

Virginia R. Sykes

Assistant Professor
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Department of Plant Sciences
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Summary

Dr. Sykes has Extension and research responsibility for the University of Tennessee variety testing program and field crop agroecology. Her current work focuses on improving methodology and data delivery in variety evaluation and determining best management practices to optimize economic and environmental benefits of conservation agriculture practices such as cover crops, crop rotations, and perennial ground covers (appointment: 75% Extension, 25% research).

Education

Ph.D. in Plants, Soils, and Insects (Plant Breeding), 2014

University of Tennessee, Knoxville, TN

Dissertation: Evaluation of Traits Associated with Breeding for Improved Biomass and Ethanol Yield in Switchgrass

M.S. in Statistics, 2014

University of Tennessee, Knoxville, TN

M.S. in Life Science (Turfgrass Pathology), 2009

Virginia Tech, Blacksburg, VA

Thesis: Use of digital image analysis to identify *Rhizoctonia solani* and *Rhizoctonia zeae* resistance in *Schedonorus phoenix* plant introductions

B.S. in Business (Marketing Management), 2006

Virginia Tech, 2006

Study Abroad in India, 2004

Pamplin College of Business, Virginia Tech

Work Experience

Assistant Professor – Variety Testing and Agroecology (Jan. 2017 – Present)

University of Tennessee – Knoxville, TN

Responsibilities: Coordinate the state agronomic variety testing program for corn and soybeans and direct applied research and extension in the area of agroecology

Research Assistant Professor – Variety Testing (Jan. 2016 – Dec. 2016)

University of Tennessee – Knoxville, TN

Responsibilities: Coordinated the state agronomic variety testing program for corn and soybeans

Research Associate II – Variety Testing (May 2013 – Dec. 2015)

University of Tennessee – Knoxville, TN

Responsibilities: Led a team of graduate and undergraduate students to accomplish day to day technical aspects of the state agronomic variety testing program for corn, silage, soybeans, and wheat

Graduate Research Assistant – Plant Breeding and Genetics (June 2010 – May 2013)

University of Tennessee - Knoxville, TN

Responsibilities: Researched improved methods for switchgrass cultivar evaluations and determined quantitative genetic parameters of traits related to biomass yield and ethanol yield in switchgrass. Worked as part of a team in running the TN state variety trials for corn, silage, soybeans, and wheat

Graduate Research Assistant – Plant Molecular Genetics (Sept. 2009 – May 2010)

University of Tennessee - Knoxville, TN

Responsibilities: Worked as part of the “Phytosensor” team developing genetically engineered plants that produce altered phenotypes in the presence of biotic or abiotic triggers

Graduate Research Assistant – Turfgrass Pathology (Aug. 2006 – May 2009)

Virginia Tech Hampton Roads Agricultural Research and Extension Center - Virginia Beach, VA

Responsibilities: Conducted research assessing the accuracy and precision of digital image analysis for evaluating brown patch severity on tall fescue. Used these methods to then screen tall fescue plant introductions for resistance to *Rhizoctonia solani* and *R. zeae*. Managed fungicide efficacy trials on turfgrass and assisted with NTEP (National Turfgrass Evaluation Program) variety trial plots

Teaching Experience

IPM Pest Biology – Plant Diseases (Virginia Tech, 2009)

Collaborated with Dr. Anton Baudoin in developing a six-week multi-media online course providing information on plant disease pathogens, symptomology, diagnosis, development, epidemiology, and management. Created all power-point presentations, developed voice recording to accompany presentation material, and created quizzes for each section

University of Tennessee – Guest Lecturer

- Integrated Pest Management – “UT Variety Testing Program” (Spring 2019)
- Advanced Plant Breeding – “UT Variety Testing Program” (Spring 2017, Spring 2019, Fall 2020)
- World Food and Fiber – “Sorghum and Millet” (Fall 2014)

Graduate Committees

- 4 M.S. (Alison Willette, Weston Bracey*, Matthew Longmire, Amani Khalil, Brooke Keadle*),
*chair
- 3 Ph.D. (Sangeeta Bansal, Santosh Nayak, Keagan Swilling)

Service

Institutional Organizations/Committees

2009 – present	Gamma Sigma Delta – University of Tennessee Chapter - <i>Secretary (2019 – 2021)</i>
2018 – present	Row Crops Work Group
2017 – present	Plant Variety Release Committee
2017 – present	Plant Sciences Seminar Committee - <i>Chair (2018 – 2019)</i>
2016 – present	Variety Testing Budget Committee
2016 – present	Home Fruit and Vegetable Work Group
2016 – present	Variety Testing Database Work Group
2013 – 2014	Tobacco Faculty Search Committee

Other Institutional Service Events/Commitments

Fall 2019 –	WiSTAR3 (Women in STEM Advancing Research, Readiness, and
Spring 2020	Retention), Mentor
1 Mar. 2018	Judge for UT Women in STEM conference

Disciplinary Organizations/Committees

2006 – present	American Society of Agronomy / Crop Science Society of America <ul style="list-style-type: none">- Women in Science Committee (2018 – 2020)- Graduate Student Committee (2013 – 2015)
2013 – present	National Association of Plant Breeders <ul style="list-style-type: none">- Borlaug Scholar Mentor (2020 – 2021)- Early Career Working Group (2017 – present)- Communications Committee (2015 – present)<ul style="list-style-type: none">o <i>Chair</i> (2018/2019)o <i>Vice-Chair</i> (2017/2018)o <i>Secretary</i> (2016-2017)- Advocacy Committee (2014-2015) Graduate Student Committee (2013 – 2014)
2006 – present	American Phytopathological Society
2018 - present	NIFA S9 “Plant Genetic Resources Conservation and Utilization” <ul style="list-style-type: none">- Chair (2020 – 2021)- Secretary (2019 – 2020)- State representative (2018 – present)
2017 - present	NIFA SCC-33 “National Variety Testing Group” <ul style="list-style-type: none">- State representative (2017 – present)
2019 – present	Tennessee Agricultural Production Association <ul style="list-style-type: none">- President (2020 – 2021)- President-elect (2019 – 2020)

Other Disciplinary Service Events/Commitments

Current	Journal Refereeing: Agrosystems, Geosciences & Environment, Journal of Crop Variety Testing, Agronomy Journal, Crop Science Journal
8 Aug. 2018	Judge for National Association of Plant Breeders annual conference poster competition
8 Aug. 2017	Judge for National Association of Plant Breeders annual conference poster competition

External Funding (Total Awarded: \$1,452,743)

Fee Based Programing: UT Agronomic Variety Trials for Corn Grain, Corn Silage, and Soybeans. 2016 – 2020. \$638,500.

Fee Based Programming: UT Home Garden Variety Trials. 2018 – 2019. \$2,282.

Hawkins, S, S. Savoy, S. Jagadamma, F. Walker, M. McClure, L. Duncan, M. Buschermohle, **V.R. Sykes**. “Corn Silage Nitrogen Yield Response and Phosphorus and Potassium Crop Removal Rates - Year 4”. Tennessee Department of Agriculture. 1 April 2020 – 31 March 2021. \$77,147.

Sykes, V.R., R. Bond, C. Venard, R. Heiniger, and D. Hoshouser. Mid-South regional soybean variety testing database. 1 Oct. 2020 - 30 Sept. 2021. \$42,500.

Sykes, V.R. “Cover crop production guide for upper mid-South”. Cotton Inc. 1 Jan. 2020 - 31 Dec. 2020. \$2,000.

Sykes, V.R. “Technical support for UT variety testing program”. Tennessee Soybean Promotion Board. 1 Jan. 2020 – 31 Dec. 2020. \$37,800.

Sykes, V.R., A. Shekoofa, L. Steckel, S. Stewart, L. Russo. Economic and environmental impact of dual-use cover crop species in Tennessee no-till soybean/corn rotations. Tennessee Soybean Promotion Board. 1 Jan. 2020 – 31 Dec. 2020. \$22,500.

Olukolu, B. and **V.R. Sykes.** Mitigating "maize ear and stalk rot" disease complex with precision for enhanced corn production and quality. Tennessee Corn Promotion Board. 1 Jan. 2020 - 31 Dec. 2020. \$25,000.

Hansen, Z, N. Bumgarner, D. Butler, D. Lockwood, M. Rose, **V. Sykes,** M. Velandia. Demonstrating the impact of brassica cover crops on soil management and plant health and quality in small fruit plantings in the mid-south. Southern Region Small Fruit Consortium. 1 April 2020 - 28 Feb 2021. \$5,000

Hawkins, S, S. Savoy, S. Jagadamma, F. Walker, M. McClure, L. Duncan, M. Buschermohle, **V.R. Sykes.** “Corn Silage Nitrogen Yield Response and Phosphorus and Potassium Crop Removal Rates - Year 3”. Tennessee Department of Agriculture. 1 April 2019 – 31 March 2020. \$50,000.

Bumgarner, N., Z. Hansen, D. Lockwood, M. Rose, **V.R. Sykes,** M. Velandia. Evaluating cultivar selection and integrated pest management practices economically to support blueberry growers in the mid-South. Southern Region Small Fruit Consortium. 1 April 2019 - 28 Feb 2020. \$5,000.

Unrestricted/Non-Exchange Gifts: Soil Health Institute – North American Soil Health Measurement Project. 2019. \$5,000.

Sykes, V.R. “Technical support for UT variety testing program”. Tennessee Soybean Promotion Board. 1 Jan. 2019 – 31 Dec. 2019. \$46,900.

Sykes, V.R., X. Yin, A. Shekoofa, L. Steckel, S. Stewart, G. Bates. Economic and environmental impact of dual-use cover crop species in Tennessee no-till soybean/corn rotations. Tennessee Soybean Promotion Board. 1 Jan. 2019 – 31 Dec. 2019. \$45,000.

Hawkins, S, S. Savoy, S. Jagadamma, F. Walker, M. McClure, L. Duncan, M. Bushermohle, **V.R. Sykes.** “Year 2: Corn silage nitrogen yield response and phosphorus and potassium crop removal rates”. Tennessee Department of Agriculture. 1 April 2018 – 31 March 2019. \$41,991.

Sykes, V.R. “Technical support for UT variety testing program”. Tennessee Soybean Promotion Board. 1 Jan. 2018 – 31 Dec. 2018. \$44,080.

Yin, X, **V.R. Sykes.** Long-term effects of cover crops and crop rotations on soil health and water availability. United Soybean Board. 1 Oct. 2017 - 30 Sept. 2018. \$35,540.

Sykes, V.R., X. Yin, R. Nave, G. Bates, and D. Butler. Economic and environmental impact of multi-use cover crop species in in Tennessee no-till soybean/corn rotations. United Soybean Board. 1 Oct. 2017 - 30 Sept. 2018. \$116,604.

Hawkins, S, S. Savoy, S. Jagadamma, F. Walker, M. McClure, L. Duncan, M. Bushermohle, **V.R. Sykes.** “Corn Silage Nitrogen Yield Response and Phosphorus and Potassium Crop Removal Rates”. Tennessee Department of Agriculture. 1 April 2017 – 31 March 2018. \$41,267.

Sykes, V.R. “Technical Support for UT Variety Testing Program”. Tennessee Soybean Promotion Board. 1 Jan. 2017 – 31 Dec. 2017. \$50,044.

Sykes, V.R. “Technical Support for UT Variety Testing Program”. Tennessee Soybean Promotion Board. 1 Jan. 2016 – 31 Dec. 2016. \$51,544.

Allen, F.L., **V.R. Sykes**. “Technical Support for UT Variety Testing Program”. Tennessee Soybean Promotion Board. 1 Jan. 2015 – 31 Dec. 2015. \$51,544.

Awards and Honors

- 2020 – Inspiring Young Scientist, American Society of Agronomy – Environmental Quality Section
- 2018 - Southern region winner for “Program Promotional Piece”, National Association of County Agricultural Agents
- 2018 - 1st place state level winner for “Program Promotional Piece”, Tennessee Association of Agricultural Agents & Specialist
- 2018 - Extension Division winner, American Society of Horticultural Science
- 2018 - Southern region winner for “Publication”, National Association of County Agricultural Agents
- 2018 - 1st place state level winner for “Publication”, National Association of County Agricultural Agents
- 2008 - Louis and Ginger Brookings Turfgrass Scholarship
- 2008 - 1st place – Graduate Student Oral Presentation Competition, ASA/CSSA/SSSA Annual Meeting
- 2007 - 2nd place – Graduate Student Oral Presentation Competition, ASA/CSSA/SSSA Annual Meeting

Honor Societies

- 2011 - Gamma Sigma Delta Agricultural Honor Society
- 2005 - Beta Gamma Sigma Business Honor Society
- 2003 - National Society of Collegiate Scholars

Publications

Refereed Journal Publications (12)

1. Zhou, V., J. Larson, **V.R. Sykes**, A. Ashworth, F.L. Allen. Crop rotation, cover crop, and poultry litter effects on no-tillage cotton profitability. *Agronomy Journal*. *Accepted pending revisions.
2. Nayak, S., H. Bhandari, C. Sams, **V.R. Sykes**, Haileab Hilafu, Cheryl Dalid, Scott Senseman, V. Pantalone. 2020. Genetic variation for biomass yield and predicted genetic gain in lowland switchgrass 'Kanlow". *Agronomy*. *In Press*.
3. Bansal, S., X. Yin, H.J. Savoy, S. Jagadamma, J. Lee, **V.R. Sykes**. Long-term influence of phosphorus fertilization and soil aggregation on soil organic carbon and nitrogen under no-tillage production. In press, *Agronomy Journal*. <https://doi.org/10.1002/agj2.20200>
4. **Sykes, V.R.**, B.J. Horvath, D.S. McCall, A. Baudoin, S. Askew, J.M. Goatley, and S. Warnke. 2019. Screening tall fescue for resistance to *Rhizoctonia solani* and *Rhizoctonia zeae* using digital image analysis. *Plant Disease*. <https://doi.org/10.1094/PDIS-05-19-1070-RE>
5. Nouri, A., J. Lee, Z. Yin, A.M. Saxton, D.D. Tyler, **V.R. Sykes**, P. Arelli. 2019. Crop species in no-tillage summer crop rotations affect soil quality and yield in an Alfisol. *Geoderma* 345: 51-62. <https://doi.org/10.1016/j.geoderma.2019.02.026>
6. Hughes, E.W., F.L. Allen, H.S. Bhandari, A.M. Saxton, D.R. West, **V.R. Sykes**, M.E. Bobbitt. 2018. Genetic variation in biomass yield and feedstock composition and trait relationships in lowland switchgrass. *Arch. Crop Sci.* 2 (1): 47-57.

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7. Bhandari, H.S., S. Nayak, C.O. Dalid, **V.R. Sykes**. 2017. Biomass yield heterosis in lowland switchgrass. *Crop Science* 57 (4): 2015-2023. <https://doi.org/10.2135/cropsci2017.02.0080>
 8. **Sykes, V.R.**, B.J. Horvath, S.E. Warnke, S.D. Askew, A.B. Baudoin, J.M. Goatley. 2017. Comparing digital and visual evaluation for accuracy and precision in estimating tall fescue brown patch severity. *Crop Science* 57 (6): 3303-3309. <https://doi.org/10.2135/cropsci2016.08.0699>
 9. **Sykes, V.R.**, F.L. Allen, R.D. Johnson. 2017. Impact of fungicides on rust, biomass yield, and ethanol yield in biofuel switchgrass, 2011-2012. *Plant Disease Management Reports Volume 11*. Report No. 11:OT001. <http://www.plantmanagementnetwork.org/pub/trial/pdmr/reports/2017/OT001.pdf>
 10. **Sykes, V.R.**, F.L. Allen, A.C. DeSantis, A.M. Saxton, H.S. Bhandari, D.R. West, E.W. Hughes, M.E. Bobbitt, V.G. Benelli. 2017. Efficiency of spaced-plant selection in improving sward biomass and ethanol yield in switchgrass. *Crop Science* 57 (1): 253-263. <https://doi.org/10.2135/cropsci2016.07.0596>
 11. **Sykes, V.R.**, F.L. Allen, A.C. DeSantis, A.M. Saxton, H.S. Bhandari, D.R. West, E.W. Hughes, M.E. Bobbitt, V.G. Benelli. 2016. Efficiency of early selection in improving biomass and predicted ethanol yield in switchgrass. *Crop Science* 56 (6): 2940-2951. <https://doi.org/10.2135/cropsci2016.01.0027>
 12. **Sykes, V.R.**, F.L. Allen, J.R. Mielenz, C.N. Stewart Jr., M.T. Windham, C.Y. Hamilton, M. Rodriguez Jr., K.L. Yee. 2015. Reduction of ethanol yield in switchgrass infected with rust. *BioEnergy Research* 9(1): 239-247. <https://doi.org/10.1007/s12155-015-9680-4>

Peer-Reviewed Extension Publications (40)

1. **Sykes, V.R.**, R.H. Blair, H. Young-Kelly, A. Wilson, V. Pantalone, and A.T. McClure. 2020. Soybean Variety Tests in Tennessee 2019. UT Ext. PB xxx. *In Press*.
 2. **Sykes, V.R.**, A. Wilson, G. Bates, D. McIntosh. 2020. Corn Silage Tests in Tennessee 2020. UT Ext. PB 1886.
 3. **Sykes, V.R.**, A. Wilson, G. Bates, D. McIntosh, A.T. McClure, T. Raper, R. Blair, F. Walker. 2020. Cover Crop Variety Tests in Tennessee 2020.
 4. **Sykes, V.R.**, F.L. Allen, A. McClure. 2020. Sesame Production in Tennessee. UT Ext. W 943.
 5. **Sykes, V.R.**, E. Walker, T. Robertson, Z. Hansen, H. Kelly, M. Cartwright, A. Wilson, L. Schneider. 2020. Hemp Variety Trials in Tennessee 2019. UT Ext. W 900.
 6. **Sykes, V.R.**, N.R. Bumgarner, and B. Keadle. Tennessee Home Garden Variety Trials: 2019 Results. UT Ext. W 657
 7. **Sykes, V.R.**, R.H. Blair, H. Young-Kelly, A. Wilson, V. Pantalone, and A.T. McClure. 2019. Soybean Variety Tests in Tennessee 2019. UT Ext. PB 1879.
 8. **Sykes, V.R.**, R.H. Blair, A. Wilson, D. West, D. Kincer, and A.T. McClure. 2019. Corn Grain Hybrid Tests in Tennessee 2019. UT Ext. PB 1878.
 9. Bumgarner, N. R., R. G. Ary, A. Bruhin, D. Payne, J. C. Reese, M. Rose, L. Sammons, **V.R. Sykes**, W. Upchurch, S. Whitehouse. 2019. 2020 Tennessee home vegetable garden calendar. UT Extension W 436.
 10. **Sykes, V.R.**, A. Wilson, G. Bates, D. McIntosh. 2019. Corn Silage Tests in Tennessee 2019. UT Ext. PB 1877.
 11. Bumgarner, N.R., **V.R. Sykes**, and B. Keadle. 2019. Tennessee Home Garden Variety Trials 2018 Results. UT Extension W 657.
 12. **Sykes, V.R.**, A. Willette, R.H. Blair, H. Young-Kelly, V. Pantalone, C. Smallwood, and A.T. McClure. 2018. Soybean Variety Tests in Tennessee 2018. UT Ext. PB 1865.
 13. Bumgarner, N. R., R. G. Ary, D. Payne, J. C. Reese, M. Rose, L. Sammons, **V.R. Sykes**, and W. Upchurch. 2018. Tennessee home vegetable garden calendar-2019. UT Extension W 436.
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14. **Sykes, V.R.**, A. Willette, R.H. Blair, D. West, D. Kincer, and A.T. McClure. 2018. Corn Grain Hybrid Tests in Tennessee 2018. UT Ext. PB 1864.
 15. **Sykes, V.R.**, A. Willette, G. Bates, D. McIntosh. 2018. Corn Silage Tests in Tennessee 2018. UT Ext. PB 1859.
 16. **Sykes, V.R.** and N.R. Bumgarner. 2018. Tennessee Home Garden Variety Trials: 2017 Results. UT Extension W 657.
 17. Bumgarner, N.R., R.G. Ary, D. Payne, J.C. Reese, M. Rose, L. Sammons, **V.R. Sykes**, and W. Upchurch. 2017. Tennessee home vegetable garden calendar-2018. UT Extension W 436.
 18. **Sykes, V.R.**, A. Willette, R.H. Blair, H. Young-Kelly, V. Pantalone, C. Smallwood, and A.T. McClure. 2017. Soybean Variety Tests in Tennessee 2017. UT Ext. PB 1865.
 19. **Sykes, V.R.**, A. Willette, R.H. Blair, D. West, D. Kincer, and A.T. McClure. 2017. Corn Grain Hybrid Tests in Tennessee 2017. UT Ext. PB 1864.
 20. **Sykes, V.R.**, A. Willette, G. Bates, D. McIntosh. 2017. Corn Silage Tests in Tennessee 2017. UT Ext. PB 1859.
 21. Bates, G.E., C. Harper, D. McIntosh, A. McClure, T. Raper, **V. Sykes**. 2017 Forage and Field Crop Seeding Guide for Tennessee. PB 378.
 22. McClure, A., L. Steckel, T. Raper, **V. Sykes**, G. Montgomery, H.M. Kelly, S. Stewart, J. Lee. 2017. Cover Crops Quick Facts. UT Ext. W 417.
 23. **Sykes, V.R.**, R.H. Blair, H. Young-Kelly, and A.T. McClure. 2016. Soybean Variety Tests in Tennessee 2016. UT Ext. PB 1849.
 24. **Sykes, V.R.**, R.H. Blair, and A.T. McClure. 2016. Corn Grain Hybrid Tests in Tennessee 2016. UT Ext. PB 1850.
 25. **Sykes, V.R.**. 2016. Corn Silage Tests in Tennessee 2016. UT Ext. PB 1851.
 26. Allen, F.L., **V.R. Sykes**., V.G. Benelli, A.J. Ashworth. 2015. Corn and Wheat Silage Tests in Tennessee 2015. UT Ext. Pub. SP 618.
 27. Allen, F.L., **V.R. Sykes**, V.G. Benelli, A.J. Ashworth, R.H. Blair, A.T. McClure, H. Young-Kelly and P. Donald. 2015. Soybean Variety Performance Tests in Tennessee 2015. UT AgResearch Rep. 16-03.
 28. Allen, F.L., **V.R. Sykes**, A.J. Ashworth, V.G. Benelli, R.H. Blair, and A.T. McClure. 2015. Corn Grain Hybrid Tests in Tennessee 2015. UT AgResearch Rep. 16-02.
 29. Allen, F.L., **V.R. Sykes**, A.J. Ashworth, V. Benelli, R. Blair, and T. Raper. 2015. Wheat Variety Performance Tests in Tennessee 2015. UT AgResearch Rep., 16-01.
 30. Allen, F.L., **V.R. Sykes**. 2014. Corn and Wheat Silage Tests in Tennessee 2014. UT Ext. Pub. SP 618.
 31. Allen, F.L., **V.R. Sykes**, R.C. Williams, Jr., A.T. McClure, H. Young-Kelly and P. Donald. 2014. Soybean Variety Performance Tests in Tennessee 2014. UT AgResearch Rep. 15-03.
 32. Allen, F.L., **V.R. Sykes**, R.C. Williams, Jr., and A.T. McClure. 2014. Corn Grain Hybrid Tests in Tennessee 2014. UT AgResearch Rep. 15-02.
 33. Allen, F.L., **V.R. Sykes**, R.C. Williams, Jr. 2014. Wheat Variety Performance Tests in Tennessee 2014. UT AgResearch Rep. 15-01.
 34. Allen, F.L., **V.R. Sykes**. 2013. Corn Silage Tests in Tennessee 2013. UT Ext. Pub. SP 618.
 35. Allen, F.L., **V.R. Sykes**, R.C. Williams, Jr., A.T. McClure, H. Young-Kelly and P. Donald. 2013. Soybean Variety Performance Tests in Tennessee 2013. UT AgResearch Rep. 14-03.
 36. Allen, F.L., **V.R. Sykes**, R.C. Williams, Jr., and A.T. McClure. 2013. Corn Grain Hybrid Tests in Tennessee 2013. UT AgResearch Rep. 14-02.
 37. Allen, F.L., **V.R. Sykes**, R.D. Johnson, and R.C. Williams, Jr. 2013. Wheat Variety Performance Tests in Tennessee 2013. UT AgResearch Rep. 14-01.
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38. Allen, F.L., R.D. Johnson, and **V.R. Sykes**. 2011. Corn and Small Grain Silage Tests in Tennessee. UT Ext. Pub. SP618.
39. Allen, F.L., R.D. Johnson, R.C. Williams Jr., **V. Sykes**, C. Main. 2011. Wheat and Oat Variety Performance Tests in Tennessee. UT AgResearch Rep. 12-01.
40. Allen, F.L., R.D. Johnson, K. Warwick, J. Lane, and **V. Sykes**. 2010. Corn, Sweet Sorghum and Small Grain Silage Tests in Tennessee. 2010. UT Ext. Pub. SP618.

Presentations

Conference Abstracts and Proceedings (47)

1. Sheldon, K., A. Shekoofa, L. Steckel, **V.R. Sykes**. 2020. Effects of allelopathic potential of cover crop species on soybean and goosegrass germination. ACS Annual Meeting. 8-11 Nov. 2020. Virtual.
2. **Sykes, V.R.**, A. Wilson, A. McClure, R. Raper, R. Blair, F.R. Walker. 2020. Mid-South regional adaptation and variation among sixty-three cover crop varieties. ACS Annual Meeting. 8-11 Nov. 2020. Virtual.
3. Zhou, X., J. Larson, **V. Sykes**, A. Ashworth, F. Allen. 2020. Long-term crop rotation and bio-cover impacts on no-tillage soybean profitability. Southern Agricultural Economics Association 52nd Annual Meeting. 1 - 4 Feb. 2020. Louisville, KY.
4. Bansal, S., X. Yin, S. Singh, S. Jagadamma, **V. Sykes**, J. Lee. 2019. Crop sequence diversity and bio-covers under no-tillage affect greenhouse gas emissions. UT Beef and Forage Center Annual Research and Recommendation Meeting, 17 Dec. 2019. Knoxville, TN,
5. **Bracey, W.***, **V.R. Sykes**, G. Bates, X. Yin, L. Steckel, D. Butler, R. Nave. Comparison of dual-use and single-use cover crops in no-till Tennessee production systems. UT Beef and Forage Center Annual Research and Recommendation Meeting. 17 Dec. 2019. Knoxville, TN,
6. Bansal, S., X. Yin, H.J. Savoy Jr., J. Lee, and **V.R. Sykes**. Long-Term Influence of Phosphorus Fertilization and Soil Aggregation on Soil Organic Carbon and Nitrogen Under No-Tillage Production Systems. ACS Annual Meeting. 10-13 Nov. 2019. San Antonio, TX.
7. Yin, X., S. Bansal, **V.R. Sykes**, S. Jagadamma, J. Lee, C. Boyer. Carbon Footprint and Sustainability Index of Major Cropping Sequence and Bio-Cover Systems Under No-Tillage. ACS Annual Meeting. 10-13 Nov. 2019. San Antonio, TX.
8. Bansal, S., X. Yin, **V.R. Sykes**, S. Jagadamma, and J. Lee. Long-Term Influence of Crop Sequences, Bio-Covers, and Aggregate Sizes on Organic Carbon and Nitrogen in Soil Profile Under No-Tillage. ACS Annual Meeting. 10-13 Nov. 2019. San Antonio, TX.
9. Bansal, S., X. Yin, S. Singh, S. Jagadamma, **V.R. Sykes**, and J. Lee. Crop Sequence Diversity and Bio-Covers Under No-Tillage Affect Greenhouse Gas Emissions. ACS Annual Meeting. 10-13 Nov. 2019. San Antonio, TX.
10. Morgan, C.L.S., P.W. Tracy, G.M. Bean, M. Cope, S. Cappallazzi, K. L. Hoegenauer, D. Liptzin, C. Norris, E. Rieke, **NAPSHM Collaborators**, and C.W. Honeycutt. Measurements to Assess Soil Health Indicators and Link Them to Soil Ecosystem Services. ACS Annual Meeting. 10-13 Nov. 2019. San Antonio, TX.
11. Flynn, K., P.W. Tracy, D. Liptzin, G.M. Bean, S. Cappallazzi, M. Cope, K.L. Hoegenauer, E. Rieke, C. Norris, C.W. Honeycutt, C.L.S. Morgan, and **NAPSHM Collaborators**. Slakes Smartphone Application to Quantify Aggregate Stability: Performance across a Range of Soil Types and Managements. ACS Annual Meeting. 10-13 Nov. 2019. San Antonio, TX.
12. Hoegenauer, K.L., G.M. Bean, S. Cappellazzi, M. Cope, D. Liptzin, C. Norris, E. Rieke, P.W. Tracy, K. Flynn, C.W. Honeycutt, J.A. Howe, C.L.S. Morgan, and **NAPSHM Collaborators**. Comparing Aggregate Stability Analyses to Evaluate Soil Health across North America. ACS Annual Meeting. 10-13 Nov. 2019. San Antonio, TX.

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13. Zhou, X., J. Larson, **V. Sykes**, A. Ashworth, F. Allen. 2020. Crop rotation and bio-covers impacts on no-tillage corn, soybean, and cotton profitability in Tennessee. ACS Annual Meeting. 10-13 Nov. 2019. San Antonio, TX.
 14. **Bracey, W.***, **V.R. Sykes**, G. Bates, X. Yin, L. Steckel, D. Butler, R. Nave. Comparison of dual-use and single-use cover crops in no-till Tennessee production systems. ACS Annual Meeting. 10-13 Nov. 2019. San Antonio, TX.
 15. Longmire, M., J. Grant, S. Stewart, **V. Sykes**. 2019. Slugs and Bugs: The Thugs of Soybean Communities. Entomology 2019. 17 - 20 Nov 2019. St. Louis, MS.
 16. Longmire, M., J. Grant, S. Stewart, **V. Sykes**. 2019. Dual-Cropping Soybean Systems: Impacts on Pest and Beneficial Arthropods in Tennessee. Entomology 2019. 17 - 20 Nov 2019. St. Louis, MS.
 17. **Bracey, W.***, **V.R. Sykes**, G. Bates, X. Yin, L. Steckel, D. Butler, R. Nave. Comparison of dual-use and single-use cover crops in no-till Tennessee production systems. Southern Cover Crops Council Conference. 16-17 July, 2019. Auburn, AL.
 18. Bansal, S., X. Yin, H.J. Savoy, S. Jagadamma, J. Lee, **V. Sykes**. Long-term effects of phosphorus fertilization and aggregate size distribution on soil organic carbon, nitrogen, and carbon:nitrogen ratio at different soil depths. Soil Science Society of America Annual Meeting. 6-8 Jan. 2019. San Diego, CA.
 19. Bansal, S., X. Yin, H.J. Savoy, S. Jagadamma, J. Lee, **V. Sykes**. Long-term effects of phosphorus fertilization and aggregate size distribution on soil organic carbon, nitrogen, and carbon:nitrogen ratio at different soil depths. 3rd Annual Graduate Research Poster Symposium and Competition, UT Beef and Forage Center Annual Research and Recommendation Meeting. 18 Dec. 2018. Knoxville, TN.
 20. **Bracey, W.***, **V.R. Sykes**, D. Butler, H. Bhandari, and G. Bates. Breeding common vetch for improved utility as a cover crop in the southeast. ASA/CSSA Annual Meeting. 4 – 7 Nov. 2018. Baltimore, MD.
 21. Willette, A.R., **V. R. Sykes**, G.E. Bates, R. Nave, and D.M. Butler. Economic and environmental impact of multi-use cover crop species in Tennessee no-till soybean/corn rotations. ASA/CSSA Annual Meeting. 4 – 7 Nov. 2018. Baltimore, MD.
 22. Willette, A.R., C.J. Smallwood, V.R. Pantalone, C. Sams, **V. R. Sykes**, H. Bhandari, F. Chen. Soybean Breeding for Improved Oil Quality By Selecting High Oleic Low Linolenic, High Yielding Lines Using Single Nucleotide Polymorphisms to Identify Mutant FAD2-1A, FAD2-1B, FAD3A and FAD3C Alleles. ASA/CSSA Annual Meeting. 4 – 7 Nov. 2018. Baltimore, MD.
 23. **Sykes, V.R.** and N.R. Bumgarner. Taking the trial to the people: A new approach for vegetable variety evaluation in Tennessee. NAPB Annual Meeting. 7 – 10 Aug. 2018. Guelph, Ontario, Canada.
 24. Bumgarner, N.R. and **V.R. Sykes**. Taking the trial to the people: Citizen science variety trials for Tennessee vegetable gardeners. ASHS Annual Meeting. 30 July – 3 Aug. 2018. Washington, DC.
 25. Hughes, E., F. L. Allen, **V.R. Sykes**, M. Bobbitt, and H. Bhandari. 2013. Genetic variability for biomass yield, yield components, and ethanol yield among half-sibs of switchgrass. ASA/CSSA/SSSA Annual Meeting. 3 – 6 Nov. 2013. Tampa, FL.
 26. **Sykes, V.R.**, F.L. Allen, J.R. Mielenz, C.N. Stewart Jr., M.T. Windham, C.Y. Hamilton, M. Rodriguez Jr., K.L. Yee. 2015. Reduction of ethanol yield from switchgrass infected with rust caused by *Puccinia emaculata*. Switchgrass III: Prairie and Native Grass International Conference. 30 Sept. – 2 Oct. 2015. Knoxville, TN.
 27. **Sykes, V.R.**, F.L. Allen, Diallel analysis of traits associated with biomass yield in switchgrass. 2015. Switchgrass III: Prairie and Native Grass International Conference. 30 Sept. – 2 Oct. 2015. Knoxville, TN.
 28. **Sykes, V.R.**, F.L. Allen, A.C. DeSantis. 2014. Comparison of space and sward planted switchgrass for estimates of genetic parameters and ranking of biomass and ethanol yield. NAPB Annual Meeting. 5 – 8 Aug. 2014. Minneapolis, MN.

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29. **Sykes, V.R.**, F.L. Allen, A.C. DeSantis. 2015. Efficacy of Juvenile, First Year, and Second Year Selection on Improving Biomass Yield and Ethanol Yield in Switchgrass. NAPB Annual Meeting. 27 – 30 July 2015. Pullman, WA.
 30. **Sykes, V.R.**, F.L. Allen, A.C. DeSantis. 2014. Efficacy of Juvenile, First Year, and Second Year Selection on Improving Biomass Yield and Ethanol Yield in Switchgrass. ASA/CSSA/SSSA Annual Meeting. 2 – 5 Nov. 2014. Long Beach, CA.
 31. DeSantis, A.C., **V.R. Sykes**, F.L. Allen. 2014. Diallel analysis of predicted ethanol yield of leaves versus stems of lowland switchgrass. ASA/CSSA/SSSA Annual Meeting. 2 – 5 Nov. 2014. Long Beach, CA.
 32. DeSantis, A.C., **V.R. Sykes**, F.L. Allen. 2014. Diallel analysis of biomass yield in leaves versus stems of lowland switchgrass. NAPB Annual Meeting. 5 – 8 Aug. 2014. Minneapolis, MN.
 33. Bobbit, M., F.L. Allen, **V.R. Sykes**, E. Hughes, and H. Bhandari. 2013. Genetic variation and trait associations for forage yield and quality among half-sib families of switchgrass. ASA/CSSA/SSSA Annual Meeting. 3 – 6 Nov. 2013. Tampa, FL.
 34. **Sykes, V.R.**, F.L. Allen, Bhandari, H.S. 2013. Comparison of space and sward planted switchgrass for traits associated with biomass and ethanol yield. ASA/CSSA/SSSA Annual Meeting. 3 – 6 Nov. 2013. Tampa, FL.
 35. **Sykes, V.R.**, F.L. Allen. 2013. Diallel analysis of traits associated with biomass yield in switchgrass. NAPB Annual Meeting. 2 – 5 June 2013. Tampa, FL.
 36. **Sykes, V.R.**. 2012. Effect of rust infection on ethanol production potential of switchgrass. 8th Eastern Native Grass Symposium. Charlottesville, VA. 1 – 4 Oct. 2012.
 37. **Sykes, V.R.**, F.L. Allen, J.R. Mielenz, C.N. Stewart, Jr., M.T. Windham. 2011. Effect of Puccinia emaculata infection on ethanol production potential of *Panicum virgatum*. Phytopathology 101:S174. APS Annual Meeting. 6 – 10 Aug. 2011. Honolulu, HI.
 38. McCall, D.S., B.J. Horvath, M.A. Cutulle, A.E. Nichols, **V.R. Sykes**. 2010. Nozzle selection for maximizing brown patch control with fungicides. Phytopathology 100(6):S80. APS Annual Meeting. 7 – 11 Aug 2010. Charlotte, NC.
 39. Horvath, B.J., D.S. McCall, B.S. Amaradasa, M.A. Cutulle, **V.R. Sykes**. 2010. Rhizoctonia species causing turfgrass disease in the transition zone: Identification, host resistance and management. Phytopathology 100 (6): S152. APS Annual Meeting. 7 – 11 Aug 2010. Charlotte, NC.
 40. Stewart Jr., C.N., M. Mazarei, L. Wusheng, M. Rao, M. Rudis, L. Abercrombie, and **V. Sykes**. 2010. Phytosensors: Plants to Report Pathogens and Environmental Contaminants. In Vitro Cell Dev Biol 46 (1): S76. 2010 In Vitro Biology Meeting and IAPB 12th World Congress. 6 – 11 June 2010. St. Louis, MO.
 41. Liu, W., M. R. Rudis, **V.R. Sykes**, M. Mazarei, and C. N. Stewart, Jr.. 2010. In vivo analysis of synthetic promoters by agroinfiltration of tobacco leaves for pathogen phytosensing. Southern Section American Society of Plant Biology Annual Meeting 10 – 12 April 2010. p. 22.
 42. **Sykes, V.R.**, B.J. Horvath, S.E. Warnke. Identification of resistance in *Festuca arundinacea* Schreb lines to both *Rhizoctonia solani* Kuhn and *Rhizoctonia zeae* Voorhees using digital image analysis. Abstract 648-6. ASA/CSSA/SSSA Annual Meeting. 5 – 9 Oct. 2008. Houston, TX.
 43. **Sykes, V.R.**, B.J. Horvath, S.E. Warnke. Resistance screening of *Festuca arundinacea* to both *Rhizoctonia solani* and *Rhizoctonia zeae* using digital image analysis. Phytopathology 98:S154. APS Annual Meeting. 26 – 30 July 2008. Minneapolis, MN.
 44. **Sykes, V.R.**, B.J. Horvath, S.E. Warnke. Resistance screening of *Festuca arundinacea* germplasm to *Rhizoctonia* species using digital image analysis. Abstract 265-2. ASA/CSSA/SSSA Annual Meeting. 4 – 8 Nov. 2007. New Orleans, LA.
 45. **Sykes, V.R.**, B.J. Horvath, D.S. McCall. Development of a digital analysis method to assess brown patch resistance on *Festuca arundinacea* germplasm. Phytopathology 97:S113. APS Annual Meeting. 28 July – 1 Aug. 1 2007. San Diego, CA.

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46. **Sykes, V.R.**, B.J. Horvath, D.S. McCall. Assessment of brown patch severity on tall fescue using digital image analysis. APS Potomac Division Meeting. 21 – 23 Mar. 2007. Blacksburg, VA.
 47. A. Willette, H. Bhandari, F. Chen, C. Smallwood, **V.R. Sykes**, and V. R. Pantalone. 2017. Breeding for improved oil quality in high yielding soybean lines using molecular markers for selecting FAD3A and FAD3C mutant alleles. World Soybean Research Conference 10, Poster completed and displayed in Plant Biotechnology Bldg. Conference cancelled due to Hurricane Irma.

Extension and Outreach Presentations (53)

1. **Sykes, V.R.**, Cover Crop Variety Trial 2019-2020, Part 2: Nitrogen. Organic Crops Field Tour. 1 Oct. 2020. Virtual.
2. **Sykes, V.R.**, UT Variety Testing Program Overview. PLSC 653 - Advanced Plant Breeding, Guest Lecture. Knoxville, TN. 15 Sept. 2020.
3. **Sykes, V.R.** and A. Wilson, University of Tennessee Cover Crop Variety Trial 2019-2020, Milan No-Till Field Day. 23 July 2020. Virtual.
4. Hansen, Z. and **V.R. Sykes**, 2019 Hemp Variety Trial Update. Milan No-Till Field Day. 23 July 2020. Virtual.
5. **Sykes, V.R.**, Cover Crops and Nitrogen Credits. East Tennessee Grain Conference. Lenoir City, TN. 23 Jan. 2020.
6. **Sykes, V.R.**, UT Variety Testing Program Update, Soybean Promotion Board Meeting, Franklin, TN, 22 Jan. 2020.
7. **Sykes, V.R.**, Economic and environmental impact of dual-use cover crop species in Tennessee no-till soybean/corn rotation, Soybean Promotion Board Meeting, Franklin, TN, 22 Jan. 2020.
8. **Sykes, V.R.**, Tennessee Variety Testing - 2019 Summary, Tennessee Crop Improvement Annual Board Meeting, Dickson, TN. 20 Dec. 2019.
9. **Sykes, V.R.**, Grazing Cover Crops, UT Beef and Forage Center Annual Research and Recommendation Meeting, Knoxville, TN, 17 Dec. 2019
10. **Sykes, V.R.**, Variety Testing and Agroecology Program Update, Statewide Row Crops In-Service, Jackson, TN, 12-13 Dec. 2019
11. **Sykes, V.R.** Grazing Cover Crops, Tennessee Forage and Grassland Council. Murfreesboro, TN. 8 Nov. 2019.
12. **Sykes, V.R.** Call of the Week: The 2019/20 Cover Crop Season. Podcast by UTIAg. 25 Sept. 2019.
13. **Sykes, V.R.**, Cover Crop Species Selection: Right Time, Right Place. Middle Tennessee Row Crops Field Day. Spring Hill, TN. 6 Sept. 2019.
14. **Sykes, V.R.** Cover Crop Species Selection. Row Crops Hot Topic. 6 Sept. 2019.
15. **Sykes, V.R.** New Soybean Variety Test Database Overview. Row Crops Hot Topic. 2 Aug. 2019.
16. **Sykes, V.R.**, Nutrient cycling: the long and short of cover cropping systems, Southern Cover Crops Council Conference, Auburn, AL, 15-17 July 2019.
17. **Sykes, V.R.** and **W. Bracey***. Cover Crop Species Selection: Right Time, Right Place. Climate Change Adaptation In-service. Spring Hill, TN. 29 Mar. 2019.
18. **Sykes, V.R.** and **W. Bracey***. Cover Crop Species Selection: Right Time, Right Place. Climate Change Adaptation In-service. Milan, TN. 27 Mar. 2019.
19. **Sykes, V.R.**, UT Variety Testing Program Overview. EPP 630 - Integrated Pest Management, Guest Lecture. Knoxville, TN. 25 Mar 2019.
20. **Sykes, V.R.**, UT Variety Testing Program Overview. PLSC 653 - Advanced Plant Breeding, Guest Lecture. Knoxville, TN. 12 Mar 2019.

21. **Sykes, V.R.**, UT Variety Testing Program Overview and 2018 Results. Montgomery County Production Meeting. Clarksville, TN. 28 Jan. 2019.
22. **Sykes, V.R.**, UT Variety Testing and Agroecology, Soybean Promotion Board Meeting, Gatlinburg, TN, 16 Jan. 2019.
23. **Sykes, V.R.**, Tennessee Variety Testing - 2018 Summary, Tennessee Crop Improvement Annual Board Meeting. Dickson, TN. 14 Dec. 2018.
24. **Sykes, V.R.**, Cover Crops for Tennessee Row Crop Systems, Western and Central Region Row Crops In-Service, Murfreesboro, TN, 26-27 Nov. 2018.
25. **Sykes, V.R.**, University of Tennessee Variety Testing and Agroecology Program. Powell High School Career Panel. Knoxville, TN. 23 Oct. 2018.
26. **Sykes, V.R.** and W.M. Bracey, Tennessee Variety Testing and Agroecology Program, Ohio Beef Producer Tour. Knoxville, TN. 28 Sept. 2018.
27. **Sykes, V.R.** and R. Blair, Statistically speaking: randomization, replication and reality in agricultural research. Tennessee Agriculture Production Association bi-annual meeting, Gatlinburg, TN, 1 August 2018.
28. **Willette, A.R.* and V.R. Sykes**, Dual use cover crops in no-till soybean/corn rotations, Milan No-Till Field Day, Milan, TN, 26 July 2018.
29. **Sykes, V.R.**, Long-term crop rotations and cover crops, Milan No-Till Field Day, Milan, TN, 26 July 2018.
30. **Sykes, V.R.**, Update on research in the Tennessee variety testing and agroecology program, Tennessee Soybean Promotion Board Discussion Meeting, Jackson, TN, 24 July 2018.
31. **Sykes, V.R.**, Update on Tennessee Home Garden Variety Trials Program, Central Region Home Vegetable In-Service, Knoxville, TN, 17 July 2018.
32. **Sykes, V.R.**, Update on Tennessee Home Garden Variety Trials Program, Eastern Region Home Vegetable In-Service, Knoxville, TN, 16 July 2018.
33. **Sykes, V.R.**, Economic and environmental impact of multi-use cover crop species in Tennessee no-till soybean/corn rotations, Climate Change Adaptation/Cover Crop Field Day/In-service, Milan, TN, 27 Mar. 2018.
34. **Sykes, V.R.**, UT Variety Testing. Soybean Promotion Board Meeting, Gatlinburg, TN, 17 Jan. 2018.
35. **Sykes, V.R.**, Introduction of Tennessee Home Garden Variety Trials Program. Eastern region home vegetable in-service. Eastern Region Office, Knoxville, TN. 12 Sept. 2017
36. **Sykes, V.R.**, Introduction of Tennessee Home Garden Variety Trials Program. Central region home vegetable in-service. Rutherford County Extension Office, Murfreesboro, TN. 5 Sept. 2017
37. **Sykes, V.R.**, Introduction of Tennessee Home Garden Variety Trials Program. Western region home vegetable in-service. Madison County Extension Office, Jackson, TN. 29 Aug. 2017
38. **Sykes, V.R.**, Long Term Systems Study. Agroecology Field School. Milan, TN. 27 July 2017
39. Summer Celebration disease diagnosis clinic, Jackson, TN, 13 July 2017.
40. **Sykes, V.R.**, Impact of crop rotations and soil amendments on long-term no-till corn, soybean, and cotton yields. Climate Change Adaptation/Cover Crop Field Day/In-service. Milan, TN. 21 Mar. 2017
41. **Sykes, V.R.**, Risks and rewards of genetically modified crops in modern agriculture. Alcoa Kiwanis. Knoxville, TN. 6 Apr. 2017.
42. **Sykes, V.R.**, UT Variety Testing. Advanced Plant Breeding/PLSC 653. University of Tennessee, Knoxville, TN. 23 Mar. 2017.
43. **Sykes, V.R.**, UT Variety Testing. Soybean Promotion Board Meeting, Gatlinburg, TN, 18 Jan. 2017.

44. **Sykes, V.R.**, Picking Winners: Using variety test information to improve profit, Tennessee Agricultural Production Association Annual Meeting, Gatlinburg, TN, 2 Aug. 2016.
45. **Sykes, V.R.**, UT Variety Testing. Soybean Promotion Board Meeting, Gatlinburg, TN, 20 Jan. 2016.
46. **Sykes, V.R.**, Turfgrass management and disease control. Pesticide Recertification. Suffolk Extension Center. Suffolk, VA. 2009.
47. **Sykes, V.R.**, Hampton Roads Research and Education Center Nursery, Landscape, and Arboricultural Field Day. Virginia Beach, VA. Aug. 2008
48. **Sykes, V.R.**, Virginia Tech Turf and Landscape Field Day. Blacksburg, VA. Aug. 2008
49. **Sykes, V.R.**, Brown Patch Control on Tall Fescue. Virginia Turfgrass Council Annual Meeting. Fredericksburg, VA. Feb. 2008.
50. **Sykes, V.R.**, Review of east coast turfgrass diseases. Mid-Atlantic Horticulture Short Course – Pesticide Recertification. Virginia Beach, VA. Jan. 2008
51. **Sykes, V.R.**, Virginia Tech Turf and Landscape Field Day. Blacksburg, VA. Oct. 2007
52. **Sykes, V.R.**, Hampton Roads Research and Education Center Nursery, Landscape, and Arboricultural Field Day. Virginia Beach, VA. Sept. 2007
53. **Sykes, V.R.**, Virginia Tech Turf and Landscape Field Day. Blacksburg, VA. Sept. 2006