

Rebecca R. Bailey

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EDUCATION

M.S. Agronomy

Jan 2015

University of Wisconsin-Madison, Madison, WI

- GPA: 3.92

B.S. Chemistry, B.S. French:

Dec 2009

Wheaton College, Wheaton, IL

- Cumulative GPA 3.83, *Magna Cum Laude*
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ACADEMIC EXPERIENCE

Graduate Research Assistant:

June 2012-Jan 2015

Agronomy Department, University of Wisconsin-Madison, Madison, WI

My research was part of the integrated pest management (IPM) component of the USDA-NIFA Corn-Climate Coordinated Agricultural Project. My principle research focused on the impact of weed management and nitrogen fertilization on nitrous oxide (N₂O) emissions in corn-based cropping systems in the Midwest. I planned, conducted, and analyzed 3 greenhouse and 8 field trials for my project, as well as synthesized and presented results in various oral and written formats. I also assisted in the Herbicide Evaluation Program and ongoing research of Wisconsin Crop Weed Science led by Vince Davis.

Teaching Assistant:

Feb-March 2014

Agronomy Department, University of Wisconsin-Madison, Madison, WI

I led a 6-week Weed Identification lab section for the Farm and Industry Short Course titled Weed Identification and Management (SC_AGRON 075). I presented weekly lectures, provided hands-on plant identification, and graded quizzes for a class of 20 students.

Biological Science Laboratory Technician:

Nov 2010-Apr 2012, Feb-Apr 2010, Summer 2009

USDA, ARS, Beltsville Agricultural Research Center, Beltsville, MD

I conducted research on citrus greening (Huanglongbing) in a molecular plant pathology laboratory. I utilized PCR, qPCR, ELISA, gel electrophoresis, and dot blots; performed protocols for protein expression and purification; and extracted and quantified DNA/RNA from citrus leaf samples. I took initiative to routinely prepare buffers and reagents, clean glassware, autoclave lab waste, and update the chemical inventory. I kept an accurate and organized notebook of collected data, and also assisted in general greenhouse operations (e.g., pruning, repotting plants, watering).

Chemistry Stockroom Attendant/ Teaching Assistant:

Falls 2007, 2008, 2009/Spring 2009

Chemistry Department, Wheaton College, Wheaton, IL

For three semesters I managed, maintained, and distributed equipment and supplies used during lab periods. As a TA for one semester, I clarified procedures for students and monitored safety in a General Chemistry laboratory section. I evaluated weekly lab reports and recorded grades for approximately 25 students.

Study Abroad:

École de langues, Université de Québec à Montréal, Canada

Summer 2008

I interacted with diverse international students during an intensive French language study program.

OTHER EXPERIENCE

Camp Counselor:

Bear Creek Camp, Wilkes Barre, PA

Summer 2010

I designed and co-instructed curriculum for week-long residential groups of 8-16 campers (grades 2-12). I led games, hikes, Bible study, overnight camping, and outdoor skills on site and at one off-site program. I supervised the lake

swimming area and high ropes course/climbing wall and drove the camp van. I also served at weekend retreats after the summer camp season.

Lifeguard:

Bear Creek Camp, Wilkes Barre, PA Summer 2010

Borough of Kutztown Pool, Kutztown, PA Summers 2006, 2007

Dorney Park and Wildwater Kingdom, Allentown, PA Summers 2004, 2005

I worked as team member to enforce rules, problem solve, and aid patrons in need of assistance at waterpark, pool, and lakefront settings. Additionally, I taught beginner level swimming lessons for daycare children (2006, 2007).

College Athletics:

Women's Softball, *Wheaton College, Wheaton, IL* Springs 2007, 2008

Women's Cross Country, *Wheaton College, Wheaton, IL* Fall 2008

I managed time between academics and practice and game schedules. I fostered the values of training and planning to meet goals and the importance of teamwork.

PUBLICATIONS

Peer Reviewed Manuscripts

3. **Bailey, R.R.**, C.J. Kucharik, C.A.M. Laboski, J.G. Lauer, and V.M. Davis. 201x. Weed management has a negligible effect on N₂O emissions in Upper Midwest soils. *Journal of Environmental Quality*. In review.
2. **Bailey, R.R.**, T.R. Butts, J.G. Lauer, C.A.M. Laboski, C.J. Kucharik, and V.M. Davis. 201x. Effect of weed management strategy and row width on nitrous oxide (N₂O) emissions in soybean. *Weed Science*. Accepted.
1. **Bailey, R.R.**, C.A.M. Laboski, C.J. Kucharik, J.G. Lauer, and V.M. Davis. 201x. Does herbicide management strategy influence N₂O emissions from Midwest corn production? *Agriculture, Ecosystems, and Environment*. In review.

Abstracts (presented 1st authors)

7. **Bailey, R.R.** and V.M. Davis. 2014. Impact of PRE+POST vs. POST-only Weed Management Strategy on N₂O Emissions. *Proc. North Cent. Weed Sci. Soc.* 69:175. Minneapolis, MN. Abstract available by search at: <http://ncwss.org/proceed/NCWSS-2014-Proceedings.pdf>
6. **Bailey, R.R.**, T.R. Butts, and V.M. Davis. 2014. N₂O Emissions from Soybean as Influenced by Herbicide Management Strategy and Row Width. *Proc. North Cent. Weed Sci. Soc.* 69:75. Minneapolis, MN. Abstract available by search at: <http://ncwss.org/proceed/NCWSS-2014-Proceedings.pdf>
5. Hammer, D.J., **R.R. Bailey**, T.R. Butts, D.H. Smith, E.J. Bosak, and V.M. Davis. 2014. Sequential Herbicide Evaluation in Glufosinate-Resistant Corn in Wisconsin. *Proc. North Cent. Weed Sci. Soc.* 69:5. Minneapolis, MN. Abstract available by search at: <http://ncwss.org/proceed/NCWSS-2014-Proceedings.pdf>
4. **Bailey, R.R.** and V.M. Davis. 2014. Impact of Weeds and Nitrogen on Nitrous Oxide Emissions. Poster #328. ASA, CSSA, & SSSA International Annual Meeting. Long Beach, CA.
3. **Bailey, R.R.** and V.M. Davis. 2013. Impact of Weed Management and N Rate on Nitrous Oxide Emissions in Corn. *Proc. North Cent. Weed Sci. Soc.* 68:81. Columbus, OH. Abstract available by search at: <http://www.ncwss.org/proceed/NCWSS-2013-Proceedings.pdf>
2. **Bailey, R.R.** and V.M. Davis. 2013. Nitrous Oxide Emissions as Influenced by Nitrogen and Weeds Before and After Postemergence Glyphosate Application. *Proc. North Cent. Weed Sci. Soc.* 68:122. Columbus, OH. Abstract available by search at: <http://www.ncwss.org/proceed/NCWSS-2013-Proceedings.pdf>

1. Buol, J.T., **R.R. Bailey**, E.J. Bosak., T.L. Trower, and V.M. Davis. 2013. Corn Yield as Influenced by Nitrogen Management, Residual Herbicide, and Other Pest Management Inputs. Proc. North Cent. Weed Sci. Soc. 68:9. Columbus, OH. Abstract available by search at: <http://www.ncwss.org/proceed/NCWSS-2013-Proceedings.pdf>.

Field Day Presentations

3. Impact of weed management on nitrous oxide emissions. Preliminary results presented on “Greenhouse Gases and Wisconsin Agriculture” tours at UW-Madison Agronomy/Soils Field Day (August 27, 2014, Arlington, WI).
2. Impact of weed management on nitrous oxide emissions. Preliminary findings presented at national Resilient Agriculture/CSCAP Conference (August 5-7, 2014, Ames, IA).
1. Preliminary research findings presented to approximately 20 individuals on United Soybean Board research tour (July 30, 2014, Arlington, WI).

Research Reports

2. Davis, V.M., E.J. Bosak, **R.R. Bailey**, T.R. Butts, and D.H. Smith. Wisconsin Crop Weed Science 2014 Research Report. WCWS 101:2014. University of Wisconsin-Madison, Department of Agronomy.
1. Davis, V.M, E.J. Bosak, T.L. Trower, R.P. DeWerff, R.A. Recker, **R.R. Bailey**, T.R. Butts, and D.H. Smith. Wisconsin Crop Weed Science 2013 Research Report. WCWS 101:2013. University of Wisconsin-Madison, Department of Agronomy.

HONORS AND AWARDS

- 2nd place graduate team at NCWSS Student Weed Contest (2014).
- O.N. Allen Scholarship for high academic performance and research interests (2014).
- William Rothermel Agronomy Scholarship, \$3000 toward tuition remission (2014).
- 1st place in graduate student paper contest, Weed Biology, Ecology, and Management section. North Central Weed Science Society Annual Meeting. Columbus, OH (2013).
- 1st place in graduate student poster contest, Weed Biology, Ecology, and Management section. North Central Weed Science Society Annual Meeting, Columbus, OH (2013).
- Wheaton College Scholastic Honor Society, recognizing scholastic achievement, Christian character, and service. Elected for membership (2009).
- CCIW Academic All-Conference Team and NCFA (National Coaches Fastpitch Association) Scholar Athlete (2007).
- MVP lifeguard at large, multi-facility waterpark (2004).

CERTIFICATIONS AND MEMBERSHIPS

- WSSA, student member, 2014
- ASA, CSSA, SSSA student member, 2014
- North Central Weed Science Society student member, 2012-present
- Pesticide Applicator for Field and Vegetable Crops in Wisconsin, 2013-present