BIOGRAPHICAL SKETCH

Bizhen Hu, PhD
Assistant Professor of Sustainable Food Production
Horticulture and Natural Resources Department
Kansas State University, Manhattan, KS 66506
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EUCATION

2016 **Ph.D. Horticulture & Crop Science**, The Ohio State University, Wooster, OH

2012 **M.S. Horticulture & Crop Science**, The Ohio State University, Wooster, OH

2010 **B.S. Agronomy**, China Agricultural University, Beijing, China

PROFESSIONAL EXPERIENCE

2025-present **Assistant Professor and Director of Willow Lake Student Farm**. Horticulture and Natural Resources Department, Kansas State University. Manhattan, KS

2019-2022 **Assistant Professor**. Horticulture and Landscape Architecture Department, Oklahoma State University. Stillwater, OK

2016-2019 **Assistant Professor**. Agriculture Department, Abraham Baldwin Agricultural College. Tifton, GA

SYNERGISTIC ACTIVITIES

I have over 15 years of research experience with a focus on sustainable vegetable production. Crops involved in my research programs included broccoli, snap bean, asparagus, watermelon, tomato, pepper, okra, squash, sweet potato, turmeric, potato, Brussels sprouts, lettuce, spinach, and mustard green. The cropping systems investigated in my research projects included organic, conventional, open field, low tunnel, high tunnel, hydroponic, aquaponic, vertical farm, and greenhouse production. Crop production practices included in my research projects were season extension strategies, sensor-based irrigation techniques, grafting, mulching, cover crops, rotation, intercropping, LED light technologies, row covers and biological control for integrated pest management, nutrient management, and environmental management. Collaborating with other faculty, industry stakeholders, and external partners, I secured 11 grants to support my research programs. My research efforts generated 12 peer-reviewed journal articles, 34 outreach publications, 40 Extension training and workshops, and 27 national and international scientific conference presentations.

I have established a research, Extension and teaching program on horticultural food crop production in small-scale/urban settings, through collaborating with multi-disciplinary teams for applied research projects, organizing Extension workshops and meetings, and teaching undergraduate and graduate courses including Commercial Vegetable Production, Urban Horticulture Production, Hydroponics and Soilless Crop Production.

In my current position at Kansas State University, I continue my research area in sustainable food production, such as produce safety, season extension, nutrient management, and irrigation techniques. I direct the Willow Lake Student Farm, which has six 10,000 sqft. blocks dedicated to annual vegetable production and research, 1.6 acres of Food Forest/Orchard research blocks,

two high tunnels, additional blocks for perennial berry, asparagus, and mushroom production, and temporary nursery space for future projects.

Professional Memberships

- American Society for Horticultural Science. 2015-2022
- North American Colleges and Teachers of Agriculture. 2020-2022
- National Council of Undergraduate Research. 2018
- Plant Growth Regulation Society of America. 2015-2017
- International Plant Propagators' Society. 2015
- AmericanHort. 2015
- The Society for In Vitro Biology. 2012

PUBLICATIONS (last four years)

Peer Reviewed Articles

Deer, C., Dunn, B. L., **Hu, B.**, Goad, C., and Shoup, D. E. 2023. Grafted and nongrafted 'Cherokee Purple' tomato performance in aquaponic and hydroponic greenhouse production in Oklahoma. HortScience, 58(11):1332-1340.

Hu, B., Brandenberger, L., Beartrack, M., Carrier, L. and Goad, C. 2023. Field performance of paper and plastic mulches for fresh market tomato production. International Journal of Vegetable Science, 1-9.

Hu, B., Brandenberger, L., Beartrack, M. and Carrier, L. 2023. Growth and yield of Brussels sprout varieties for spring production. International Journal of Vegetable Science, 29(2): 195-202.

Hu, B. 2023. Oral examinations for assessment in undergraduate courses in both remote and in-person learning environments. NACTA journal, 67(TT).

Unterschuetz, J and **Hu, B.** 2023. Kahoot! for game-based learning in undergraduate course review settings. NACTA journal, 67(TT).

Hendrickson, T., Dunn, B., Goad, C., **Hu, B.**, and Singh, H. 2022. Effects of hydrogen peroxide products on basil, lettuce, and algae in an Ebb and Flow hydroponic system. Horticulturae, 8(7):569.

Thakulla, D., Dunn, B., **Hu, B.**, and Goad, C. 2022. Timing and rates of two hydrogen peroxide (H_2O_2) products to control algae in Ebb and Flow hydroponic systems. HortScience, 57:32-39.

Thakulla, D., Dunn, B., **Hu, B.**, and Goad, C. 2021. Nutrient solution temperature affects growth and ^{o}Brix parameters of seventeen lettuce cultivars grown in an NFT hydroponic system. Horticulturae, 7:1-10.

Hardeep, S., Dunn, B., Maness, N., Brandenberger, L., Carrier, L., and **Hu, B.** 2021. Evaluating performance of cherry and slicer tomato cultivars in greenhouse and open field conditions: yield and fruit quality. HortScience, 56(8):946-953.

Fact Sheets

Hu, B., and M. Beartrack. 2022. Introduction to Vegetable Grafting. HLA-6039.

Brandenberger, L., **B. Hu**, J. Damicone, and E. Rebek. 2022. Southern Pea Production. HLA-6029.

Deer, C., **B. Hu**, B. Dunn, J. Dusci. 2021. Nitrification and Maintenance in Media Bed Aquaponics. HLA-6729.

Thakulla, D., B. Dunn, **B. Hu**. 2021. Soilless Growing Mediums. HLA-6728.

Hu, B., D. Che, and E. Rebek. 2021. Fungi Used for Pest Management in Crop Production. HLA-6038.

Hu, B., H. Zhang, and B. Dunn. 2021. Greenhouse Growth Media Sampling, Testing, and Interpretations. HLA-6726.

Website and Video

Local food system website https://extension.okstate.edu/programs/local-food-systems/.

How and Why should we Graft our Vegetables??

Others Outreach Publications

Anderson, M., P. Pugh, and **B. Hu**. 2023. Grafted tomato & watermelon production, Piedmont, OK. MP-164 Vegetable Trial Report: 11-13.

Hu, B., B. Waugh, I. Gonzales, and P. Pugh. 2023. Grafted tomato and watermelon production, Coyle, OK. MP-164 Vegetable Trial Report: 14-15.

Waugh, B., P. Pugh, I. Gonzales, and **B. Hu**. 2023. Grafted pepper field production, Mulhall, OK. MP-164 Vegetable Trial Report: 16-17.

Deer, C., **B. Hu**, B. Dunn, and C. Goad. 2023. Grafted heirloom tomato in aquaponics & hydroponics. MP-164 Vegetable Trial Report: 18-22.

Deer, C., **B. Hu**, B. Dunn, and C. Goad. 2023. Survival of 3 grafted vegetable species in different conditions. MP-164 Vegetable Trial Report: 23-27.

Co-author. 2023 Southeastern U.S. Vegetable Crop Handbook.

Editor. 2022 Vegetable Trial Report MP-164.

Co-author. 2022 Southeastern U.S. Vegetable Crop Handbook.

Editor. 2021 Vegetable Trial Report MP-164.

Co-author. 2021 Southeastern U.S. Vegetable Crop Handbook.

Hu, B., M. Beartrack, I. Gonzales, and L. Brandenberger. 2021. Tomato mulch study – Stillwater. MP-164 Vegetable Trial Report: 15-18.

Stephenson, M, **B. Hu**, and L. Brandenberger. 2021. Mustard greens trial. MP-164 Vegetable Trial Report: 19-21.

Unterschuetz, J., N. Maness, **B. Hu**, M. McLemure, M. Beartrack, and L. Carrier. 2021. Assessing heat tolerance of field produced lettuce. MP-164 Vegetable Trial Report: 25-29.

Hu, B., M. Beartrack, L. Brandenberger. 2021. Grafted tomato, pepper, and watermelon field production. MP-164 Vegetable Trial Report: 30-33.

Beartrack, M., **B. Hu**, and L. Brandenberger. 2021. Spring Brussels sprout variety trial. MP-164 Vegetable Trial Report: 35-36.

Gonzales, I., **B. Hu**, M. Beartrack, and L. Brandenberger. 2021. Okra mulch study – Stillwater. MP-164 Vegetable Trial Report: 37-41.

Hu, B. 2021. Spring Brussels sprouts variety trial results. Oklahoma Fruit and Vegetable Association (OFVA) July 2021 Newsletter Volume 10:2.

Hu, B. 2021. 2021 Southeastern U.S. vegetable crop handbook update. Oklahoma Fruit and Vegetable Association (OFVA) July 2021 Newsletter Volume 10:2.

Hu, B. 2021. Vegetable grafting…stay tuned. Oklahoma Fruit and Vegetable Association (OFVA) January 2021 Newsletter Volume 10:1.