

**Dr. Frank A. Hale**  
**Professor**  
**Department of Entomology and Plant Pathology**  
**University of Tennessee Extension**  
**5201 Marchant Drive, Nashville, TN 37211**  
[fahale@utk.edu](mailto:fahale@utk.edu), (615) 832-6802

**Curriculum Vitae**

---

- I.** State-wide educational programs (100% Extension appointment) include insect and mite pests of commercial tobacco and commercial horticultural crops (tree fruit, small fruit and vine crops, vegetables [outdoor and greenhouse], turf [sod production, golf course, sports turf, landscape], ornamental trees and shrubs [nursery and landscape], ornamental foliage and flowering plants [nursery, greenhouse and landscape]).
- II. Educational Background**  
1991 Ph.D. Entomology. The Ohio State University, Columbus, OH.  
1979 M.Ag. Entomology. Clemson University, Clemson, S.C.  
1977 B.S. Biology. The University of Cincinnati, Cincinnati, OH.
- III. Relevant Employment**  
2003-present Professor, University of Tennessee Extension.  
1997-2003 Associate Professor, University of Tennessee Extension.  
1992-1997 Assistant Professor, University of Tennessee Extension.  
1989-1992 Coop. Program Assistant, State Survey Coordinator, The Ohio State University  
1980-1983 Extension Agent, Entomology (Pest Management), Texas Agric. Ext. Service
- IV. Grantsmanship**  
USDA CAPS 2016, Cooperative Agreement (Federal), Lead PI: F. A. Hale, PI: S. D. Stewart, J. F. Grant, and A. S. Windham. (\$101,653.00).  
Chappell, M., S. K. Braman, J.-H. Chong, J. Derr, W. Dunwell, A. Fulcher, F. Hale, F. Hand, W. Klingeman, G. Knox, A. LeBude, C. Marble, J. Neal, N. Ward, S. A. White, J. Williams-Woodward, and A. Windham. 2015-2016. IPM for shrubs in Southeastern U.S. Nursery Production (Vol. II), Southern IPM Center - IPM Enhancement Grant Program. (\$39,532).  
Plant Pest Surveillance and Detection Network in Tennessee. CSRREES Plant and Animal System (Southern Plant Diagnostic Network) July 1, 2016 -June 30, 2017. (\$30,000.00). Pending.  
Byrne, D., PD/PI, M. Windham, Co-PD/PI, J. Hammond, Co-PD/PI, M. Paret, Co-PD/PI, J. Olson, Co-PD/PI, T. Evans, Co-PD/PI, H. B. Pemberton, Co-PD/PI, P. Klein, Co-PD/PI, X. Wang, Co-PD/PI, K. Ong, Co-PD/PI, F. Hale, Co-Investigator, A. Windham, Co-Investigator, G. Knox, Co-Investigator, R. Ochoa, Co-Investigator,

- R. Jordan, Co-Investigator, F. Ochoa Corona, Co-PD/PI, C. Hall, Co-PD/PI, L. Ribera, Co-PD/PI. 2014. USDA-SCRI-NIFA. Combatting Rose Rosette Disease: Short and Long Term Approaches. 9/1/2014 – 9/31/2019 (\$3,315,464.00 for first 3 years of a five year grant. At the end of the third year, progress will need to be demonstrated to obtain the last two years of funding).
- Hale, F. A., D. D. Hensley, S. Bost, and A. S. Windham. Plant Pest Surveillance and Detection Network in Tennessee. CSREES Plant and Animal System (Southern Plant Diagnostic Network) July 1, 2015 -June 30, 2016. (\$22,727.00).
- USDA CAPS 2015, Cooperative Agreement (Federal), Lead PI: F. A. Hale, PI: S. D. Stewart, P. S. Grewal, J. F. Grant, A. S. Windham, M. T. Windham, and H. M. Young. (\$101,653.00).
- Southern Region IPM Center, IPM Enhancement Program, ‘IPM for Shrubs in Southeastern U. S. Nursery Production (Vol. I), a SNIPM Working Group Effort.’ 5/1/2013 – 4/30/2014. S. A. White, A. Fulcher, J.-H. Chong, A. LeBude, C. Adkins, K. Braman, M. Chappell, J. Derr, W. Dunwell, S. Frank, F. Hale, W. Klingeman, G. Knox, J. Neal, N. Ward, A. Windham, and J. Williams-Woodward. (\$29,983)
- USDA Forest Service grant for ‘Outreach Activities to Enhance Survey and Detection of Thousand Cankers Disease in Black Walnuts.’ 2013. J. F. Grant, P. L. Lambdin, M. T. Windham, F. A. Hale, and A. Windham. (\$17,000)
- USDA CAPS 2014, Cooperative Agreement (Federal). F. Hale, P. Grewal, and J. Grant. (\$101,653.20)
- Hale, F. A., D. D. Hensley, A. Windham, B. Kauffman, S. Bost, and E. Long. CSREES Plant and Animal System (Southern Plant Diagnostic Network) grant for ‘Plant and Pest Surveillance and Detection Network in Tennessee. 2013-2014. (\$22,000.00)
- USDA CAPS 2013, Cooperative Agreement. (Federal). E. Long and F. Hale. (\$110,249.70)
- Southern Risk Management Education Center grant for ‘Mitigating Risk with Systems-Based Pest Management for Tennessee Nursery Owners, Producers, and Hispanic Work Force.’ 2013. D. R. Cochran, A. Fulcher, F. Hale, and A. Windham. (\$38,971)

## **V. Honors and Awards**

- 2015, Southern Region IPM Educator Award.
- 2015, Southern Region IPM Center Friends of IPM – Bright Idea Award awarded to the Social Media Team for the UT Soil Plant and Pest Center (Dr. Alan Windham, Dr. Frank Hale, Dr. Darrell Hensley and Debbie Joines).
- 2015, Southern Region IPM Center Friends of IPM – Pulling Together Award awarded to The UT Thousand Cankers Disease Team.
- 2015, Outstanding Book Award for IPM for Shrubs in Southeastern U.S. Nursery Prod., to the Southern Nursery IPM (SNIPM) Working Group, The American Society for Horticultural Science, Extension Division.

## VI. Publications

### A. Refereed articles and refereed reviews appearing in peer-reviewed professional journals.

- Fulcher, A., N. Ward Gauthier, W. E. Klingeman, F. Hale, and S. A. White. 2015. Blueberry culture and pest, disease, and abiotic disorder management during nursery production in the southeastern U.S.: A review. *J. Environ. Hort.* 33(1):33-47. March 2015.
- Klingeman, W. E., S. A. White, A. LeBude, A. Fulcher, N. W. Gauthier, and F. A. Hale. 2014. Arthropod pests, plant diseases and abiotic disorders and their management on *Viburnum* species in the southeastern U.S.: A Review. *Journal of Environmental Horticulture*, 32(2):84-102.
- Fulcher, A., J. H. Chong, S. A. White, J. C. Neal, J. Williams-Woodward, C. Adkins, K. Braman, et al., F. A. Hale, W. E. Klingeman, et al, and A. S. Windham. 2013. Developing a mobile application as an extension education tool: A case study using IPMPro. *HortTechnology*, 23(4):402-406.
- Fulcher, A., S. A. White, J. H. Chong, J. C. Neal, J. Williams-Woodward, C. Adkins, K. Braman, et al., F. A. Hale, et al., and A. S. Windham. 2013. Testing, promoting, and launching a mobile application as an extension tool: A case study with IPMPro. *HortTechnology*, 23(4):407-410.
- Hakeem, A., J. F. Grant, G. J. Wiggins, P. L. Lambdin, F. A. Hale, D. S. Buckley, J. Rhea, J. P. Parkman, and G. Taylor. 2013. Factors affecting establishment of *Sasajiscymnus tsugae* (Coleoptera: Coccinellidae), an introduced predator of hemlock woolly adelgid (Hemiptera: Adelgidae) on eastern hemlock (Pinales: Pinaceae). *Environmental Entomology*, Vol. 42, Issue 6, pp. 1272-1280.
- Fulcher, A., W. E. Klingeman, J. H. Chong, A. LeBude, G. R. Armel, M. Chappell, S. Frank, F. A. Hale, J. Neal, S. White, J. Williams-Woodward, K. Ivors, C. Adkins, A. Senesac, and A. S. Windham. 2012. Stakeholder vision of future direction and strategies for southeastern U.S. nursery pest research and Extension programming. *J. Integrated Pest Management*, 3(2): D1-D8.
- LeBude, A., S. White, A. Fulcher, S. Frank, W. E. Klingeman, J. Chong, M. Chappell, W. Dunwell, K. Ivors, C. Adkins, A. S. Windham, K. Braman, and F. A. Hale. 2012. Assessing the Integrated Pest Management Practices of Southeastern U.S. Ornamental Nursery Operations. *Pest Management Science*, 68: 1278-1288.

### B. New Publications: Book chapters, bulletins, reports, circulars, pamphlets, fact sheets

- Chong, Juang-Horng, W. E. Klingeman, and F. A. Hale. 2015. An ornamental plant pest management guide and pesticide rotation planning aid. W 329, UT Extension, UT AgResearch and Clemson University.
- Lockwood, D., W. E. Klingeman, F. A. Hale, and N. Bumgarner. 2015. Edible ornamental plant pest management: Options for controlling arthropod pests on fruiting trees and shrubs in residential landscapes. W 339, UT Extension and UT AgResearch.

- Fulcher, A., N. W. Gauthier, W. E. Klingeman, and F. Hale. 2014. Blueberry – *Vaccinium* spp. book chapter 4, IPM for Shrubs in Southeastern U.S. Nursery Production. S. A. White and W. E. Klingeman, eds. Southern Nursery IPM Working Group, Knoxville, TN. 175p.  
[http://wiki.bugwood.org/IPM\\_Shrub\\_Book](http://wiki.bugwood.org/IPM_Shrub_Book)
- Klingeman, W. E., S. A. White, A. V. LeBude, N. W. Gauthier, F. Hale and A. Fulcher. 2014. Viburnum – *Viburnum* spp. book chapter 5, IPM for Shrubs in Southeastern U.S. Nursery Production. S. A. White and W. E. Klingeman, eds. Southern Nursery IPM Working Group, Knoxville, TN. 175p.  
[http://wiki.bugwood.org/IPM\\_Shrub\\_Book](http://wiki.bugwood.org/IPM_Shrub_Book)
- Seebold, K., B. Pearce, S. C. Bost, D. D. Hensley, and F. A. Hale. 2013. Pest Management. In 2013-2014 Kentucky/Tennessee Tobacco Production Guide.
- Adkins, C. R., S. K. Braman, M. R. Chappell, J. -H. Chong, J. F. Derr, W. C. Dunwell, S. D. Frank, J. Williams-Woodward, A. Fulcher, F. A. Hale, W. E. Klingeman, G. W. Knox, A. V. LeBude, M. L. Paret, J. C. Neal, J. R. Sidebottom, N. A. Ward, S. A. White, and A. S. Windham. 2012. IPM for Select Deciduous Trees in Southeastern US Nursery Production. Print ISBN: 978-0-9854998-1-5.
- Fulcher, A., F. A. Hale, and A. S. Windham. 2012. Integrated pest management of Cornus. book chapter, IPM for Select Deciduous Trees in Southeastern US Nursery Production. 2012. A. Fulcher and S.A. White, eds. Southern Nursery IPM Working Group, Knoxville, TN. 324p.
- Gorsuch, C. S., and F. A. Hale. 2012. Armyworm. In Handbook of Turfgrass Insects, Second edition, Edited by R. L. Brandenburg and C. P. Freeman, Entomological Society of America.

## VII. Synergistic Activities

- Facebook site for the UT Soil, Plant and Pest Center had our best outreach in 2013. Digital images and educational plant pest alerts continue to give the site state, national, and international exposure.  
<http://www.facebook.com/SoilPlantPestCenter>
- Fulcher, A., J.-H. (JC ) Chong, S. White, J. Williams-Woodward, C. Adkins, K. Braman, M. Chappell, J. Derr, W. Dunwell, S. Frank, S. Gill, F. Hale, W. Klingeman, A. LeBude, J. Neal, K. Rane and A. Windham. 2012. IPMPro App. Android and iPhone, iPod Touch, and iPad-compatible Green Industry app on major pests and plant care practices. <http://wiki.bugwood.org/SNIPM>
- Fulcher, A., J.-H. (JC ) Chong, S. White, J. Williams-Woodward, C. Adkins, K. Braman, M. Chappell, J. Derr, W. Dunwell, S. Frank, S. Gill, F. Hale, W. Klingeman, A. LeBude, J. Neal, K. Rane and A. Windham. 2012. IPMLite App. Android and iPhone, iPod Touch, and iPad-compatible app on major pests and plant care practices for gardeners. <http://wiki.bugwood.org/SNIPM>
- First Detector Entomology Training Project for Master Gardeners. 2012. These online training modules provide a good overview of arthropods, insects and

entomology. This project was been a team effort led by N. Hummel and M. L. Ferro. Other team members include C. Carlton, K. Machtmes, A. Morgan, K. Nix, D. Ring, M. Abney, H. Burrack, M. Bertone, A. Hodges, S. Stocks, K. Douce, J. LaForrest and F. Hale. <http://wiki.bugwood.org/FD-ENT>

Fruit Pest News, online newsletter with Extension Plant Pathologist, Dr. Steve Bost for Fruit and vegetable growers in Tennessee during the 2006-2014 growing seasons at: <http://web.utk.edu/~extepp/fpn/fpn.htm>

Distance Diagnosis through Digital Imaging. Identification of insect and mite pests with control recommendations given via Distance Diagnostics web site in which I diagnosed digital Distance Diagnostic samples each year with diagnostician Bruce Kauffman.