

# Qingwu Meng, Ph.D.

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## EDUCATION

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- Ph.D., Horticulture**, Michigan State University **2015 – 2018**
- Dissertation: spectral manipulation improves growth and quality attributes of leafy greens grown indoors*
- Ph.D., Multidisciplinary Science**, Rensselaer Polytechnic Institute (transferred) **2014 – 2015**
- M.S., Horticulture**, Michigan State University **2012 – 2014**
- Thesis: investigating use of blue, red, and far-red light from light-emitting diodes to regulate flowering of photoperiodic ornamental crops*
- B.E., Agricultural Engineering • B.A., English**, China Agricultural University **2008 – 2012**
- Thesis: the effects of light quality on growth and development of cucumber seedlings*

## PROFESSIONAL EXPERIENCES

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- Assistant Professor (Tenure-Track)**, University of Delaware, Newark, DE **2020 – present**
- Plant Scientist**, Fifth Season, Pittsburgh, PA **2019**
- Graduate Research Assistant**, Michigan State University, East Lansing, MI **2015 – 2019**
- Graduate Research Assistant**, Rensselaer Polytechnic Institute, Troy, NY **2014 – 2015**
- Graduate Research Assistant**, Michigan State University, East Lansing, MI **2012 – 2014**
- English Teacher**, Beijing New Oriental and Technology Group Inc., Beijing, China **2011 – 2012**

## SELECTED PUBLICATIONS

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### Five Recent Refereed Journal Publications (\*Corresponding Author)

- Kennebeck, E.J. and **Q. Meng\***. 2024. Far-red light and nitrogen concentration elicit crop-specific responses in baby greens under superelevated CO<sub>2</sub> and continuous light. *J. Amer. Soc. Hort. Sci.* 149(2):92–98. [[CrossRef](#)].
- Meng, Q.\*** and S.N. Severin. 2024. Continuous light can promote growth of baby greens over diurnal light under a high daily light integral. *Environ. Exp. Bot.* 220:105695. [[CrossRef](#)]
- Kennebeck, E.J. and **Q. Meng\***. 2024. Mustard ‘Amara’ benefits from superelevated CO<sub>2</sub> while adapting to far-red light over time. *HortScience* 59(2):139–145. [[CrossRef](#)]
- Biradar, K. and **Q. Meng\***. 2024. Nutrient solution application of a calcium-mobilizing biostimulant mitigates tipburn without decreasing biomass of greenhouse hydroponic lettuce. *HortScience* 59(1):92–98. [[CrossRef](#)]

5. Kohler, A.E., E.M. Birtell, E.S. Runkle, and **Q. Meng\***. 2023. Day-extension blue light inhibits flowering of chrysanthemum when the short main photoperiod includes far-red light. *J. Amer. Soc. Hort. Sci.* 148(2):89–98. [[CrossRef](#)]

#### **Five Other Significant Refereed Journal Publications (\*Corresponding Author)**

1. **Meng, Q.** and E.S. Runkle\*. 2020. Growth responses of red-leaf lettuce to temporal spectral changes. *Front. Plant Sci.* 11:571788. [[CrossRef](#)]
2. Kelly, N., D. Choe, **Q. Meng**, and E.S. Runkle\*. 2020. Promotion of lettuce growth under an increasing daily light integral depends on the combination of the photosynthetic photon flux density and photoperiod. *Sci. Hort.* 272:109565. [[CrossRef](#)]
3. **Meng, Q.**, J. Boldt, and E.S. Runkle\*. 2020. Blue radiation interacts with green radiation to influence growth and predominantly controls quality attributes of lettuce. *J. Amer. Soc. Hort. Sci.* 145:75–87. [[CrossRef](#)]
4. **Meng, Q.** and E.S. Runkle\*. 2019. Far-red radiation interacts with relative and absolute blue and red photon flux densities to regulate growth, morphology, and pigmentation of lettuce and basil seedlings. *Sci. Hort.* 255:269–280. [[CrossRef](#)]
5. **Meng, Q.**, N. Kelly, and E.S. Runkle\*. 2019. Substituting green or far-red radiation for blue radiation induces shade avoidance and promotes growth in lettuce and kale. *Environ. Exp. Bot.* 162:383–391. [[CrossRef](#)]

#### **Book Chapters**

1. **Meng, Q.** and E.S. Runkle. 2016. Control of flowering using night-interruption and day-extension LED lighting, p. 191–201. In: T. Kozai et al. (eds.). *LED Lighting for Urban Agriculture*. Springer Singapore, Singapore. [[CrossRef](#)]
2. Mitchell, C.A., M.P. Dzakovich, C. Gomez, R. Lopez, J.F. Burr, R. Hernández, C. Kubota, C.J. Currey, **Q. Meng**, E.S. Runkle, C.M. Bourget, R.C. Morrow, and A.J. Both. 2015. Light-emitting diodes in horticulture, p. 1–88. In: J. Janick (ed.). *Horticultural Reviews* vol. 43. John Wiley & Sons, Hoboken, NJ. [[CrossRef](#)]

#### **Five Recent Trade Magazine Articles**

1. **Meng, Q.** 2023. Measuring the efficacy of LEDs: Timing white versus red + far-red LEDs to control flowering. [GrowerTalks 4:42–43](#).
2. Kelly, N., **Q. Meng**, and E.S. Runkle. 2022. Photoperiod, light intensity, and daily light integral. [Produce Grower](#).
3. **Meng, Q.** and E.S. Runkle. 2022. Fixed vs. dynamic light quality for indoor hydroponic lettuce. [Produce Grower](#).
4. **Meng, Q.** and E.S. Runkle. 2021. Far-red and PPFD: A tale of two lettuce cultivars. [Produce Grower](#).
5. **Meng, Q.** and E.S. Runkle. 2021. Differentiating broad spectra. [Produce Grower](#).

#### **SELECTED HONORS AND AWARDS**

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##### **Greenhouse Product News**

- The 40 Under 40 Award, Class of 2023 (40 individuals recognized for setting the pace for the future of the horticulture industry). Columbus, OH, 2023.

**American Society for Horticultural Science**

- Outstanding Vegetable Publication Award (most outstanding paper on vegetable crops published in 2020). Denver, CO, 2021.
- 1st place, Controlled Environment Working Group Grad Student Oral Competition. Washington, D.C., 2018; Waikoloa, HI, 2017; New Orleans, LA, 2015.
- 1st place, Floriculture Working Group Grad Student Oral Competition. Waikoloa, HI, 2017.
- 3rd place, Controlled Environment Working Group Grad Student Oral Competition. Atlanta, GA, 2016.

**Michigan State University, East Lansing, MI**

- The Bukovac Outstanding Grad Student Award in the Department of Horticulture. 2018.
- 1st place, Oral Competition in the Plant Science Grad Student Research Symposium. 2014; 2016–18.
- Best Overall Oral Presentation in the 9th Grad Academic Conference. 2017.
- The John L. Arend Excellence in Grad Student Research Award. 2014; 2017.

**International Society for Horticultural Science, East Lansing, MI**

- 2nd place, Poster Competition in the 8th International Symposium on Light in Horticulture. 2016.

**Committee on Controlled Environment Technology and Use (NCERA-101)**

- 1st place, Grad Student Poster Competition. Fairbanks, AK, 2014.

**TEACHING EXPERIENCES**

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**University of Delaware, Newark, DE**

- PLSC 167 Growing Plants in Space (3 cr.) Fall 2024
- PLSC 321 Hydroponic Food Production (4 cr.) Fall 2020; 2021; 2022; 2023; 2024
- PLSC 467 Environmental Control of Plant Growth (3 cr.) Spring 2022; 2024
- PLSC 865 Seminar: Plant and Soil Interfaces (1 cr.) Fall 2023; 2024

**DISCIPLINARY INVOLVEMENT**

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- Secretary and Member, USDA Multistate Group NCERA101 2019–present
- Chair, Secretary, and Member, USDA Multistate Group NE1835/2335 2021–present
- Member, American Society for Horticultural Science 2013–present
- Member, International Society for Horticultural Science 2016–present

**DEPARTMENTAL SERVICE**

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**University of Delaware, Newark, DE**

- Chair and Member, College Greenhouse Advisory Committee 2020–present
- Member, Department Course and Curriculum Committee 2020–present
- Faculty Advisor, Undergraduate Student Recruitment and Advising 2020–present