CURRICULUM VITAE

University of Wisconsin – Madison

Name: Yi Wang **Rank of Title:** Assistant Professor **Department:** Horticulture

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Education:

Ph.D. (2012), Plant Breeding and Plant Genetics, University of Wisconsin-Madison, Madison, WI
B.S. (2007), Biological Science, Nanjing Agricultural University, Nanjing, Jiangsu, China

Work Experiences:

2017 – present, Assistant Professor (Potato and Vegetable Sustainable Production), University of Wisconsin – Madison, Madison, WI (60% Extension, 30% Research, 10% Teaching)
2015 – 2017, Assistant Professor (Potato Physiology), University of Idaho Kimberly Research and Extension Center, Kimberly, Idaho (85% Research, 15% Extension/Outreach)
2012 – 2015, Research Associate (Potato and Vegetable Crop Production), University of Wisconsin-Madison, Madison, WI

Research Areas:

- Make production recommendations on variety selection, planting population, irrigation, fertilization, and storage management of potatoes and vegetable crops
- Develop cloud-based machine learning tools to predict crop yield, quality, water status, and nitrogen status using in-season remote sensing imagery
- Investigate innovative technologies and practices to improve the resource use sustainability of vegetable cropping systems including potatoes, snap beans, sweet corn, peas, and dry edible beans
- Identify strategic practices to build resilience of potato production systems to a changing climate

Honors and Awards:

2021 Researcher of the Year, Wisconsin Potato and Vegetable Growers Association
2020 Excellence in Extension Awards, Agronomy Society of American
2020 2020 Fruit + Vegetable 40 Under 40 Award, Great American Media Services
2020 University of Wisconsin College of Agricultural and Life Sciences Toepfer Faculty Fellow Award
2017 2017 Spudman Emerging Leader Award
2011 UW-Madison Vilas Conference Presentation Funds
2009 Wisconsin distinguished graduate student fellowship, UW-Madison
2006 Distinguished undergraduate award, Nanjing Agricultural University, China

Peer-Reviewed Publications:

Liang, G., M.D. Ruark, and **Y. Wang.** 2022. Response of dark red kidney beans (*Phaseolus vulgaris* L.) to nitrogen on irrigated, sandy soil. *Agronomy Journal.* Article DOI: 10.1002/agj2.21231

Y. Wang, M.R. Naber, T.W. Crosby, and G. Liang. 2022. Evaluating multiple diagnostic tools for monitoring in-season nitrogen status of chipping potatoes in the U.S. *Potato Research.* 65: 31-50

Zhou, J., B. Wang, J. Fan, Y. Ma, **Y. Wang,** and Z. Zhang. 2022. A Systematic Study of Estimating Potato N Concentrations Using UAV-Based Hyper- and Multi-Spectral Imagery. *Agronomy.* Article DOI: 10.3390/agronomy12102533.

Novy, R.G., J.L. Whitworth, J.C. Stark, R.R. Spear, B.L. Schneider, M.J. Pavek, N.R. Knowles, L.O. Knowles, B.A. Charlton, V. Sathuvalli, S. Yilma, C.R. Brown, T.L. Brandt, **Y. Wang**, M. Thornton, and N. Olsen. 2021. La Belle Russet: an early maturing, dual-purpose variety having a high percentage of marketable yield, long tuber dormancy, and a reduced incidence of sugar ends. *American Journal of Potato Research*. 98: 395–410.

Crosby, T.W., and **Y. Wang.** 2021. Effects of different irrigation management practices on potato (*Solanum tuberosum* L.) production in the Upper Midwest of the U.S. *Sustainability.* 13: 10187.

Smail, R.A., M.A. Nocco, J.B. Colquhoun, and **Y. Wang.** 2021. Remotely-sensed water budgets for agriculture in the Upper Midwestern United States. *Agricultural Water Management*. 258: 107181.

Crosby, T.W. and **Y. Wang.** 2021. Effects of irrigation management on chipping potato (*Solanum tuberosum* L.) in the Upper Midwest of the U.S. *Agronomy*. 11: 768.

R. R. Spear, R. G. Novy, J. L. Whitworth, J. C. Stark, M. J. Pavek, N. R. Knowles, L. O. Knowles, B. A. Charlton, V. Sathuvalli, S. Yilma, M.K. Thornton, N.L. Olsen, T.L. Brandt, and **Y. Wang.** 2021. Galena Russet: A Long Dormancy, Dual Purpose Potato Cultivar Exhibiting Low Asparagine, Cold-Sweetening Resistance, and Enhanced Protein Content. *American Journal of Potato Research.* 98: 51-63.

Liu, N., P.A. Townsend**,** M.R. Naber, P.B. Bethke, W.B. Hills, and **Y. Wang.** 2020. Hyperspectral imagery to monitor crop nutrient status within and across growing seasons. *Remote Sensing of Environment.* 255: 112303.

Sun, C., L. Feng, Z. Zhang, Y. Ma, T.W. Crosby, M.R. Naber, and **Y. Wang.** 2020. Prediction of end-of-season tuber yield and tuber set in potatoes using in-season UAV-based hyperspectral imagery and machine learning. *Sensors*. 20: 5293.

Wang, Y., M.R. Naber, and T.W. Crosby. 2020. Effects of wound healing management on potato post-harvest storability. *Agronomy*. 10: 512.

Sun, N., **Y. Wang,** S. Gupta, and C.J. Rosen. 2020. Potato tuber chemical properties in storage as affected by cultivar and nitrogen rate: implications for acrylamide formation. *Foods.* 9: 352.

Sun, N., **Y. Wang,** S. Gupta, and C.J. Rosen. 2018. Nitrogen fertility and cultivar effects on potato agronomic properties and acrylamide-forming potential. *Agronomy Journal*. 111: 408-418.

Wang, Y., L.B. Snodgrass, P.C. Bethke, A.J. Bussan, D.G. Holm, R.G. Novy, M.J. Pavek, G.A. Porter, C.J. Rosen, V. Sathuvalli, A.L. Thompson, M.T. Thornton, and J.B. Endelman. 2017. Reliability of measurement and genotype x environment interaction for potato specific gravity. *Crop Science*. 57: 1966-1972.

Wang, Y., T.L. Brandt, and N.L. Olsen. 2016. A historical look at Russet Burbank potato (*Solanum tuberosum* L.) quality under different storage regimes. *American Journal of Potato Research*. 93: 474-484.

Wang, Y., P.C. Bethke, A.J. Bussan, M.T. Glynn, D.G. Holm, F.M. Navarro, R.G. Novy, J.P. Palta, M.J. Pavek, G.A. Porter, V.R. Sathuvalli, A.L. Thompson, P.J. Voglewede, J.L. Whitworth, D.I. Parish, and J.B. Endelman. 2015. Acrylamide-forming potential and agronomic properties of elite U.S. potato germplasm from the National Fry Processing Trial. *Crop Science*. 56: 1-10.

Wang, Y., M.D. Ruark, A.J. Gevens, D.T. Caine, A.L. Raster, N.J. Goeser, and A.J. Bussan. 2015. Processing Snap Bean Variety Responses to Applied Nitrogen and Irrigation in the North Central United States. *Agronomy Journal*. 107: 1401-1410.

Wang, Y., P.C. Bethke, M.J. Drilias, W.G. Schmitt, and A.J. Bussan. 2015. A multi-year survey of stem-end chip defect in chipping potatoes (*Solanum tuberosum* L.). *American Journal of Potato Research*. 92: 79-90.

Wang, Y., and P.C. Bethke. 2013. Effects of *Verticillium dahliae* infection on stem-end chip defect development in potatoes (*Solanum tuberosum* L.). *Crop Science.* 53: 595–601.

Wang, Y., A.J. Bussan, and P.C. Bethke. 2012. Stem-end defect in chipping potatoes (*Solanum tuberosum* L.) as influenced by mild environmental stresses. *American Journal of Potato Research.* 89: 392-399.

Current Funding Sources (~$1,800,000 total, only federal grants are listed):

USDA, Wisconsin Specialty Crop Block Grant – "Hyperspectral imaging for sustainable nitrogen management of vegetable crops" – 2022 – 2024, **(**Townsend, P.A., **Wang, Y.)**, $72,314;

USDA, Wisconsin Specialty Crop Block Grant – "Evaluating effects of nitrogen "spoon feeding" on common seed potato varieties grown in Antigo Flats" – 2022 – 2024, **(Wang, Y.)**, $73,757

USDA, Wisconsin Specialty Crop Block Grant – "Using hyperspectral remote sensing to monitor nitrogen status of three processing vegetable crops in Central Wisconsin" – 2021-2023, (**Wang, Y.**), $69,489;

USDA, Wisconsin Specialty Crop Block Grant **– "**In-season prediction of potato yield using satellite remote sensing and machine learning forsustainable irrigation management" – 2021-2023, (Z. Zhang, **Wang, Y.**), $99,745;

USDA-NIFA-AFRI Foundational and Applied Science Program – "Using hyperspectral remote sensing to develop decision support models for potato nitrogen management" – 2020-2023 (**Wang, Y.,** Townsend, P.A., Mitchell, P.D.), $475,000;

USDA, Wisconsin Specialty Crop Block Grant – "Exploring the use of thermal imaging for potato post-harvest storage" – 2020-2022, (**Wang, Y.**), $63,819;

USDA-Hatch Formula Funds – "In-season prediction of potato production using UAV-based hyperspectral imagery and multi-task machine learning for sustainable irrigation management" – 2020-2022, (Zhang, Z., **Wang, Y.**), $100,000;

USDA, Wisconsin Specialty Crop Block Grant – **"**Aerial imaging for nitrogen management of potatoes" – 2019-2021, (P.A. Townsend, **Wang, Y.**), $71,771;

USDA, Wisconsin Specialty Crop Block Grant – "Comparison between Variable Rate Irrigation and conventional center pivot for sustainable vegetable production in Wisconsin" – 2019-2021, (**Wang, Y.**), $80,000;

USDA-Hatch Formula Funds – "Evaluating reduced later-season irrigation & use a model to identify the best irrigation regime for potato productivity under the Wisconsin climate" – 2018-2020, (**Wang, Y.**), $100,000;

USDA-NIFA-North Central Sustainable Agriculture Research & Education Professional Development Program – "Water conservation practices for sustainable food production systems: developing an on-line, participatory training vehicle for ag-professional to enhance interaction with farmers" – 2018-2020, (**Wang, Y.**), $74,959

Current Postdoc and Students:

Alfadhl Alkhaled, 2021 – present, Postdoctoral Fellow
Taqdeer Gill, 2022-2026, Ph.D. Horticulture
Ophelia Tsai, 2022-2024, M.S. Horticulture
Guolong Liang, 2020 – 2022, M.S. Horticulture
Trevor W. Crosby, 2018 – 2023, Ph.D. Horticulture
Mahmoud Rady, 2022-2023, Ph.D. Visiting Student

Extension Bulletins and Articles (for the year of 2022):

Colquhoun, J.B., S.A. Chapman, A.J. Gevens, R.L. Groves, D.J. Heider, B.M. Jensen, G.R.W. Nice, M.D. Ruark, and **Y. Wang.** Commercial Vegetable Production in Wisconsin 2022. University of Wisconsin – Madison Extension Publication A3422. Online (https://learningstore.extension.wisc.edu/products/commercial-vegetable-production-in-wisconsin)

Wang, Y. 2022. How can we apply precision agriculture in potato irrigation management? *The Badger Common'Tater.* Vol74 (4): 44-47

Wang, Y. 2022. Using precision agriculture practices in potato production. *Spudman.* Vol60 (1): 32-37.

Wang, Y. 2022. An average 2021 growing season. *The Badger Common'Tater.* Vol74 (1): 53-54

Extension Newsletters (for the year of 2022).

1. Wang, Y. 2022. Potato production and fertigation research updates. *Wisconsin Crop Manager,* Vegetable Crop Update #20. August 28.
2. Wang, Y. 2022. Potato production and research updates. *Wisconsin Crop Manager,* Vegetable Crop Update #17. August 13.
3. Wang, Y. 2022. Potato production and research updates. *Wisconsin Crop Manager,* Vegetable Crop Update #15. July 30.
4. Wang, Y. 2022. Potato production updates despite drought and heat stress. *Wisconsin Crop Manager,* Vegetable Crop Update #13. July 23.
5. Wang, Y. 2022. Potato production and research updates. *Wisconsin Crop Manager,* Vegetable Crop Update #11. July 10.
6. Wang, Y. 2022. Potato production updates. *Wisconsin Crop Manager,* Vegetable Crop Update #10. July 3.
7. Wang, Y. 2022. Potato research and production updates. *Wisconsin Crop Manager,* Vegetable Crop Update #9. June 25.
8. Wang, Y. 2022. Potato production and remote sensing research updates. *Wisconsin Crop Manager,* Vegetable Crop Update #7. June 11.
9. Wang, Y. 2022. Potato research updates. *Wisconsin Crop Manager,* Vegetable Crop Update #5. May 28.
10. Wang, Y. 2022. Potato production updates. *Wisconsin Crop Manager,* Vegetable Crop Update #3. May 14.
11. Wang, Y. 2022. Potato production updates. *Wisconsin Crop Manager,* Vegetable Crop Update #1. April 30.

Extension Course:
https://uwveggies.wiscweb.wisc.edu/extension-articles/

I led a group of water experts from UW, Wisconsin state agencies, and non-profit organizations to develop a six-module, self-guided online course with videos about sustainable water management in agriculture. This online extension course was awarded the 2020 Agronomy Society of America Excellence in Extension Materials Awards.

This extension course has been featured by the Michigan Potato Industry Commission weekly news feed, the North Dakota State University / University of Minnesota Weekly Newsletter Spud Scoop, and Wisconsin Potato and Vegetable Growers Association Tater Talk weekly Newsletters. Total subscribers of those extension outlets are higher than 20,000.

Extension YouTube Channel:
Proud to be a SpudBadger!
https://www.youtube.com/channel/UCxPSaKNwmbod_-47N1pyNYg
subscribers: 45; total views: 5000 (through November 1st, 2022)

Extension Website:
uwveggies.wiscweb.wisc.edu

This site serves as the primary extension portal of my program for stakeholders and potential industry collaborators who are looking for information produced by my program or interested in collaborating with my program. The site has links to all of our extension publications, research weekly updates, previous extension presentations, previous extension conference proceedings, and other

extension products. Google Analytics showed that the website received on average 55 unique page views per month.

News media coverage (selected)

1. Digitally featured agricultural expert – The Exploration Center of the Farming for the Future Foundation
   The Farming for the Future Foundation Exploration Center at Plover, WI has dynamic exhibits featuring experts (including myself) from the agricultural industry. It is a premier destination where visitors will become immersed in the world of agriculture and gain a better understanding about where their food comes from.
2. Study finds surprising potential for deficit irrigation in potatoes
   Ceres Imaging
   5/16/2022
3. Workforce Wednesday: Meet an Agricultural Researcher
   Farming for the Future
   10/18/2021
4. The New Frontiers of Potato Tech
   Grow
   Spring 2021
5. High-Tech Tools
   Potato Grower magazine
   1/18/2021
6. Dr. Yi Wang gave the report named "American Potato Industry: Its current Situation and Future Development"
   Zhejiang University News
   8/24/2021
7. High-tech tuber tools: hyperspectral imaging project seeks to improve potato growers' fertilizer use
   CALS news
   9/21/2020
8. Potato-imaging project targets fertilizer use
   Agri-View
   10/6/2020
9. High-tech tuber tools: Hyperspectral imaging project seeks to improve potato growers' fertilizer us
   The Country Today
   9/26/2020
10. High-tech tuber tools
    Wisconsin Morning Ag Clips
    9/23/2020
11. New Tuber Tools Coming
    Mid-West Farm Report
    9/23/2020

Extension Presentations (for the year of 2022):

Date	Role	Presentation title, event, and location	Attendance
2022			
October 24	Speaker/Educator	Improving the sustainability of potato cropping systems. The	30

		WPVGA annual research committee meeting. Madison, WI.	
August 31	Speaker/Educator	On-farm nitrogen trials in the 2022 season. The WPVGA Water Task Force meeting. Hancock, WI.	26
July 8	Speaker/Educator	Seed potato growth as influenced by split application of N fertilizer in Antigo. Antigo Field Day. Hancock, WI.	46
July 7	Speaker/Educator	Research updates on precision agriculture for vegetable crops. Hancock Agricultural Research Station Field Day. Hancock, WI.	110
May 1	Speaker/Educator	How to grow good Cucurbitaceae veggies in your home gardens. Madison Area Chinese Community Organization 2022 Spring Webinar. Virtual.	44
March 27	Speaker/Educator	How to grow good Solanaceae veggies in your home gardens. Madison Area Chinese Community Organization 2022 Spring Webinar. Virtual.	60
March 16	Speaker/Educator	Sustainable irrigation management. NRCS 2022 irrigation training. Virtual.	38
March 16	Speaker/Educator	Soil moisture probes. NRCS 2022 irrigation training. Virtual.	35
March 15	Speaker/Educator	Pumpkin fertility and planting/timing. Pumpkin School of the Wisconsin Fresh Market Vegetable Growers Association. Arlington, WI	50
March 2	Speaker/Educator	Use cutting-edge precision technologies in processing vegetable crop production. Central Wisconsin Processing Crops Meeting. Hancock, WI	30
February 13	Speaker/Educator	Let’s grow good vegetables in your home	120

		gardens! – Cucurbitaceae family. PBS Wisconsin's Garden and Landscape Expo. Madison, WI	
February 12	Speaker/Educator	Let's grow good vegetables in your home gardens! – Solanaceae family. PBS Wisconsin's Garden and Landscape Expo. Madison, WI	250
February 10	Speaker/Educator	Research updates on sustainable potato and vegetable production. University of Wisconsin Extension & Wisconsin Potato and Vegetable Growers Association Grower Education Conference. Stevens Point, WI	150
February 8	Speaker/Educator	Impacts of wound healing management. University of Wisconsin Extension & Wisconsin Potato and Vegetable Growers Association Grower Education Conference. Stevens Point, WI	100
February 8	Speaker/Educator	Profiling new varieties under a low N environment. University of Wisconsin Extension & Wisconsin Potato and Vegetable Growers Association Grower Education Conference. Stevens Point, WI	50
January 28	Speaker/Moderator	Robotic machinery/new technology. Wisconsin Fresh Market Growers Association Annual Conference. Wisconsin Dells, WI.	20

Extension Collaborations:
University of Wisconsin Extension, Fresh Market & Commercial Vegetable Production Team
Healthy Grown Potato (WWF, WPVGA, & UW), Research Advisory Committee Member (2017-Present)

Extension Planning and Development:
Wisconsin Fresh Market Vegetable Growers Association, Faculty Liaison (2017-present)
Wisconsin Potato and Vegetable Growers Association, Water Task Force Committee Member (2017-Present)
Wisconsin Potato and Vegetable Growers Association, Planning Committee Member (2017-Present)
Wisconsin Muck Farmers Association Research Board, Planning Committee Member (2017-Present)