Heeduk Oh

600 Laureate Way, Kannapolis, NC 28081 | +1 (704) 605-1463 | hoh5@ncsu.edu
Google Scholar | LinkedIn

EDUCATION

2020/08 - present PhD candidate, Horticultural Science, North Carolina State University, USA
Dissertation working title: "Identifying fruit characteristics contributing to fruit shelf life and characterizing quantitative trait loci (QTLs) and candidate genes associated with fruit shelf life in blueberry (Vaccinium spp.)."
Advisors: Dr Penelope Perkins-Veazie and Dr Massimo Iorizzo

2015/03 - 2017/02 MS, Horticultural Science and Biotechnology, Seoul National University, Seoul, Republic of Korea
Thesis: "Abscisic acid stimulates softening and pigmentation of 'Jersey' highbush blueberry fruits during ripening"
Advisor: Dr Hee Jae Lee

2009/03 - 2015/02 BS, Horticultural Science and Biotechnology, Seoul National University, Seoul, Republic of Korea

PROFESSIONAL EXPERIENCES

2020/08 - present Research/teaching assistant, Department of Horticultural Science, Plants for Human Health Institute, North Carolina State University

2017/07 - 2020/05 Environmental analysis senior researcher / 1st Lieutenant, Chemical/Biological/Radiological Defense Research Institute, Republic of Korea Air Force

2015/03 - 2017/02 Research/teaching assistant, Research Institute for Agriculture and Life Sciences, Seoul National University

TEACHING EXPERIENCES

2021/08 - 2021/12 Teaching assistant (Home Food Production), North Carolina State University

2021/01 - 2021/05 Teaching assistant (Postharvest Physiology), North Carolina State University

2016/09 - 2016/12 Teaching assistant (Pomology and Experiments), Seoul National University

2015/09 - 2015/12 Teaching assistant (Pomology and Experiments), Seoul National University

AWARDS, CERTIFICATES, AND SCHOLARSHIPS

PhD

1. *1st place* for the Bayer Two-Minute Pitch Research Competition (North Carolina Agricultural Research Services, 2022)
2. *Best Presentation Award* for the Scientists and Engineers Early Career Development Workshop (SEED) 2022 Three-Minute Lightning Talk Competition (Korean-American Scientists and Engineers Association, 2022)
3. *2022-2025 FFAR Fellows* (Foundation for Food and Agriculture Research (FFAR), 2022-2025)
4. Honorable Mention for the Spring 2022 NCALS Foundation Board Student Research Competition (NCALS Foundation Board, 2022)
5. *1st place* for the Warren S. Barham PhD Graduate Student Paper Award (Annual Meeting of the Southern Region American Society for Horticultural Science, 2022)
6. UKC 2021 Fellowship (Korean-American Scientists and Engineers Association, 2021)
7. ALLI graduate leadership certificate (North Carolina State University, 2021)
8. KSEA-KUSCO graduate scholarship (Korean-American Scientists and Engineers Association, 2021)
9. University graduate fellowship (North Carolina State University, 2020 - 2021)

Senior researcher (Chemical, Biological, Radiological Defense Research Institute)

10. Award certificate for excellent work/research performance (Chemical, Biological, Radiological Defense Research Institute, 2017 - 2018)

MS

11. *Outstanding Award of Oral Presentation* (Annual Autumn Conference of the Korean Society for Horticultural Science, 2016)
    - *1st place*
12. Scholarship from SNU Gwanak Residence Halls (Seoul National University, 2015)
    - *Residential advisor*
13. Scholarship from Brain Korea 21 Plus (National Research Foundation of Korea, 2015)

BS

14. Eminence scholarship (Seoul National University, 2014)
    - *Full-tuition scholarship for academic excellence*

15. Gold prize for ‘Next feeding the world idea’ award (DuPont Korea Inc., 2014)
16. Scholarship for superior academic performance (Seoul National University, 2009 - 2011)

PUBLICATIONS († indicate co-first authors)

1. Trandel-Hayse M, **Oh H**, Iorizzo M, Johanningsmeier SD, Perkins-Veazie P. 2022. Blueberry cell wall polysaccharide linkage assembly helps to explain fruit firmness phenotypes. Frontiers in Plant Science. *Submitted on October 31, 2022; currently under revision.*
2. **Oh H**, Pottorff M, Giongo L, Iorizzo M, Perkins-Veazie P. Understanding the key players determining fruit shelf-life in blueberry. UKC 2021 Proceedings: 154. (*Abstract*)
3. Chung SW, Yu DJ, **Oh HD**, Ahn JH, Huh JH, Lee HJ. 2019. Transcriptional regulation of abscisic acid biosynthesis and signal transduction, and anthocyanin biosynthesis in ‘Bluecrop’ highbush blueberry fruit during ripening. PLoS ONE 14(7).
4. Chea S, Yu DJ, Park J, **Oh HD**, Chung SW, Lee HJ. 2019. Preharvest β-aminobutyric acid treatment alleviates postharvest deterioration of ‘Bluecrop’ highbush blueberry fruit during refrigerated storage. Scientia Horticulturae 246: 95-103.
5. Chea S, Yu DJ, Park J, **Oh HD**, Chung SW, Lee HJ. 2019. Fruit softening correlates with enzymatic and compositional changes in fruit cell wall during ripening in ‘Bluecrop’ highbush blueberries. Scientia Horticulturae 245: 163-170.
6. **Oh HD**†, Yu DJ†, Chung SW, Chea S, Lee HJ. 2018. Abscisic acid stimulates anthocyanin accumulation in 'Jersey' highbush blueberry fruits during ripening. Food Chemistry 244: 403-407.
7. Yu DJ, Hwang JY, Chung SW, **Oh HD**, Yun SK, Lee HJ. 2017. Changes in cold hardiness and carbohydrate content in peach (*Prunus persica*) trunk bark and wood tissues during cold acclimation and deacclimation. Scientia Horticulturae 219: 45-52.

PRESENTATIONS

Oral Presentations

1. **Oh H**, Iorizzo M, Perkins-Veazie P. Identification of key factors to predict postharvest fruit quality in blueberry. Bayer Two-Minute Pitch Research Competition. September 20, 2022, Raleigh, NC, USA.
   - *1st Place Award*

2. **Oh H**, Iorizzo M, Perkins-Veazie P. Dissecting the texture characteristics of blueberry fruit to improve shelf-life quality. Plants for Human Health Institute Seminar. September 13, 2022, Kannapolis, NC, USA.
3. **Oh H**, Iorizzo M, Perkins-Veazie P. Comprehensive texture profiling to improve fruit shelf-life in blueberry. KSEA Scientists and Engineers Early Career Development Workshop 2022 Three-Minute Lightning Talk. August 16-17, 2022, Arlington, VA, USA.
   - *Best Presentation Award*
4. **Oh H**, Iorizzo M, Perkins-Veazie P. Comprehensive texture profiling to improve fruit shelf-life in blueberry. Spring 2022 NCALS Foundation Board Student Research Competition. May 11, 2022, Raleigh, NC, USA.
   - *Honorable Mention*
5. **Oh H**, Pottorff M, Giongo L, Iorizzo M, Perkins-Veazie P. Texture characteristics associated with fruit shelf-life in blueberry. 2022 Annual Meeting of the Southern Region American Society for Horticultural Science. February 11-13, 2022, New Orleans, LA, USA.
   - *1st place for the Warren S. Barham PhD Graduate Student Paper Award*
6. **Oh H**, Pottorff M, Giongo L, Iorizzo M, Perkins-Veazie P. Understanding the key players determining fruit shelf-life in blueberry. UKC 2021 Los Angeles – Pursuing Global Health and Sustainability. December 15-18, 2021, Garden Grove, CA, USA.
7. **Oh H**, Iorizzo M, Perkins-Veazie P. VacCAP: to improve fruit quality in blueberry. KSEA Scientists and Engineers Early Career Development Workshop 2021 Two-Minute Lightning Talk. December 14-15, 2021, Garden Grove, CA, USA.
8. **Oh H**, Iorizzo M, Perkins-Veazie P. Understanding key players determining fruit shelf life in blueberry. Plants for Human Health Institute Seminar. August 10, 2021, Kannapolis, NC, USA.
9. Byun K, **Oh HD**. CBRN threats and our preparation. 4th International Symposium on Development of CBRN Protection Capabilities. September 3-5, 2018, Berlin, Germany.
10. Chea S, Park J, **Oh HD**, Yu DJ, Lee HJ. Changes in cell wall composition and cell wall modifying enzyme activities in 'Bluecrop' highbush blueberry fruit during ripening. 2017 Annual Autumn Conference of the KSHS & KSVS-KSHS Joint International Symposium on Plant Variety Protection. October 11-14, 2017, Incheon, Republic of Korea.
11. **Oh HD**, Chung SW, Yu DJ, Chea S, Lee HJ. Changes of endogenous abscisic acid and anthocyanin contents in 'Jersey' highbush blueberry fruits during development and accelerated fruit coloration by exogenous abscisic acid. 2016 Annual Autumn Conference of the Korean Society for Horticultural Science. October 26-29, 2016, Gwangju, Republic of Korea.
    - *Outstanding Award of Oral Presentation (1st place)*

Poster Presentations

1. **Oh H**, Pottorff M, Mengist MF, Giongo L, Iorizzo M, Perkins-Veazie P. Examination of texture characteristics at harvest and postharvest and identification of QTLs in blueberry. The 31st International Horticultural Congress (IHC). August 14-20, 2022, Angers, France.
2. **Oh H**, Pottorff M, Giongo L, Iorizzo M, Perkins-Veazie P. Dissecting the texture characteristics determining the phenotypic variation and postharvest change of fruit texture in blueberry. ASHS Annual Conference. July 30 - August 3, 2022, Chicago, IL, USA.
3. Trandel-Hayse M, **Oh H**, Johanningsmeier S, Iorizzo M, Perkins-Veazie P. Postharvest changes of fruit texture and cell wall composition in ten highbush blueberry cultivars. ASHS Annual Conference. July 30 - August 3, 2022, Chicago, IL, USA.
4. Yu DJ, Hwang JY, Chung SW, **Oh HD**, Chea S, Yun SK, Lee HJ. Changes of cold hardiness and carbohydrate content of trunk bark and wood tissues in 'Janghowonhwangdo' peach trees defoliated in early autumn. 2016 Annual Autumn Conference of the Korean Society for Horticultural Science. October 26-29, 2016, Gwangju, Republic of Korea.
5. **Oh HD**, Chung SW, Yu DJ, Chea S, Lee HJ. Changes of anthocyanin biosynthesis by exogenous abscisic acid in 'Jersey' highbush blueberry fruits. The Second Asian Horticultural Congress. September 26-28, 2016, Chengdu, China.
6. **Oh HD**, Chung SW, Yu DJ, Chea S, Lee HJ. Changes of endogenous abscisic acid and anthocyanin contents during ripening in 'Bluecrop' highbush blueberry fruits. Plant Biology 2016. July 9-13, 2016, Austin, TX, USA.
7. Yu DJ, Hwang JY, Chung SW, **Oh HD**, Yun SK, Lee HJ. Seasonal changes of cold hardiness and carbohydrate content in bark and wood tissues of stem in peach trees. 2015 Annual Autumn Conference of the Korean Society for Horticultural Science. October 28-31, 2015, Yeosu, Republic of Korea.
8. Chung SW, **Oh HD**, Yu DJ, Lee HJ. Changes of anthocyanin biosynthesis by exogenous ABA in 'Bluecrop' highbush blueberry (*Vaccinium corymbosum* L.) fruits during ripening. Plant Biology 2015. July 26-30, 2015, Minneapolis, MN, USA.
9. **Oh HD**, Chung SW, Yu DJ, Lee HJ. Effects of daylength and abscisic acid on ripening characteristics in post-harvested 'Jersey' highbush blueberry fruits. 2015 Annual Spring Conference of the Korean Society for Horticultural Science. May 20-23, 2015, Jeonju, Republic of Korea.

SERVICES AND EXTENSION ACTIVITIES

1. Judge for The North Carolina 4-H State Presentation Contest - Horticultural Science category. July 16, 2022.
2. Lab representative for the 30th Annual CALS Tailgate. September 18, 2021.
3. Production of instruction video “How to use a handheld Brix meter for blueberries”. August 5, 2021. https://youtu.be/VP2maYLt0C0.
4. Production of instruction video “How to use an acidity meter and the ‘offset function’ for blueberries”. August 5, 2021. https://youtu.be/w1uXscw3jXo.
5. Grad Student Leader of the 'Strategic Initiative: Cultivate International Presence' team in the NCSU Horticulture Strategic Plan Implementation Program. 2021-present.