

Laura Barth

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Education

North Carolina State University, Raleigh, NC May 2017
M.S. Horticulture Science, Soil Science (minor)
Thesis title: Effects of Aging on the Physical, Chemical, and Hydrologic Properties of Pine Bark Substrates

North Carolina State University, Raleigh, NC May 2014
Bachelor of Science – Horticulture, magna cum laude

Selected Experience

American Chestnut Foundation July 2018 – Present

Meadowview Research Farms, Meadowview, VA

- Greenhouse management and plant cultivation
 - Cultivation and care of American, Chinese, and hybrid chestnut seedlings.
 - Irrigation, fertilization, disease, and pest management.
 - Seed stratification and sowing.
 - Grafting seedlings for germplasm conservation and genetic mapping.
- Research
 - Germination/emergence studies
 - Seed stratification times and provenance, and stratification storage media.
- Lab work
 - Maintaining cultures of various strains of *Cryphonectria parasitica*.
 - Preparing cultures to ship to affiliated researchers.
- Field work
 - Pollination, inoculations, seed harvest and processing, finding wild chestnuts at forest sites for breeding diversification.
- Outreach and activities
 - Coordinating volunteer events and leading tours for visitors.
 - Secretary of NE-1833, a multi-state chestnut research project.
 - Oversight of interns.

Research and Teaching Assistant June 2017 – May 2018

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

Virginia Tech, Blacksburg, VA.

- Developing methodology to measure nitrogen fate (immobilization, leaching, denitrification, and volatilization) in container media via incubation experiments, ion chromatography, and flow injection analysis.
- Research and field aide
 - Collecting plant nutrient and growth data for existing research projects.
 - Maintenance of research nursery plots/studies and irrigation systems.

Graduate Research Assistant January 2015 – May 2017

Horticultural Substrates Lab, NCSU, Raleigh, NC

- Measuring physical, chemical, and hydrologic properties of horticultural substrates using a wide array of techniques and methodologies adapted from soil science procedures.
- Cultivation of greenhouse crops for industry research trials.
- Scientific writing, data analyzation, and presentation of research and results.

Research Intern, Ornamental Breeding Program May 2014 – December 2014

Mountain Crop Improvement Lab, NCSU, Mills River, NC

- Plant propagation – seed, cuttings, and tissue culture of a variety of woody ornamental plants.
- Maintenance of research plants – greenhouse and field work including potting/transplanting, fertilizing, staking, organization of studies, irrigation, and pollination.
- Special research project investigating tetraploid lines of *Hydrangea macrophylla* ‘David Ramsey’ for ornamental breeding purposes.

Research Assistant

May 2013 – May 2014

Horticultural Substrates Lab, NCSU, Raleigh, NC

- Measuring physical, chemical, and hydrologic properties of horticultural substrates.
- Installation and care of greenhouse plants for research and industry trials.
- Special research project regarding disease severity of *Rhizoctonia solani* and *Pythium spp.* on bedding plants grown in substrates containing pine wood chips, presented at the 2013 SNA Conference.

Lab Assistant

July 2012 – May 2013

Plant Disease and Insect Clinic, NCSU, Raleigh, NC

- Diagnostic work, including identifying pathogens under a microscope, and running bioassays to screen for pathogens on a variety of ornamental plants and agricultural crops
- Growing and maintaining cultures, and preparation of culture media.
- Knowledge of diseases associated with various crops and production methods.

Selected Achievements

- 1st Place, International Plant Propagators’ Society Southern Region Graduate Student Research Competition, 2016
- 2nd Place, Bayer Crop Science Research Symposium, 2015
- 2nd Place, B.S. Category, Southern Nursery Association Student Research Competition, 2014

Selected Appointments

- Secretary, NE-1833 multi-state chestnut biotech and research project
- Web Manager, International Plant Propagators’ Society, Southern Region
- American Society for Horticultural Science GRAD working group co-chair, 2016-2017
- Vice President, Pi Alpha Xi Horticulture Honor Society, Iota Chapter 2015-2016
- Community Service Chair of the Pi Alpha Xi Horticulture Honor Society, Iota Chapter, 2013-2014

Publications*

Barth, L., B. Levine, J. Westbrook. 2019. Cold stratification of American chestnut seed from four different provenances. *The Journal of The American Chestnut Foundation*, 33(3) (in press).

Levine, B., L. Barth. 2019. Seed stratification is not required for germination, but is important for seed survival. *The Journal of The American Chestnut Foundation*, 33(2): 25-28.

Kaderabek, L.E., B.E. Jackson, and W.C. Fonteno. 2017. Pine Bark Handling and Aging: Effects on Substrate Physical Properties. *American Nurseryman*, June, 217(6):18-21.

Kaderabek, L.E., B.E. Jackson, and W.C. Fonteno. 2017. Pine Bark Handling and Aging: Effects on Substrate Hydrologic Properties. *American Nurseryman*, July, 217(7):20-23.

Kaderabek, L.E., B.E. Jackson, and W.C. Fonteno. 2017. Pine Bark Handling and Aging: Effects on Substrate Chemical Properties. *American Nurseryman*, August, 217(8):20-23.

Kaderabek, L.E., W.C. Fonteno, and B.E. Jackson. 2016. Changes in the Physical, Chemical, and Hydrologic Properties of Pine Bark over Twelve Months of Aging. *Comb. Proc. Intl. Plant Prop.* Vol. 66

*Name changed from Kaderabek to Barth in 2017.