

Terence L. Bradshaw
Tree Fruit & Viticulture Specialist
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Education Ph.D. Plant & Soil Science, University of Vermont, 2015.
Dissertation title: *Comprehensive assessment of five apple cultivars grown under two organic management systems in Vermont, 2006-2013.*
M.S. Plant & Soil Science, University of Vermont. 2011.
Thesis title: *Assessment of kelp-extract biostimulants in a temperate-climate organic apple orchard*
B.S. Plant & Soil Science, University of Vermont, 1997.

Professional Rank:

2016- Research Assistant Professor, Dept of Plant & Soil Science, University of Vermont.
Tree Fruit & Viticulture Specialist.
2014- Director, University of Vermont Horticulture Research & Education Center.
2014-2016 Research Associate & Lecturer, Dept of Plant & Soil Science, University of Vermont.
2005-2014 Research Specialist, UVM Apple and Grape Program
2005-2014 Assistant Director, University of Vermont Horticulture Research & Education Center.
1999-2005 Research Technician III, UVM Apple and Grape Program,

Responsibilities:

In my role as Tree Fruit & Viticulture Specialist, I serve as the sole UVM Faculty or Vermont State official with responsibility to develop and deliver crop-specific horticultural and pest management programming to apple and grape producers in the state. Despite its research track status, both the funding mechanisms and expected duties under my negotiated workload are nearly identical to a tenure-track professor. My 12-month position includes 0.25 FTE teaching and departmental service; 0.25 FTE research funded through the Vermont Agriculture Experiment Station; 0.25 FTE extramurally funded programming; and 0.25 FTE Director of the UVM Horticulture Research & Education Center (HREC). Teaching activities include summer instruction in PSS 209: Sustainable Farm Practicum; PSS 195: Sustainable Orchard & Vineyard Management; development and delivery of independent studies and student internships; and curriculum development for the Ecological Agriculture major. My research and outreach program is designed to address sustainability issues in the tree fruit and viticulture industries in Vermont. Specific program areas include: technical support to address horticultural and pest management needs of Vermont fruit growers; assessment of organic apple production systems in cool, humid climates; grape cultivar evaluation; assessment of apple production systems for hard cider markets; and mitigation of apple replant disease. Although I do not receive funding from UVM Extension, a portion (0.20 FTE) of my extramural-funds support my grower outreach efforts, and I serve as the sole UVM technical support provider to tree fruit and grape producers in the state.

As director of the UVM HREC, I oversee a 97-acre agricultural research and teaching facility in South Burlington, VT that supports programming within the UVM College of Agriculture and Life Science. Duties include: direction of Catamount Educational Farm, a model working fruit and vegetable farm (\$75k annual sales) that supports teaching, outreach, and research activities for Specialty Crops at UVM; provision of leadership in development and operational planning for facility and serve as primary contact person for management issues; general oversight of the facility including grounds management, security issues, pest control, equipment maintenance and operation; and protocol planning and plot allocation with research users.

Teaching Experience

Courses Taught

- PSS 095: Introduction to Laboratory & Research Techniques. Special topics course for 1-3 students who participate in operation of and data collection in UVM apple and grape juice analysis lab. Fall 2015, 2016.
- PSS 298 Independent Study: Sustainable Orchard Management. Summer 2016.
- PSS 298 Independent Study: Organic Farming Practicum. Spring 2016.
- PSS 298 Independent Study: Sustainable Farming Practicum. Summer 2015.
- PSS 298 Independent Study: Site-Specific Farm Planning. Spring 2015.
- PSS 298 Independent Study: Winter Orchard & Vineyard Maintenance. Spring 2014.
- PSS 209 Sustainable Farming Practicum. Course co-developer and co-instructor. Summer 2014-2016.
- PSS 195 Sustainable Orchard and Vineyard Management. Course developer and instructor. Summer 2014, 2015.
- PSS 195 Cold Climate Viticulture. Course developer and instructor. Summer 2012.
- PSS 195 Tree Fruit Culture. Course developer and instructor. Summer 2010.
- Master Gardeners' Basic Course. Fruit Trees in the Home Orchard. 2006-2008, 2015-2016.

Graduate Students Advised

- Bethany Brown, CDAE, M.S. Committee member and thesis defense committee chair. 2016.
- Joseph Podhirny, PSS, M.S. Committee member. 2016-.

Undergraduate Students Advised

- Collin McCarthy, 2016. PSS 158 Ecological Agriculture Internship Host.
- Harrison Greene, 2015. Sustainable Entrepreneurship MBA Project. Technical consultant for polyculture orchard project.
- Melissa Sullivan, Fall 2014. PSS 158 Ecological Agriculture Internship host.
- Scott Welch, 2014 UVM Environmental Studies Program Senior Thesis. "Common Ground Composting: Back-haul of food scraps for the improvement of soil conditions on a small community supported agriculture farm." Co-advisor.
- Spencer Fitz-Gerald, Spring 2014. PSS 158 Ecological Agriculture Internship Host.
- Zachary Noel, 2013 UVM Distinguished Undergraduate Research Award. "Evaluation of the Efficacy of Natural Resistance in 'Honeycrisp' to Reduce Fungicide Applications for *Venturia inequalis* (Cooke) Wint. Co-advisor.

Other Students Advised

- Zebediah Dartt, Fall 2016. Vermont Commons School, Internship host.
- Calais Elementary School, 2014-2016. Hands on Nature science program volunteer instructor.
- Vermont Commons School, 2014-2015. Facilitated HREC use by two classes for field mapping and invasive species identification and removal projects. VCS faculty collaborators: P. Goff, J.B. Materick.
- Ellen White, Spring 2015. Essex High School Career Education Program, Internship host.

Guest Lectures (Course instructor)

- FS 395 Ethics and the Food System (Doggett & Trubek). Organic and IPM Production Systems for Apples in the Northeast. 2013.
- ASCI 156 Dairy Management Seminar (Davis). Farm-Neighbor Relations. 2013, 2015.
- Vermont Youth Conservation Corps, Forest Management Unit. Invasive Species Management and Apple Pruning at the UVM Horticulture Research Center. Two-week intensive, Jan 2012.
- UVM Farmer Training Program (Walsh-Daloz). Introduction to Orchard Management 2011-2016.
- UVM HCOL Agroecology in Food Systems (Costa). Sustainable Apple Production. 2011.
- PSS 010 Home and Garden Horticulture (Starrett). Introduction to apple and grape projects. 2010-2016.

- PSS 208 Organic Farm Planning (Chen). Field Equipment and Farm Operations; Farm Plan Project Evaluator. 2010-2015.
- PSS 21 Introduction to Agroecology (Waterman, Morris, Izzo). Sustainable Orchard Systems. 2010, 2014-2016.
- PSS 112 Weed Science and Ecology (Bosworth). Groundcover Management in Orchard Systems Field Lecture. 2005-2016.
- ENSC 009 Orientation to Environmental Sciences (Wang, Ross). Introduction to Catamount Educational Farm. 2014-2016.

Awards Received

- U.S. Association of Cider Makers Significant Contribution to the Industry Award, Nominee. 2017.
- UVM College of Agriculture and Life Sciences New Alumni Achiever Award. 2016.
- Vermont Agricultural Experiment Station and UVM Extension Legislative Event Highlighted Researcher. 2015.
- American Society for Horticultural Science Northeast Division Graduate Student Poster Competition. First Place. 2013.
- C. Lyman Callahan Horticultural Award, UVM Dept. of Plant & Soil Science. 1997.
- W.H. Darrow Horticultural Award, UVM Dept. of Plant & Soil Science. 1996.

Current Funded Projects (\$422,847)

- Addressing Unique IPM Needs in Northeast Cider Orchards. Northeast IPM Center Partnership Grants Program. PIs: T. Bradshaw and A. Hazelrigg. April 2016-March 2018. \$48,426.
- Orchard Pruning for Cider Apple Production. Northeast SARE Partnership Grants Program. May 2016-April 2018. PI: T. Bradshaw. \$14,889.
- Northern Grapes: Integrating Viticulture, Winemaking, and Marketing of New Cold-Hardy Cultivars Supporting New and Growing Rural Wineries. USDA Specialty Crops Research Initiative. Sep 2014-Aug 2016 (continued funding of previously awarded project beginning Sep 2012 under previous UVM co-PI L.P. Berkett). PD T.E. Martinson (Cornell), UVM Co-PI T.L. Bradshaw. Includes 24 co-PIs from 10 institutions. Total \$2.6 million (\$41,367 for UVM).
- Orchard Economic Assessment to Support Vermont Hard Cider Production. USDA Federal-State Marketing Improvement Program (FSMIP), Sep 2014 - Sep 2017. \$75,830 (\$2,000 matching funds each from Vermont Hard Cider Company and Vermont Tree Fruit Growers Association). PIs: T. Bradshaw, D. Conner.
- NE-1020 Multi-State Evaluation of Winegrape Cultivars and Clones. Vermont Agriculture Experiment Station Hatch Grants Program, Oct 2014-Sep 2017. \$75,000. PI: T. Bradshaw.
- The Multidisciplinary Vermont Extension Implementation Program Addressing Stakeholder Priorities and Needs for 2014-2017. USDA NIFA CPPM EIP Program. Sep 2014 – Aug 2017. \$577,800 (\$141,396 for Specialty Crops Emphasis Areas Apple and Grape). PD: A. Hazelrigg. Co-PIs: S. Bosworth, T. Bradshaw, H. Darby, M. Skinner.

Past Funded Projects (\$147,102)

- Apple Market Optimization and Expansion through Value-Added Hard Cider Production. Vermont Working Lands Enterprise Initiative, June 2014 – June 2016. \$40,000 (\$10,000 matching funds grant from Vermont Hard Cider Co.) PIs: T. Bradshaw, D. Conner.
- Field Assessment of Biostimulants for Organic Apple Scab Management. Leahy Orchards, Inc. (private funder). May 2015 - April 2016. \$11,720.
- Biological Management of Apple Replant Disease. Northeast SARE Partnerships Grant Program, May 2014 – April 2016. \$14,314 (\$9,625 matching funds from Novozymes, Inc./Monsanto BioAg). PI: T. Bradshaw. http://mysare.sare.org/sare_project/one14-199/?page=final.
- Creating InterDisciplinary Extension and Research (CIDER) Programs to Redevelop the North American Hard Cider Industry. USDA Specialty Crops Research Initiative Planning Grant 2014-

07549. Sep 2014-Sep 2015. \$50,000. PDs: Peck, G.M, Miles, C. PIs: Bradshaw, T. (UVM), Conner, D. (UVM), Ferreira, G., Neilson, A., Stewart, A., Galinato, S., Tozer, P., Rothwell, N.
- The Transdisciplinary Vermont Extension IPM Program Addressing Stakeholder Priorities and Needs for 2013-2016. USDA NIFA EIPM Program. Sep 2013 – Aug 2016. \$109,002 (\$29,360 for Specialty Crops Emphasis Areas Apple and Grape). Funded for first year (FY 14) only, USDA changed the grant program for FY 15. PD: A. Hazelrigg. Co-PIs: S. Bosworth, T. Bradshaw, H. Darby, M. Skinner.
 - Improved Technical Support Programming for Vermont Apple Growers. USDA/Vermont Agency of Agriculture Specialty Crops Block Grants Program. Oct 2013 – Dec 2014. \$10,000. PI: T. Bradshaw.
 - Upgrading Vermont Weather Stations to Improve Crop Pest Management. USDA Rural Business Enterprise Grant, administered through USDA to Vermont Tree Fruit Growers Association. VTFGA President and PI: T. Bradshaw. July 2011 – July 2013. \$11,000.
 - Modernization of Research Orchards at the UVM Horticultural Research Center. USDA/Vermont Agency of Agriculture Specialty Crops Block Grants Program to Vermont Tree Fruit Growers Association. VTFGA President and PI: T. Bradshaw. Dec 2009 – Oct 2012. \$19,950.
 - Establishment of On-Farm Weather Stations and IPM Modeling Systems for Vermont Orchards. USDA/Vermont Agency of Agriculture Specialty Crops Block Grants Program to Vermont Tree Fruit Growers Association. VTFGA President and PI: T. Bradshaw. Dec 2009 – Oct 2012. \$10,000.
 - Research Support for the UVM Apple Program. Annual support from Vermont Tree Fruit Growers Association. \$8,702, 2013-2016.

Grants Submitted and Pending Funding

Grants Submitted but not Funded

- Web-Enhanced IPM Decision Support for New England Tree Fruit. USDA NIFA Specialty Crops Multi-state Program. PD: T. Bradshaw. Co-PIs: D. Cooley, G. Koehler, M. Niles. July 2016 - June 2019. \$825,338.
- Creating InterDisciplinary Extension and Research (CIDER) Programs to Redevelop the North American Hard Cider Industry. USDA Specialty Crops Research Initiative Coordinated Agricultural Projects Grant Program. Submitted July 2015. PDs: Peck, G.M, Miles, C. PIs: Bradshaw, T. (UVM), Conner, D. (UVM), Ferreira, G., Neilson, A., Stewart, A., Galinato, S., Tozer, P., Rothwell, N. \$4.5 million, (\$702,447 for UVM).
- Apple Market Optimization and Expansion through Customer Analysis and Assessment of Value-Added Cider Production. Vermont Working Lands Enterprise Initiative. Submitted February 2013. \$53,697. PIs: T. Bradshaw, D. Conner.
- High-Value Processing Orchards as a Means to Advance IPM Implementation in the Northeast. Northeast IPM Center Partnership Grants. Submitted December 2013. \$45,828. PI: T. Bradshaw.

Project Technical Consultant

- Poultry and Grape Sector Business Model Research & Development. Primary Investigator: Mark Cannella, UVM Extension. 2014 Vermont Working Lands Enterprise Fund Service Providers Grants.
- Evaluation of Apple and Pear Varieties for Cold Humid Climates under Certified Organic Management. Primary Investigator: Todd Parlow, Walden Heights Nursery. 2014 Northeast SARE Farmers Grants Program. http://mysare.sare.org/sare_project/fne14-812/?page=final.
- VT Farm to Plate Fruit & Vegetable Strategic Planning Session. Vermont Sustainable Jobs Fund. 2013-2015.

Scientific Publications – Peer-Reviewed Journal Articles and Published Proceedings

1. Bradshaw, T.L., Berkett, L.P., Kingsley-Richards, S.L., and Foster, J.A. 2016. Horticultural Performance and Juice Quality of Cold-Climate Grapes in Vermont, U.S.A. *Acta Hort.* *Accepted November, 2016.*
2. Hazelrigg, A., Bradshaw, T.L., Berkett, L.P., Maia, G., and Kingsley-Richards, S.L. 2016. Disease Susceptibility of Cold-Climate Grapes in Vermont, U.S.A. *Acta Hort.* *Accepted November, 2016.*

3. Bradshaw, T.L., Kingsley-Richards, S.L., and Foster, J.A. 2016. Apple Cultivar Evaluations for Cider Making in Vermont, U.S.A. *Acta Hort.* *Accepted November, 2016.*
4. Bradshaw, T.L., Hazelrigg, A., and Berkett, L.P.. 2016. Characteristics of the cold-climate winegrape industry in Vermont, U.S.A. *Acta Hort.* *Accepted November, 2016.*
5. Becot, F.A., Bradshaw, T.L., and Conner, D.S. 2016. Growing apples for the cider industry in the U.S. Northern Climate of Vermont: Does the math add up? *Acta Hort.* *Accepted November, 2016.*
6. Bradshaw, T.L., Hazelrigg, A., Kingsley-Richards S.L., and Foster, J.A. 2016. Field assessment of salicylic acid to aid in reduction of sulfur to manage apple scab. *Plant Dis. Manag. Rep.* 10:PF031.
7. Bradshaw, T.L., Hazelrigg, A., Kingsley-Richards S.L., and Foster, J.A. 2016. Field assessment of biofungicides for management of diseases on *Vf*-gene resistant apple cultivars. *Plant Dis. Manag. Rep.* 10:PF032.
8. Becot, F.A., Bradshaw, T.L., and Conner, D.S. 2016. Apple Market Optimization and Expansion through Value-Added Hard Cider Production. *HortTechnology* 26:220-229.
9. Bradshaw, T.L., Berkett, L.P., Moran, R.E., Garcia, M.E., Darby, H.M., Parsons, R.L., Kingsley-Richards, S.L., Griffith, M.C., Bosworth, S.C. and Görres, J.H. 2016. Disease and arthropod pest incidence in two organic apple orchard systems in Vermont, USA, 2008-2013. *Acta Hort.* 1137, 129-136. DOI: 10.17660/ActaHortic.2016.1137.18.
10. Bradshaw, T.L., Berkett, L.P., Moran, R.E., Garcia, M.E., Darby, H.M., Parsons, R.L., Kingsley-Richards, S.L., Griffith, M.C., Bosworth, S.C. and Görres, J.H. 2016. Tree growth and crop yield of five cultivars in two organic apple orchard systems in Vermont, USA, 2006-2013. *Acta Hort.* 1137, 299-306. DOI: 10.17660/ActaHortic.2016.1137.42
11. Bradshaw, T.L., Berkett, L.P., Moran, R.E., Garcia, M.E., Darby, H.M., Parsons, R.L., Kingsley-Richards, S.L., Griffith, M.C., Bosworth, S.C. and Görres, J.H. 2016. Long-term economic evaluation of five cultivars in two organic apple orchard systems in Vermont, USA, 2006-2013. *Acta Hort.* 1137, 315-322. DOI: 10.17660/ActaHortic.2016.1137.44
12. Noel, Z.A., Bradshaw, T.L., Kingsley-Richards, S.L., and L.P. Berkett. 2014. Evaluation of the efficacy of natural resistance in ‘Honeycrisp’ to reduce fungicide applications for *Venturia inaequalis*, 2012-2013. *Plant Dis. Manag. Rep.* 9:PF004.
13. Berkett, L.P., Bradshaw, T.L., Kingsley-Richards, S.L., and M.C. Griffith. 2013. Disease evaluation of selected cold climate wine grape cultivars in Vermont, USA. *IOBC-WPRS Bulletin* 105:29-33.
14. Bradshaw, T.L., Berkett, L.P., Griffith, M.C., Kingsley-Richards, S.L., Darby, H.M., Parsons, R.L., Moran, R.E. and Garcia, M.E. 2013. Assessment of Kelp Extract Biostimulants on Arthropod Incidence and Damage in a Certified Organic Apple Orchard. *Acta Hort.* 1001:139-145. http://www.actahort.org/books/1001/1001_14.htm
15. Garcia, M.E., Moran, R.E., Berkett, L.P., Bradshaw, T.L., Darby, H.M., Kingsley-Richards, S.L. and Parsons, R.L. 2013. Performance in the Early Production Years of Two Organic Orchards Established By Different Methods: Newly-Planted and Top-Grafted. *Acta Hort.* 1001:161-165. http://www.actahort.org/books/1001/1001_17.htm
16. Bradshaw, T.L., Berkett, L.P., Griffith, M.C., Kingsley-Richards, S.L., Darby, H.M., Parsons, R.L., Moran, R.E. and Garcia, M.E. 2013. Assessment of Kelp Extract Biostimulants on Tree Growth, Yield, and Fruit Quality in a Certified Organic Apple Orchard. *Acta Hort.* 1001:191-198. http://www.actahort.org/books/1001/1001_21.htm
17. Berkett, L.P., Bradshaw, T.L., Griffith, M.C., Kingsley-Richards, S.L., Darby, H.M., Parsons, R.L., Moran, R.E. and Garcia, M.E. 2013. Disease and Arthropod Evaluation of Five Apple Cultivars under Organic Management in Vermont, USA. *Acta Hort.* 1001:235-248. http://www.actahort.org/books/1001/1001_26.htm
18. Bradshaw, T.L., Berkett, L.P., Griffith, M.C., Kingsley-Richards, S.L., Darby, H.M., Parsons, R.L., Moran, R.E. and Garcia, M.E. 2013. Assessment of Kelp Extract Biostimulants on Disease Incidence and Damage in a Certified Organic Apple Orchard. *Acta Hort.* 1001:265-271. http://www.actahort.org/books/1001/1001_30.htm
19. Autio, W., T. Robinson, B. Black, T. Bradshaw, J. Cline, R. Crassweller, C. Embree, E. Hoover, S. Hoying, K. Iungerman, R. Johnson, G. Lang, M. Parker, G. Reighard, J. Schupp, M. Stasiak, M. Warmund, and D. Wolfe. 2011. Performance of Fuji and McIntosh apple trees after 10 years as

- affected by several dwarf rootstocks in the 1999 NC-140 Apple Rootstock Trial. *J. Amer. Pomol. Soc.* 65(2):2-20. http://www.pubhort.org/aps/65/v65_n2_a1.htm
20. Autio, W., T. Robinson, B. Black, T. Bradshaw, J. Cline, R. Crassweller, C. Embree, E. Hoover, S. Hoying, K. Iungerman, R. Johnson, G. Lang, M. Parker, R. Perry, G. Reighard, M. Stasiak, M. Warmund, and D. Wolfe. Performance of Fuji and McIntosh apple trees after 10 years as affected by several semidwarf rootstocks in the 1999 NC-140 Apple Rootstock Trial. 2011. *J. Amer. Pomol. Soc.* 65(2):21-38. http://www.pubhort.org/aps/65/v65_n2_a2.htm
 21. Garcia, M.E., Berkett, L.P., Bradshaw, T.L., Kingsley-Richards S.L., Moran, R.E., and B. Parsons. 2010. Horticultural options when starting an organic orchard. *Acta Hortic.* 873:277-282. http://www.actahort.org/books/873/873_30.htm
 22. Berkett, L.P., Garcia, M. E., Moran, R.E., Parsons, R.L., Darby, H.M., Hayden, J.P., Bradshaw, T.L., Kingsley-Richards, S.L., and M. L. Cromwell. 2008. Apple cultivar disease evaluation under organic management in Vermont, 2006. *Plant Dis. Manag. Rep.* 2:PF049.
 23. Cromwell, M.L., Berkett, L.P., Ashikaga, T., Darby, H.M., Bradshaw, T.L., and S.L. Kingsley-Richards. 2008. Evaluation of alternative fungicides for organic apple production in Vermont, 2007. *Plant Dis. Manag. Rep.* No. <http://www.plantmanagementnetwork.org/pub/trial/pdmr/reports/2008/PF048.pdf>
 24. Garcia, M.E., Berkett, L.P., and T.L. Bradshaw. 2005. Preliminary results on the application of Surround WP on apple productivity and fruit quality. *HortScience* 39(4): 876.
 25. Berkett, L.P., Garcia, M.E., Eddy, M.E., Kingsley-Richards, S.L., and T.L. Bradshaw. 2005. Evaluation of disease susceptibility of two 'new' cold-hardy wine grapes. *Biological and Cultural Tests for Control of Plant Disease.* Vol. 20: N002. <http://www.plantmanagementnetwork.org/pub/trial/bctests/Vol20/>
 26. Garcia, M.E., Berkett, L.P. and Bradshaw, T. 2004. First year results of the impact of a novel pest management technology on apple fruit quality. *Acta Hortic.* 638:85-88.
 27. Berkett, L.P., M.E. Garcia, and T.L. Bradshaw. 2003. Non-target impact of an organic alternative in apple disease management. *Phytopathology* 93: 8.
 28. Berkett, L.P., Garcia, M.E., Bradshaw, T.L. and C. Benedict. 2003. Green pug moth management. *Arthropod management tests.* Entomological Society of America. Vol. 28: A2. <http://www.entsoc.org/Protected/AMT/AMT28/>

Published Abstracts

1. Bradshaw, T., Weicht, T., & Foster, J. 2016. Biological Management of Apple Replant Disease. *In A. Gover (Ed.). Proceedings of Northeast Plants, Pests, and Soils Conference.* 1:64. Philadelphia, PA. 1/6/2016.
2. Bradshaw, T. Horticulture and Disease Management of Cold Climate Grapes in Vermont. *Proc. 2015 New England Vegetable & Fruit Conference.* Manchester, NH. 12/17/2015. http://www.newenglandvfc.org/2015_conference/20_4_Bradshaw.pdf
3. Bradshaw, T. Cider Apple Research in Vermont. *Proc. 2015 New England Vegetable & Fruit Conference.* Manchester, NH. 12/16/2015. http://www.newenglandvfc.org/2015_conference/23_1_Bradshaw.pdf
4. Becot, F., Bradshaw, T. and Conner, D. 2015. Apple Market Optimization and Expansion through Value-Added Hard Cider Production in Vermont. Presentation at Beereconomics. Seattle, WA. September 8-9, 2015
5. Becot, F., Bradshaw, T. and Conner, D. 2015. Apple Market Optimization and Expansion through Value-Added Hard Cider Production in Vermont. Presentation at the Annual Meeting of the Agriculture, Food and Human Values Society. Pittsburgh, PA. June 24-28, 2015.
6. Carroll, J., Oudemans, P., Cooley, D., Clements, J., Robinson, D., Bradshaw, T., Crassweller, R., Concklin, M., Peter, K. and DeGaetano, A. 2015. Delivering site-specific applications to farmers in a knowledge network via cloud integration of weather mesonets and proven predictive models. *Phytopathol.* 104: S4.24. <http://apsjournals.apsnet.org/doi/pdf/10.1094/PHYTO-105-11-S4.1>
7. Berkett, L.P., Bradshaw, T.L., and S.L. Kingsley-Richards. 2013. Cold Climate Wine Grape Cultivars: A New Crop in the Northeast and Upper Midwest Regions of the USA. *Book of Abstracts*

- of the IOBC-WPRS Working Group Meeting on “Integrated Protection and Production in Viticulture.” Ascona, Switzerland:123.
8. Berkett, L.P., Bradshaw, T.L., Kingsley-Richards, S.L. and M.C.Griffith. 2013. Disease evaluation of selected cold climate wine grape cultivars in Vermont, USA. Book of Abstracts of the IOBC-WPRS Working Group Meeting on “Integrated Protection and Production in Viticulture.” Ascona, Switzerland:132.
 9. Bradshaw T.L., L.P. Berkett, and S.L. Kingsley-Richards. 2013. Horticultural Assessment of Eight Cold-Hardy Wine Grape Cultivars in Vermont. Oral presentation. Proceedings of 2013 Northeast Region American Society of Horticultural Science Annual Meeting. January 2-4, 2013, New Brunswick, NJ. http://hortsci.ashspublications.org/content/suppl/2013/10/17/48.9.DC1/HS-Sept_2013-Conference_Supplement.pdf
 10. Bradshaw T.L., L.P. Berkett, and S.L. Kingsley-Richards. 2013. Horticultural Assessment of Eight Cold-Hardy Table Grape Cultivars in Vermont. Poster presentation. Proceedings of 2013 Northeast Region American Society of Horticultural Science Annual Meeting. January 2-4, 2013, New Brunswick, NJ. http://hortsci.ashspublications.org/content/suppl/2013/10/17/48.9.DC1/HS-Sept_2013-Conference_Supplement.pdf
 11. Berkett, L.P, R.E. Moran, M.E. Garcia, H.M. Darby, R.L. Parsons, T.L. Bradshaw, S.L. Kingsley-Richards, and M.C. Griffith. 2012. The OrganicA Project - Evaluating New Opportunities for Organic Apple Production with Five Apple Cultivars in the New England Region of the USA. Proc. 2nd International Organic Fruit Symposium, Leavenworth, WA. ISHS.
 12. Moran, R.E., M.E. Garcia, L.P. Berkett, T.L. Bradshaw, H.M. Darby, R.L. Parsons, S.L. Kingsley-Richards, and M.C. Griffith. 2012. The OrganicA Project: Research on Weed Management Options for Organic Apple Production. Proc. 2nd International Organic Fruit Symposium, Leavenworth, WA. ISHS.
 13. Bradshaw, T.L., R.L. Parsons, L.P. Berkett, H.M. Darby, R.E. Moran, M.E. Garcia, S.L. Kingsley-Richards, and M.C. Griffith. 2012. Economic Analysis of Five Apple Cultivars in a Top-Grafted Organic Orchard, 2006-2011. Proc. 2nd International Organic Fruit Symposium, Leavenworth, WA. ISHS.
 14. Oudemans, P., Clements, J., Bradshaw, T., Robinson, D., Berkett, L., and Carroll, J.. 2012. Site specific applications via integration of existing weather networks and proven predictive models. 7th International Integrated Pest Management Symposium, Memphis, TN. March 2012
 15. Berkett, L., Moran, R., Garcia, M. E., Darby, H., Parsons, R., Bradshaw, T., Kingsley-Richards, S., and Griffith, M. 2012. The OrganicA Project – IPM Research Results and Insights from Two Certified Organic Apple Production Systems. Northeast Organic Research Symposium Proceedings. NOFA-NY Northeast Organic Research Symposium, January 19-20, 2012, Saratoga Springs, NY.
 16. Bradshaw, T.L., Kingsley-Richards, S., Griffith, M., Berkett, L., Moran, R., Garcia, M. E., Darby, H., Parsons, R. 2012. The OrganicA Project – Multi-Year Research Results on Tree Growth, Productivity, and Fruit Quality in Two Certified Organic Apple Production Systems. Northeast Organic Research Symposium Proceedings. NOFA-NY Northeast Organic Research Symposium, January 19-20, 2012, Saratoga Springs, NY.
 17. Moran, R., Bradshaw, T., Garcia, M. E., Berkett, L., Darby, H., Parsons, R., Kingsley-Richards, S., and Griffith, M. 2012. The OrganicA Project – Research on Weed Management Options for Organic Apple Production. Northeast Organic Research Symposium Proceedings. NOFA-NY Northeast Organic Research Symposium, January 19-20, 2012, Saratoga Springs, NY.
 18. Darby, H., Berkett, L., Bradshaw, T., Parsons, R., Moran, R., Garcia, M. E., Kingsley-Richards, S., and Griffith, M. 2012. OrganicA Project: Evaluation of Soil Health in Two Vermont Organic Apple Orchards. Northeast Organic Research Symposium Proceedings. NOFA-NY Northeast Organic Research Symposium, January 19-20, 2012, Saratoga Springs, NY.
 19. Autio, W., T. Robinson, T. Bradshaw, J. Cline, R. Crassweller, C. Embree, E. Hoover, G. Lang, J. Masabni, M. Parker, G. Reighard, J. Schupp and M. Warmund. 2008. Performance of several dwarfing rootstocks with Fuji and McIntosh as scion cultivars in the 1999 NC-140 dwarf apple rootstock trials. ISHS 9th International Symposium on Integrating Canopy, Rootstock and Environmental Physiology in Orchard Systems. Geneva, NY. Page 128.

20. Berkett, L.P., T. L. Bradshaw, S. L. Kingsley-Richards, and M. L. Cromwell. 2008. Grape bud survival on eight winegrape cultivars in Vermont. Proceedings of the 2nd Annual National Viticulture Research Conference. Univ. of California, Davis. pp. 10-11.
<http://groups.ucanr.org/nvrc/files/55209.pdf>
21. L. Berkett, M. Garcia, R. Moran, H. Darby, R. Parsons, J. Hayden, T. Bradshaw, S. Kingsley-Richards and M. Cromwell. 2008. The OrganicA Project: Organic Disease Management in Orchards with 'Newer' Cultivars. VII International Conference on integrated Fruit Production. Avignon, France. October 2008.
22. Berkett, L.P., Garcia, M. E., Eddy, M.E., Kingsley-Richards, S.L. and T.L. Bradshaw. 2007. Relative Susceptibility of Cold-Hardy Winegrape Cultivars to Powdery Mildew in Vermont, USA. Proceedings of the First Annual National Viticulture Research Conference. Davis, California. 18-19.
23. Garcia, M.E., R.E. Moran, T.L. Bradshaw, L.P. Berkett, H.M. Darby, R.L. Parsons, J.P. Hayden, S.L. Kingsley-Richards, and M.L. Cromwell. 2007. The OrganicA Project: Preliminary "Top-Grafting" Results in a Transitional Organic Apple Orchard. Proceedings of 4th International Organic Tree Fruit Research Symposium, Kellogg Center, East Lansing, Michigan, March 3-6, 2007.
24. Berkett, L.P., M.E. Garcia, H.M. Darby, R.L. Parsons, J.P. Hayden, R.E. Moran, T.L. Bradshaw, S.L. Kingsley-Richards and M L. Cromwell. 2007. The OrganicA Project: An Integrated Apple Research, Education, and Extension Project. Proceedings of 4th International Organic Tree Fruit Research Symposium, Kellogg Center, East Lansing, Michigan, March 3-6, 2007.
25. Garcia, M. E., L.P. Berkett, and T. Bradshaw. 2005. Preliminary results on the application of Surround WP on apple productivity and fruit quality. HortScience 39(4): 876.
26. Berkett, L.P., M.E. Garcia, and T. Bradshaw. 2005. Evaluation of potential non-target impacts of kaolin on apple disease incidence. Phytopathology 95: 8.
27. Berkett, L.P., M.E. Garcia, Eddy, M., Kingsley-Richards, S., and T. Bradshaw. 2005. Comparison of disease susceptibility of two 'new' cold-hardy wine grape cultivars with two standard wine grape cultivars. Phytopathology 95: 8.
28. Garcia, M. E., Berkett, L.P., and T. Bradshaw. 2004. Preliminary results on the application of Surround WP on apple productivity and fruit quality. HortScience 39(4): 876.
29. Berkett, L.P., M.E. Garcia, and T.L. Bradshaw. 2003. IPM Alternatives: Investigating potential non-target impacts of an organic biopesticide in apple production. Proceedings of 4th National Integrated Pest Management Symposium. Indianapolis: 84.
30. Garcia, M. E., Berkett, L.P., and T. Bradshaw. 2003. Preliminary results of non-target impacts of surround® on New England orchards. Proceedings Second National Tree Fruit Research Symposium. Grand Junction, CO. 19-22.
31. Garcia, M., Berkett, L., and T. Bradshaw. 2002. First year results of the impact of a novel pest management technology on apple fruit quality. XXVI International Horticultural Congress. Toronto, Canada. Proceedings: 277.
32. Berkett, L.P., MacHardy, W.E., Sutton, S., Neff, G., and T. Bradshaw. 1997. 'Whole farm' apple scab IPM project. Phytopathology 87: 8.
33. Berkett, L.P., Costante, J.F., Gotlieb, A., Clements, J., Schmitt, D., Heleba, D., Bergdahl, J., Bradshaw, T. and G. Neff. 1996 Vermont Apple IPM program: Integration of research & extension produces innovation and success. Proceedings of the Third National IPM Symposium/Workshop. Washington, D.C., 225-226.

Manuscripts in Preparation (Intended journal)

1. Post-plant management of apple replant disease with bionematicides. (HortTechnology).

Outreach Presentations

1. Management of rusts and other diseases in organically-grown scab-resistant apple cultivars with biopesticides and copper. 78th Ann. New England, New York and Canadian Fruit Pest Management Workshop. Burlington, VT. 10/19/2016.

2. Apple Cultivar Evaluations for Cider Making. Cider Apple Production in Vermont: Field Research and Cider Quality Workshop. Middlebury, VT. 6/28/2016.
3. Cold Climate Varieties, Results from the VT NE 1020 Trial. 2016 NY and VT Grape School. Lake George, NY. 3/17/2016.
4. Orchard IPM 101. UVM Apple Program & VT Tree Fruit Growers Assn 120th Annual Meeting. Middlebury, VT. 2/18/2016.
5. Apple Replant Disease. UVM Apple Program & VT Tree Fruit Growers Assn 120th Annual Meeting. Middlebury, VT. 2/18/2016.
6. The Potential for Cider Apple Production in the Northeast. Northeast NY Commercial Tree Fruit School. Lake George, NY. 2/15/2016.
7. Management of rusts and other diseases in organically-grown scab-resistant apple cultivars with biopesticides and copper. UVM Plant Biology Marvin Series Lecture. Burlington, VT. 1/28/2016.
8. Scab Resistant Apple Cultivars: Potential for Low Input, High-Quality Apple Production. Great Plains Growers Conference. St. Joseph. MO. 1/8/2016.
9. Apple Production for Cider Making. Great Plains Growers Conference. St. Joseph. MO. 1/8/2016.
10. Horticulture and Disease Management of Cold Climate Grapes in Vermont. 2015 New England Vegetable & Fruit Conference. Manchester, NH. 12/17/2015.
11. Cider Apple Research in Vermont. 2015 New England Vegetable & Fruit Conference. Manchester, NH. 12/16/2015.
12. UVM Research: Supporting Vermont Apple and Grape Growers in Vermont. UVM Continuing & Distance Education Staff. Burlington, VT. 7/16/2015.
13. Cider Apple Research at UVM & Other Land Grant Universities. Oral presentation, Cider Apple Production in Vermont: Market Opportunities and Technical Challenges. Middlebury, VT. 3/30/2015.
14. 2014 Apple Season Roundup. Oral presentation, 119th Annual Vermont Tree Fruit Growers Association & UVM Apple Program Annual Meeting. Middlebury, VT. 2/12/2015.
15. Research & Outreach Programs to Support Apple Production for Hard Cider in Vermont. Poster presentation, Vermont Agricultural Experiment Station and UVM Extension Legislative Event. Montpelier, VT. 2/11/2015.
16. Pest Management Programs for Cider Orchards. Oral presentation, 2015 U.S. Association of Cider Makers Conference. Chicago, IL. 2/6/2015.
17. Vermont Apple Production for Hard Cider Markets: Supply, Demand, and Fruit Characteristics. Poster session, 2015 U.S. Association of Cider Makers Conference. Chicago, IL. 2/5/2015.
18. Bradshaw, T. Research & Outreach Programs to Support Apple Production for Hard Cider in Vermont. Vermont Hard Cider Company. Middlebury, VT. 11/16/2014
19. Bradshaw, T. Research & Outreach Programs to Support Apple Production for Hard Cider in Vermont. UVM CALS Board of Advisors. Burlington, VT. 10/31/2014
20. Bradshaw, T. Insights from the 2013 Growing Season in the UVM Orchards. 2014 UVM Apple Program and Vermont Tree Fruit Growers Association Annual Meeting. Middlebury, VT. 2/13/2014.
21. Bradshaw, T., Campbell, C., and Flynt, D. What's Worked for Us: A Panel Discussion on Growing Cider Apples. 2014 U.S. Association of Cider Makers Conference. Chicago, IL. 2/05/2014.
22. Peck, G., Bradshaw, T., Miles, C., and Stewart, A. Panel: What are Cider Producers Future Research Needs? 2014 U.S. Association of Cider Makers Conference. Chicago, IL. 2/05/2014.
23. Bradshaw, T. Scab Resistant Apple Cultivars: Potential for Low Input, High-Quality Cider Apple Production. 2014 U.S. Association of Cider Makers Conference. Chicago, IL. 2/05/2014.
24. Bradshaw, T. Jack Frost Nipping at Your Nodes: Grapevine Cold Hardiness and Strategies to Handle Winter Cold. 2013 New England Vegetable & Fruit Conference. Manchester, NH. 12/19/2013.
25. Nickerson, G., Bradshaw, T., Grubinger, V., Justis, S., Rogers, D., and Willard, A. Commenting on FSMA Made Easy. Vermont Agency of Agriculture Webinar. Montpelier, VT. 11/04/2013.
26. Bradshaw, T.L. Managing Scab-Resistant Apple Cultivars. University of Maine Summer Orchard Tour. Monmouth, ME. 7/31/2013.
27. Bradshaw, T.L. Introduction to Grape Production for Apple Growers. Monmouth, ME. University of Maine Summer Orchard Tour. 7/31/2013.

28. Bradshaw, T.L. Vermont Apple Industry Strategic Planning Session. Presenter and meeting organizer. Montpelier, VT. 3/7/2013.
29. Bradshaw, T.L., Berkett, L.P., and Kingsley-Richards, S.L. Present Research and Outreach Programs from the UVM Apple Team. 2013 Vermont Tree Fruit Growers Association Annual Meeting. 2/14/2013.
30. Bradshaw, T.L., Heilenbach, J., MacArthur, J., Pratt, S., Rowell, D., and Suhr, B. Cider Orchards: A New Marketing Opportunity? 2013 Vermont Tree Fruit Growers Association Annual Meeting. 2/14/2013.
31. Bradshaw, T.L. The OrganicA Project: Assessing the Feasibility of Organic Apple Production in the Northeast. UVM Student Scholars Poster Competition, Finalist. 10/03/2012.
32. Bradshaw, T.L. Apples and Cider in Vermont: History and Production. Calais-East Montpelier Historical Society. 9/18/2012.
33. Bradshaw, T.L. Turn Your Lawn into Eden, Pest Management Considerations in Home Fruit Plantings. NOFA-VT Summer Workshop, Elmore, VT. 8/12/2012.
34. Bradshaw, T.L. Vines and Wines: An Introduction to Grape Growing in Vermont. Friends of the UVM Horticulture Farm Workshop. 4/04/2012.
35. Bradshaw, T.L. IPM Challenges and Opportunities in Two Organic Apple Orchard Systems containing Ginger Gold, Honeycrisp, Liberty, Macoun, and Zestar!. 2012 Vermont Tree Fruit Growers Association Annual Meeting. 2/16/2012.
36. Bradshaw, T.L. Challenges and Opportunities in Two Organic Apple Orchard Systems containing Ginger Gold, Honeycrisp, Liberty, Macoun, and Zestar!. CETAB+ Conference: Organic apple Production in the Northeastern United States and in Quebec: Challenges and Opportunities. Victoriaville, QC (Canada). 2/09/2012.
37. Berkett, L.P. and T.L. Bradshaw. The OrganicA Project Webinar. eXtension Webinar Series. <https://learn.extension.org/events/412>. 1/24/2012.
38. Bradshaw, T.L. IPM Challenges and Opportunities in Two Organic Apple Orchard Systems containing Ginger Gold, Honeycrisp, Liberty, Macoun, and Zestar!. 2011 New England Vegetable & Fruit Conference. Manchester, NH. 12/15/2011.
39. Berkett, L.P., Garcia, M.E., Bradshaw, T.L., and Moran, R. Discussion on Economics, Soil Health, and Viewpoints of Organic Apple Growers. 2011 New England Vegetable & Fruit Conference. Manchester, NH. 12/15/2011.
40. Bradshaw, T.L., Berkett L.P., Moran, R., Cromwell, M.L., and Kingsley-Richards, S.L. Organic Orchard Tour for Centre of Expertise and Technology Transfer in Organic Agriculture and Local Food Systems, Victoriaville, PQ. 7/21/2011.
41. Bradshaw, T.L., Berkett L.P., Cromwell, M.L., and Kingsley-Richards, S.L. Current Research in Organic Apples and Winegrapes at UVM. UVM Food Systems Symposium. 11/1/2010.
42. Bradshaw, T.L. Vermont Edition: Apple Season Arrives. Vermont Public Radio interview. 9/08/2010.
43. Bradshaw, T.L., Berkett, L.P., Cromwell, M.L., and Kingsley-Richards, S.L. UVM Vineyard Open House. Presentations to 115 prospective and veteran grape growers. 8/20/2010.
44. Bradshaw, T.L. and L.P. Berkett. Organic Apple Production - Lessons Learned To Date In The OrganicA Project. 114th Annual Vermont Tree Fruit Grower's Annual Meeting. 2/18/2010.
45. Bradshaw, T.L. The OrganicA Project: Organic Apple Production. Northeast Organic Farming Association of Vermont (NOFA-VT) grower workshop. Presentation of horticulture section and overview of current research on field assessment of kelp-based cytokinin compounds in and integrated organic orchard. 8/13/2009.
46. Bradshaw, T.L. How to Plant and Maintain a Small Organic Home Orchard. Friends of the UVM Horticulture Farm Workshop. 7/11/2009
47. Bradshaw, T.L. Cider and Vinegar Making on a Moderate Scale. NOFA-VT Annual Winter Conference. 2/16/2008.
48. Bradshaw, T.L. OrganicA: The Organic Apple Research, Teaching, and Demonstration Project. NOFA-VT Annual Winter Conference. 2/16/2008.

49. Bradshaw, T.L. The OrganicA Project: Organic Apple Production. Northeast Organic Farming Association of Vermont (NOFA-VT) grower workshop. Presentation of horticulture section. 8/17/2007.
50. Bradshaw, T.L. Topgrafting Apple Trees: Our Experience. 111th Annual Vermont Tree Fruit Grower's Annual Meeting. 2/08/2007.
51. Bradshaw, T.L. Successful Vineyard Spraying: Equipment Use and Safety. UVM Grape Program Vineyard Tour, Champlain Valley Vineyard, Benson, VT. 9/8/2006.
52. Bradshaw, T.L. Pruning Large Apple Trees. Friends of the UVM Horticulture Farm Workshop. 3/16/06.
53. Bradshaw, T.L. and N. Meyers. Cider Making Time. Friends of the UVM Horticulture Farm Workshop. 10/22/2005.
54. Garcia, M. E., Berkett, L.P., and T. Bradshaw. Non-Target Impacts of Surround®: Horticulture. Vermont Tree Fruit Growers Association 109th Annual Meeting. 2/17/2005.
55. Bradshaw, T.L. Cider Hard and Sweet. Friends of the Morrill Homestead 19th Century Apple Harvest. 10/10/04.
56. Bradshaw, T.L. and N. Meyers. Planting and Maintaining Your Home Orchard. Friends of the UVM Horticulture Farm Workshop. 3/6/2004.
57. Garcia, M. E., Berkett, L.P., and T. Bradshaw. Apple Industry and Apple Team Research Update. Vermont Tree Fruit Growers Association 108th Annual Meeting. 2/9/2004.
58. Garcia, M. E., Berkett, L.P., and T. Bradshaw. Does Surround® Have Non-target Impacts on New England Orchards? January 2003 New England Fruit Meetings. 1/8/2003.
59. Bradshaw, T.L. and A. Wheeler. Grafting Fruit Trees at the Justin Smith Morrill Homestead. 5/03/2003.
60. Bradshaw, T.L., Garcia, M. E., and L.P. Berkett. The Electronic New England Apple Pest Management Guide and Survey. Vermont Tree Fruit Growers' 106th Annual Meeting. 2/21/2002.
61. Garcia, M. E., Berkett, L.P., and T. Bradshaw. Surround®: First Year Results of the Impact of a Novel Pest Management Technology on Apple Fruit Quality. Vermont Tree Fruit Growers' 106th Annual Meeting. 2/21/2002.
62. Bradshaw, T.L. 2001. Orchard Replanting at the Justin Smith Morrill Homestead. 5/13/2001.
63. Garcia M. E., and T. Bradshaw. Pruning and Topworking Apple Trees. UVM Horticulture Research Center. 4/04/2001.
64. Bradshaw, T.L. and M. E Garcia. Fruit Quality Assessment for Growers and Packers. Vermont Tree Fruit Growers Fruit Quality Workshop. 1/20/2000.

Media Appearances

1. Hard cider boom lifts Addison County apple orchards. Addison County Independent. 10/20/2016. <http://www.addisonindependent.com/201610cider-boom-lifts-county-apple-orchards>
2. Vermont winemakers look to advance industry. NECN News. 9/16/2016. <http://www.necn.com/news/new-england/Vermont-winemakers-look-to-advance-industry-393769661.html>
3. Apple orchards surviving abnormally dry year. WPTZ News. 9/6/2016. <http://www.wptz.com/news/apple-orchards-surviving-abnormally-dry-year/41537904>
4. VT orchards expect smaller apples. WCAX TV News. 9/2/2016. <http://www.wcax.com/story/33004356/vt-orchards-expect-smaller-apples>
5. Apple and grape research and agricultural biotechnology. WGDR Radio. 4/10/2016, 5/8/2016.
6. Vermont's First Patented Cider Tree. WCAX TV News. 4/1/2016. <http://www.wcax.com/story/31622887/at-issue-vermonts-first-patented-cider-tree>
7. Chance Seedling Nets New Bittersharp Apple, American Fruit Grower. 3/30/2016. <http://www.growingproduce.com/fruits/apples-pears/chance-seedling-nets-new-bittersharp-apple/>
8. Vt. Top Apple Expert Visits The :30. WCAX TV News. 10/1/2015. <http://www.wcax.com/story/30166954/vt-top-apple-expert-visits-the-30>

9. Vermont Edition: Vermont Public Radio interview. 9/30/2015. <http://digital.vpr.net/post/its-apple-season-again>
10. UVM Apple Sales. Seven Days Stuck in Vermont Video Series. 9/25/2015. <http://www.sevendaysvt.com/vermont/uvm-apple-sales-siv414/Content?oid=2919127>
11. Vermonters Sow Seeds for the 'Napa Valley of Hard Cider'. Seven Days Newspaper. 11/5/2014. <http://www.sevendaysvt.com/vermont/vermonters-sow-seeds-for-the-napa-valley-of-hard-cider/Content?oid=2468294>
12. Growers report bountiful apple season on the way. WCAX TV News. 8/24/2014. <http://www.wcax.com/story/29867184/growers-report-bountiful-apple-season-on-the-way>
13. Hard Cider Production on the Rise, But Challenges Remain. UVM Food Feed Blog. 5/21/2015. <https://learn.uvm.edu/blog-sustainability/hard-cider-production-and-cider-apple-yield>
14. UVM Research: Supporting Vermont Apple Growers and Cider Producers. Across the Fence Television Segment, WCAX TV, Burlington, VT. 4/24/2015.
15. UVM Apple Specialist Terry Bradshaw Demonstrates Apple Tree Pruning. Across the Fence Television Segment, WCAX TV, Burlington, VT. 3/30/2015.
16. Cider makers think Vermont could be their Napa Valley. National Public Radio interview. 2/02/2015. <http://www.marketplace.org/2015/02/02/sustainability/cider-makers-think-vermont-could-be-their-napa-valley>
17. Apple Season: UVM Research Supports Growers and Consumers. Across the Fence Television Segment, WCAX TV, Burlington, VT. 10/04/2013.
18. Vermont Edition: Vermont Public Radio interview. 9/26/2013. <http://digital.vpr.net/post/apples-apples>
19. UVM farm developing organic apple production. WCAX TV News. 9/12/2013. <http://www.wcax.com/story/23382195/uvm-farm-developing-organic-apple-production>
20. High-tech tool helping apple growers. WCAX TV News. 7/30/2013. <http://www.wcax.com/story/22971639/high-tech-tool-helping-apple-growers>
21. Vermont Edition: The 2011 Apple Crop. Vermont Public Radio interview. 9/22/2011. http://www.vpr.net/news_detail/92050/post-irene-apple-crop-update/
22. Update on Organic Apple Research at the UVM Hort Farm. Across the Fence Television Segment, WCAX TV, Burlington, VT. 8/02/2011.
23. Vermont Edition: Vermont Public Radio interview. 9/08/2010, http://www.vpr.net/news_detail/88771/2010-apple-crop-ripening-early/
24. The Proper Pruning of Your Fruit Trees. Across the Fence Television Segment, WCAX TV, Burlington, VT. 4/2/2010.
25. Organic Apple Research at the UVM Hort Farm. Across the Fence Television Segment, WCAX TV, Burlington, VT. 10/21/2009.

Professional Extension Technical Publications

[Because of the financial, legal, and the human and environmental safety issues associated with pest management and pesticide use, these publications must be scientifically and technically sound and legally accurate for their professional clientele. It is a federal violation if pesticides are used improperly.]

1. UVM Fruit Website, <http://www.uvm.edu/~fruit>. Outreach website for tree fruit and viticulture-related horticultural and IPM information for commercial growers.
2. USDA National Agricultural Statistics Service Weather Reporter. 2005-2016. http://www.nass.usda.gov/Statistics_by_State/New_England/index.asp.
3. Clements, J. (ed.). 2007-2015. Reviewer and coauthor, New England Tree Fruit Production Guide. Coop. Extension of Systems of CT, ME, MA, NH, RI, and UVM College of Ag. & Life Sci.
4. Bradshaw, T. Biological management of apple replant disease. Northeast SARE Project ONE14-199 final report. http://mysare.sare.org/sare_project/one14-199/?page=final.
5. Moran R., Koehler, G., Cooley, D., Tuttle, A., Clements, J., Smith, C., Hamilton, G., MacHardy, W., Berkett, L., Bradshaw, T., Faubert, H.H. and Concklin, M. 2016. The New England Apple Scab-Control Practices Survey. Fruit Notes 81(1): 1-6.

6. Becot, F., Bradshaw, T., Conner, D. 2016. Fact Sheet: Long-Term Contracts in the UK Cider Industry. http://www.uvm.edu/~fruit/treefruit/tf_cider/UVM_UK_ciderapplecontracts.pdf
7. Peck, G., Miles, C., King, J., Bradshaw, T., Rothwell, N., & I. Merwin. (2014). An Introduction to Hard Cider in the U.S.. eXtension article. <http://www.extension.org/pages/70601/an-introduction-to-hard-cider-in-the-us#.U4vToihmi2J>.
8. Bradshaw, T. L. and L.P. Berkett. 2013. Considerations for Starting a Commercial Winegrape Vineyard in Vermont. <http://go.uvm.edu/vineyardconsiderations>
9. Bradshaw, T.L. 2010. Getting Started in Apple Orchard Management. <http://go.uvm.edu/introapple>
10. Autio, W., T.L. Robinson, B. Black, T. Bradshaw, J.A. Cline, R.M. Crassweller, C.G. Embree, E.E. Hoover, K. Kosola, J. Masabni, M.L. Parker, R.L. Perry, G.L. Reighard, J.R. Schupp, and M. Warmund. 2008. 1999 NC-140 Fuji and McIntosh dwarf apple rootstock trials: An update after eight growing seasons. *Compact Fruit Tree* 41(1): 23-25.
11. Autio, W., T.L. Robinson, B. Black, T. Bradshaw, J.A. Cline, R.M. Crassweller, C.G. Embree, E.E. Hoover, K. Kosola, J. Masabni, M.L. Parker, R.L. Perry, G.L. Reighard, J.R. Schupp, and Warmund, M. 2008. 1999 NC-140 Fuji and McIntosh semidwarf apple rootstock trials: An update after eight growing seasons. *Compact Fruit Tree* 41(1): 26-28.
12. Moran, R.E., Garcia, M.E., Berkett, L.P., Bradshaw, T.L., Kingsley-Richards, S., Darby, H.M., Hayden, J.P. and R.L. Parsons. 2007. Pictorial Guide to Planting an Orchard. <http://www.uvm.edu/~organica/OrganicOrchardInformation/Horticulture/howtoplant.html>
Garcia, M.E., Moran, R.E., Berkett, L.P., Bradshaw, T.L., Kingsley-Richards, S., Darby, H.M., Parsons, R.L., Hayden, J.P., and M.L. Cromwell. 2007. Pictorial Guide to Top-Grafting an Orchard. <http://www.uvm.edu/~organica/OrganicOrchardInformation/Horticulture/howtotopgraft.html>
13. Berkett, L.P., Bradshaw, T.L. and C. Benedict. 2004. IPM 'Quick' Summary for Monitoring Apple Arthropod Pests. UVM Extension Program. <http://orchard.uvm.edu/uvmapple/pest/2004IPMQuickSummaryForMonitoring.pdf>
14. Berkett, L.P., Garcia, M. E., and T. Bradshaw. 2004. Relative Susceptibility of New Apple Cultivars to Insects and Diseases in Vermont. UVM Extension Program. <http://orchard.uvm.edu/uvmapple/pest/1995NE183DiseaseAndInsect2000&2001.pdf>
15. Garcia, M. E., Berkett, L.P., and T. Bradshaw. 2003. Does Surround® Have Non-target Impacts on New England Orchards? Proceedings of the 2003 New England Fruit School. Mass Fruit Growers Association. Vol 109. <http://www.massfruitgrowers.org/nefrmttg/proc--2002-03/a03.pdf>
16. Berkett, L., Bradshaw, T., Cooley, D., and A. Tuttle. 1996-2005. Update to the annual New England Apple Pest Management Guide. Disease Management. Coop. Extension Systems of the Universities of CT, ME, MA, NH, RI, and VT.

Outreach Meetings Organized and Directed

1. Cider Apple Production in Vermont: Field Research and Cider Quality. 2016. Middlebury, VT.
2. Central Vermont Hard Cider Appreciation Event. 2016. Co-facilitator. 2/6/2016, Plainfield, VT.
3. Hard Cider Session (Five speakers, 2.5 hrs), New England Vegetable and Fruit Meetings. 2015. Organizer and convener. Manchester, NH.
4. Cider Apple Production in Vermont: Market Opportunities and Technical Challenges. 2015. Organizer and convener. Middlebury, VT.
5. UVM Apple Program and Vermont Tree Fruit Growers Association Annual meeting. 2009-2016. Organizer and convener. Middlebury, VT.
6. UVM and Vermont Grape & Wine Council Educational Meeting. 2014-2015. Co-organizer.
7. Vermont Apple Industry Strategic Planning Summit. 2013. Organizer and convener.

Curriculum and Policy Development White Papers

Bradshaw, T.L. 2013. Coordinated Teaching, Research and Outreach Programs at the University of Vermont Horticulture Research Center: A Proposal to Improve Student Experiential Learning in Applied Farm Management. http://www.uvm.edu/~tbradsha/UVM_SummerFarmCurriculumSpring2013.pdf

Bradshaw, T.L., Vermont Tree Fruit Growers Association. 2013. Strategic Planning for the Vermont Apple Industry: Planning for Success in the 21st Century.
<http://www.uvm.edu/~orchard/2013VermontAppleIndustryStrategicPlan.pdf>

Peer Reviewer

Grant proposal reviewer:

2014-2016 USDA Value Added Producers Grants Program.

Article reviewer:

HortTechnology, Journal of Horticultural Science & Biotechnology, eOrganic Horticulture.

Service

Expert policy testimony:

Vermont House and Senate Committees on Agriculture and Forest Products:
2014: H.869; 2016: H.236, H.539, S.200.

Policy service:

Chair, Vermont Pollinator Protection Committee authorized under Act 83. Appointed by VT Secretary of State Shap Smith. 2016.

University service:

Horticulture Research & Education Center Advisory Committee, Chair. 2005-
PSS Undergraduate Curriculum Committee. 2014-, Chair, 2016-
PSS Seminar Committee, 2016-
Food Systems Major Advisory Committee. 2016-
UVM Real Food Working Group member. 2016-

Professional Associations

President, Vermont Tree Fruit Growers Association 2009-2014
Member, Vermont Tree Fruit Growers Association
Vermont Grape & Wine Council
VT Specialty Crops Block Grants Program Advisory Board
Northeast IPM Tree Fruit Working Group
International Society of Horticultural Scientists
American Society of Horticultural Scientists
American Phytopathological Society
Entomological Society of America
International Fruit Tree Association

Licensure and Training

Food Safety for the Cider Industry, Michigan State University. September 2009.
Cider Making – Principles and Practice. Mitchell F&D, Peter Mitchell Inst. August 2009, July 2010.
Microinjection Technology Application for the Tree Industry. Mauget, Inc. March 2008.
HACCP for the Juice Industry, University of Connecticut, July 2004.
Vermont State Pesticide Applicator’s License, 1995 to present.

- Commercial categories include 1A) plant and 10) research and demonstration.
Private categories include 2) tree fruit and 3) vegetables and small fruit.

Previous Relevant Experience and Responsibilities

Proprietor, Lost Meadow Orchard and Cider Mill. Calais, VT. Fall 2006 to present.

Owner-operator of a seasonal, home-based commercial retail orchard and cider mill specializing in fresh, unpasteurized apple juice and specific juice blends from apple varieties suited to and grown for fermenting into hard cider.

Manager, Golden Apple Orchard. Charlotte, VT. January 1998 to November 1999.

Sole employee responsible for production, harvest, and sale of commercial apple crop at a pick-your-own and small wholesale operation. Duties included pruning, planting, and training of trees, fertility management, monitoring of orchard pests, groundcover management, and harvest, packing, storing, marketing, and delivery of crop. Pest management role involved pesticide selection, application, recordkeeping, and regulatory compliance. Work involved operation and maintenance of agricultural equipment including tractors, sprayers, and mowers. Continuing education in industry practices expected and maintained.

Proprietor, Pomona Tree Fruit Service. Chelsea, VT, January 1998 to March 2000.

Operation of a complete fruit tree care business. Pruning, fertility management, custom grafting and planting, consultation and site analysis services were offered.

Field Supervisor, Tougas Family Farm, Northboro, MA. April 1997 to December 1997.

Carried out day-to-day production operations of a large pick-your-own and retail farm specializing in apples, peaches, and small fruits. Involved in all aspects including field and orchard work as well as customer assistance and employee supervision. Work involved operation of agricultural equipment including backhoe, tractors, sprayers, and mowers. Continuing education in industry practices expected and maintained.

Intern, University of Vermont Apple Team. May 1995 to April 1997.

Duties included maintenance of University orchards, upkeep of pest and weather monitoring programs, and experimental data collection.

Butternut Acres Farm, Chelsea, VT. 1977-1992.

Raised on small family-owned, multi-generational dairy farm.