

# Cole R. Dutter

319 10<sup>th</sup> St. Ames IA 50010 | 515.350.8286 | cdutter@iastate.edu

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## Education

### ***Doctor of Philosophy in Sustainable Agriculture and Soil Science (2022)***

Iowa State University, Ames, IA

Adviser: Dr. Marshall McDaniel

*Dissertation:* The Spatial and Temporal Effects of Prairie Strip Restoration on Soil Health

### ***Master of Science in Ecology and Sustainability (2014)***

California State University, Stanislaus, Turlock, CA

Adviser: Dr. Michael Fleming

*Thesis:* The Effects of Farm Management Practices on Navel Orangeworm

### ***Bachelor of Arts in Agriculture: Concentration in Permaculture (2009)***

California State University, Stanislaus, Turlock, CA

### ***Associate of Science in Environmental Horticultural Science (2008)***

Modesto Junior College, Modesto, CA

## Professional Experience

### ***Post-Doctoral Researcher (August 2022-Present)***

Iowa State University, Ames, IA

Supervisor: Dr. Marshall McDaniel

### ***Farm to School Supervisor (2014- 2018)***

Manteca Unified School District

Golden Seed Award, California Farm to School Conference (2017)

### ***Farm Manager, Four Seasons Farms, Modesto, CA (October 2010-July 2014)***

Certified organic farm

Integrated crop and livestock production

## Teaching Experience

### ***Instructor of Record***

#### ***Soil & Plant Growth – AGRON 354 (Spring 2023)***

Junior level lecture

#### ***Soil & Plant Growth Laboratory – AGRON 354L (Fall 2018, 2022)***

Junior level laboratory

### ***Teaching Assistant***

#### ***Soil & Plant Growth – AGRON 354L (Spring 2019)***

Junior level lecture

#### ***Principles of Biology Laboratory – BIOL 1010L (Spring 2013-Spring 2014)***

Freshman level laboratory

### ***Guest Lectures***

#### ***Soil & Plant Growth – AGRON 354 (2022)***

Junior level lecture

Lecture topic: Soil Health

#### ***Field exploration of Agronomy – AGRON 279 (2021)***

Sophomore field exploration class

Lecture Topic: Prairie Strips in Practice

## Mentoring Experience

Research Experience for Teachers: Gwenellen Corley (2023)

Laboratory leader:

TA mentorship:

Mila Pessotto, Micheal Cook, Rebecca Wokibula (2023-2024)

Oye Oyeleke, Johnson Mtama, Caner Ferhatoglu (2022-2023)

Undergraduate Mentorship:

Alvaro Vazquez (2023-2024)

Sage Coffman (2022-2023)

First-year honors mentor program through Honors College – Sydney Pottebaum (2021-2022)

First-year honors mentor program through Honors College – Kristin Hoss (2021)

Graduate Student Mentor for Malcolm St. Cyr in McNair Program (2021-2022)

<https://www.mcnair.iastate.edu/>

## Scholarly Awards

Graduate Student Award, North Central Extension-Industry Soil Fertility Conference (2021)

Ruppert and Judith Hunziker Graduate Scholarship in Soil Sciences Scholarship (2019, 2020)

Brown Graduate Fellow, Iowa State University (2018-2019)

Outstanding Teaching Associate Award (2013, 2014)

Dianne Feinstein/Mark & Patti Anglin Scholarship (May 2008)

Lloyd Angel Cal Almond Scholarship (May 2008)

Dean's List (Fall 2007, Fall 2008)

"Doc" Wait – Ornamental Horticulture Scholarship (Fall 2006)

## Extension Presentations

Dutter, C. Youngquist, T. Implementation and Benefits of prairie strips in row-crop fields. Lewis Iowa, (2022) (~30 attendees)

## Publications

Dutter, C. Rutkoski, C. Evans, S.E. McDaniel, M. D. Contour prairie strips alter soil microbial communities and functioning both below the prairie strip and in adjacent cropland.

(Submitted: Environmental Microbiology)

Dutter, C. Damiano, L. A. Niemi, J. Miller, B. A. Schulte, L. A. Liebman, M. Helmers, M. Cruse, R.

McDaniel, M. D. Contour prairie strips affect adjacent soil but have only slight effects on crops. (Field Crop Research) (2023)

Dutter, C. Prairie Strips Have Disproportional Benefits for Agriculture and Ecosystems. Getting Into Soil & Water (ISU Soil & Water Conservation Club Annual Publication) (2022)

### **In Preparation:**

Galland, P.D., **Dutter, C.**, McDaniel, M.D., Moore, K., Thoms, A., Fei, S.Z., The Effects of Perennial Groundcover on Soil-Water and Nutrient Dynamics in Maize Intercropping Systems. *Target Journal: Agronomy Journal*

Dutter, C., McDaniel, M. Davis, M. Middleton, T. Gailan, S. Carlson S., Cover crops can have negative impacts on some soil properties but neutral impacts on yield over a 15-year timespan. *Target Journal: SSSA*

Dutter, C., Damiano, L. A. Niemi, McDaniel, M. D., Prairie strips accrue benefits through time without significantly affecting adjacent cropland. *Target Journal: Applied Soil Ecology*

## **Research Presentations**

### **Oral Presentations:**

- Dutter, C., McDaniel, M.D., Prairie Strips: Restoring Soil Ecosystem Services within an Agricultural Landscape. Soil Science Society of America (2023)
- Dinakaran E., Van der Laan, L., Wang, W., Cloutier, M., **Dutter, C.**, McDaniel, M.D., Miller, B.A., Kelley, D.R., Singh, A., and Singh, A.K.
- Dutter, C. Prairie strips effects on soil and adjacent cropland soil. North American Prairie Conference (2023)
- Dutter, C. Prairie strip restoration and termination effects on nearby cropland. Soil and Water Conservation Club (2023)
- Dutter, C. McDaniel, M. Prairie strip effect on nearby cropland. Iowa Water Conference (2022)
- Dutter, C. McDaniel, M. Do Prairie Strips Affect Nearby Soil and Crop Health? Soil Science Society of America (2020)
- Dutter, C. McDaniel, M. Do Prairie Strips Integrated into Corn-Soybean Rotations Affect Surrounding Soil and Crop Health? Soil and Water Conservation Society (2020)
- Dutter, C. An Ecological Approach to School Gardens, Farm to School Conference (2017)
- Dutter, C. Manteca Unified School District-Veggie Express, Farm to School Conference (2015)
- Hesser, K. Messer, J. Page, P. **Dutter, C.** CHASSIS: Creating Healthy and Sustainable Systems in Schools, California School Board Association (2015)

### **Poster Presentations:**

- Pottebaum, S., M.D. McDaniel, **C. Dutter.** The Effects of Contour Prairie Strips on Soil Aggregate Stability, Undergraduate Research Symposium (2023)
- Dutter, C., M. St. Cyr, M.D. McDaniel. Soil and Soybean Responses to Planting into Terminated Prairie Strips, North Central Fertility Conference (2021)

## **Grants**

### **Grants Written:**

- Impact of composted swine manure on soil-plant nitrogen cycling, Niman Ranch, (2023): 75,000
- Research and Education Grant, Sustainable Agriculture Research and Education, (2023): 250,000

### **Grants Awarded:**

- Specialty Crop Block Grant, California Department of Food & Agriculture (2015): \$68,000
- Publication Subvention Grant, Iowa State University, (2023): \$1,250

## **Professional Development**

**Project Learning Enhancement Action/Resource Network**, Iowa State University  
Introduction to Learning-Centered Classes & Meetings (January 2021)

**Preparing Future Faculty**, Iowa State University

- Introductory Seminar (Fall 2022)
- Intermediate Seminar (Spring 2023)
- Teaching Practicum (Spring 2023)

## **Certificates, Associations & Memberships**

- Ecological Society of America (Since 2023)
- Soil Science Society of America (Since 2021)
- Practical Farmers of Iowa (Since 2018)
- Sustainable Agriculture Student Association (January 2020-July 2022)

Thank you for your time & consideration

Colloquium Committee, Iowa State University (May 2019-May 2020)  
Delta Bee Club (November 2015-2018)  
Ag Advisory Committee, California State University Stanislaus (May 2015-2018)  
California Biochar Association (May 2014-December 2018)  
Certified Arborist, International Society of Arboriculture (November 2007-November 2010)

## **Work Experience**

### ***Ranger, US Army Corps of Engineers, Knights Ferry, CA (June 2010-October 2010)***

Managed public relations and ensured public safety  
Coordinated with local first responders

### ***Salesman, Frantz Retail Nursery, Hickman, CA (May 2009-June 2010)***

Coordinated with wholesale growers  
Maintained and advanced relations with other retail nurseries  
Served as a repository of plants grown in the Central Valley of California

### ***Horticulturalist/Arborist, Spring Creek Golf and Country Club (March 2007-May 2009)***

Created a tree maintenance program  
Managed horticultural plant health

### ***Salesman, Hischier Retail Nursery, Modesto, CA (February 2006-November 2006)***

Served as a repository of plants grown in the Central Valley of California  
Maintain relations with other retail nurseries

### ***Salesman, Modesto Junior College, Modesto, CA (May 2004-May 2005)***

Propagated trees and shrubs  
Served as a repository of plants grown in the Central Valley

### ***Pest Monitor, Salida Ag Chem, Salida, CA (April 2003-November 2003)***

Managed pest trapping program  
Maintained relationships with farmers  
Served as a repository of agricultural pests in the Central Valley

## **Community Service Experience**

### ***Food at First, Ames, IA (2020-2022)***

Meal prep and meal service

### ***Food at First Garden, Ames, IA (2020- 2022)***

Garden design and implementation

### ***City Ministry Network, Modesto, CA (2009- 2011)***

Community outreach partner in a high-risk neighborhood

### ***The Bridge Community Center, Modesto, CA (2009-2010)***

Youth engagement volunteer in a high-risk neighborhood

## **References**

### **Dr. Marshall McDaniel**

Associate Professor  
Agronomy Department,  
Iowa State University  
716 Farm House Ln  
Ames IA, 50011  
Phone: (515) 294-7947  
[marsh@iastate.edu](mailto:marsh@iastate.edu)

### **Dr. Mary Wiedenhoef**

Interim Department Chair  
Morrill Professor  
Associate Chair of  
Curriculum  
Agronomy Department, Iowa  
State University  
716 Farm House Ln  
Ames IA, 50011  
Phone: (515) 294-3274  
[mwiedenh@iastate.edu](mailto:mwiedenh@iastate.edu)

### **Dr. Michael Fleming**

Associate Professor  
Biological Sciences Department,  
California State University,  
Stanislaus  
1 University Cir  
Turlock CA, 95382  
Phone: (209) 664-6923  
[mflaming1@csustan.edu](mailto:mflaming1@csustan.edu)

