

## Karen M. Vail

Professor, Extension Urban Entomology Specialist,  
Entomology and Plant Pathology,  
2431 Joe Johnson Drive,  
205 Ellington Plant Science Building  
University of Tennessee,  
Knoxville, TN 37996-4560  
kvail@utk.edu,  
(865)974-7138, (865)974-4744 FAX  
From 2000 to 2007, 10 pages

### I. EDUCATION

1991-1996 Ph.D. Entomology. University of Florida, Gainesville, FL.  
1985-1988 M.S. Entomology. Virginia Polytechnic Institute and State Univ., Blacksburg, VA.  
1981-1985 B.S. Plant Science, Option in IPM. Cook College, Rutgers University, New Brunswick, NJ  
High Honors

### II. PROFESSIONAL EXPERIENCE

<u>Position</u>	<u>Institution</u>	<u>Department</u>	<u>Dates</u>
Professor	University of TN Extension	Entomology & Pl. Path.	2007 - pres.
Associate Prof.	The Univ. of TN Ag. Ext. Serv.	Entomology & Pl. Path.	2000 - 2007
Assistant Prof.	The Univ. of TN Ag. Ext. Serv.	Entomology & Pl. Path.	1996 - 2000
Biological Sci. Tech.	USDA, ARS, CMAVE	IFA & HI	1988 -1996

### III. EXTENSION PROGRAMS

Our urban pest management programs directed at the pest management professional (PMP), county Extension agents, Master Gardeners and the public can potentially impact every one of the 5.5 million residents of Tennessee. Urban Integrated Pest Management (IPM) programs provide effective and economical pest management; protect the balance that exists between the pest, its natural enemies and the environment; reduce reliance on pesticides; and reduce and balance the risk of unnecessary exposure to pest control products with the health risk associated with the pests. They help protect the citizens of this state, improve their quality of life and sustain the pest management industry. Our programs cover household and structural pests for the public and professionals, and lawn and garden pests for the public. Pest identification, a key step to managing pests, is performed via living and preserved specimens and digital images (e-mail, Distance Diagnostics). IPM information is also disseminated through workshops, training sessions and other presentations, publications (printed and electronic), mass media (newspaper, radio, newsletters, TV), phone calls, e-mails, office visits and other meetings. Although this position is 100% Extension, research emphasizes odorous house ant, subterranean termite, school, and fire ant pest management. Formalized teams include UT YEAH (Youth, Environment and Health) with members in College of Social Work, and Family and Consumer Sciences; FARET (Fire Ant Research and Education Team) with core members in UT E&PP and Tennessee State University; and the School IPM Advisory Board with members from pertinent state agencies (Agriculture, Education, Health, Environment and Conservation), PTA, Education Association, pest management industry, and concerned citizens.

### IV. GRANTS AND GIFTS

Number of grants, contracts and gifts (Feb. 1, 1996 through Oct., 2007): 92; Total (grants, contracts & gifts) dollars for use at UT, 1996-2007: \$906,642; Total (grants, contracts & gifts) while at UT, 1996-2007: \$992,562

#### Selected Grants

Vail, K. and P. Parkman. Geier Agreement. 2005 - 2006. Fire Ant Research and Education Team. \$150,000  
Rashid, T., K. Vail, J.P. Parkman, and J. Oliver. 2005. Susceptibility of Imported Fire Ants, *Solenopsis spp.*, to Insecticides Applied to Nursery Root Balls Through a Drip Irrigation System. Horticultural Research Institute. \$14,000  
Flanders, K. And B. Drees. 2005. Taking the Sting Out of Fire Ants. Imported Fire Ant Community of Practice for the eXtension Program <http://www.aces.edu/dept/fireants/documents/ifaextension.pdf>  
(Collaborator, funding for Vail's trip to 2006 fire ant conference)  
Vail, K. and T.A. Canaday. 2005. Norm Ehmann Urban Pest Management Award. Washington State University \$5000  
Vail, K., M. Rogge, M. Keel, and P. Parkman. 2004-2007. Training School Purchasing Officers and Extension Agent Trainers to Increase IPM Adoption in Tennessee's Child-serving Facilities. USDA, Southern Region Integrated Pest Management Grants Program. \$25,339.  
Vail, K. and P. Parkman. Geier Agreement. 2004 - 2005. Fire Ant Research and Education Team. \$150,000

- Vail, K. 2004. Effects of Harborage and Food Availability, Worker Mortality, and Insecticide Applications on Movement (Budding and Foraging) in Laboratory Odorous House Ant, *Tapinoma sessile* (Say), Colonies. Washington State University. Norm Ehmann Urban Pest Management Award \$5000.
- Vail, K. and P. Parkman Geier Agreement. 2003 - 2004. Fire Ant Research and Education Team. \$75,000
- Koehler, P.G. and Faith M. Oi. 2001. Promotion and Maintenance of IPM in Schools and Daycares Through Training and Notification. M. Rogge, K. Vail, M. Keel cooperators (US EPA Region IV Urban Initiative. \$84,000. UT SWORPS subcontract=\$8,680 Funded) 10/1/2002 - 9/30/2003
- Rogge, M., K. Vail, M. Keel, S. Smith, 2001. Children, Pests, and Pesticides in Tennessee. UT Waste Management Research and Education Institute's policy grant. \$29,731. 7/1/2001 - 6/30/2002
- Rogge, M. K. Vail, M. Keel and S. Smith. 2001. Healthy Children and Environments in Tennessee: Reducing Pesticide Risks in Tennessee's Schools and Children's Facilities. UT Environment and Natural Resources Research Council. \$10,000 Mar. 2001 - June, 2001.
- Vail, K., R. Pereira (UT Ag. Exp. Stn.), D. Oi (USDA-ARS, CMAVE), D. Williams (USDA-ARS, CMAVE) and J. Fuxa (LSU). Biological Control of Fire Ants in the U.S. Southern Region USDA, Southern Region IPM Grant. 1999-2001 \$146,032. (UT = \$29,216) September 1, 1999- August 30, 2002.
- Pereira, R., K. Vail, S. Porter, G. Haun and T. Crowe. 2000. Field Release of *Pseudacteon curvatus* for Biocontrol of Black and Red/Black Hybrid Imported Fire Ants in Tennessee. NBCI. 13,300 (UT=\$6,046)

#### **V. PATENT**

- Vail, K. M., D. F. Williams and D. H. Oi. Ant Bait Attractive to Multiple Species of Ants. Filed December 7, 1994 and awarded August 17, 1999. Patent #5,939,061.

#### **VI. PUBLICATIONS (2000 to 2007)**

- Peer-reviewed research articles: 3  
 Research abstract/proceedings: 12  
 Peer-reviewed Extension articles: 48  
 Book Chapters: 1  
 Other Extension publications (269): Notes (38); newsletters and trade journal articles (206); videos/DVDs/CDs (10); web sites (12); and slide sets (3)  
 Interviews: newspaper (24), television (20) and radio (12)

#### **VII. URBAN PEST PRESENTATIONS (2000 to 2007)**

- Scientific: 38  
 Extension (County, Field Days, In-service, etc. and Public): 97  
 Pest Management and Other Professionals: 119 (not including PAT)  
 Pesticide applicator training (PAT):  
     certification training: category 7 Industrial, Institutional, Structural and Health Related Pest Management, pre-recorded Powerpoint with audio, at least 12x/yr;  
     licensing training: GRC (General Pest and Rodent Control, 4x/yr.), WDO (Wood-destroying Organisms, 4x/yr.) and PHMC (Public Health Mosquito Control, up to 4x/yr.);  
     Termite Technician School with Tennessee Department of Agriculture and Industry (up to 3x per year)

#### **VIII. AWARDS**

- 2007 Charles D. Pless Faculty Award for demonstrating leadership in the department through teamwork, dedication and collegiality.  
 PCT (Pest Control Technology) Magazine "Research Up and Comer." October 2000.  
 Outstanding Young Extension Worker of 1999. The University of Tennessee Agricultural Extension Service.

#### **IX. PROFESSIONAL IMPROVEMENT**

- 2007: 19 meetings including 16 out-of-state invited speaking engagements  
 2006: 9 meetings including 7 out-of-state invited speaking engagements (2 national [NPMA, NCUE], 2 regional [NPMA Southern Conference, Pacific Northwest Pest Management Conference], and 3 other state associations)  
 2005: 6 meetings including 2 out-of-state invited speaking engagements (1 national [NPMA], 1 regional [NPMA Southern Conference])  
 2004: 14 meetings including 6 out-of-state invited speaking engagements (1 national [NPMA], 1 regional [SEB ESA], 4 other states)  
 2003: 4 meetings including 4 out-of-state invited speaking engagements (1 national [NPMA], 3 other states)

2002: 9 meetings including 5 out-of-state invited speaking engagements (2 national symposia ESA, 1 national [NPMA], 2 other states)

2001: 7 meetings including 1 out-of-state invited speaking engagement (1 NE ESA)

## **X. SERVICE**

### **A. Client Service: Commodity or discipline group service activities.**

Co-chair, Education Committee, Tennessee Pest Control Association Board, 1999 - 2001.

Member, Program Committee, TPCA Winter School, 1996 - 2002.

Co-organizer, Winter and Summer Technical Schools and Annual Winter Conference East Tennessee Pest Control Association, 2000 - 2001; February Technical School 2002

### **B. Clinical and diagnostic services.**

More than 157 urban insects and arthropods identified. 2007

More than 219 urban insects and arthropods identified. 2006

More than 120 urban insects and arthropods identified. 2005

More than 152 urban insects and arthropods identified. 2004

More than 150 urban insects and arthropods identified. 2003

More than 232 urban insects and arthropods identified. 2002

More than 225 urban insects and arthropods identified. 2001

More than 179 urban insects and arthropods identified. 2000

### **C. Professional Service (for professional colleagues).**

#### **1. Within the university**

##### **Institute or UTIA Committees**

Member, Outstanding New Extension Worker of the Year Award Committee, The University of Tennessee Agricultural Extension Service, 2000 – 2003.

Member, Search Advisory Committee for Professor and Head of the Entomology and Plant Pathology (E&PP) Department, The University of Tennessee, 1999 – 2000.

Member, Job Description and Position Announcement Subcommittee of the Search Advisory Committee for Professor and Head of the Entomology and Plant Pathology Department. The University of Tennessee, 1999 – 2000.

##### **Departmental Committees**

Member, Adhoc Seminar Committee, 2004.

Chair, 2007, 2001, 2000; Member, 2005, 2004, 2003, 2002, Awards Committee.

Member, Arthropod Physiologist Search Committee.

Chair 2003, 2006; Member, 2000 - present, Computer Committee.

Member, Insect Pathologist Search Committee, 2007.

Member, Seminar Committee, 2000 - 2002.

Member, Strategic Planning Committee, 2000 - 2001

#### **2. Outside the university**

##### **a. Association Memberships**

Omega Chapter of Epsilon Sigma Phi, National Honorary Extension Fraternity, Induct. Nov. 98

Tennessee Entomological Society

Entomological Society of America

Florida Entomological Society (1991-1996)

Gamma Sigma Delta

Pi Alpha Xi Honors Fraternity for Plant Science Majors

##### **b. International Services**

United States - Israeli Binational Agricultural Research and Development (BARD) Fund Proposal Review. 2007.

##### **c. National Services**

###### **IPM Activities**

Member, National IPM Committee to advise USDA, CSREES IPM Program Administrators

(Washington, D.C., September 14-15, 1999, October 18-19, 2000)

Invited beta tester for the new web-based Performance Planning and Reporting System (PPRS), for USDA, CSREES, IPM. (January 20-24th, 2000)

### **National Professional Society Services**

Chair, Program Committee, National Conference on Urban Entomology, 2007 - 2008

Member, Community of Practice, eXtension project Fire Ants. 2005 - present

Member, Grant Review Panel Northeast IPM Center, St. Louis, MO. 2006

Chair 2002; Vice-chair 2001; Secretary, 2000; head poster judge, 2006. Section Fb,

Urban Entomology, Entomological Society of America

Chair 2001; member 2000. Recognition Award in Entomology Selection Committee, ESA,

Co-Organizer and Moderator, Section E Symposium: Implementing IPM in Schools: Current Status and Future Prospects. Joint Annual Meeting Societe d'entomologique du Quebec, Entomological Society of Canada and ESA. Montreal, Quebec, CAN. December 2000

Moderator, National Conference on Urban Entomology, Termites, Ft. Lauderdale, FL. May 2000

### **d. Regional Professional Society Services**

#### **Regional IPM**

Co-Organizer (R. Pereira) and Moderator, 2000 Imported Fire Ant Conference (Southern Extension Research Activities - Information Exchange Group SERA-IEG Fire ants). (Chattanooga, TN, April 2000)

Past-chair 2002; Chair, 2001; Secretary, 2000. (Norfolk, VA, 2002; Little Rock, AK 2001; Athens, GA, March 1999; Gainesville, FL, March 1998). Southern Extension Research Activities - Information Exchange Group SERA-IEG 3 (IPM)

Co-Organizer and Moderator, Special Southern Region SERA- IEG3 Meeting, Integrated Pest Management of Schools in the Southern Region. (Atlanta, GA, April 1999)

#### **Regional Professional Society Services**

Program Committee Chair, 2007; At-Large Member, 2005-2007; Poster Judge, 2002, 2006;

Education Committee Member, 1999 - 2002; Southeastern Branch Entomological Society of America (ESA).

### **e. State**

#### **State IPM**

Chair, Fire Ant Stakeholder Advisory Board,( Nashville, 2000 - 2002).

Assistant IPM Coordinator, The University of Tennessee Agricultural Extension Service (UTAES)1999 - 2002

Chairperson, IPM in Schools State Advisory Board (Nashville, TN. November 1999 - present)

Member, 1996-present, Gypsy Moth Advisory Group, Tennessee Department of Agriculture

Member, 1997- 2002, Imported Fire Ant Committee, Tennessee State Plant Health Committee, USDA, APHIS, PPQ with TDA

Member, 1999-present, Tennessee Department of Agriculture, "Master Termite" Committee

#### **State Professional Society Services**

President, 2007; Chair, Awards Committee, 2001- 2004; Member, Awards Committee, 2000; Member, Nominating Committee, 2000; President-elect and Program Chair 2006; Tennessee Entomological Society

### **f. Local**

Pest Management RFP Review Committee for a large Tennessee school district. 2006.

### **g. Review of Publications for Entomological Journals**

Journal of Economic Entomology (2)

Environmental Entomology (1)

Journal of Agricultural and Urban Entomology (6)

American Entomologist (1)

Southwestern Naturalist (1)

Pest Management Science (1)  
 Supplement to the Southwestern Entomologist (1)  
 Annals of the Entomological Society of America (1)

#### h. Review of Publications for Other Institutions

Invited Alumni Participant in the University of Florida Departmental of Entomology & Nematology 10 yr.  
 External review. 2006.  
 Mississippi State University (1). 2005.  
 Florida Entomologist - peer review for Auburn colleague prior to submission (1). 2003.  
 Georgia Cooperative Extension Service (3). 2003.  
 Georgia Cooperative Extension Service (3). 2000.

#### i. Review of Programs for Other Institutions

Clemson University Experiment Station. 2005.  
 South Carolina Agriculture and Forestry Research System, Clemson University. 2002.  
 South Carolina Agriculture and Forestry Research System, Clemson University. 2001.

#### j. Review of Faculty Members (Entomologist) for Promotion and Tenure

University of Florida (2). 2006.  
 University of Arizona (1). 2006.

### XI. Graduate Student Committees (University of Tennessee)

Student	Department	Degree	Role	Dates
T. Aurora Toennisson	Entomology and Plant Pathology	M.S.	Advisor	S2005 -
Derek Bailey	Entomology and Plant Pathology.	M.S.	Advisor	F2002 -
Leah Gibbons	Ecology and Evolutionary Biology	M.S.	Member	F99-Sp2002. Thesis: Assessment of Competition Between Hybrid Imported Fire Ants, <i>Solenopsis invicta</i> x <i>S. richteri</i> , and Native Ants in Southeastern TN.
Shannon James	Entomology and Plant Pathology.	M.S.	Member	Sp99-Sp2000 Thesis: Survival of Imported Fire Ant Species Subjected to Freezing and Near-Freezing Temperatures.

### XII. Formal Teaching Experience (2000 to present)

Course Number and Title	Involvement (total, coordinator, team, guest)	Semester	Credit Hours	# student
EPP321 Economic Entomology - Household Pests	guest	SP 2005	3	5
EPP201 Impact of Insects and Plant Diseases on Human Societies - How Fire Ants "Burned" the South	guest	F 2004, 2005, 2006, 2007	3	5, 6,8,6
Assisted Maryville College student, Amanda McMasters and her advisor, Laura Launen, in senior thesis study, "Brown Recluse Distribution in Eastern Tennessee."	guest	F 2004		1
Special Problems - EPP 531 Pest Management for Camp Tanasi	total, coordinator	SU 2004	3	1
Advanced IPM - Fire ants Lecture	guest	SP 2007	2	8
Advanced IPM - EPP 531 IPM in Schools Lecture	guest	SP 2003, SP 2005	2	11 7
Graduate Seminar in Public Health (Public Health 509, Nutrition 509, Nursing 509, or Social Work 509)	guest	SP 2002	1	2
UT Science Forum, Balancing Risks: Adopting Integrated Pest Management in Schools	guest	SP 2002	1	23
AEE411 - History & Philosophy of Extension	guest	SP 2000		
EPP 531 Special Problems- Experiences in Extension Urban Entomology	total, coordinator	SP 2000		1

### **XIII. Supervisory Duties**

2007: research specialist II; 2 student assistants, 2 graduate students  
 2006: 1 post-doctoral research associate, research specialist II; 2 student assistants, 2 graduate students  
 2005: 1 post-doctoral research associate, research specialist II; 2 student assistants, 2 graduate students  
 2004: 1 post-doctoral research associate, 1 post-baccalaureate student, 1 undergraduate student, 1 graduate student, 1 technician  
 2003: 1 post-baccalaureate student, 1 undergraduate student, 1 graduate student, 1 technician  
 2002: 1 post-baccalaureate student, 1 graduate student, 1 technician  
 2001: 2 undergraduate, 1 graduate student, 1 technician  
 2000: 2 undergraduate, 1 technician

### **XIV. PUBLICATIONS (2000 to present)**

#### **Extension Profession**

##### Book Chapters

Hinkle, N.C., B. Sparks, L. J. Mason, and K. M. Vail. 2003. Extension Entomology, pp. 390-393. *In*, V. Resh & R. Carde [eds.], *Encyclopedia of Insects*, Academic Press.

#### **Household and Structural IPM 2000 - present**

##### Extension

Vail, K. 2007. *Managing Pests Around the Home - Master Gardener Chapter*. UT Extension.  
 Taylor, A.M., S. Quarles and K. Vail. 2007. *Wood Protection for Log Home Owners*. UT Extension PB 1767 (web also, for sale)  
 Vail, K.M., G. Burgess, R. Gerhardt and C. Harper [eds.]. 2001, 2007. PB1673 *General Pest and Rodent Control Pesticide Applicator Licensing Manual (GRC)*. 130 pp. UT Extension . web also  
 Vail, K. 2006. PB 1763. *Bed Bugs Making a Comeback in Tennessee Too!* UT Extension. web also  
 Vail, K. 2003. PB1734. *Commodity and Structural Fumigation*. 170 pp. UT Extension  
 Vail, K.M., E.E. Burgess, R. Gerhardt, C. Jones, J. Skinner and C. Harper. 2003. PB1733. *Public Health Pest Control (Certification Category 8)*. 99 pp. UT Extension . web also  
 Vail, K.M., E.Burgess, R. Gerhardt, and C. Harper. 2003, 2006. PB1732. *Industrial, Institutional, Structural and Health Related Pest Management Certification Manual (Category 7)*. 105 pp. UT Extension . web also  
 Vail, K., G. Burgess , R. Gerhardt and C. Jones.[eds.]. 2002. PB1685 *Public Health Mosquito Control: The Tennessee Mosquito Control Handbook (Pesticide Applicator Licensing Manual)*.pp. 54. UT Extension. web also  
 Vail, K., G. Burgess, C. Pless and B. Bonds [eds.]. 2002, 2006. PB 1703 *Wood-Destroying Organisms Licensing Manual*. UT Extension . web also  
 Vail, K.M. 1997, 2006. PB1596. *Chemical and Nonchemical Management of Fleas*. UT Extension . web also  
 Gerhardt, R., K. Vail, H. Williams and J. New. 1998, 2006. PB726. *Common Ticks of Tennessee and Their Control*. UT Extension . web also  
 Vail, K., H. Hale and W. Klingeman. 2001, 2002. *Boxelder Bugs and Red-shouldered bugs*. Originally developed by H. Williams. UT Extension. web also  
 Vail, K. C. Jones and H. Williams. 2001, 2002. PB 1193. *The Black Widow Spider*. UT Extension . web also  
 Vail, K. and J. Skinner. 2000, 2001. SP341M. *Yellowjacket Wasps in Tennessee*. UT Extension. web also  
 Vail, K.M., H. Williams and J. Yanes, Jr. 2000, 2001. PB1344. *Subterranean Termite Control*. UT Extension .  
 Vail, K. 2000, 2006. SP341S. *Head Lice*. UT Extension . web also  
 Vail, K.M. 1999, 2002. PB1629. *Managing Structure-Invading Ants*. UT Extension. web also  
 Vail, K.M. 1998, 2001, 2006. PB1599. *Carpenter Ants: Those Big Ants in Your Kitchen and Bathroom*. UT Extension. web also  
 Vail, K.M., H. Williams, and D. Hensley 1997,2002. PB1303. *Managing Pests Around the Home*. UT Extension. web also  
 Vail, K.M., H.W. Williams and J.A. Watson. 1998, 2002. PB1191. *The Brown Recluse Spider*. UT Extension. web also  
 Vail, K.M. 1998, 2002. SP503C. *Lady Beetles Infesting Homes*. UT Extension. web also  
 Vail, K.M., H. Williams, J. Skinner and D. Hensley. 1997, 2001, 2006. SP290A. *European Hornets Tapping at Your Window at Night*. UT Extension. web also  
 Vail, K.M., F. Hale and H. Williams. 1996, 1998, 2006. SP341I. *Carpet Beetles*. UT Extension. web also  
 Vail, K.M., H. Williams, J. Skinner and D. Hensley. 1997, 2001, 2006. SP290A. *European Hornets Tapping at Your Window at Night*. UT Extension. web also  
 Vail, K.M., H. Williams and J. Yanes, Jr. 1997, 2006. SP341O. *Silverfish and Firebrats*. UT Extension. web also  
 Vail, K.M., K. Gottfried and R. Gerhardt. 1998, 2006. SP503B. *Mosquito Control Around the Home*. UT Extension. web also  
 Vail, K. and F. Hale. Originally developed by H. Williams. 1999, 2006. SP341-J. *Clothes Moths*. UT Extension.

web also

- Vail, K.M. 2004 - 2007. Pesticide recommendation for Managing Pests Around the Home Suggestions for the General Public in the Insect and Plant Disease Control Manual. UT Extension PB 1690. web also
- Vail, K.M. 2004 - 2007. Pesticide recommendation for Household and Structural Pest Management for Professionals in the Insect and Plant Disease Control Manual. UT Extension PB 1690. web also

#### E&PP Information Notes Household and Structural Pests

- Vail, K., M. 2005. E&PP Info Note#742. Bed Bugs making a Comeback in Tennessee Too!
- Vail, K. and G. Burgess. 2004. Bank of Exam Questions for Tennessee Department of Agriculture Certification Category 7: Industrial, Institutional Structural & Health Related Pest Control. E&PP Info Note 727. (217 Questions).
- Vail, K. and G. Burgess. 2004. Bank of Exam Questions for Tennessee Department of Agriculture Certification Category 8: Public Health Pest Control. E&PP Info Note 728. (253 Questions).
- Vail, K. and G. Burgess. 2004. Bank of Exam Questions for Tennessee Department of Agriculture Licensing Category GRC, General Rodent and Pest Control. E&PP Info Note 729. (331 Questions).
- Vail, K. And G. Burgess. 2004. Bank of Exam Questions for Tennessee Department of Agriculture Licensing Category WDO, Wood-destroying Organisms. E&PP Info Note 730. (190 Questions) .
- Vail, K. 2004. Questions for Chapter 24, Managing Pests Around the Home, of the TNLA TCNP program (10 questions).
- Vail, K.M. 2003. West Nile Virus Web Sites. E&PP Info Note #712.
- Vail, K.M. and R. Gerhardt. 2003. Free Identification for Suspect Brown Recluse Spiders. E&PP Info Note #711.
- Vail, K.M. 2002. White-Footed & Odorous House Ants: Two Major Species - Odorous House Ants. E&PP INFO #700. National Pest Management Association Workbook.
- Vail, K.M. 2002. New Hope for Managing Odorous House Ants. E&PP Info Note #701. Kentucky Pest Control Conference.
- Vail, K.M. 2001. Managing Insect Pests In and Around the Home: Master Gardener Slide Set. E&PP Info Note #676.
- Vail, K.M. 2000- 2003. Pesticide recommendation for Household and Structural Pests Chapter in the Insect and Plant Disease Control Manual. E&PP Info Note 67.

#### Research

- Vail, K.M. and D. Bailey. 2002. Perimeter Baits, Spray or Combinations: Which provide longer odorous house ant (Hymenoptera: Formicidae) Relief for Residential Accounts? p. 435. *In*, S.C. Jones, J. Zhai and W.H. Robinson [eds.], Proceedings of the 4<sup>th</sup> International Conference on Urban Pests. Pocahontas Press, Inc. Blacksburg, VA. Peer-reviewed.
- Oi, D.H., K.M. Vail and D.F. Williams. 2000. Bait Distribution Among Multiple Colonies of Pharaoh ants (Hymenoptera: Formicidae). *J. Econ. Entomol.* 93(4): 1247-1255.

#### Trade Journal

- Vail, K.M., D. Bailey and M. McGinnis. 2003. Successful strategies for managing odorous house ants from the University of Tennessee: Perimeter Spray and Bait Combo. *Pest Control Technology*. July: 96-100. **web**

#### Landscape IPM 2000 to present

##### Extension

- Vail, K., F. Hale and H. Williams. 1997, 2002, 2006 (for-sale). PB595. You Can Control Vegetable Insects. UT Extension. web also
- Vail, K.M. and E. Wills. 2000. PB1639. Chapter 1 - Introduction to Integrated Pest Management of Landscapes. *In* K. Vail and J. Croker [eds.], Integrated Pest Management of Landscapes Manual. UT Extension. web also
- Hale, F., K. Vail, M. Raupp and J. Davidson. 2000. PB1639. Chapter 5 - Insect and Mite Pests of Ornamentals. *In*, K. Vail and J. Croker [eds.], Integrated Pest Management of Landscapes Manual. UT Extension.
- Vail, K. and F. Hale. 2000. PB1639. Chapter 8 - Insects and Other Pests Associated with Turf. *In*, K. Vail and J. Croker [eds.], Integrated Pest Management of Landscapes Manual. UT Extension.
- Vail, K., J. Croker, R. Pereira, F. Hale, J. Davidson and M. Raupp. 2000. PB1639. Chapter 11 - Conserving and Managing Natural Enemies in the Landscape. *In*, K. Vail and J. Croker [eds.], Integrated Pest Management of Landscapes Manual. UT Extension
- Vail, K.M., F. Hale, H. Williams and C. Mannion. 1999, 2002. PB946. Japanese Beetle and Its Control. UT Extension. web also
- Bost, S., K. Vail and F. Hale. 1999, 2001, 2003. PB1622. Disease and Insect Control in Home Fruit Plantings. UT Extension. web also

**E&PP Information Notes: Landscape IPM**

- Vail, K. 2005. Questions for Chapter 8, You Can Control Vegetable Insects of the Tennessee Nursery & Landscape Association (TNLA), Tennessee Certified Nursery Professional (TCNP) program.
- Vail, K. 2004. Questions for Chapter 6, Integrated Pest Management of Landscapes, of the Tennessee Nursery & Landscape Association (TNLA), Tennessee Certified Nursery Professional (TCNP) program.
- Vail, K.M. 2000 - 2003. Pesticide recommendation for the following chapters in the Insect and Plant Disease Control Manual. E&PP Info Note #67:  
 Insects Control for the Home Lawn  
 Home Fruit Spray Schedule  
 Insect Control for Home Gardens
- Vail, K.M. and F. Hale 2004 - 2007. Pesticide recommendation for Insect Control for the Home Lawn Chapter in the Insect and Plant Disease Control Manual. UT Extension PB 1690.
- Vail, K. and F. Hale. 2004 - 2007. Pesticide recommendation for Insect Control for Home Gardens chapter in the Insect and Plant Disease Control Manual. UT Extension PB 1690.

**School IPM 2000 to present****Extension**

- Vail, K.M., M. Keel, M. Rogge and J. P. Parkman. 2006. PB1764 Managing Pests in Childcare Facilities University of Tennessee Extension. web also
- Vail, K.M., J. P. Parkman, M. Keel, and M. Rogge. 2006. PB1603. Suggested Guidelines for Managing Pests in Tennessee's Schools: Adopting Integrated Pest Management (IPM). University of Tennessee Extension (earlier publication by K. Vail printed 1998, 2001). web also
- Vail, K., M. Keel, P. Parkman and M. Rogge. 2006. SP674 Getting Started with IPM in Child-serving Facilities. University of Tennessee Extension. web also

**E&PP Information Notes: School IPM (web also)**

- Vail, K. 2006. UT Extension Child-serving Facility IPM Post-training Quiz Answers. UT E&PP Info Note #749.
- Vail, K., M. Rogge, M. Keel, and P. Parkman., 2005. E&PP Info Note #747. Model Tennessee Pest Management Policy Statement for Schools and Districts.
- Vail, K., M. Rogge, M. Keel, and P. Parkman. 2005. E&PP Info Note #746 Model Tennessee Pest Management Policy Statement for Childcare Centers.
- Vail, K., M. Keel, P. Parkman, and M. Rogge. 2005. E&PP Info Note #745. How to Contract for Childcare Pest Management Services.
- Vail, K., M. Keel, P. Parkman, and M. Rogge. 2005. E&PP Info Note 744. Getting Started With Child-serving Facility IPM.
- Vail, K., M. Keel, P. Parkman, and Mary Rogge. 2005. E&PP Info Note#741. UT Extension Child-serving Facility IPM Post-training Quiz.
- Vail, K., M. Keel, P. Parkman, and Mary Rogge. 2005. E&PP Info Note#740. UT Extension Child-serving Facility IPM Pre-training Quiz.
- Vail, K., M. Keel, P. Parkman, and Mary Rogge. 2005. E&PP Info Note #739. Train-the Trainer IPM in Child-serving Facilities Training Manual.
- Vail, K., M. Keel, P. Parkman, and Mary Rogge. 2005. E&PP Info Note #737. How to Develop Bid Invitations for Pest Control Services in Public Schools.
- Barnwell, P. and K. Vail. 2004. Selected Websites for School IPM: General Information, Contracts and Policies. UT E&PP Info Note #735.
- Underwood, C., K.Vail, and C. Rohrbach. 2003. A Monroe County, TN School IPM Success Story - Reducing the Risk of Pesticide Exposure in Schools. E&PP Info Note #720.
- Vail, K.M. 2003. Why aren't ALL Tennessee schools using IPM? E&PP Info Note #719.
- Vail, K.M. 2002. 2002 Tennessee School District Integrated Pest Management (IPM) Questionnaire. E&PP Info Note #699.
- Vail, K.M. 2002. Child Serving Facility - IPM Log Book E&PP Info Note #704.
- Vail, K.M. 1999, 2001. Tennessee IPM in Schools Survey Report. E&PP Info Note #656.

**Fire Ants 2000 to present****Extension**

- Vail, K., P. Parkman, T. Rashid and H. Morton. 2005. PB 1739 Managing Imported Fire Ants in Urban Areas. University of Tennessee Extension. Modified from B-6043 regional publication, Texas A & M. web also
- Vail, K., P. Parkman, T. Rashid and R. Pereira. 2005. SP419 The Two Step Method: Managing Fire Ants Around Homes and in Neighborhoods (SP419). The University of Tennessee Extension. Originally developed by Mike Merchant and Bart Drees, Texas A & M University. (2001 Vail and Pereira). web also

- Vail, K., T.A. Toennisson and P. Parkman. 2004. SP 624 Fire Ants: What they are and what they aren't. UT Extension Poster.
- Vail, K., P. Parkman, T. Rashid and H.J. Morton. 2004. PB 1740 Managing Imported Fire Ants in Agriculture. UT Extension Web Site <http://fireants.utk.edu>.
- Drees, B. M., S. B. Vinson, R. E. Gold, M. E. Merchant, E. Brown, K. Engler, M. Keck, P. Nester, D. Kostroun, K. Flanders, F. Graham, D. Pollet, L. Hooper-Bui, P. Beckley, T. Davis, O. M. Horton, W. Gardner, K. Loftin, K. Vail, R. Wright, W. Smith, D. C. Thompson, J. Kabashima, B. Layton, P. Koehler, D. Oi, A-M. Callcott. 2006. Managing Imported Fire Ants in Urban Areas, a Regional Publication Developed for: Alabama, Arkansas, California, Florida, Georgia, Louisiana, Mississippi, New Mexico, Oklahoma, South Carolina, Tennessee and Texas. B-6043. Texas Cooperative Extension, Texas A&M University, College Station, TX 22 pp. (Revised in 2000 and 2002 with slightly different authors).
- Barr, C., T. Davis, K. Flanders, W. Smith, L. Hooper-Bui, P. Koehler, K. Vail, W. Gardner, B. Drees, and T. Fuchs. 2006. B-6099 Broadcast Baits for Fire Ant Control. Southern Region IPM Center (& Texas A&M publication 2005).
- Drees, B., C. Barr, D. Shanklin, D. Pollet, K. Flanders, B. Sparks and K. Vail. 1999. B-6076. Managing Red Imported Fire Ants in Agriculture. Texas Agricultural Extension Service.
- Vail, K. 2007. Pesticide recommendation for Fire ants in Pastures chapter in the Insect and Plant Disease Control Manual. UT Extension PB 1690. web also

#### E&PP Information Notes: Fire Ants

- Bailey, D., K. Vail, P. Parkman and J. Ferrell. 2006. Managing Fire Ants in Goat Pastures. E&PP Info Note # 755.
- Vail, K. 2004. Fire Ants in Pastures and Hay Across Tennessee. UT E&PP Info Note #663, Originally dev. 2000, mod. 2004.
- Vail, K.M. 2003. Updated Web Sites for Imported Fire Ants (IFA). UT E&PP Info Note #703.
- Vail, K.M., D. Bailey and J. Oliver. 2002. Granular Fipronil Significantly Reduces a Black Imported Fire Ant Population in Tennessee. UT E&PP Info Note #696.
- Vail, K.M. 2002. History of Imported Fire Ant Bait Production. UT E&PP Info Note #697.
- Vail, K.M. 2002. Web Sites for Imported Fire Ants. UT E&PP Info Note #703.
- Vail, K.M. 2002. Over N' Out™ Fire Ant Killer Granules - A new Fire Ant Product. UT E&PP Info Note #695.

#### Research

- Valles, S., C. Strong, D.Oi, S. Porter, R. Pereira, R. Vander Meer, Y. Hashimoto, L. Hooper-Bu'i, H. Sa'nchez-Arroyo, T. Davis, V. Karpakakunjaram, K. Vail, L. Graham, J. Briano, L. Calcaterra, L. Gilbert, R. Ward, K. Ward, J. Oliver, G. Taniguchi and D. Thompson. 2007. Phenology, distribution, and host specificity of *Solenopsis invicta* virus-1. *J. Invert. Path.* 96:18–27.
- Shannon S. James, Roberto M. Pereira, Karen M. Vail, and Bonnie H. Ownley. 2002. Survival of Imported Fire Ant Species Subjected to Freezing and Near-Freezing Temperatures. *Environmental Entomology* 31(1):127-133.

#### Proceedings and Miscellaneous Publications

- Oliver, J.B, S. James, S. Ochieng, N. N. Youssef, K. Vail, M. A. Halcomb, T. Rashid, J. P. Parkman, W. G. Haun, and A.-M. Callcott. 2006. Evaluation of USDA-APHIS-PPQ Bifenthrin Band Treatment Protocols for Management of Hybrid Imported Fire Ant in Tennessee Field Nursery Stock. Southern Nurseryman Association Proceedings.
- Rashid, T., P. Parkman, J. Oliver and K. Vail. 2006. Mortality response of red, black and hybrid imported fire ants to insecticide treated soil in laboratory bioassays. Annual Red Imported Fire Ant Conference, Mobile, AL, March 28 - 30, 2006. p. 31.
- Rashid, T., P. Parkman, J. Oliver and K. Vail. 2006. Using population index and foraging activity to evaluate broadcast applications of baits and granular insecticides for imported fire ants. Annual Red Imported Fire Ant Conference, Mobile, AL, March 28 - 30, 2006. p. 122.
- T. Rashid, P. Parkman, J. Oliver and K. Vail. 2005. Cool-season Applications of Baits and/or Chemical Drenches to Individual Mounds of Imported Fire Ants. Southern Nurserymen Association August 10 -11, 2005.
- Tahir Rashid, Karen Vail, Patrick Parkman & J. Oliver. 2005. Cool-season Applications of Baits and/or Chemical Drenches to Individual Mounds. Imported Fire Ant Conference, Gulfport, MS March 22 - 24.
- T. Rashid, P. Parkman and K. Vail. 2005. Broadcast Applications of Baits and Granular Insecticides for Imported Fire Ants in Turfgrass. Tennessee Entomological Society, October 13.
- P. Parkman, K. Vail, T. Rashid, J. Oliver, R. Pereira, S. Porter, M. Shires, G. Haun, S. Powell, L. Thead, J. T. Vogt. 2005. Establishment and spread of *Pseudacteon curvatus* in Tennessee, Ann. Red Imported Fire Ant Conf., Gulfport, MS. March 2005.
- Parkman, P., K. Vail, T. Rashid and J. Oliver. 2004. Progress Report on the Tennessee Fire Ant Research and Education Team.

- Jason B. Oliver, Shannon S. James, Ann-Marie Calcott, Karen M. Vail, Nadeer N. Youssef. Pesticides Applied to Individual Fire Ant Mounds during Winter Months as Potential Treatments for Certifying Nursery Stock-2003 Tennessee Trial, March 21-23, 2004, Proceedings of the Red Imported Fire Ant Conference, Sheraton Hotel, Baton Rouge, Louisiana, p. 27.
- Shannon S. James, Anne-Marie Callcott, Jason B. Oliver, Nadeer N. Youssef, and Karen M. Vail. Contact Insecticide Treatments Applied to Fire Ant Mounds during Winter Months as Potential Nursery Quarantine Treatments-2003 Mississippi, March 21-23, 2004, Proceedings of the Red Imported Fire Ant Conference, Sheraton Hotel, Baton Rouge, Louisiana, p. 28.
- K. Vail, J. Oliver, C. Kimbro, D. Bailey, J. Morton, N. Youssef, P. Parkman, S. James and A.-M. Callcott. Pesticide surface treatments applied to fire ant mounds during April as potential nursery quarantine treatments – 2003 Tennessee trials, March 21-23, 2004, Proceedings of the Red Imported Fire Ant Conference, Sheraton Hotel, Baton Rouge, Louisiana (poster), p. 138.
- Crowe, J., J. McCoy, M. Rogge, K. Vail, M. Keel and S. Smith. 2002. Kids, Pests & Chemicals: Regional Workshops in Tennessee 2001 Report.
- Oliver, J.B., D. Bailey, K.M. Vail and A-M. Callcott. 2002 Summary of Insecticide Tests Directed at Managing Imported Fire Ants in Field Nurseries. Proceedings of the Imported Fire Ant Conference, Athens, GA.
- Vail, K. and R. Pereira. 2001. Biological Control of Fire Ants in Tennessee. In 2001 Integrated Pest Management in the Southern Region. Kentucky Cooperative Extension Service. 48 pp.
- Vail, K. 2000. Integrated Pest Management in Tennessee's Schools. 1999. Tennessee Entomological Society *Firefly*.
- Crocker, J. K. Vail and R. Pereira [eds.]. 2000. Proceedings of the 2000 Imported Fire Ant Conference, Chattanooga, TN, April, 2000.

### **Creative Use of Mass Media**

#### **Web sites**

- Morton, H. J. and K. Vail. 2004. Imported Fire Ants in Tennessee web site (>48 separate pages), <http://fireants.utk.edu> .
- Vail, K., H.J. Morton, D. Cook and F. Hale. 2004. Periodical Cicada web site, <http://web.utk.edu/%7eextepp/cicada/Cicadapage.htm> .
- The University of Tennessee Youth, Environment and Health (YEAH) Team web site (<http://utyeah.utk.edu> ).
- Morton, J.H. and K. Vail. 2006. Child-serving Facility IPM UT Blackboard site.
- Morton, J.H. and K. Vail. 2007. Fire Ant UT Blackboard site.

### **Departmental Web Pages**

- Landscape IPM, [http://eppserver.ag.utk.edu/land\\_ipm.htm](http://eppserver.ag.utk.edu/land_ipm.htm)
- Fire ants, <http://eppserver.ag.utk.edu/fireant.htm>
- School IPM, [http://eppserver.ag.utk.edu/sch\\_ipm.htm](http://eppserver.ag.utk.edu/sch_ipm.htm)
- Urban Entomology, <http://eppserver.ag.utk.edu/personnel/Vail/urbanspecialties.htm>
- Personal Web page:
- Publications, <http://eppserver.ag.utk.edu/personnel/Vail/Publications.htm>
- Vita, [http://eppserver.ag.utk.edu/personnel/Vail/Vail\\_vita.pdf](http://eppserver.ag.utk.edu/personnel/Vail/Vail_vita.pdf)
- Teaching, <http://eppserver.ag.utk.edu/personnel/Vail/Teaching.htm>
- Extension/Research, <http://eppserver.ag.utk.edu/personnel/Vail/Extensionwork.htm>
- Personnel, <http://eppserver.ag.utk.edu/personnel/Vail/labpersonell.htm>

- Provided information for the Fire Ant Research at Ames Plantation Web site, <http://www.amesplantation.org/forestry/fire-ants/default.asp>