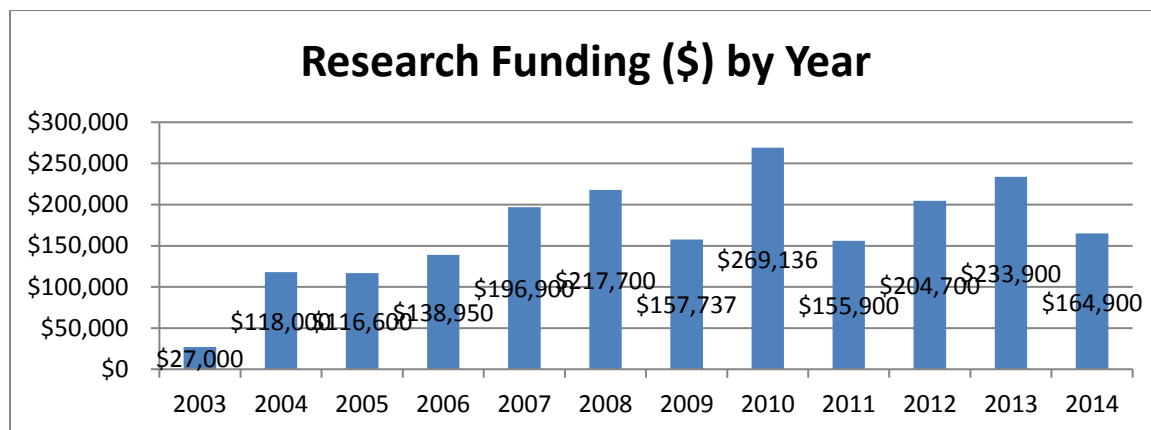
Major Research Events:

47th Tobacco Workers Conference, Nashville TN, January 2016. I will serve as co-chair with Rob Ellis (Station Director at UT Research & Education Center at Greeneville TN) for the 47th Tobacco Workers Conference, which will be hosted by the University of Tennessee in 2016. Tobacco Workers Conference is the premier scientific conference held in the U.S. focusing on tobacco research in agronomy and other related disciplines.

Summary of Extramural (Funded) Research

Sponsor	Grant Award			
	PI	Co-PI	TN*	Total
Tobacco Industry	\$1,460,573	\$136,100	\$78,000	\$1,674,673
Agrochemical Industry	\$268,050	-	\$18,700	\$286,750
Fertilizer Industry	\$35,000	\$5,000	-	\$40,000
Total	\$1,763,623	\$141,100	\$96,700	\$2,001,423

*Denotes funding used to directly support research conducted at the University of Tennessee Highland Rim Research and Education Center, Springfield, TN.



Funded Research Projects: \$2,001,423 total funding, \$1,763,623 to my program.

Research Proposals Submitted and Funded

Evaluation of triple mutant dark hybrids, pale yellow dark lines in double crop curing systems, and conservation tillage systems for dark tobacco. 2014. Altria Client Services, Research Group. \$75,000. PI: Andy Bailey.

Reducing pesticide residues in dark tobacco. 2014. Altria Client Services. \$25,000. PI: Andy Bailey.

Effect of ethephon application on quality and TSNA in dark fire-cured tobacco. 2014. Kentucky Tobacco Research & Development Center. \$5,000. PI: Andy Bailey.

Evaluation of chemical topping strategies in burley tobacco. 2014. Philip Morris International Management. \$14,000. Andy Bailey and Scott Senseman. PI: Scott Senseman. *Submitted through the University of Tennessee to support burley tobacco research efforts in TN in the absence of a UT burley tobacco*

extension specialist. Scott Senseman, UT Plant Sciences department head, agreed to be the lead PI on this research project since my UT appointment is extension only.

Evaluation of conservation tillage systems in burley tobacco. 2014. Philip Morris International Management. \$7,000. Andy Bailey and Scott Senseman. PI: Scott Senseman. *Submitted through the University of Tennessee to support burley tobacco research efforts in TN in the absence of a UT burley tobacco extension specialist. Scott Senseman, UT Plant Sciences department head, agreed to be the lead PI on this research project since my UT appointment is extension only.*

Chemical topping in burley tobacco. 2014. Council for Burley Tobacco. \$5,000. Andy Bailey and Tony Brannon. PI: Tony Brannon. *Tony Brannon, Murray State Univ., was lead PI on this project although I wrote the research proposal and my personnel will be conducting the research project. Proposal was submitted through MSU in an effort to obtain funding for a new tobacco float bed greenhouse that we would use for our work on the West Farm of Murray State.*

Collection of pesticide residue data in dark fire-cured, dark air-cured, and burley tobacco. 2013-2014. CORESTA. \$19,800. Andy Bailey and Bob Pearce. PI: Andy Bailey. \$13,200 to my program.

Reducing TSNA, pesticide residues, and production costs while increasing quality of dark tobacco. 2013. Altria Client Services. \$69,000. PI: Andy Bailey.

Impact of excessive heat during fire-curing, variety evaluation, and use of pale yellow lines in double-crop curing systems. 2013. Altria Client Services, Research Group. \$91,000. PI: Andy Bailey.

Evaluation of black shank resistance in dark tobacco lines. 2013. Kentucky Tobacco Research and Development Center. \$4,500. PI: Andy Bailey.

Spatial analysis of variability in curing conditions and TSNA in dark air-cured tobacco. 2012-2013. CORESTA study grant. \$30,000. (support for M.S. student)

Reducing TSNA, pesticide residues, and production costs while increasing quality of dark tobacco. 2012. Altria Client Services. \$58,000. PI: Andy Bailey.

Field evaluation of nicotine demethylase experimental burley and dark tobacco lines, and effects of excessive heat during fire-curing. 2012. Altria Client Services, Research Group. \$59,500. PI: Andy Bailey.

Evaluation of black shank resistance in dark tobacco lines. 2012. Kentucky Tobacco Research and Development Center. \$10,000. PI: Andy Bailey.

Accumulation of benzo- α -pyrene and TSNA during fire-curing. 2012. British American Tobacco. \$21,300 (\$7,500 to my program for field and curing work). Lowell Bush, Anne Jack, Andy Bailey. PI: Lowell Bush.

Reducing TSNA, pesticide residues, and production costs while increasing quality of dark tobacco. 2011. Altria Client Services. \$63,000. PI: Andy Bailey.

Field evaluation of nicotine demethylase experimental burley Lines, pale yellow dark tobacco lines, and effects of excessive heat during fire-curing. 2011. Altria Client Services, Research Group. \$60,000. PI: Andy Bailey.

Evaluation of ammonium-based sidedress nitrogen sources for dark tobacco. 2011. International Plant Nutrition Institute. \$1,000. PI: Andy Bailey.

Pre-wilting burley tobacco to enhance manual and mechanical harvesting and housing. TERC. 2010-2011. \$75,000. John Wilhoit, Andy Bailey, Bob Pearce, George Duncan, regionally competitive. PI: John Wilhoit.

Influence of nitrogen application timing and source on TSNA production in dark-fired tobacco. 2010. Hail & Cotton, Inc. \$2,000. PI: Andy Bailey.

Evaluation of sidedress nitrogen sources for dark tobacco. 2010. International Plant Nutrition Institute. \$1,000. PI: Andy Bailey.

Reducing TSNA and production costs while increasing quality of dark fire-cured tobacco. 2010. Altria Client Services. \$84,000. PI: Andy Bailey.

Field evaluation of nicotine demethylase experimental burley and dark tobacco lines. 2010. Altria Client Services, Research Group. \$30,580. PI: Andy Bailey.

Evaluation of pale yellow and standard dark tobacco lines to traditional and aggressive fire curing. 2010. Altria Client Services. \$21,456. PI: Andy Bailey.

Improved methods for the application of contact and local systemic suckericides to burley tobacco. Burley Co-op. 2009-2011. \$20,000. Bob Pearce, Andy Bailey, John Wilhoit, regionally competitive. PI: Bob Pearce.

Dark tobacco research and extension program support. 2009. U.S. Smokeless Tobacco Manufacturing/Altria Client Services. \$80,000. PI: Andy Bailey.

Use of indirect firing techniques for dark-fired tobacco. 2009. Altria Client Services. \$3,000. PI: Andy Bailey.

Evaluation of dark tobacco production and curing practices. Philip Morris USA. 2008. \$50,000. PI: Andy Bailey, regionally competitive. (\$25,000 to support dark tobacco variety, nitrogen fertility, housing density, and curing structure research conducted in Kentucky and \$25,000 to support dark tobacco double-crop curing and rotation research conducted at the UT Highland Rim Research and Education Center, Springfield, TN).

Comparison of nornicotine converter and low converter dark tobacco varieties, nitrogen fertility, and leaf chemistry response to fire-curing. Swedish Match NA. 2008. \$5,000. PI: Andy Bailey, regionally competitive.

Evaluation of dark tobacco production and curing practices. Philip Morris USA. 2007. \$43,000. PI: Andy Bailey, regionally competitive. (\$18,000 to support dark tobacco variety, nitrogen fertility, housing density, and curing structure research conducted in Kentucky and \$25,000 to support dark tobacco double-crop curing and rotation research conducted at the UT Highland Rim Research and Education Center, Springfield, TN).

Other Extramural (funded) Research:

Evaluation of experimental fungicides for black shank control. 2014. Syngenta Crop Protection. \$2,000. Steve Bost and Andy Bailey. PI: Steve Bost, Univ. of TN tobacco pathologist. \$2,000 was my portion of the funding for this project.

Effect of BioWish crop liquid on growth enhancement in tobacco transplant production. 2014. BioWish Technologies. \$5,000. Co-PIs: Bob Pearce and Andy Bailey. (\$2,500 to each project).

Effect of Helena additive fertility products on dark tobacco performance. 2014. Helena Chemical Company. \$5,000. PI: Andy Bailey.

Performance of Drexel products for sucker control in burley and dark tobacco. 2014. Drexel Chemical Company. \$4,000. PI: Andy Bailey.

Evaluation of Verimark insecticide in dark tobacco in Kentucky and Tennessee. 2013-2014. DuPont Crop Protection. \$24,000. PI: Andy Bailey.

Performance of Chemtura sucker control products in dark tobacco. 2013. Chemtura AgroSolutions. \$5,500. PI: Andy Bailey.

Performance of Drexel products for sucker control in burley and dark tobacco. 2013. Drexel Chemical Company. \$3,000. PI: Andy Bailey.

Evaluation of Belt insecticide in dark tobacco. 2013. Bayer CropScience. \$2,000. PI: Andy Bailey.

Effect of Helena additive fertility products on dark tobacco performance. 2013. Helena Chemical Company. \$3,000. PI: Andy Bailey.

Comparison of early and late harvest and use of burlap as a field wilting aid in dark-fired tobacco. 2013. Swisher International, Inc. \$2,400. PI: Andy Bailey.

Evaluation of sulfentrazone and clomazone pre-pack formulations for weed control in dark tobacco. 2013. Diligence Technologies. \$6,600. PI: Andy Bailey.

Effect of Corvus and Balance Flex corn herbicides on corn weed control and injury to subsequent burley and dark tobacco plantings. 2012. Bayer CropScience. \$3,500. PI: Andy Bailey.

Evaluation of pre-harvest anti-oxidant application of forced-air during early fire-curing. 2012. Swisher International, Inc. \$4,400. PI: Andy Bailey.

Support for Missouri burley tobacco growers. 2013. Missouri Council for Burley Tobacco. \$150. PI: Andy Bailey.

Support for field testing of pressurized transplant water system in dark tobacco. 2013. DuPont Crop Protection. \$1,000. PI: Andy Bailey.

Brigadier and Capture LFR insecticide performance in dark tobacco. 2012. FMC Corporation. \$3,000. PI: Andy Bailey.

Evaluation of Cyazypyr insecticide, QGU-42 fungicide, and rimsulfuron herbicide in dark tobacco in KY and TN. 2012. DuPont Crop Protection. \$22,000. PI: Andy Bailey.

Evaluation of supplemental fertility programs for dark tobacco. 2011-2012. Helena Chemical Company. \$5,500. PI: Andy Bailey.

Evaluation of chemical sucker control programs for burley and dark tobacco. 2011-2012. Chemtura Corporation. \$10,500. PI: Andy Bailey.

Field testing of Rynaxypyr and Cyazypyr insecticides and QGU-42 fungicide in dark tobacco. 2011. DuPont Crop Protection. \$19,500. PI: Andy Bailey.

Evaluation of methods to reduce TSNA in dark fire-cured tobacco. 2010-2011. Swisher International, Inc. \$4,800. PI: Andy Bailey.

Comparison of nitrate and ammonium nitrogen sources in dark tobacco. 2011. Yara North America, Inc. \$2,000. PI: Andy Bailey.

Evaluation of MO-300 (SoySoap) programs for burley and dark tobacco. 2010. BioBased US. \$5,200. PI: Andy Bailey.

Evaluation of Monty's supplemental fertility programs for dark tobacco in Tennessee. 2010. Monty's Plant Food. \$2,000. PI: Andy Bailey.

Evaluation of sulfentrazone and clomazone rates for dark tobacco in Tennessee. 2010. FMC Corporation. \$7,500. PI: Andy Bailey.

Field testing of herbicide and supplemental fertility programs for dark tobacco. 2010. Diligence Technologies. \$7,500. PI: Andy Bailey.

Field testing of Rynaxypyr and Cyazypyr insecticides and QGU-42 fungicide in dark tobacco in Kentucky and Tennessee. 2010. DuPont Crop Protection. \$18,000. PI: Andy Bailey.

Field testing of Spartan Charge herbicide and Brigadier insecticide for dark tobacco in Tennessee. 2009-2010. FMC Corporation. \$6,000. PI: Andy Bailey.

Field evaluation of tobacco fertility supplements for dark tobacco. 2009-2010. Helena Chemical Co. \$3,000. PI: Andy Bailey.

Sucker control programs for burley and dark tobacco. 2009-2010. Chemtura Corporation. \$16,000. PI: Andy Bailey.

Crop response and performance of Rimon and Alias insecticides in dark and burley tobacco. 2009. Makhteshim-Agan of North America. \$10,000. PI: Andy Bailey.

Use of Nitamin liquid fertilizer programs in dark tobacco. 2009. Georgia-Pacific Chemicals LLC. \$2,900. PI: Andy Bailey.

Field testing of Rynaxypyr and Cyazypyr insecticides in dark tobacco. 2009. DuPont Crop Protection. \$10,000. PI: Andy Bailey.

Evaluation of sulfentrazone and clomazone herbicide combinations in dark tobacco. 2009. Diligence Technologies. \$2,800. PI: Andy Bailey.

Evaluation of Capture LFR and Brigadier insecticides in dark tobacco. 2009. FMC Corporation. \$750. PI: Andy Bailey.

Evaluation of mandipropamid fungicide for blue mold control in burley tobacco. 2009. Syngenta Crop Protection. \$2,800. PI: Andy Bailey.

Influence of pre-harvest ferulic acid application and post-housing air-flow on TSNA reduction in dark fire-cured tobacco. 2009. Swisher International. \$12,987. PI: Andy Bailey.

Dark tobacco research and extension program support. 2008. U.S. Smokeless Tobacco Manufacturing, L.P. \$100,000. PI: Andy Bailey.

Field testing program for transgenic dark and burley tobacco. 2008. GenApps, Inc. and U.S. Smokeless Tobacco Manufacturing, L.P. \$25,000. PI: Andy Bailey.

Field evaluation of tobacco fertility supplements for dark tobacco. 2008. Helena Chemical Co. \$1,200. PI: Andy Bailey.

Sucker control programs for burley and dark tobacco. 2008. Chemtura Corporation. \$8,500. PI: Andy Bailey.

Effect of wet tobacco at housing on dark tobacco leaf chemistry. 2008. Swedish Match NA. \$3,500. PI: Andy Bailey.

Influence of pre-harvest ferulic acid application and post-housing air-flow TSNA reduction in dark fire-cured tobacco. 2008. Swisher International. \$3,500. PI: Andy Bailey.

Evaluation of Belt and Admire Pro insecticides in dark tobacco. 2008. Bayer CropScience. \$6,000. PI: Andy Bailey.

Evaluation of Capture LFR and Brigadier insecticides in dark tobacco. 2008. FMC Corporation. \$1,000. PI: Andy Bailey.

Field testing of mandipropamid fungicide for black shank and blue mold control in dark tobacco. 2008. Syngenta Crop Protection. \$14,000. PI: Andy Bailey.

Dark tobacco research and extension program support. 2007. U.S. Smokeless Tobacco Manufacturing, L.P. \$100,000. PI: Andy Bailey.

Field testing program for transgenic dark and burley tobacco. 2007. GenApps, Inc. and U.S. Smokeless Tobacco Manufacturing, L.P. \$25,000. PI: Andy Bailey.

Evaluation of sucker control chemicals for dark, standard burley, and MH-free burley sucker control programs. 2007. Chemtura Corporation. \$6,800. PI: Andy Bailey.

Evaluation of Novaluron insecticide for budworm and hornworm control in dark tobacco. 2007. Diligence Technologies, Inc. \$1,700. PI: Andy Bailey.

Impact of MaxIn and NuRoot on yield of dark tobacco. 2007. Diligence Technologies, Inc. \$1,700. PI: Andy Bailey.

Phytotoxicity potential of experimental products on dark and burley tobacco. 2007. Diligence Technologies, Inc. \$1,700. PI: Andy Bailey.

Belt insecticide for budworm and hornworm control in dark tobacco. 2007. Bayer CropScience. \$2,000. PI: Andy Bailey.

Capture insecticide for lepidoptera control in dark tobacco. 2007. FMC Corporation. \$500. PI: Andy Bailey.

Research for the benefit of dark air-cured tobacco growers. 2007. Stemming District Tobacco Growers Association. \$1,100. PI: Andy Bailey.

Investigation of the feasibility of Wisconsin cigar binder tobacco production in Tennessee. 2007. Hail & Cotton Tobaccos, Inc. \$7,000. PI: Andy Bailey. Funding used to support research conducted at the Univ. of TN Highland Rim Research and Education Center, Springfield, TN.

Performance of Nitamin L slow-release liquid fertilizer in foliar applications to dark tobacco. 2007. Georgia-Pacific. \$2,500. PI: Andy Bailey.

Influence of pre-harvest ferulic acid application and post-housing air-flow on TSNA reduction in dark fire-cured tobacco. 2007. Swisher International. \$3,900. PI: Andy Bailey.

Dark tobacco research and extension program support. 2006. U.S. Smokeless Tobacco Manufacturing, L.P. \$100,000. PI: Andy Bailey.

Evaluation of etridiazole formulations in dark tobacco transplant production. 2006. Chemtura Corporation. \$1,000. PI: Andy Bailey.

Butralin sucker control performance in MH-free burley and dark tobacco. 2006. Chemtura Corporation. \$7,000. PI: Andy Bailey.

Effect of UBI-4335 on black shank control in dark tobacco. 2006. Chemtura Corporation. \$2,000. PI: Andy Bailey.

Effect of seed source, variety, and curing method on dark tobacco cured leaf chemistry. 2006. Reemtsma Cigarettenfabriken. \$6,950. PI: Andy Bailey.

Dark tobacco leaf chemistry transformations during fire-curing. 2006. Swedish Match NA. \$3,000. PI: Andy Bailey.

Comparison of Admire Pro to Admire 2F and Platinum for insect control and reduction of tomato spotted wilt virus. 2006. Bayer CropScience. \$3,000. PI: Andy Bailey.

Evaluation of NNI-0001 insecticide for lepidoptera control in dark tobacco. 2006. Bayer CropScience. \$2,000. PI: Andy Bailey.

Nitamin slow-release urea performance in dark tobacco. 2006. Georgia-Pacific. \$2,000. PI: Andy Bailey.

Field experiments with Platinum, Quadris, Warrior, Denim, and Ridomil Gold in dark tobacco. 2006. Syngenta Crop Protection. \$1,000. PI: Andy Bailey.

Influence of pre-harvest ferulic acid application and post-housing air-flow on TSNA reduction in dark fire-cured tobacco. 2006. Swisher International. \$11,000. PI: Andy Bailey.

Dark tobacco research and extension program support. 2005. U.S. Smokeless Tobacco Manufacturing, L.P. \$100,000. PI: Andy Bailey.

Evaluation of seed pellet performance in dark and burley tobacco. 2005. F.W. Rickard Seed. \$500. PI: Andy Bailey.

Comparison of etridiazole formulations in dark tobacco transplant production. 2005. Chemtura Corporation. \$1,000. PI: Andy Bailey.

Comparisons of systemic and local systemic sucker control products in dark and burley tobacco. 2005. Chemtura Corporation. \$4,000. PI: Andy Bailey.

Comparison of Admire formulations and Platinum for aphid control and insect-vectored virus infection in dark tobacco. 2005. Bayer CropScience. \$4,000. PI: Andy Bailey.

Influence of pre-harvest ferulic acid application and post-housing air-flow on TSNA reduction in dark fire-cured tobacco. 2005. Swisher International. \$7,100. PI: Andy Bailey.

Dark tobacco research and extension program support. 2004. U.S. Smokeless Tobacco Manufacturing, L.P. \$100,000. PI: Andy Bailey.

Comparison of nitrogen and potassium sources in burley and dark tobacco. 2004. PotashCorp. \$5,000. Co-PIs: Andy Bailey and Lloyd Murdock.

Comparisons of systemic and local systemic sucker control products in dark and burley tobacco. 2004. Crompton Corp. \$2,500. PI: Andy Bailey.

Evaluation of Terramaster tray dip applications and Terrachlor 4F foliar applications in tobacco float systems. 2004. Crompton Corp. \$700. PI: Andy Bailey.

Crop injury interactions of Warrior, MH, and Royal Tac M in burley and dark tobacco. 2004. Crompton Corp. \$800. PI: Andy Bailey.

Comparison of Admire to Platinum for aphid control and transmission of insect-vectored tobacco viruses. 2004. Bayer CropScience. \$2,000. PI: Andy Bailey.

Alternative curing methods for dark fire-cured tobacco. 2004. Swisher International. \$3,500. PI: Andy Bailey.

Influence of ferulic acid application on inhibition of TSNA formation in dark fire-cured tobacco. 2004. Swisher International. \$3,500. PI: Andy Bailey.

Dark tobacco research and extension program support. 2003. U.S. Smokeless Tobacco Manufacturing, L.P. \$20,000. PI: Andy Bailey.

Evaluation of etridiazole formulations in dark tobacco transplant production. 2003. Crompton Corp. \$1,000. PI: Andy Bailey.

Utility of systemic and local systemic sucker control products in dark tobacco. 2003. Crompton Corporation. \$1,000. PI: Andy Bailey.

Comparison of nitrogen and potassium sources in burley and dark tobacco. 2003. PotashCorp. \$5,000. Co-PIs: Andy Bailey and Lloyd Murdock.

Gifted Equipment (to be used in Swisher air flow and ferulic acid curing project)
 Swisher International LP Gas Fired Bulk Tobacco Barn (2007, Value \$15,000)

Applied Research (supported in part by grants from U.S. Smokeless Tobacco Co.):

My research trials are conducted at the University of Kentucky Research and Education Center in Princeton, KY; the University of Tennessee Highland Rim Research and Education Center in Springfield, TN, and the West Farm of Murray State University in Murray, KY. Each of these research locations lies in one of the three major dark tobacco production regions of KY and TN. I have conducted 238 (extramural and applied) replicated research trials at these locations since 2003. Applied research trials include:

- Dark fire-cured commercial variety trials (2003 to present)
- Dark air-cured commercial variety trials (2003 to present)
- Burley commercial variety trials (2006 to present)
- Foliar insecticide performance in dark tobacco (2006 to present)
- Dark tobacco response to applied potassium (2010-2012)
- Effect of crop rotation interval on dark tobacco performance (2007-2011)
- Evaluation of mechanical harvest of dark air-cured and burley tobacco (2008-2011)
- Effect of leaf exposure to soil at harvest on microbial populations and TSNA (2008)
- Effect of flumioxazin herbicide on dark tobacco (2008)
- Effect of foliar copper sulfate applications on field fire of dark tobacco (2009)
- Potential for foliar calcium to enhance cigar-wrapper quality (2008, 2009)
- Comparison of strip-tillage and conventional tillage dark tobacco (2007-2010)
- Evaluation of leaf chemistry effects of double-barn curing practices (2005-2008)
- Refinement of maleic hydrazide use patterns for dark tobacco sucker control (2005)
- Comparison of nitrogen rates for no-till dark tobacco production (2005)
- Weed control methods for no-till dark tobacco production (2004-2005)
- Dark tobacco variety, seed source, and media source interaction trials (2004-2007)
- Comparison nitrogen rates and application timing in dark fired tobacco (2004-2005)
- Drip irrigation techniques for dark fired and burley tobacco (2002-2006)
- Nitrate and ammonium nitrogen sources in dark tobacco (2005-2009)
- Performance of currently available herbicide systems for dark tobacco (2005-2007)
- Bloom stage and topping height comparisons for dark fired tobacco (2005-2006)
- Effect of harvest timing on yield and quality of dark air-cured tobacco (2005-2006)
- Recommended and excessive nitrogen rates in dark tobacco (2003-2006)
- Crop injury interactions with Quadris tankmixes in dark and burley (2005-2006)
- Effect of foliar boron application to dark tobacco (2005-2006)
- Effect of foliar nitrogen application to dark tobacco (2005-2006)
- Envoke and Permit for weed control in dark tobacco (2003-2004)
- Sucker control treatment comparisons for dark tobacco (2003-2014)
- Comparison of Orthene setter water and foliar applications in dark tobacco (2003)

Other Research: Hatch Project

Bailey, W. A. 2007-2011. Formation and reduction of tobacco specific *N*-nitrosamines (TSNA) in dark tobaccos. State Research Project Proposal. Submitted to Kentucky Agricultural Experiment Station.

Bailey, W. A. 2012-2016. Reduction of Tobacco-specific *N*-nitrosamines (TSNA) in dark tobaccos. Revised State Research Project Proposal. Submitted to Kentucky Agricultural Experiment Station.

Proposals Submitted but not funded

Tobacco irrigation timing and amount to maximize yield and minimize TSNA formation. 2014. Philip Morris International Management. \$8,000. Brian Leib and Andy Bailey. PI: Brian Leib, Univ. of TN irrigation engineer, proposal submitted through the Univ. of TN.

Sample preparation for TSNA analysis. 2014. A. Jack, A. Bailey, C. Fisher, and Huihua Ji. British American Tobacco. \$10,000. PI: Anne Jack.

Benzo-a-pyrene production with traditional dark fire-curing practices. 2014. A. Jack, A. Bailey, and Huihua Ji. KTRDC. \$20,000. PI: Anne Jack.

Accumulation of benzo- α -pyrene and TSNA during fire-curing. 2013. British American Tobacco. \$26,500. Anne Jack, Andy Bailey, Lowell Bush. PI: Anne Jack.

Evaluation of frost protection agents in burley tobacco. 2012. Philip Morris International. \$7,000. PI: Andy Bailey.

Effect of alternative fire-curing methods on sensory and leaf quality, TSNA, BaP, and other chemical constituents in traditionally grown fire-cured tobacco. 2012. British American Tobacco. \$36,824. PI: Andy Bailey.

Economics of Invasive Weeds in Major U.S. Agronomic Crops. 2004. Wilcut, J. W. (North Carolina State Univ.), W. A. Bailey (Univ. of Kentucky), T. A. Baughman (Texas A & M Univ.), C. Boerboom (Univ. of Wisconsin), K. W. Bradley (Univ. of Missouri), P. Dotray (Texas A & M Univ.), C. Koger (USDA-ARS), M. Loux (Ohio State Univ.), A. Martin (Univ. of Nebraska), M. D. Owen (Iowa State Univ.), A. J. Price (Auburn Univ.), C. Sprague (Michigan State Univ.), M. J. VanGessel (Univ. of Delaware), T. M. Webster (USDA), G. Wilkerson (North Carolina State Univ.), B. G. Young (Southern Illinois Univ.). Submitted to U.S. Dept. of Agric., Program of Research on the Economics of Invasive Species Management (PREISM). \$248,000. Nationally competitive.

Graduate Students

Major Advisor for Mitchell Richmond, M.S. Crop Science, UK Plant & Soil Sciences department, 2012-2014. Thesis title "Correlation between within-barn variability in curing environment and TSNA in dark air-cured tobacco." Graduated Fall 2014.

Major Advisor for Andrea Keeney, M.S. IPSS, UK Plant & Soil Sciences department, 2016-2018. Thesis title "Effect of chloride-containing potassium source on agronomic characteristics and leaf chemistry of dark air-cured, dark fire-cured, and burley tobacco." Expected graduation Fall 2018.

Co-Advisor (with Bob Pearce) for Mitchell Richmond, Ph.D. IPSS, UK Plant & Soil Sciences Department, 2015-2018. Dissertation title “Chemical Topping of Burley Tobacco.” Expected Graduation Spring 2018.

Graduate Student Committees

- M.S. Committee member for Ryan Brown, M.S. Plant Science, Univ. of TN Plant Sciences department, 2016-2018. Thesis project: “Effect of agronomic practices on alkaloid levels in dark fire-cured tobacco.” Major advisor: Eric Walker.
- M.S. Committee member for Laura Mitchell, M.S. Crop Science, UK Plant & Soil Sciences department, 2012-2014. Thesis project: “Impact of boron on burley and dark tobacco.” Major advisor: Bob Pearce.
- M.S. Committee member for Beau Neal, M.S. Crop Science, UK Plant & Soil Sciences department, 2009-2011. Thesis title “Influence of leaf position and angle on coverage by suckercide applications in burley tobacco.” Major advisor: Bob Pearce.
- M.S. Committee member for Chris Rodgers, Murray State University, 2006-2007. Thesis title “Evaluation of dark tobacco topping styles”. Major advisor: David Ferguson.

V. PUBLICATIONS

Summary of Publications:

Publication Activity	Productivity
Papers published in refereed journals	28 (21 as senior author, 7 as co-author)
Book chapters published (invited-refereed)	1
Papers published for scientific meetings	4
Patents published	1
Abstracts published	101
Research reports	31
Numbered extension publications	27
Extension fact sheets	9
Newsletter articles	3
Popular press articles	42

RESEARCH CONTRIBUTIONS

Refereed Journal Articles Published

Since 1999, I have published 28 refereed journal articles and 1 book chapter. Since being promoted to associate professor in 2008, my research publications include 6 refereed journal articles published plus an invited refereed book chapter published and another book chapter in review. Descriptions of the journals I have published in are as follows:

Weed Technology (18): a leading journal in the field of weed science for basic and applied research. Published six times per year by the Weed Science Society

of America. Acceptance rate is 70%, impact factor is 0.882, and immediacy index is 0.047.

Weed Science (4): a leading journal in the field of weed science for basic and applied research. Published six times per year by the Weed Science Society of America. Acceptance rate is 69%, impact factor is 1.32, and immediacy index is 0.187.

Tobacco Science (4): Currently the only journal with a specific focus on applied tobacco research.

- Richmond, M. D., R. C. Pearce, B. M. Goff, and W. A. Bailey. 2017. Analysis of variability in curing conditions and tobacco-specific nitrosamines within barns of dark air-cured tobacco. *Tob. Sci.* 54:1-9 (*in press*).
- Richmond, M. D., R. C. Pearce, and W. A. Bailey. 2016. Dark fire-cured tobacco response to potassium rate and application method. *Tob. Sci.* 53:12-15.
- Bailey, W. A. 2014. Effect of nitrogen rate on growth, yield, quality, and leaf chemistry of dark tobacco. *Tob. Sci.* 51:13-22.
- Bailey, W. A. and R. C. Pearce. 2014. Experimental herbicide systems for weed control in no-till dark tobacco. *Tob. Sci.* 51:1-7.
- Bailey, W. A., T. W. Lax, R. A. Hill, and M. D. Richmond. 2013. Evaluation of herbicide systems for dark fire-cured tobacco. *Tob. Sci.* 50:34-38.
- Koepke-Hill, R. M., G. R. Armel, K. W. Bradley, W. A. Bailey, H. P. Wilson, and T. E. Hines. 2011. Evaluation of flufenacet plus metribuzin mixtures for control of Italian ryegrass in wheat. *Weed Technol.* 25(4):563-567. *My role on this manuscript was conducting some of the field trials and data collection, and manuscript review.*
- Bailey, W. A. 2007. Dark tobacco (*Nicotiana tabacum*) tolerance to trifloxysulfuron and halosulfuron. *Weed Technol.* 21(4):1016-1022.
- Bailey, W. A., L. R. Fisher, J. W. Wilcut, W. D. Smith, and V. B. Langston. 2004. Tobacco (*Nicotiana tabacum* L.) tolerance to pre-transplant and postemergence applications of diclosulam. *Tob. Sci.* 45:26-29.
- Bailey, W. A., H. P. Wilson, D. E. Brann, and C. A. Griffey. 2004. Wheat (*Triticum aestivum*) cultivar tolerance to AE F130060 03. *Weed Technol.* 18(4):881-886.
- Bailey, W. A. and H. P. Wilson. 2003. Influence of AE F130060 03 application timing on Italian ryegrass (*Lolium multiflorum*) control. *Weed Technol.* 17:842-853.
- Richardson, R. J., W. A. Bailey, G. R. Armel, Cory M. Whaley, H. P. Wilson, and T. E. Hines. 2003. Responses of selected weeds and glyphosate-resistant cotton and soybean to two glyphosate salts. *Weed Technol.* 17:560-564. *My role on this manuscript was conducting the soybean trials involved in this research.*
- Bailey, W. A. and H. P. Wilson. 2003. Control of Italian ryegrass (*Lolium multiflorum*) in wheat (*Triticum aestivum*) with postemergence herbicides. *Weed Technol.* 17:534-542.
- Bailey, W. A., K. K. Hatzios, and H. P. Wilson. 2003. Responses of winter wheat and diclofop-sensitive and -resistant Italian ryegrass (*Lolium multiflorum*) to AE F130060 03. *Weed Sci.* 51:515-522.

- Bailey, W. A., H. P. Wilson, and T. E. Hines. 2003. Weed control and snap bean (*Phaseolus vulgaris*) response to reduced rates of fomesafen. *Weed Technol.* 17:269-275.
- Bailey, W. A. and J. W. Wilcut. 2003. Tolerance of imidazolinone-resistant corn (*Zea mays*) to diclosulam. *Weed Technol.* 17:60-64.
- Bailey, W. A., J. W. Wilcut, and R. M. Hayes. 2003. Weed management, fiber quality, and net returns in no-tillage transgenic and nontransgenic cotton (*Gossypium hirsutum*). *Weed Technol.* 17:117-126.
- Bailey, W. A., J. W. Wilcut, and V. B. Langston. 2002. Diclosulam systems for weed management in peanut (*Arachis hypogaea* L.). *Weed Technol.* 16:807-814.
- Bailey, W. A., D. H. Poston, H. P. Wilson, and T. E. Hines. 2002. Glyphosate interactions with manganese. *Weed Technol.* 16:792-799.
- Bailey, W. A., S. D. Askew, S. Dorai-Raj, and J. W. Wilcut. 2002. Velvetleaf (*Abutilon theophrasti*) interference and seed-rain dynamics in cotton (*Gossypium hirsutum* L.). *Weed Sci.* 51:94-101.
- Bailey, W. A., K. K. Hatzios, K. W. Bradley, and H. P. Wilson. 2002. Absorption, translocation, and metabolism of sulfentrazone in potato (*Solanum tuberosum*) and selected weed species. *Weed Sci.* 51:32-36.
- Bailey, W. A., H. P. Wilson, and T. E. Hines. 2002. Response of potato (*Solanum tuberosum*) and selected weeds to sulfentrazone. *Weed Technol.* 16:651-658.
- Johnson, B. F., W. A. Bailey, H. P. Wilson, D. L. Holshouser, D. A. Herbert, and T. E. Hines. 2002. Herbicide effects on visible injury, leaf area index, and yield in glyphosate-resistant soybean (*Glycine max*). *Weed Technol.* 16:554-566. *My role on this manuscript was assisting with collection of data, data analysis, and writing.*
- Askew, S. D., W. A. Bailey, G. H. Scott, and J. W. Wilcut. 2002. Economic assessment of weed management for transgenic and nontransgenic cotton in tilled and nontilled systems. *Weed Sci.* 50:512-520. *My role on this manuscript was collection of data and assistance in writing.*
- Bailey, W. A., H. P. Wilson, and T. E. Hines. 2001. Influence of cultivation on weed management programs in potato (*Solanum tuberosum*). *Weed Technol.* 15:654-659.
- Wilcut, J. W., S. D. Askew, W. A. Bailey, J. F. Spears, and T. G. Isleib. 2001. Virginia market-type peanut (*Arachis hypogaea*) cultivar tolerance and yield response to flumioxazin preemergence. *Weed Technol.* 15:137-140. *My role on this manuscript was primarily collection of data and manuscript review.*
- Bailey, W. A., J. W. Wilcut, T. G. Isleib, J. F. Spears, and V. B. Langston. 2000. Diclosulam does not influence yields in eight Virginia market-type peanut cultivars. *Weed Technol.* 14:402-405.
- Bailey, W. A., J. W. Wilcut, D. L. Jordan, C. W. Swann, and V. B. Langston. 1999. Response of peanut (*Arachis hypogaea* L.) and selected weeds to diclosulam. *Weed Technol.* 13:771-776.
- Bailey, W. A., J. W. Wilcut, D. L. Jordan, C. W. Swann, and V. B. Langston. 1999. Weed management in peanut (*Arachis hypogaea* L.) with diclosulam preemergence. *Weed Technol.* 13:450-456.

Refereed Journal Articles in Preparation (>50% completed):

Bailey, W. A. and M. D. Richmond. Effect of ordering method on tobacco-specific nitrosamines in burley and dark air-cured tobacco. *Will be submitted to Tobacco Science*.

Bailey, W. A. and W. D. Pitt. Effect of excessive heat during curing on tobacco-specific nitrosamines in dark fire-cured tobacco. *Will be submitted to Tobacco Science*.

Invited Refereed Book Chapters Published:

Bailey, W. A. 2013. Herbicides used in tobacco. *In* Herbicides – Current Research and Case Studies in Use. Andrew Price (Ed.). ISBN 978-953-51-1112-2. New York: InTech publishing. Pp. 175-199.

Invited Refereed Book Chapters Submitted and in Review:

Bailey, A. (Section Editor), D. Martin, J.L. Verrier, and B. Pearce. Integrated weed management for tobacco. *In* Field Guide to Integrated Pest Management. Anne Jack (Ed.). CORESTA publication.

Peer-Reviewed Research Articles Published in *Plant and Soil Science Research Reports* (formerly *Agronomy Notes*):

Bailey, A., T. Lax, and R. Hill. 2014. Comparison of herbicide systems for dark fire-cured tobacco. *Plant and Soil Sciences Research Report*. Vol. 3(1):1-10.

Bailey, A. and B. Pitt. 2012. Effect of tray type and tray covering on wicking speed, germination, and spiral rooting of tobacco. *Plant and Soil Sciences Research Report*. Vol. 1(3):1-4.

***Plant and Soil Sciences Research Reports* in preparation (>50% completed):**

Richmond, M. and A. Bailey. Dark tobacco response to applied potassium. *To be submitted to PSSRR in 2014*.

Bailey, A. Dark tobacco response to nitrogen rate. *To be submitted to PSSRR in 2014*.

Published Manuscripts for International Scientific Meetings:

Bailey, W. A. and R. C. Pearce. 2007. Experimental herbicides for weed control in no-tillage dark tobacco. CORESTA Joint Agro-Phyto Study Group Meeting. Krakow, Poland.

Bailey, W. A., T. Thomas, T. Losty, and J. Brandon. 2006. Effect of pre-harvest ferulic acid application on TSNA levels in dark fire-cured tobacco. CORESTA Congress. Paris, France.

Bailey, W. A. 2004. Influence of nitrogen rate on growth, yield, and leaf chemistry of dark tobacco. CORESTA Congress. Kyoto, Japan.

Bailey, W. A., G. K. Palmer, R. C. Pearce, and R. D. Miller. 2003. Developing an applied research program for dark tobacco. CORESTA Joint Agro-Phyto Study Group Meeting. Bucharest, Romania.

Intellectual Property: Patent Published

Terry Thomas, John Brandon, William A. Bailey, and Thomas A. Losty. Method for reducing nitrosamines in tobacco. U.S. Provisional Patent Application (No.

60/753,683) filed with U.S. Patent and Trademark Office on December 22, 2005. Joint applicants were University of Kentucky Research Foundation and Swisher International, Inc. U.S. Patent application filed December 13, 2006. Patent publication number 20070149408/US-A1. Patent publication date June 28, 2007. NDN 041-0642-0000-3

Abstracts published from presentations at scientific meetings: 101

Since I was hired in 2002, I have been very active in presenting papers at Tobacco Workers Conference, a biennial tobacco research conference held in the United States, as well as CORESTA, the international tobacco research organization that meets each year. Prior to 2002, I was active in presenting papers at other annual conferences such as Weed Science Society of America, Southern Weed Science Society, Northeastern Weed Science Society, Beltwide Cotton Conference, and American Peanut Research and Education Society.

Abstracts published from professional meetings:

<i>Conference</i>	<i>No. of Abstracts</i>	<i>Primary Author</i>	<i>Secondary Author</i>
Tobacco Workers Conferences, 2004-2014	40	16	24
CORESTA Congresses and Agro-Phyto Conferences, 2003-2013	10	7	3
Tobacco Science Research Conferences, 2008-2011	2	2	0
Weed Science Society of America	6	4	2
Southern Weed Science Society	22	18	4
Northeastern Weed Science Society	12	9	3
Beltwide Cotton Conferences	7	3	4
American Peanut Research and Education Society	2	2	0
<i>Total Abstracts</i>	<i>101</i>	<i>61</i>	<i>40</i>

Selected Research Reports:

Andy Bailey. Dark Tobacco Research Data. Annual data summaries and reports of greenhouse and field experiments available for growers, agricultural agents, and industry representatives. 2003-2013. Available online at

<http://ces.ca.uky.edu/darktobacco>

Andy Bailey. Summary report of dark leaf company quality observations of varieties and treatments presented in dark tobacco variety display. Submitted to Dark Leaf Dealers Association. 2007, 2010, 2013.

EXTENSION CONTRIBUTIONS

Peer Reviewed Extension Publications, Plant & Soil Sciences:

Eric Walker, Emily Pfeufer, Andy Bailey, and Bob Pearce. 2017. Minimizing tobacco field diseases. W 441. Joint publication of Univ. of TN and Univ. of KY.

Eric Walker and Andy Bailey. 2017. Boron deficiency in tobacco. W 454. Joint publication of Univ. of TN and Univ. of KY.

Andy Bailey. 2008. Double crop curing dark tobacco. AGR 196. Joint publication of Univ. of KY and Univ. of TN.

Andy Bailey. 2007. Dark tobacco sucker control. AGR 154. Joint publication of Univ. of KY and Univ. of TN.

Bob Pearce, Andy Bailey, and Gary Palmer. 2006. Alternative fertilizer nitrogen sources for tobacco production. Soil Science News & Views. Plant & Soil Sciences publication series. Vol. 26, No. 3. 5 pages.

Andy Bailey. 2006. Harvesting, curing, and preparing dark air-cured tobacco for market. AGR 153. Joint publication of Univ. of KY and Univ. of TN.

Andy Bailey. 2006. Harvesting, curing, and preparing dark fire-cured tobacco for market. AGR 152. Joint publication of Univ. of KY and Univ. of TN.

Gary Palmer, Andy Bailey, and J.D. Green. 2005. Dealing with chemical injury in tobacco. AGR 158.

Andy Bailey and Gary Palmer. 2002. Proper curing management to minimize the occurrence of green tobacco. AGR 177.

Peer Reviewed Extension Publications, Interdepartmental

Laura Powers (Agric. Econ.) and Andy Bailey. 2009. Dark fire-cured tobacco budget. Ver. 3.0, March 2009. Available online at www.ca.uky.edu/cmsspubsclass/files/lpowers/2009%20Dark%20Fire%20Tobacco%20Budget.xls

Laura Powers (Agric. Econ.) and Andy Bailey. 2009. Dark air-cured tobacco budget. Ver. 3.0, March 2009. Available online at www.ca.uky.edu/cmsspubsclass/files/lpowers/2009%20Dark%20Air%20Tobacco%20Budget.xls

Laura Powers (Agric. Econ.) and Andy Bailey. 2008. Dark fire-cured tobacco budget. Ver. 2.0, March 2008. Available online at www.ca.uky.edu/cmsspubsclass/files/lpowers/2008%20Dark%20Fire%20Tobacco%20Budget.xls

Laura Powers (Agric. Econ.) and Andy Bailey. 2008. Dark air-cured tobacco budget. Ver. 2.0, March 2008. Available online at www.ca.uky.edu/cmsspubsclass/files/lpowers/2008%20Dark%20Air%20Tobacco%20Budget.xls

Laura Powers (Agric. Econ.) and Andy Bailey. 2007. Dark air-cured tobacco budget. Ver. 1.0, June 2007. Available online at www.uky.edu/Agriculture/TobaccoEcon/mgmt.html

Laura Powers (Agric. Econ.) and Andy Bailey. 2007. Dark fire-cured tobacco budget. Ver. 1.0, June 2007. Available online at www.uky.edu/Agriculture/TobaccoEcon/mgmt.html

George Duncan (Biosystems & Agric. Engineering) and Andy Bailey. 2005. Guidelines for building and operating a fan-ventilated dark-fired tobacco barn. BAE Departmental Publication 4/2005.

Steve Isaacs (Agric. Econ.) and Andy Bailey. 2005. Dark fire-cured tobacco post buyout budget. Available online at www.uky.edu/Agriculture/TobaccoEcon/mgmt.html

Steve Isaacs (Agric. Econ.) and Andy Bailey. 2005. Dark air-cured tobacco post buyout budget. Available online at www.uky.edu/Agriculture/TobaccoEcon/mgmt.html

Tobacco Production Guide. ID-160. Nationally recognized, multi-state production manual for Kentucky, Tennessee, Virginia, and North Carolina (B. Pearce, editor; A. Bailey and E. Walker, co-editors). 7 editions published: 2007, 2008, 2009-2010, 2011-2012, 2013-2014, 2015-2016, 2017-2018. This is a major peer-reviewed interdepartmental and interuniversity publication that includes authors from UK Plant & Soil Sciences, Plant Pathology, Agricultural Economics, Biosystems & Agricultural Engineering, and Entomology departments, as well as authors from UT Plant Sciences, Agricultural Economics, Plant Pathology, and Entomology departments in KY, TN, VA, and NC. I author or co-author 8 sections of this publication and I am editor of 3 sections. Each section could act as an individual extension publication. Significant revisions are made to each section in each edition. Contributions to ID-160:

B. Pearce, P. Denton, and A. Bailey. Introduction. Kentucky & Tennessee Tobacco Production Guide.

B. Pearce, P. Denton, A. Bailey, and B. Miller. Selecting burley tobacco varieties. Kentucky & Tennessee Tobacco Production Guide.

A. Bailey (section editor) and B. Miller. Choosing dark tobacco varieties. Kentucky & Tennessee Tobacco Production Guide.

B. Pearce, A. Bailey, S. Bost (UT Plant Pathology), K. Seebold (Plant Pathology), and L. Townsend (Entomology). Management of tobacco float systems. Kentucky & Tennessee Tobacco Production Guide.

A. Bailey (section editor), B. Pearce, and P. Denton. Topping, sucker control, and harvest management for burley and dark tobacco. Kentucky & Tennessee Tobacco Production Guide.

J. Wilhoit (Biosystems and Agric. Engineering) and A. Bailey. Facilities and curing. Kentucky & Tennessee Tobacco Production Guide.

A. Bailey (section editor), P. Denton, J. Wilhoit, M. Velandia (UT Ag. Econ.). Stripping and preparation of tobacco for market. Kentucky & Tennessee Tobacco Production Guide.

A. Jack, L. Bush, and A. Bailey. TSNAs in burley and dark tobacco. Kentucky & Tennessee Tobacco Production Guide.

Peer Reviewed Extension Fact Sheets

Andy Bailey and Bill Pitt. 2009. Effect of tray type and tray covering on wicking speed, germination, and spiral rooting of tobacco. Plant & Soil Sciences fact sheet TOB-3-09.

Andy Bailey. 2008. 2008 Dark tobacco float bed report. Plant & Soil Sciences fact sheet TOB-1-08.

Andy Bailey, Gary Palmer, Bob Pearce, and Kenny Seebold. 2007. Tobacco float bed basics. Plant & Soil Sciences fact sheet TOB-5-07.

Andy Bailey. 2007. 2007 Dark tobacco seed source x variety trial. Plant & Soil Sciences fact sheet TOB-3-07.

Andy Bailey. 2006. 2006 Dark tobacco seed source x variety trial. Plant & Soil Sciences fact sheet TOB-3-06.

Bob Pearce, Gary Palmer, and Andy Bailey. 2006. Revised nitrogen fertilizer recommendations for tobacco. Plant & Soil Sciences fact sheet TOB-1-06.

Andy Bailey. 2005. Early maturity and physiological leaf breakdown in dark tobacco. Plant & Soil Sciences fact sheet TOB-6-05.

Andy Bailey. 2005. Mold on curing tobacco. Plant & Soil Sciences fact sheet TOB-2-05.

Andy Bailey and Gary Palmer. 2005. Proper curing management to minimize the occurrence of houseburn in tobacco. Plant & Soil Sciences fact sheet TOB-1-05.

Other Extension Publications:

Bob Pearce, Andy Bailey, Kenny Seebold, and Bob Miller. Guide to Burley Tobacco Varieties. Published annually 2007-2013.

Andy Bailey and Bob Miller. Dark Tobacco Variety Guide. Published annually 2007-2014.

YouTube Videos

Documentary: Dark Fired Tobacco. 2017. Documentary describing processes involved in producing dark-fired tobacco. Andy Bailey, Executive Producer. Univ. of KY Agric. Communications. <https://www.youtube.com/watch?v=f6e05gUKWDE>

Extension Publications under review:

Andy Bailey. Strip-Tillage systems for tobacco. Plant & Soil Sciences fact sheet.

Andy Bailey. Calculation of tobacco barn capacity. Plant & Soil Sciences fact sheet.

Extension Publications in Preparation:

UK Tobacco Field Manual: Field manual for county agents, growers, and others with color pictures and detailed descriptions of common problems in tobacco related to chemical injury, fertility, and environment.

Newsletter Articles:

Andy Bailey. 2017. Soil sampling tips from an expert. *Tobacco Leaders Program Newsletter*. Published by U.S. Smokeless Tobacco Company. Spring 2017.

Andy Bailey. 2008. Management of greenhouses to reduce transplant stress. *Tobacco News*, an online newsletter produced by Univ. of KY tobacco researchers (B. Pearce, editor). April 2008, Vol. 2, issue 1, page 3.

Andy Bailey. 2007. Early season drought may lessen effectiveness of herbicides and increase carryover potential to rotational crops. *Tobacco News*, an online

newsletter produced by Univ. of KY tobacco researchers (G. Palmer, editor).
June 2007. Vol. 1, issue 2.
Andy Bailey. 2003. Herbicide options for weed control in dark tobacco. *Tobacco Talk*,
a publication of U.S. Smokeless Tobacco Manufacturing, L.P. June 2003, No. 15.

Popular Press Articles:

- Bailey, A. and B. Pearce. 2014. Good Agricultural Practices (GAP) for Tobacco. *In* Southern Farmer magazine. *In press*. Annual periodical published by Farm Progress Companies, Inc., St. Charles, IL.
- Bailey, A. 2014. Avoiding excessive heat important in dark fire-cured tobacco. *In* Southern Farmer magazine. *In press*. Annual periodical published by Farm Progress Companies, Inc., St. Charles, IL.
- Bailey, A. 2014. Wet season in 2013 limits dark tobacco yields. *In* Southern Farmer magazine. *In press*. Annual periodical published by Farm Progress Companies, Inc., St. Charles, IL.
- Bailey, A. 2014. Wet 2013 season limits tobacco yields. *MidAmerica Farmer/Grower* 34(2):7-9.
- Bailey, A. 2013. Dark fire-curing methods change. *In* 2013 Tobacco Trends. p. 9. Annual periodical published by Farm Progress Companies, Inc., St. Charles, IL.
- Bailey, A. 2012. Curing methods and materials have changed for dark fire-cured tobacco. *MidAmerica Farmer/Grower* 32(52):13-16.
- Bailey, A. 2012. Selecting varieties of dark tobacco. *In* 2012 Tobacco Trends. p. 12. Annual periodical published by Farm Progress Companies, Inc., St. Charles, IL.
- Bailey, A., B. Pearce, and P. Denton. 2012. Buyers anticipate new rules. *In* 2012 Tobacco Trends. p. 4
- Bailey, A. 2011. Dark tobacco variety selection for 2012. *MidAmerica Farmer/Grower* 31(49):8-9.
- Bailey, A. 2011. Pay attention to contract specifications and buyer suggestions. *MidAmerica Farmer/Grower*. 31(49):12.
- Bailey, A. 2011. Tobacco research highlighted at All-Commodity Field Day at Princeton. *MidAmerica Farmer/Grower*. 31(29):15-16.
- Bailey, A. 2011. UK College of Agriculture All-Commodity Field Day July 21. *MidAmerica Farmer/Grower*. 31(28):18.
- Bailey, A. 2011. UK College of Agriculture All-Commodity Field Day July 21. *MidAmerica Farmer/Grower*. 31(26):16.
- Pearce, B., B. Neal, A. Bailey, and P. Denton. 2011. Can it be done? Growing burley tobacco without maleic hydrazide. *In* 2011 Tobacco Trends. p. 6-7.
- Denton, P., B. Pearce, and A. Bailey. 2011. Newest trend in tobacco tillage: strip till. *In* 2011 Tobacco Trends. p. 4.
- Bailey, A. 2010. Wet conditions create difficult production year. *In* 2010 Tobacco Trends. p. 6-7.
- Pearce, B., P. Denton, and A. Bailey. 2010. Growers beware of 'miracle product'. *In* 2010 Tobacco Trends. p. 8.
- Bailey, A. 2009. Fighting black shank with resistance in dark tobacco. *In* 2009 Tobacco Trends. p. 9.

- Pearce, R., P. Denton, and A. Bailey. 2009. Pasture herbicide drift and carryover damage on tobacco. *In* 2009 Tobacco Trends. p. 6.
- Bailey, A. 2009. Basic management practices for tobacco float systems. *MidAmerica Farmer/Grower*. 29(16):9.
- Bailey, A. 2008. Tobacco curing considerations. *In* *MidAmerica Farmer/Grower*. 28(45):7.
- Bailey, A. 2008. Cool, cloudy weather conditions and tobacco transplant development. *In* *MidAmerica Farmer/Grower*. 28(17):14.
- Pearce, R., G. Palmer, A. Bailey, P. Denton, and D. Peek. 2008. New choices in burley. *In* 2008 Tobacco Trends. p. 4.
- Bailey, A. 2008. Choosing dark tobacco varieties for 2008. *In* 2008 Tobacco Trends. Pp. 16-17.
- Bailey, A. 2007. Avoid taking down high moisture tobacco. *MidAmerica Farmer/Grower*. 27(24):14.
- Bailey, A. 2007. Temperature plays major role in tobacco transplant production. *MidAmerica Farmer/Grower*. 27(15):5.
- Bailey, A., and B. Pitt. 2007. Basic considerations for double-crop curing of dark fired tobacco. *In* 2007 Tobacco Trends. Pp. 9-11.
- Palmer, G., A. Bailey, and B. Pearce. 2007. MH-free burley tobacco. *In* 2007 Tobacco Trends. p. 22.
- Bailey, A. 2006. Tips to curb weather damage on tobacco. *MidAmerica Farmer/Grower*. 26(41):16.
- Bailey, A. 2006. Tobacco float systems require basic management. *MidAmerica Farmer/Grower*. 26(14):7-8.
- Palmer, G., B. Pearce, and A. Bailey. 2006. Selecting burley tobacco varieties for 2006. *In* 2006 Burley & Dark Tobacco Production Guide. Pp. 18-22. Annual periodical published by Farm Progress Companies, Inc., St. Charles, IL.
- Bailey, A. 2006. Combine an art with science. *In* Burley & Dark Production Guide. p. 12-14.
- Bailey, A. 2005. Tobacco curing management to prevent green tobacco. *In* *MidAmerica Farmer/Grower*. 22(45):14.
- Bailey, A. 2005. Early flowering prevalent in 2005 tobacco crop. *In* *MidAmerica Farmer/Grower*. 22(27):9.
- Bailey, A. 2005. Topping tips for dark tobacco. *In* 2005 Burley & Dark Tobacco Production Guide. p. 11.
- Bailey, A. 2004. Tobacco curing management to prevent houseburn. *In* *MidAmerica Farmer/Grower*. 21(43):7.
- Bailey, A. 2004. Considerations for tobacco transplant production in the float system. *In* *MidAmerica Farmer/Grower*. 21(16):11.
- Bailey, A. 2004. Topping and sucker control practices for dark tobacco. *In* Burley & Dark Tobacco Production Guide. p. 13.
- Bailey, A. 2003. Adverse weather conditions continue to threaten tobacco crop. *In* *MidAmerica Farmer/Grower*. 20(41):8.
- Bailey, A. 2003. Topping, sucker control may be difficult for tobacco crop. *In* *MidAmerica Farmer/Grower*. 20(28):6.

- Bailey, A. 2003. There are herbicide options for weed control in tobacco. *In* MidAmerica Farmer/Grower. 20(17):12.
- Miller, B. and A. Bailey. 2003. Selection of a dark fire-cured variety. *In* Burley & Dark Tobacco Production Guide. p. 26.

VI. ELECTRONIC MEDIA DEVELOPED

Web Sites:

Dark Tobacco Web Page. <http://ces.ca.uky.edu/darktobacco> or <http://darktobacco.ca.uky.edu> Comprehensive dark tobacco web site with links to research data, publications, industry news, photo gallery, upcoming events. Developed and released January 2003, continual updates. Over 30,000 visits since March 29, 2005.

Dark Tobacco Agent's Web Page. <http://ces.ca.uky.edu/darktobacco/agent.htm> Web page developed for extension agents with information not available on dark tobacco web page. Developed and released March 2003, continual updates.

CORESTA Subgroup TSNA in Air-Cured and Fire-Cured Tobacco Web Page. http://ces.ca.uky.edu/darktobacco/CORESTA_TSNA_SG Web page developed to provide centralized access to reports and other documents detailing the work of the CORESTA TSNA subgroup.

Dark Tobacco in Kentucky and Tennessee Facebook Page. <https://www.facebook.com/darktobacco> Web page developed using popular social media outlet to highlight current diagnostic problems and facilitate discussion with dark tobacco growers, agents, and others with dark tobacco interest. Developed March 2014, regular postings as needed.

Selected Web Postings:

Schedule of county and regional tobacco production meetings (annually)
Tobacco pesticide labels and MSDSs (annually since 2010)
Tobacco transplant sources (2007)
Results of dark tobacco variety and seed source trials (2006 and 2007)
2005 dark tobacco variety, seed source, and media screen summary (2005)
Dark tobacco weed identification page (2005)
Tobacco pesticide labels (Dark Tobacco Agent's Page, 2005)
Pesticides registered for float beds (Dark Tobacco Agent's Page, 2005)
KY/TN Dark Tobacco Agent Directory (Dark Tobacco Agent's Page, 2005)
Agronomic information for KT D4LC (2005)
Identification of mold on curing tobacco (2004)
Diagnostic photo gallery and variety photo gallery (2004)
University of Kentucky guidelines for on-farm tobacco trials (2003)

University of Tennessee guidelines for on-farm tobacco trials (2003)
Houseburn (2003)
Green tobacco (2003)
Identification of Greenspot phase of Frogeye leafspot (*Cercospora nicotianae*) (2003)
Kentucky dark fire-cured and air-cured tobacco yield estimate based on rainfall (2002)

Selected E-mail postings to Kentucky and Tennessee Extension Agents:

GAP resources (2013-2014)
Drought information (2012)
Wet harvest season information (2009)
Results of dark and burley tobacco variety, seed, and media source trials (2004-2007)
Fire safety checklist for dark-fired tobacco barns (2007)
Pesticides registered for use in tobacco float beds (2006)
Tobacco float bed basics (2006)
Physiological leaf breakdown in dark tobacco (2005)
Quadris emergency registration for tobacco (2004 and 2005)
Calculation of stick capacity in dark tobacco barns (2005)
Design for dark tobacco flake box construction (2005)

VII. SERVICE AND RECOGNITION

Mentoring, Education, and Outreach in Region and Local Community:

Hopkinsville Community College/Murray State University Agricultural Internship Program. Provided tobacco research experience through summer internships (Billy Hooks, 2004-2005; Justin Smiley, 2006; James Wynn, 2007).
Southern Weed Science Society Weed Contest Judge 2003; Poster contest judge, 2004 and 2005; Oral presentation contest judge, 2006 and 2007.
Kentucky State Fair Tobacco Judge. FFA, 4H, and Open Dark and Burley Tobacco Divisions. 2006-2014.
FFA Speech Contest Judge. Regional FFA meeting, Murray State University, 2006-2011.
Project Advisor, Dark-Fired Tobacco Exhibit, "A Giant in our Midst: Dark Fire-cured Tobacco in Middle Tennessee." Customs House Museum & Cultural Center. Clarksville, TN. 2005-2007.
Caldwell County High School Agricultural Independent Study Program. Provided hands-on learning opportunity in dark tobacco research to 5 high school students Sarah Baker, Jayme Davis, Bethany Brandon, Laura Smith (2003); Justin Smiley (2005) in cooperation with Mr. Gerry Baker, Agriculture Teacher, CCHS.
Kentucky FFA State Officers Tour. Gave station tour and dark tobacco production overview to state FFA officers, UKREC, Princeton, KY, 2005 and 2006.
USST/MSU Agricultural Leadership Development Program. Gave station tour and presented tobacco research overview to ALDP participants. UKREC, Princeton, KY, November 2004.

Collaboration with Faculty and Students from other Universities:

Through the research trials that I have conducted at Murray State University's West Farm, I have interacted extensively with Murray State University faculty and students. This interaction has resulted in my collaboration with 18 students and 6 faculty from Murray State University in the production of 23 posters on my research that were presented at *Posters at the Capital*, an annual event hosted by Eastern Kentucky University, Kentucky Community and Technical College System, Kentucky State University, Morehead State University, Murray State University, Northern Kentucky University, University of Kentucky, University of Louisville, and Western Kentucky University. This event is intended to help members of Kentucky's legislature and the Governor understand the importance of involving undergraduates in research and other scholarly and creative work. These posters were also presented at local legislative events.

Selected poster presentations with Murray State University students:

- S. Camp, J. Parrish (MSU students), D. Ferguson (MSU faculty), A. Bailey, R. Hill, and C. Rodgers (Univ. of KY). 2010. Comparison of herbicide treatments for dark tobacco 2010.
- T. Murdock, S. Coleman, J. M. Puckett (MSU students), C. G. Helmers (MSU faculty), R. Hill, C. Rodgers, A. Bailey (Univ. of KY). 2010. The effect of increased potassium levels on tobacco crop yield and leaf quality.
- R. Stuard, K. Vowell, B. Paschall (MSU students), I. Hindayani (MSU faculty), A. Bailey and R. Hill (Univ. of KY). 2010. The impact of various sidedress nitrogen sources on dark-fired tobacco.
- 3 posters presented in 2009.*
- Elliot, C., D. Crouch, D. Hayden, T. Ferguson (MSU students), I. Handayani (MSU faculty), A. Bailey, R. Hill, T. Lax (Univ. of KY). 2008. Dark-fired tobacco responses to different nitrogen fertilizers.
- Parrish, J., I. Story, R. Stuard (MSU students), D. Ferguson (MSU faculty), A. Bailey, R. Hill, T. Lax (Univ. of KY). 2008. Comparison of residual herbicide programs for dark tobacco.
- Craig, B., K. Tapp, L. Thompson (MSU students), T. Brannon, W. Peake (MSU faculty), A. Bailey, R. Hill, T. Lax (Univ. of KY). 2008. The effects of different fungicide applications.
- Craig, B., D. Crouch, C. Elliot, T. Ferguson, D. Hayden, J. Parrish, I. Story, R. Stuard, K. Tapp, L. Thompson (MSU students), T. Brannon, D. Ferguson, I. Handayani, W. Peake (MSU faculty), A. Bailey, R. Hill, T. Lax (Univ. of KY). 2008. 2007 evaluation of dark-fired tobacco.
- Elliot, C., J. Parrish (MSU students), D. Ferguson (MSU faculty), C. Rodgers (graduate student), W. A. Bailey, R. A. Hill, and T. W. Lax (Univ. of KY). 2007. Dark fire-cured tobacco: comparison of bloom stage and topping height.
- Collins, B., B. Craig, D. Crouch, C. Elliot, J. Parrish, M. Roberts, W. Shirley, R. Stuard, K. Tapp (MSU students), D. Ferguson, I. Hindayani, P. Williams (MSU faculty), W. A. Bailey, R. A. Hill, and T. W. Lax (Univ. of KY). 2007. 2006 Evaluation of Dark-fired tobacco.

- Craig, B., M. Roberts, K. Tapp, R. Stuard (MSU students), I. Hindayani (MSU faculty), W. A. Bailey, R. A. Hill, and T. W. Lax (Univ. of KY). 2007. Nitrogen source effects on dark fire-cured tobacco.
- Collins, B., D. Crouch, W. Shirley (MSU students), P. Williams (MSU faculty), W. A. Bailey, R. A. Hill, and T. W. Lax (Univ. of KY). 2007. Comparison of residual herbicide programs for dark-fired tobacco.
- Moss, B. D., C. Rodgers, L. Thompson, D. Hayden, K. Tapp, W. Shirley, J. Galloway (MSU students), K. Bowman, D. Ferguson, P. Williams (MSU faculty), W. A. Bailey, R. A. Hill, and T. W. Lax (Univ. of KY). 2006. Evaluation of dark fire-cured tobacco.
- Moss, B. D., C. Rodgers, L. Thompson (MSU students), K. Bowman (MSU faculty), W. A. Bailey, R. A. Hill, and T. W. Lax (Univ. of KY). 2006. Comparison of bloom stage and topping heights in dark tobacco.
- Galloway, J., W. Shirley (MSU students), P. Williams (MSU faculty), W. A. Bailey, R. A. Hill, and T. W. Lax (Univ. of KY). 2006. Effects of tray-drench insecticide applications for aphid control and reduction of insect-transmitted viruses on tobacco.
- Hayden, D., K. Tapp (MSU students), D. Ferguson (MSU faculty), and W. A. Bailey (Univ. of KY). 2006. Evaluation of herbicides on dark fire-cured tobacco.
- Donoho, L., E. Tilford, B. Hooks (MSU students), K. Bowman, T. Brannon (MSU faculty), and W. A. Bailey (Univ. of KY). 2005. Weed control and crop tolerance provided by herbicide applications for dark tobacco.
- Donoho, L., E. Tilford, B. Hooks, B. D. Moss, C. Rodgers, D. Hayden, C. Hall, W. Shirley (MSU students), K. Bowman, J. Morgan, P. Williams (MSU faculty), W. A. Bailey, R. D. Miller, R. A. Hill, and T. W. Lax (Univ. of KY). 2005. Evaluation of dark fire-cured tobacco.

Formal Teaching Experience:

- Guest Lecturer for Crop Management Class, Iowa State University, Ames IA. December 11, 2013. Overview of Tobacco Production in the U.S.
- Guest Lecturer for PLS 404: Tobacco Production. University of Kentucky. Dark tobacco production. 2009 and 2012.
- Guest Lecturer for Tobacco Production Class, Murray State Univ. Tobacco research methods. September 24, 2012, Murray, KY.
- Guest Lecturer for Crop Management Class, Murray State Univ. Strip-tillage tobacco production. October 25, 2010. Murray, KY
- Guest Lecturer for Advanced Soil Fertility Class, Murray State Univ. Tobacco Fertility. Oct. 28, 2010. Murray, KY.
- Guest Lecturer for Tobacco Production Class, Western Kentucky University. Principles of dark fire-cured tobacco production. Bowling Green, KY. April 2005. 18 students.
- Guest Lecturer for Tobacco Production Class, Western Kentucky University. Principles of flue-cured tobacco production. Bowling Green, KY. April 2003. 15 students.
- Guest Lecturer for Horticulture Class, Henderson County Community College. Tobacco float systems. Henderson, KY. November 2002. 14 students.

Laboratory Instructor for PPWS 4754: Weed Science Principles and Practices. Virginia Tech. 2000.

Laboratory Instructor for PPWS 3104: Plant Pathology. Virginia Tech. 1999.

Laboratory Instructor for CS 414: Principles of Weed Science. N.C. State University. 1997 and 1998.

Host for Visiting Scientists and Others

Hosted Chinese scientists from Zhengzhou Tobacco Research Institute, Henan Province China. Will visit UKREC May 10-15, 2013 to learn about dark tobacco production in the U.S.

Hosted scientists from Swisher International, Jacksonville FL. Visited UKREC October 12-16, 2005 to learn about dark fire-curing.

Hosted representatives from Wisconsin Tobacco Growers Association and Swedish Match NA in November 2007 to learn about dark tobacco production.

Reviewer Service in Scientific Journals:

Journal	Manuscripts Reviewed
<i>Weed Technology</i>	36
<i>Tobacco Science</i>	10
<i>Weed Science</i>	2
<i>Journal of Cotton Science</i>	1
<i>Pesticide Biochemistry and Physiology</i>	1
<i>Planta</i>	1
<i>Applied Engineering in Agriculture</i>	1
<i>National Academy Science Letters</i>	1
Total manuscripts reviewed	53

Reviews for Private Industry Publications:

Butralin Sucker Control Best Use Recommendations, Chemtura Corporation

Flupro Sucker Control Best Use Recommendations, Chemtura Corporation

Royal Tac M Sucker Control Best Use Recommendations, Chemtura Corporation

UKREC Plant Diagnostic Lab service: Tobacco samples

Year	Samples Diagnosed	Samples Consulted
2003	20	9
2004	12	9
2005	11	14
2006	13	10
2007	16	7
2008	18	11
2009	17	10
2010	13	17
2011	25	18
2012	21	4
2013	21	36

Honors and Awards Prior to Employment at UK:

Outstanding Graduate Student Award for the College of Agriculture and Life Sciences, Virginia Tech, 2002
Outstanding Graduate Student Award (PhD), Southern Weed Science Society, 2002
Cunningham Fellowship Recipient for PhD study, Virginia Tech, 1999
Chemistry Award, Sandhills Community College, 1995
Philip Morris Award for Undergraduate Excellence, 1993
Gamma Sigma Delta Agricultural Honor Society
Phi Kappa Phi Honor Society

Invited Presentations and Lectures:

2013 Pennyrile Museum Dark Tobacco Tour. Presented seminar on history and significance of dark tobacco in western Kentucky. September 28, 2013.
2013 UKREC Seminar Series. Ten years of dark tobacco extension and research. March 29, 2013. Princeton KY, videolinked to seminar series in Lexington.
Southern Agribusiness Services CCA Training Seminar. Annual tobacco production seminar. 2004-2013. Nashville, TN. Approx. 15 certified crop advisors in attendance each year.
U.S. Smokeless Tobacco Company Research Seminar. Dark tobacco leaf chemistry research. May 5, 2008. Hopkinsville, KY.
Southern States Growmaster Training Seminar. Tobacco nutrient management seminar. 2008, 2011, 2013. Lexington, KY. Approx. 50 Southern States agronomists in attendance.
U.S. Tobacco Forum. Dark tobacco crop outlook. July 2008 and 2009, Myrtle Beach, SC; June 14, 2012, Raleigh, NC.
Philip Morris International, Burley Grower Workshop. Sprayer calibration. June 2010, 2011, and 2014. Glasgow, Maysville, and Carrollton, KY.
Caldwell County Kiwanis Club. UKREC field day preparation. July 7, 2011. Princeton, KY.
Calloway County Chamber of Commerce. Significance of dark tobacco in Calloway County. May 22, 2012. Murray, KY.
Alliance One International Tobacco Grower Meetings. Tobacco production updates. June 2009, 2010, 2011. Russellville, KY and Hartsville, TN.
Southern States Tobacco Grower Meeting. Tobacco production update. January 2009. Bowling Green, KY.
Hail & Cotton, Inc. Dark Tobacco Fire-Curing Clinic. 2007. Set up fire-curing demonstrations and presented fire-curing information for potential new growers. UKREC, Princeton, KY.
Swedish Match North America Annual Research Summary Meeting. 2007. Presented results of on-going dark tobacco research to Swedish Match representatives. Swedish Match NA Headquarters, Owensboro, KY.
U.S. Smokeless Tobacco Co. Annual Research Summary Meeting. 2003-2006. Presented results of on-going dark tobacco research to USST representatives. Highland Rim Research and Education Center, Springfield, TN.

Dark Leaf Dealers Association Annual Conference, Seminars. Presented overview of production season and research update. 2005-2014. Franklin TN, French Lick IN, Asheville NC, Birmingham AL, Orange Beach AL, Savannah GA, Isle of Palms SC.

Dark Leaf Dealers Association, annual spring meetings. Presented information on current crop status and research updates to leaf dealers. 2003-2012. Hopkinsville, KY.

Mayfield Grain, Inc., Tobacco Grower Meeting. Dark and burley tobacco production overview. 2006 and 2007. Sedalia, KY.

Philip Morris Tobacco Farmer Partnering Program. Presented burley tobacco production seminars. 2 in 2003, 1 in 2004, 2 in 2006. Hopkinsville, KY and Hartsville, TN. Over 750 total attendees.

Kentucky General Assembly Testimony. Testified before members of the Kentucky Tobacco Task Force and the Agriculture and Small Business Committee about current tobacco research. July 18, 2005 and November 15, 2011. Frankfort, KY.

2005 UKREC Seminar Series. Presented information on economic implications of the tobacco buyout to UKREC faculty and staff. May 2005. Princeton, KY

Crop Production Services, Inc., Tobacco Grower Meeting. Dark and burley tobacco production overview. March 17, 2004, CPS facility, Poole, KY.

Philip Morris Burley Short Course Seminar. Weed control practices for burley tobacco. February 11, 2004, Lexington, KY. 35 attendees.

2004 UKREC Seminar Series. Presented information on UK/UT multi-state dark tobacco research and extension programs to UKREC faculty and staff. February 2004.

University of Tennessee Tobacco Recommendations Meeting. December 2003. Presented dark tobacco research results to UT plant science faculty involved in tobacco research.

Invited Forums:

Good Agricultural Practices Forum, Philip Morris USA, Richmond, VA, 2004
TSNA Forum, Philip Morris USA, Richmond, VA, 2006

COMMITTEE SERVICE:

International Committees:

CORESTA Sub-Group IPM, weeds section coordinator, 2006 to present
CORESTA Sub-Group TSNA in air- and fire-cured tobacco, coordinator 2007 to present
CORESTA Pesticide Residue Field Trial Task Force, cooperator 2013 to present

National Committees:

Tobacco Workers Conference, Conference Co-Chair, 2014-2016

Tobacco Workers Conference, Program Committee, Chair Agronomy, 2014
Tobacco Workers Conference, Program Committee, Vice-chair Agronomy, 2012
Tobacco Science Research Conference, Planning Committee, Lexington, 2011
Tobacco Workers Conference, Planning Committee, Lexington, 2010
Tobacco Workers Conference Burley Variety Evaluation Subcommittee, 2008 to present

Tobacco Workers Conference, Resolutions Committee, 2008
Tobacco Workers Conference, Tobacco Pesticide Committee, 2006 to present
Tobacco Workers Conference, Tobacco Growth Regulator Committee, 2006 to present
Tobacco Workers Conference, Awards Committee, Chair 2004
Tobacco Science Editorial Board, 2004
Herbicide Resistant Plants Committee, Weed Science Society of America, 2003 to 2005
Photo Contest Subcommittee, Weed Science Society of America, 2003 to 2007
Extension Award Subcommittee, Weed Science Society of America, 2007 to 2009

State and Regional Committees:

U.S. Smokeless Tobacco Grower Council, 2008 to 2012
Philip Morris USA Tobacco Grower Council, 2008 to 2012
Philip Morris Tobacco Quality Assurance Committee, 2003 to 2007
Kentucky Farm Bureau Tobacco Advisory Committee, ex-officio member, 2012 to present
Tobacco Commodity Committee, Kentucky Seed Improvement Association, 2005 to present
Southern Weed Science Society, Herbicide Resistant Plants Committee, Secretary, 2003 to 2004
Southern Weed Science Society, Graduate Student Awards Committee, 2007 to 2008
Southern Weed Science Society, Computer Applications Committee, 2003-2005
Local Arrangements Committee, North Central Weed Science Society annual meeting, Louisville, KY, 2003

College and University Committees:

UK Tobacco Task Force, 2002 to present
UT Tobacco Priority Team, 2003 to present
UKREC Land Use Committee, 2002 to present, Chair since 2005
UKREC Governance Committee, 2003 to 2004
UKREC Advisory Council, 2005 to 2007, 2009 to 2011, 2013 to 2015
UKREC All-Commodity Field Day Committee, Chairman 2011
UKREC Long-Range Field Day Planning Committee, 2011-2012
UKREC Director Selection Committee, 2012
Kentucky Association of State Extension Professionals, 2003 to present, Board member, 2005 to 2008
UK Extension Marketing Committee, 2006 to 2010
Western Regional Extension Issues and Programming Committee, 2006 to 2008
County Extension Review Team (Ballard, Carlisle, McCracken counties), 2007
County Extension Review Team (Davies, Ohio, and McLean counties), 2011
UT Burley Tobacco Extension Specialist search committee, 2013

Departmental Committees:

UK Department of Plant & Soil Sciences Advisory Committee, 2011-2013
UK Department of Plant & Soil Sciences Promotion & Tenure Committee, 2012
Mentoring committee for Edwin Ritchey, 2010 to present
UK Tobacco Variety Review Board, 2005 to present
UT Weed Control Recommendations Committee, 2005 to present

Department of Plant & Soil Sciences Web Page Committee, 2005 to present
Department of Plant & Soil Sciences Department Display Committee, 2006 to present

Community Activities:

Central Presbyterian Church, Princeton, KY. Elder, session member, 2006-2008
Central Presbyterian Church, Princeton, KY. Finance Committee, Chairman, 2008
Central Presbyterian Church, Princeton, KY. Men's Group, Treasurer, 2005-present
Central Presbyterian Church, Princeton, KY. Youth Group volunteer, 2011 to present

PROFESSIONAL DEVELOPMENT

Memberships in Professional Societies:

CORESTA Tobacco Congress, 2003 to present
Tobacco Workers Conference, 2004 to present
Beltwide Cotton Conference, 1998 to present
American Peanut Research and Education Society, 1998 to present
Southern Weed Science Society, 1998 to present
Weed Science Society of America, 1998 to present

Professional Meetings Attended:

CORESTA Tobacco Congress. 2014. Quebec City, Canada
Tobacco Workers' Conference. 2014. Pinehurst, NC
CORESTA Agro-Phyto Group Meeting. 2013. Brufa di Torgiano, Italy
Tobacco Workers' Conference. 2012. Williamsburg, VA
CORESTA Agro-Phyto Group Meeting. 2011. Santiago, Chile
Tobacco Science Research Conference. 2011. Lexington, KY
CORESTA Tobacco Congress. 2010. Edinburgh, Scotland
Tobacco Workers' Conference. 2010. Lexington, KY
CORESTA Agro-Phyto Group Meeting. 2009. Rovinj, Croatia
Tobacco Science Research Conference. 2008. Nashville, TN
CORESTA Agro-Phyto Group Meeting. 2007. Krakow, Poland
Southern Weed Science Society annual meeting. 2007. Nashville, TN
CORESTA Tobacco Congress. 2006. Paris, France
Southern Weed Science Society annual meeting. 2006. San Antonio, TX
Tobacco Worker's Conference. 2006. Charleston, SC
Southern Weed Science Society annual meeting. 2005. Charlotte, NC
CORESTA Tobacco Congress. 2004. Kyoto, Japan
Tobacco Worker's Conference. 2004. Nashville, TN
Southern Weed Science Society annual meeting. 2004. Memphis, TN
North Central Weed Science Society annual meeting. 2003. Louisville, KY
CORESTA Agro-Phyto Group Meeting. 2003. Bucharest, Romania
Weed Science Society of America annual meeting. 2003. Jacksonville, FL
Southern Weed Science Society annual meeting. 2003. Houston, TX
Tobacco Science Research Conference. 2002. Lexington, KY

In-Service Training:

CPR/First Aid Certification, American Red Cross, 2014

University of Kentucky Coop Extension Professional Development Conference, 2014
University of Kentucky College of Agric. Promotion and Tenure Training (2007-2014)
University of Kentucky College of Agric. Communications Conference 2011
University of Kentucky Extension Conference (2003, 2005, 2007)
University of Kentucky Extension Specialist Conference (2004, 2006, 2008)
Philip Morris Tobacco Farmer/Leaders Program meetings (2005-2010)
U.S. Smokeless Tobacco Agricultural Leadership Development Program (2003-2005)
University of Kentucky Diversity Training (2004 and 2005)
University of Kentucky Grant Writing Training (2005)
University of Kentucky Economic Subject Matter Training (2005)
University of Kentucky Agronomy Faculty Retreat (2004)
University of Tennessee Plant Sciences Faculty Retreat (2004)
Commercial Driver's License, 1996 to present