*Curriculum Vitae*
**Dr. Marlee A. Trandel-Hayse**
**Assistant Professor of Specialty Crop Postharvest Physiology**
*Auburn University*
*Department of Horticulture*
*305 S College Street*
*Funchess Hall, Room 101*
*Auburn, AL., 36849*
*Cell Phone: 815| 786-5978*
*Email: mat0141@auburne.edu*

## Professional Profile

- PhD, Horticultural Sciences with emphasis on plant postharvest physiology and food chemistry
- Extensive experience in plant cell wall polysaccharide and carbohydrate chemistry
- Expertise in analytical wet chemistry and food chemistry with an overall understanding of laboratory instruments such as GC-MS, LC-MS/MS, HPLC, Zeiss 880 confocal microscope, colorimeter and isotope ratio mass spectrometer (IRMS)
- Strong understanding of preharvest cultivation systems and the impacts on postharvest crop quality including but not limited to plant physiology, nutrition and fruit quality
- Extensive field and greenhouse research experience on organic, sustainable and conventional cropping systems
- Understanding of various indoor production systems including high tunnel, low tunnel and cold chamber
- Expertise in watermelon grafting and hollow heart fruit disorder and creation of field designs to induce disorder
- Effective communicator, utilizing leadership, planning and moderating skills in the classroom, laboratory and conferences

## Education

- **Assistant Professor of Postharvest Specialty Crop Physiology, Horticultural Science**, Auburn University, Department of Horticulture, Auburn, AL, August 2023-Present
- **Research Molecular Biologist (Postdoc), Horticultural Sciences**, United States Department of Agriculture, Agriculture Research Services, United States Horticulture Research Laboratory, Fort Pierce, FL, Supervisor: Dr. Jinhe Bai, February 2022 – August 2023
    - PROJECT: *Can pre-harvest far-red LED light treatments solve the flavorless tomato conundrum?*
    - PROJECT: *Pre-harvest LED light treatments influence amaranth and kale microgreen quality*
- **Postdoctoral Research Scholar, Horticultural Sciences**, North Carolina State University, Plants for Human Health Institute, Kannapolis, NC, Mentor(s): Dr. Penelope Perkins-Veazie and Dr. Massimo Iorizzo, September 2020 – February 2022
    - PROJECT: *Exploring the plant cell wall in blueberry varieties with different texture*
- **PhD, Horticultural Sciences,** North Carolina State University, College of Agriculture and Life Sciences, Raleigh, NC, GPA: 3.96, Advisor: Dr. Penelope Perkins-Veazie, August, 2020
    - DISSERTATION: *Cell wall polysaccharides in grafted and non-grafted 'Liberty' watermelon with hollow heart*
- **MS, Horticulture Production,** Southern Illinois University, Carbondale, IL., College of Agricultural Sciences, GPA: 4.0, Advisor: Dr. S. Alan Walters, August, 2016

  - THESIS: *Nitrogen and carbon stable isotopes in organically and conventionally grown greenhouse tomatoes*
- **BS, Animal Science,** Southern Illinois University Carbondale, College of Agricultural Sciences, May 2014
- **BA, Chemistry,** Southern Illinois University Carbondale, College of Chemistry and Biochemistry, May 2014

**Grants (FUNDED)**

- **Department of Energy, Energy Efficiency and Renewable Resources,** Michigan State Universit, December 2024
  - Received $1,250,000
  - GRANT PROJECT: Antimicrobial fiber-based packaging as a decarbonization solution to the single use plastic clamshell for the produce supply chain
    - PI: Eva Almenar Rosaleny; Co-PI: Marlee Trandel-Hayse, Amin Joodaky, Steve Miller, Jeffrey Brecht, Toktam Taghavi and Karin Albornoz Molina
    - Marlee Trandel-Hayse received: $74,715.00
- **Alabama Agricultural Experiment Station Internal Grant Program,** Auburn University, September 2024
  - Received $50,000
  - GRANT PROJECT: Growing High-Value Kiwifruit in Alabama for Local Markets
    - PI: Marlee Trandel-Hayse, Co-PI: Sungeun Cho, Sushan Ru
- **ADAI Specialty Crop Block Grant,** Auburn University, April 2024
  - Received $40,000 grant as Co-PI towards postharvest quality of kiwifruit
  - GRANT PROJECT: Growing High-Value Kiwifruit in Alabama for Local Markets
    - PI: Jay Spiers, Co-PI: Marlee Trandel-Hayse, Bryan Wilkins and Jacob Kelly
    - Marlee Trandel-Hayse Received: $2,000 for postharvest material
- **Southern Region Small Fruit Consortium,** Auburn University, March 2024
  - Received $5,000 grant as PI towards postharvest quality and shelf-life of blueberry
  - GRANT PROJECT: *Postharvest and Quality Attributes of Rabbiteye Blueberry for Alabama*
- **Southern Region Small Fruit Consortium,** Auburn University, March 2024
  - Received $5,000 grant as Co-PI towards extension of blackberry shelf-life
  - GRANT PROJECT: *Use of 1-Methylcyclopropene (1-MCP) to Prolong Storage Life and Quality of the Blackberry (Rubus spp.)*
    - Marlee Trandel-Hayse received: $2,500
- **Southern Region Small Fruit Consortium,** Auburn University, March 2024
  - Received $5,000 grant as Co-PI towards bunch grape production
  - GRANT PROJECT: *Extension Education on Innovative Bunch Grape Production Technologies for the SE*
- **Southern Region Small Fruit Consortium,** North Carolina State University, Plants for Human Health Institute, March 2024
  - Received $5,000 grant as Co-PI towards chlorogenic acid concentration in blueberry
  - GRANT PROJECT: *Chlorogenic Acid Content in Rabbiteye Blueberry (Vaccinium virgatum) Germplasm*
    - Marlee Trandel-Hayse received: $1,000
- **USDA Specialty Crop Block Grant Program,** Southern Illinois University Carbondale, July, 2015

- Received $18,000 Grant funding awarded for Masters research
- GRANT PROJECT: *Nitrogen and carbon stable isotopes in organic and conventional tomatoes*

## Grants (NOT FUNDED/PENDING)

- **ADAI Specialty Crop Block Grant,** Auburn University, April 2024 **(**Not Funded)
  - Rejected Funding: $40,000
  - GRANT PROJECT: Screening Healthful Blackberry Cultivars for Alabama Farmers markets and Local Schools
    - PI: Marlee Trandel-Hayse, Co-PI: Yifen Wang and Jay Spiers
- **USDA NIFA SAS,** California Polytechnic State University, June 2024 **(**Not Funded)
  - Rejected Funding: $10,000,000
  - GRANT PROJECT: Enhancing food nutrition and security by utilizing machine learning technologies in controlled environment agriculture
    - PI: Bethany Johnson, Co-PI: Marlee Trandel-Hayse, Camila Rodrigues, David Narum, Steven Karp, Jason Smith and Mike Liu
    - Total funding rejected from Auburn University: $2,399,187
- **USDA NIFA AFRI A1364,** Michigan State University, October 2024 **(**Pending)
  - Pending Funding: $800,000
  - GRANT PROJECT: Next Generation Packaging for Small Fruit
    - PI: Eva Almenar Rosaleny; Co-PI: Marlee Trandel-Hayse, Amin Joodaky, Steve Miller, Jeffrey Brecht and Toktam Taghavi
    - Total pending for Auburn University: $72,000
- **USDA NIFA AFRI A1141,** Auburn University, October 2024 **(**Pending)
  - Pending Funding: $800,000
  - GRANT PROJECT: Safeguard Small Farrms by Accelerating Rabbiteye Blueberry Breeding through Geomic Selection
    - PI: Sushan Ru; Co-PI: Marlee Trandel-Hayse, Tanzeel Rehman
    - Total pending for Marlee Trandel-Hayse: $5,000

## Academic Honors and Awards

- **American Society for Horticultural Sciences PhD Student Scholarship Award 2021,** Denver, CO, August 2021
  - Award resulting from PhD project, depth of research, list of activities during PhD, abstract and manuscript publications and reference letters
  - Recipient honored with a Poster Announcement (virtual and in person), Award Recipient Breakfast and $1,500 scholarship
- **Southern Region American Society for Horticultural Sciences 2020**, Louisville, KY, February 2020
  - Graduate student poster competition, first place, $100 award
- **American Society for Horticultural Sciences 2019 National Conference Travel Award,** Las Vegas, NV, July 2019
  - Graduate student travel award recipient, $500 travel award
- **International Vegetable Symposium Young Minds Award,** Charlotte, NC, July 2019
  - Graduate student oral competition for the Young Minds Award, Placed 1st out of 15 competitors, $250 travel award and sponsorship in Chronica Hort Journal

- **Graduate Research Symposium Competitive Award** at North Carolina State University, March, 2019
    - Poster on watermelon research, Placed 1st in the Agriculture and Natural Resource Section, $350 award
- **Barham PhD Oral Presentation Award,** Southern Region- American Society for Horticultural Sciences, Birmingham, AL, Feb. 2019
    - Scientific accuracy, presentation skills and novelty of project, placed 1st out of 13 competitors, $500 award
- **CucCAP Travel Grant,** Cucurbitaceae Conference, Davis, CA, Nov. 2018
    - Recipient, $1,000.00 travel award
- **American Society for Horticultural Sciences 2018 National Conference Industry Division Grant Award**, Washington, D.C., Aug. 2018
    - Competition essay describing future aspirations and career goals, 2 letters of recommendation
    - Selected as Industry Grant Winner: $1,000.00 award
- **American Society for Horticultural Sciences 2018 National Conference Travel Award,** Washington D.C., Aug. 2018
    - graduate student travel award recipient, $500 travel award
- **Barham PhD Oral Presentation Award,** Southern Region- American Society for Horticultural Sciences, Jacksonville, FL, Feb. 2018
    - Third place out of 9 competitors, $200 award
- **Outstanding Masters Researcher Award**, Southern Illinois University Carbondale, May, 2016
    - Recognized for intensive field research skills and laboratory management skills, award recipient for MS thesis project

## Academic and Research Experience

**Agriculture Research Service, Fort Pierce FL**

- Research Molecular Biologist (Postdoc), Citrus and Other Subtropical Products Unit, Postharvest & Flavor Chemistry Laboratory, Dr. Jinhe Bai, February 2022 - Present
    - Determine the effects of red, blue and green LED light treatments on microgreen quality including flavor (volatiles), metabolomics profiling and sensory analysis
    - Assess pre-harvest red and far-red LED light treatments on chill injury and postharvest quality of tomato, specifically focusing on tomato flavor and biochemical pathways
    - Collaborate within the laboratory and guide new postdoctoral/visiting scientists

**North Carolina State University, Kannapolis NC**

- Postdoctoral Research Scholar, Postharvest and Genomic Lab, Dr(s). Penelope Perkins-Veazie and Massimo Iorizzo, September 2020 – February 2022
    - Determine quantitative analysis of cell wall polysaccharides, linkage assembly and cell wall sequential fractions in blueberry varieties with phenotypic differences in fruit texture in collaboration with genomic exploration of QTL's
    - Identify qualitative changes in blueberries via confocal microscopy and hemicellulose/pectin immunolabels, performed optimization experiments on grinding, re-grinding, hydrolysis and sonication of blueberry cell wall,
    - Guided PhD student and lab technicians and trained in TA.XT Texture Analyzer for blueberry quality

**North Carolina State University, Raleigh NC**

- Research Assistant, Food Chemistry lab, Dr. Suzanne Johanningsmeier, March 2018- present

- Determine cell wall polysaccharide composition in Arabidopsis and watermelon, performed optimization experiments on hydrolysis and methylation steps on watermelon, trained in running HPLC, GC-MS, sugar derivatization, and analysis of results

**North Carolina State University, Kannapolis NC**

- Research Assistant, postharvest assessment of triploid watermelon, Dr. Penelope Perkins-Veazie, April 2017-present
  - Triploid watermelon study to induce hollow heart in a susceptible cultivar, postharvest sample collection and analysis of tissue for free amino acids, carotenoids, soluble carbohydrates, organic acids, Zeiss LSM 880 Confocal microscopy on watermelon cells, z-stacking and image stitching, data collected via Image J (Public Domain)

**North Carolina State University, Mills River, NC**

- Graduate student collaborative project on grafted and pruned tomatoes, Aug. – Oct. 2018
  - Collaborated with plant pathologist PhD student, harvested tomatoes, sort and weigh, postharvest assessments of pH, soluble solids, titratable acidity and lycopene content

**North Carolina State University, Raleigh, NC**

- Assisted with cultural management of cucurbits and sweet potato, Dr. Jonathan Schultheis, April 2017 – Sept. 2017
  - Managed ~18 acres of watermelon, melon, cucumber and squash variety trials, sweet potato spacing studies and internal necrosis assessment

**Southern Illinois University, Carbondale, IL**

- Research assistant, Asian Green Varietal Trial, April Vigardt, USDA Specialty Crop Block Grant Program, May 2015- July 2016
  - Low tunnel field study for 13 various Asian Green cultivars, harvest, weigh and clean Asian Greens to prepare for the local farmers market and sensory analysis tests

**Southern Illinois University, Carbondale, IL**

- Graduate worker for watermelon breeding trials, Dr. S. Alan Walters May 2015-July 2016
  - Managed 3 acres of watermelon and melon trials, made plant crosses, tagged fruit, assessed for weed and pest pressures, supplied irrigation and fertilizer, harvested fruit and collected data

**Southern Illinois University, Carbondale, IL**

- Graduate worker for pumpkin variety evaluations, Dr. S. Alan Walters, May 2014-July 2016
  - Started transplants and managed 2-3 acres of field evaluations focusing on pie type, heirloom and jack-o-lantern pumpkins
  - Responsible for setting up irrigation, supplying water and fertilizer, scouting for disease and pests, harvest and quality data assessments

**Southern Illinois University, Carbondale, IL**

- Graduate worker for Illinois Horseradish Breeding Trials, Dr. S. Alan Walters, May 2014- July 2016
  - Managed 1.5 acre field trials for several different breed-lines of horseradish, cross pollination of specific lines in greenhouse (40+ crosses made) and evaluated horseradish for internal root discoloration

**Southern Illinois University, Carbondale, IL**

- Graduate Worker for Organic Strawberry Pseudomonas putida trials, Dr. S. Alan Walters, USDA Specialty Crop Block Grant Program, Mar. 2014- May 2016
  - Field and high tunnel study for quality and yield of early season strawberry production, leaf & flower count, harvest strawberries and record weights

## Work Experience

**Lomax Farm, Carolina Farm Stewardship, Concord, NC**

- Collaborated with organic and sustainable flower and vegetable grower with focus on plant starters/transplants, floriculture and cucurbit and solanaceous production, Jan. 2021- Present
    - Collaborated with grower to produce an array of sunflower (Sonja, Red Hedge, Plum amd Pruple F1) zinnia (zinderella peach, cactus flowered zinnia and jazzy mix) and larkspur for wedding
    - Aided field planting, fertigation and spring harvest for local Farmer's Market

**North Carolina State University, Kannapolis, NC**

- Graduate Research Assistant for postharvest physiology laboratory (watermelon, tomato and cucumber), Dr. Penelope Perkins-Veazie, Aug. 2016-Present
    - Trained to run automated titrimeter, colorimeter, spectroscopy, HPLC and how to set up for high throughput analysis of quality components including near infrared spectroscopy, isolation of phytochemicals (citrulline, arginine, lutein, lycopene, beta carotene, flavonoids)
    - Helped to prepare/samples for student projects for diverse studies such as peony flower quality, bok choy nutrient stress, blueberry anthocyanin profile

**Southern Illinois University, Carbondale, IL**

- Graduate Research Assistant at the Vermicomposting Center, Dr. S. Alan Walters and April Vigardt, May 2014- July 2016
    - Managed 5 acres of vegetable research for Dr. S. Alan Walters and 2.5 acres of organic production (field, greenhouse and high tunnel) at the Center for Sustainable Farming
    - Assisted with plant breeding of melons, pumpkins and horseradish
    - Soil chemistry and nutrient management relative to nitrogen and carbon fixation

**Southern Illinois University, Carbondale, IL**

- Student worker for the Organic Sustainable Vegetable Farm under April Vigardt, June 2012-May 2014
    - Organic vegetable and soil production in field, greenhouse, high tunnel and low tunnel production, applied organic herbicide/fertilizer applications
    - Marketing, outreach and conducted research with respect to local farmers market and helped to manage the Carbondale Community Farmer's Market Farm Stand and College of Agriculture Farm Stand

## Teaching Experience

**Auburn University, Auburn, AL**

- Assistant Professor of HORT 7010 Experimental Methods in Horticulture, in-person, 3 credit hours, offered every summer (co-taught course)
    - Co-taught course with another faculty member in Horticulture
    - Edited 6 weeks of course content and updated syllabus and class material for graduate students
    - Managed guest lecturers and all laboratories

**Auburn University, Auburn, AL**

- Assistant Professor of HORT 5140/6140, Postharvest Physiology and Technology, in-person, 3 credit hours, offered every spring semester
    - Rebuilt the curriculum and content for HORT 5140/6140
    - Generated course syllabus, course lecture content and weekly laboratories

**North Carolina State University, Raleigh, NC**

- Guest lecturer for HS452, Postharvest Physiology, Distance Education Course taught by Dr. Penny Perkins-Veazie, Jan. 2021-May 2021
    - Created 1 hour lecture for the plant cell wall and disassembly of cell wall polysaccharides
    - Generated text questions for lecture

**North Carolina State University, Raleigh, NC**

- Guest lecturer for HS452, Postharvest Physiology, Distance Education Course taught by Dr. Penny Perkins-Veazie, Jan. 2019-May 2019
    - Created 1 hour lecture for postharvest handling of organic crops
    - Created 1 hour lecture for postharvest extension work in North Carolina and visited farmer's markets & grower stands

**North Carolina State University, Raleigh, NC**

- Teaching assistant for HS 304: Plant ornamental ID, Jan. 2018- May 2018
    - Teach students (12 -14 students per TA) new plants list weekly (14-17 plants/list), taught an array or ornamental conifers, angiosperms and herbaceous plants and managed tests/quizzes

**Southern Illinois University, Carbondale, IL**

- Teaching Assistant for Crop Physiology, Dr. S. Alan Walters, Jan. 2015- May 2016
    - Taught 20 lectures with roughly 50 students per course semesters, discussed basic physiological and biochemical pathways, photosynthesis and respiration in depth and led study sessions and laboratories

**Southern Illinois University, Carbondale, IL**

- Teaching Assistant for Home Gardening, Dr. S. Alan Walters, Jan. 2015- May 2016
    - Taught 4 lectures in class of ~70 students, helped to upload documents and prepare presentations for Dr. Walters, Graded labs & tests

**Southern Illinois University, Carbondale, IL**

- Teaching Assistant for Vegetable Production, Dr. S. Alan Walters, Aug. 2015-Dec. 2015
    - Taught several lectures (around 16) with 19 undergraduate and graduate students, covered issues such as disease management, greenhouse production, various vegetable types, IPM management and organic, sustainable and conventional production systems Took students on field trips/labs

## Publications

- Albornoz, K., Trandel-Hayse, M., Deltsidis, A., and Orlinski, P. 2025. 2*025 Southeastern U.S. Vegetable Handbook: Postharvest Handling*. Auburn University, pp 40-47. [Online, Published December 12, 2024.] chromeextension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.uaex.uada.edu/publications/pdf/MP584.pdf.
- Rodrigues, C., Blanchard, C., Trandel-Hayse, M, Wells, D., and Rehman, T. 2024. Post-harvest strategies to improve shelf-life of indoor-grown lettuce. Acta Hortic, ISHS Scientific Proceedings, xx, xxx (accepted Feb 10$^{th}$, 2025).
- Trandel-Hayse, M., Rosskopf, E., Jeffries, K. A., Di Gioia, F., Poole, G., Hensely, W., Schonborn, W. and Bai, J. 2024. Light source and spectra influence the phytochemical profile of amaranth microgreens, Food BioScience, 64, 105839. Doi: https://doi.org/10.1016/j.fbio.2025.105839
- Trandel-Hayse, M., Perkins-Veazie, P., Oh, H., Johanningsmeier, S. and Iorizzo, M. 2024. Fruit texture and cell wall polysaccharide changes in 10 southern highbush cultivars through storage. Acta Hortic, XX, x-xx [submitted 06-30-24]
- Oh, H., Perkins-Veazie, P., Ma, G., Trandel-Hayse, M., Mainland, C.M., and Iorizzo, M. 2024. Postharvest fruit chemistry changes in 61 blueberry cultivars after six weeks of cold storage. Acta hortic, XX, xx-xx [submitted 06-30-24]

- Trandel-Hayse, M., S. Johanningsmeier, H. Oh, M. Iorizzo and P. Perkins-Veazie. 2023. Blueberry cell wall polysaccharide composition of three distinct fruit firmness phenotypes. ACS Food Sci Technol, 3, 11, 1920-1930. Doi: https://doi.org/10.1021/acsfoodscitech.3c00284
- Trandel-Hayse, M., Bai, J., Jeffries, K., Hensely, M., Schonborn, W., Di Gioia, F. and Rosskopf, E. 2023. LED lights influence the volatile and nutritional quality of amaranth microgreens. Scientific Proceedings of the Florida State Horticultural Society, xx:xx (accepted)
- Trandel, M., S. Johanningsmeier, J. Schultheis, C. Gunter and P. Perkins-Veazie. 2022. Blueberry cell wall composition helps to explain firmness differences. Scientific Proceedings of the Florida State Horticultural Society, xx:xxx (accepted)
- Ingram, T., Sharpe, S., Trandel, M., Perkins-Veazie, P., Louws, F. J., and Meadows, I. 2022. Vigarous rootstocks improve yields and increase fruit sizes in grafted fresh market tomatoes. Front. Hortic., 22, 1-11. Doi: https://doi.org/10.3389/fhort.2022.1091342
- Trandel, M., S. Johanningsmeier, J. Schultheis, C. Gunter and P. Perkins-Veazie. 2021. Cell wall polysaccharide composition of grafted 'Liberty' watermelon with reduced incidence of hollow heart defect. Frontiers Plant Sci., 12:1-19.
  Doi: https://doi.org/10.3389/fpls.2021.623723
- Trandel, M., P. Pekins-Veazie, J. Schultheis, C. Gunter, S. Johanningsmeier and E. Johannes. 2021. Grafting watermelon onto interspecific hybrid squash reduces hollow heart disorder. Acta Hortic., 1302, 225-232.
  Doi: https://doi.org/10.17660/ActaHortic.2021.1302.30
- Trandel, M., J. Schultheis and P. Perkins-Veazie. 2020. Predicting hollow heart incidence in triploid watermelon (*Citrullus lanatas*). HortScience, 7, 1-5.
  Doi: https://doi.org/10.21273/HORTSCI15361-20
- Trandel, M.A., Perkins-Veazie, P., Schultheis, J., Gunter, C., and Johanningsmeier, S.D.J. 2020. Cell wall polysaccharides in grafted and non-grafted 'Liberty' watermelon with hollow heart. North Carolina State University, Dissertation.
- Vigardt, A., Trandel, M., Chaudhary, H and Walters, S.A. 2020. Impact of vermicompost fertilizer on spinach yield and nutritional components. Modern Concepts & Developments in Agronomy, 6(4), 657-663.
- Perkins-Veazie, P., Trandel, M., and Gunter, C. 2020. Chapter 16 Organic issues in postharvest. C. Watkins (ed.), Postharvest Issues, Burleigh Dodds Science Publishing.
- Trandel, M.A. 2019. Young scientist profile in International Vegetable Grafting Journal. ChronicaHort 59(4), 12.
- Trandel, M., S. A. Walters and P. Perkins-Veazie. 2019. Stable isotope analysis as a tool to determine nitrogen Fertilizer Source. Modern Concepts & Developments in Agronomy, 5(1);492-498.
- Trandel, M.A., A Vigardt, S.A. Walters, and M. Lefticariu. 2018. Nitrogen isotope composition, nitrogen amount and fruit yield of tomato plants affected by the soil-fertilizer types. ACS Omega, 3(6); 6419-6426.
- Trandel, M.A., S. A. Walters, M. Lefticariu, M. Kinsel and K. Jones. 2016. Nitrogen and carbon stable isotopes in organically and conventionally grown greenhouse tomatoes. Southern Illinois University Carbondale, Thesis.

## Abstract Publications

***International Vaccinium Symposium will publish abstracts – need to track it down**

- **Trandel-Hayse, M.,** Oh, H., Johanningsmeier, S., Iorizzo, M, and Perkins-Veazie, P. 2024. Blueberry Texture and Total Polysaccharide Composition of 10 Southern Highbush Cultivars. International Society for Horticultural Science, Vaccinium Conference, Nova Scotia, CA.

- **Blanchard, C.E.**, Rodrigues, C., Wells, D., Trandel-Hayse, M., and Rehman, T. Fresh Weight of Indoor Grown lettuce under Different Postharvest Storage Practices. National American Society for Horticultural Science, Honolulu, HI. 2024. Hortscience, 59(9S), s379 (Abstr). doi: https://doi.org/10.21273/HORTSCI.59.9S.S1
- **Trandel-Hayse, M**. and Walters, A. Comparing the Postharvest Phytonutrient Content of Red and Green Butterhead Lettuce Cultivars. National American Society for Horticultural Science, Honolulu, HI. 2024. Hortscience, 59(9S), s175-s176 (Abstr). doi: https://doi.org/10.21273/HORTSCI.59.9S.S1
- **Trandel-Hayse, M**. and Walters, A. 2024. Production System Alters Phytonutrient Content of 'Skyphos' Butterhead lettuce. National American Society for Horticultural Science, Honolulu, HI. 2024. Hortscience, 59(9S), s176 (Abstr). doi: https://doi.org/10.21273/HORTSCI.59.9S.S1
- **Trandel-Hayse, M**. Blanchard, C., Wells, D., Rehman, T., Rahman, M.D.H., and Rodrigues, C. 2024. Nutritional Quality and Shelf-life of "Living Lettuce" through 28 Days of Cold Storage. National American Society for Horticultural Science, Honolulu, HI. 2024. Hortscience, 59(9S), s174-s175 (Abstr). doi: https://doi.org/10.21273/HORTSCI.59.9S.S1
- **Trandel-Hayse, M**., Blanchard, C., Wells, D. Rehman, T., Rahman, M.D.H., and Rodriguez, C. 2024. Postharvest Quality and Shelf-Life of Living Lettuce: Should Growers Keep or Cut the Roots? Southern Region American Society of Horticultural Science, Atlanta, GA. Hortscience, 59(2S), sr37-sr38 (Abstr). doi: https://doi.org/10.21273/HORTSCI.59.2S.S1
- Sandoval, E.T., Blanchard, C., Trandel-Hayse, M., da Silva, A.L.B.R., **Rodrigues, C.** Controlling Salmonella enterica in roots of indoor-grown lettuces. Southern Region American Society of Horticultural Science, Atlanta, GA, 2024. Hortscience, 59(2S), sr62 (Abstr). doi: https://doi.org/10.21273/HORTSCI.59.2S.S1
- **Trandel-Hayse, M**. Oh, H., Perkins-Veazie, P., Johanningsmeier, S., Bai, J. and Iorizzo, M. 2022. Cell Wall Polysaccharide Composition in the Peel and Pulp of Blueberry Cultivars Differing in Fruit Texture Quality. Hortscience, 57(9):S123 (Abstr).
- **Trandel-Hayse, M**. 2021. Optimization of blueberry cell wall polysaccharide extraction: From grinding through hydrolysis. Hortscience, 56(9):S37 (Abstr).
- **Trandel, M.**, P. Perkin-Veazie, S. Johanningsmeier, J. Schultheis and C. Gunter. 2020. Optimizing cell wall polysaccharide extraction for watermelon placental tissue. Hortscience, 55(9): S341 (Abstr).
- **Trandel, M.**, P. Perkin-Veazie, S. Johanningsmeier, J. Schultheis and C. Gunter. 2020. Cell Wall Architecture in Grafted and Non-Grafted 'Liberty' Watermelon with Hollow Heart. Hortscience, 55(9): S129 (Abstr).
- **Perkins-Veazie, P.**, M. Trandel, J. Schultheis and T. Birdsell. 2020. Pumpkin postharvest: Stem retention and moisture with storage. HortScience, 55(9): S410-411 (Abstr.).
- **Trandel, M**., P. Perkins-Veazie, S. Johanningsmeier, J. Schultheis and C. Gunter. 2020. The backbone of fruit: Exploring cell wall polysaccharides in grafted and non-grafted 'Liberty' watermelon with hollow heart. HortScience 55(9): S129 (Abstr.).
- **Trandel, M.**, P. Perkin-Veazie, S. and J. Schultheis. 2019. Tissue Firmness and Hollow Heart Development in 2012, 2013 and 2014 Triploid Watermelon Variety Trials. HortScience, 54(9): S399-S400 (Abstr.).
- **Trandel, M.** P. Perkins-Veazie, J. Schultheis, C. Gunter and S. Johanningsmeier. 2019. Understanding Hollow Heart Formation in 'Liberty' watermelon. HortScience, 54(9): S107-S108 (Abstr.).
- **Trandel, M.** P. Perkins-Veazie, J. Schultheis, C. Gunter and S. Johanningsmeier. 2019. Exploring cell wall polysaccharide composition in a watermelon variety susceptible to hollow heart disorder. HortScience. 54(9): S373 (Abstr.).

- Perkins-Veazie. P., **Trandel, M.** and G. Fernandez. 2019. A rapid method for estimating titratable acidity in tomato and small fruit crops. HortScience, 54(9): S212 (Abstr.).
- **Trandel, M.** P. Perkins-Veazie and J. Schultheis. 2019. Tissue Firmness and Hollow Heart Development in 2012, 2013 and 2014 Variety Trials. HortScience 54: S399-S400 (Abstr.).
- **Trandel, M.** P. Perkins-Veazie and J. Schultheis. 2018. Tissue Firmness and Hollow Heart Development in 2012, 2013 and 2014 Variety Trials. Cucurbit Abstracts, Cucurbitaceae 2018, pp 117 (Abstr.).
- **Trandel, M.** P. Perkins-Veazie, J. Schultheis, E. Johannes, C. Gunter. 2018. Composition of hollow heart flesh in grafted and non-grafted 'Liberty' seedless watermelon. HortScience, 53(9): S374 (Abstr.).
- **Trandel, M.** P. Perkins-Veazie, J. Schultheis, E. Johannes, C. Gunter. 2018. Hollow Heart Formation in Grafted and Non-grafted Watermelon. HortScience, 53(9): S504 (Abstr.).
- **Trandel, M.** P. Perkins-Veazie, J. Schultheis, and C. Gunter. 2018. Hollow Heart formation in grafted and non-grafted watermelon. HortScience 53(9), S461-S462 (Abstr.).
- **Trandel, M.,** Vigardt, A., Walters, S. A., Lefticariu, M., and Kinsel, M. 2015. Nitrogen- and Carbon- Stable Isotopes in Organic and Conventional Fertilized Tomatoes. HortSceince 50(9): S163 (Abstr.).

## Work in Progress

- Ephraim, P., Rodrigues, C., Ru, S., Miller, M., Johanningsmeier, J. and Trandel-Hayse, M. 2025. Assessing firmness variations in Rabbiteye and southern highbush genotypes through 6 weeks of cold storage. HortScience [in progress]
- Cochran-Chipura, C., Ru, S., Coneva, E., Cho, S., and Trandel-Hayse, M. 2025. Postharvest assessment of rabbiteye and southern highbush blueberry quality and nutritional composition. HortScience, [in progress]
- Trandel-Hayse, M., Cochran-Chipura, C., and Ephraim, P. 2024. Postharvest quality and composition of specialty crops grown in Alabama and the southeast U.S.A. American Pomological Society, [in progress]
- Rodrigues, C., Trandel-Hayse, M., Wells, D., Blanchard, C, Rahman, H. and Rehman, T. 2024. Living lettuce, should growers keep or cut the roots? Postharvest Biol Technol, [in progress]

## Conference Presentations

*Notes: add 9 presentations from SR-ASHS 2025 (2 by Clarisse, 2 by Peter, 2 by Marlee, 2 by Jagjit, 1 by Libby)

- Trandel-Hayse, M.* 2024. Updates on Small Fruits and Lettuce Postharvest Performance from Auburn Alabama, Global Produce and Floral Show, HATCH Multistate S-294 Meeting, Atlanta, GA
- Ephraim, P.* and Trandel-Hayse, M. 2024. Assessing Postharvest Texture Variations in Rabbiteye and Southern highbush Blueberries Grown in Alabama. Southeast Professional Fruit Workers Meeting, Auburn, AL
- Cochran-Chipura, C.* and Trandel-Hayse, M. 2024. Comparison of Rabbiteye to Southern Highbush Quality, Flavor, Volatiles and Sensory Analysis. Southeast Professional Fruit Workers Meeting, Auburn, AL
- Singh, J.*, Coneva, E., Trandel-Hayse, M., Salazar-Gutierrez, M.R., and Vinson, E.L. 2024. Investing the Performance of Recently Released Rabbieye Blueberry Cultivars for Sustainable Production in Alabama. Professional Agriculture Workers Conference, Graduate Student Poster Competition, Tuskegee, AL.

- Singh, J.*, Coneva, E., Trandel-Hayse, M., Salazar-Gutierrez, M.R., Vinson, E.L., and Chaves-Cordoba, B. 2024. Exploring Improved Rabbiteye Blueberry (*Vaccinium virgatum* Aiton) Cultivars for Sustainable Production in Alabama. AU College of Agriculture Graduate Student Poster Competition, Auburn, AL
- Trandel-Hayse, M., Oh, H., Johanningsmeier, S., Iorizzo, M, and Perkins-Veazie, P.* 2024. Blueberry Texture and Total Polysaccharide Composition of 10 Southern Highbush Cultivars. International Society for Horticultural Science, Vaccinium Conference, Nova Scotia, CA.
- Blanchard, C.E.*, Rodrigues, C., Wells, D., Trandel-Hayse, M., and Rehman, T. 2024. Fresh Weight of Indoor Grown lettuce under Different Postharvest Storage Practices. National American Society for Horticultural Science, Honolulu, HI.
- Trandel-Hayse, M.* and Walters, A. 2024. Comparing the Postharvest Phytonutrient Content of Red and Green Butterhead Lettuce Cultivars. National American Society for Horticultural Science, Honolulu, HI.
- Trandel-Hayse, M.* and Walters, A. 2024. Production System Alters Phytonutrient Content of 'Skyphos' Butterhead lettuce. National American Society for Horticultural Science, Honolulu, HI.
- Trandel-Hayse, M.*, Blanchard, C., Wells, D., Rehman, T., Rahman, M.D.H., and Rodrigues, C. 2024. Nutritional Quality and Shelf-life of "Living Lettuce" through 28 Days of Cold Storage. National American Society for Horticultural Science, Honolulu, HI.
- Trandel, M.A.*, D. Wells, C. Blanchard, C. Rodrigues, H. Rahman and T. Rehman. 2024. Postharvest quality and shelf-life of living lettuce: Should growers keep or cut the roots? Southern Region American Society for Horticultural Sciences, Atlanta, GA.
- Trandel, M.A.*, P. Perkins-Veazie, J. Schultheis, C. Gunter and S. Johanningsmeier. 2021. Watermelon cell wall structure in fruit from grafted plants with and without hollow heart defect. Virtual Watermelon Working Group, Southern Region American Society for Horticultural Sciences. Virtual Meeting.
- Trandel, M.A.*, P. Perkins-Veazie, J. Schultheis, C. Gunter and S. Johanningsmeier. 2020. Hollow heart disorder and its relationship to cell wall pectins in grafted and non-grafted 'Liberty' watermelon. Southern Region American Society for Horticultural Sciences. Postharvest Working Group. Louisville, KY.
- Trandel, M.A.*, P. Perkins-Veazie, J. Schultheis, C. Gunter and S. Johanningsmeier. 2020. Discoveries in cell wall architecture of watermelon with hollow heart. Southern Region American Society for Horticultural Sciences. Watermelon Working Group. Louisville, KY.
- Trandel, M.A.*, P. Perkins-Veazie, J. Schultheis, C. Gunter and S. Johanningsmeier. 2019. Cell wall polysaccharide content in 'Liberty' watermelon at varying levels of hollow heart. Southern Region American Society of Horticultural Science. Birmingham, AL.
- Trandel, M.A.*, P. Perkins-Veazie, J. Schultheis, C. Gunter E. Johannes and S. Johanningsmeier. 2019. Exploring cell wall polysaccharide composition in a watermelon variety susceptible to hollow heart. Southern Region American Society of Horticultural Science. Birmingham, AL.
- Trandel, M.A.*, P. Perkins-Veazie and J. Schultheis. 2019. Tissue firmness and hollow heart development in the 2012, 2013 and 2014 Triploid Variety Trials. Southern Region American Society of Horticultural Science. Birmingham, AL.
- Trandel, M.* 2018. Moderator of Production and Quality Section. Cucurbitacae, Conference Center Ballroom A, University of California Davis, Davis, CA
- Trandel, M.*, P. Perkins-Veazie and J. Schultheis. 2018. "Tissue Firmness and Hollow Heart Development in 2012, 2013 and 2014 Variety Trials. Cucurbitacae, Production and Quality Poster Section, Conference Center Ballroom C, University of California Davis, Davis, CA
- Trandel, M.*, P. Perkins-Veazie, J. Schultheis, C. Gunter and S. Johanningsmeier. 2018. "Composition of Hollow Heart Flesh in Grafted and Non-Grafted Liberty Seedless Watermelon".

American Society for Horticultural Sciences, National Meeting. Graduate Student Poster Competition. Washington Hilton, Washington D.C.

- Trandel, M.*, P. Perkins-Veazie, J. Schultheis, C. Gunter and S. Johanningsmeier. 2018. "Chemical and Physical Composition of Grafted and Non-Grafted Liberty Watermelon at Varying Levels of Hollow Heart." American Society for Horticultural Sciences, National Meeting. Scholars Ignite 3 Minute Competition. Washington Hilton, Washington D.C.
- Trandel, M.*, P. Perkins-Veazie, J. Schultheis, C. Gunter and E. Johannes. 2018. "Hollow heart formation in grafted and non-grafted watermelon. Southern Region- American Society for Horticultural Sciences. Barham Oral Competition. Hyatt Regency Riverside, Jacksonville FL
- Trandel, M.*, P. Perkins-Veazie, J. Schultheis, C. Gunter and E. Johannes. 2018. "Hollow heart formation in grafted and non-grafted watermelon." Southern Region- American Society for Horticultural Sciences. Watermelon Research and Development Meeting. Hyatt Regency Riverside, Jacksonville FL
- Trandel, M.*, Perkins-Veazie. 2017. "Cucurbitacins in Watermelon." Southern Region- American Society for Horticultural Sciences. Sheraton Hotel, Mobile, AL
- Trandel, M.*, S.A. Walters, M. Lefticariu and M. Kinsel. "Nitrogen and Carbon Stable Isotopes in Organic and Conventional Tomatoes". Southern Illinois University Carbondale Graduate Student Forum Presentations. Student Center Ballrooms, Carbondale, IL. 4 April 2016
- Trandel, M.*, Vigardt, A., Walters, S. A., Lefticariu, M., and Kinsel, M. "Nitrogen and Carbon Stable Isotope Patterns in Organic and Conventional Tomatoes". American Society for Horticultural Sciences National Conference. Sheraton Hotel, New Orleans, LA. 5 August 2015.

## Licenses, Certifications and Training

- **TA.XT. Plus Texture Analyzer**
  - Understand how to calibrate the texture analyzer, scan data barcodes, obtain stem scar diameter and shrivel incidence and perform firmness measurments on blueberry
- **Microplate and spectrophotometer training,** Feb. 2019
  - Understand how to prepare samples for spec. and microplate reader and trained to calibrate and run the instruments
- **GC-MS Training,** Oct. 2018
  - Trained to change and purge column, instrumentation method building and data analysis
- **Retsch mill training,** Mar. 2018
  - Trained to pour and handle liquid nitrogen, watermelon sample grinding (grinding capsule and bead size)
- **Confocal Microscopy Training,** Aug. 2017
  - Trained in confocal microscopy laboratory to calibrate machine to various fluorescent dyes, scan plant samples and tile scan with z-stack
- **Tractor Certified,** April 2015- present
  - Took tractor certification class, passed written and driving test, certified to drive John Deere 7420 with loader, John Deere 6430 with loader, John Deere 6200 with scoop and Bobcat with scoop
- **Illinois Pesticide Applicators License**, March 2014- March 2017
  - Utilizing IPM management, scouting and spraying for synthetic and organic vegetable production

## Professional Affiliations

- Journal Club Food Science, 2020-Present
- International Society for Horticultural Sciences, 2019-Presesnt

- Catalyst Group, North Carolina Research Campus, 2019-Present
- Sigma Xi, Scientific Research Honor Society, 2019-2020
- American Chemical Society, 2018-Present
- Pi Alpha Xi, Vice president, annual crops, 2017-2018
- Seminar committee, North Carolina State University, 2017-2020
- Pi Alpha Xi, 2016-Present
- American Society for Horticultural Sciences, 2014-Present

## Qualifying Skills

- Strong laboratory skills and field research skills
- Strong greenhouse/controlled environment vegetable production skills Organic high tunnel production and cold frame production
- Strong understanding of postharvest physiology of cucurbit crops
- Strong farm management and vegetable production research
- Personnel management of undergraduate and work study students
- Analytical skills including general statistical analysis using JMP, R and SAS
- Cover crop and crop rotation skills
- Grant writing experience with USDA NIFA AFRI, USDA EWD, NCDA, the SIUC Sustainability Council, USDA Specialty Crop Block Grant Program and Midwest SARE Grant Program
- 7 years of Laboratory Safety Training at Southern Illinois University Carbondale

## Other Related Work

- Undergraduate Student Worker, Laboratory Mixer, Chemistry and Biochemistry, Aug. 2013-May 2014
- Undergraduate Student Worker, Chemistry & Biochemistry Stockroom, Mar. 2009-May 2014