**Leah Maeder (Ruff)**

M.Sc., Ph.D.

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EDUCATION

**University of Nebraska-Lincoln** (*degree received* Aug. 2016)

Doctor of Philosophy: Agronomy and Horticulture - Plant Breeding GPA: 3.79/4.00

Dissertation: Soybean Response to Water and Heterosis: Yield, Yield Components, and Morphology

**North Carolina State University** (*degree received* May 2013)

Masters of Science: Crop Science - Plant Breeding GPA: 3.53/4.00

Minor: Statistics

Thesis: Heterosis as Evidence of Yield Alleles from Wild Soybean

**Iowa State University of Science & Technology** (*degree received* May 2011)

Bachelors of Science: Agronomy - Plant Breeding and Biotechnology GPA: 3.67/4.00

Minor: Spanish

INTERNATIONAL EDUCATION

**Costa Rica** **Study Abroad**, Costa Rica (Mar. 2011)

Academic program to study tropical crop production and soils, weeklong agricultural tourism

**University of Valencia**,Valencia, Spain (May – July 2010)

Academic program to study the Spanish language, including a home stay and Spanish classes

**OTEIMA University**, David, Panama (May 2009)

Academic program for the arts and sciences in sustainable development, including a home stay, Spanish classes, and sustainability assessment of the town of Boquete, Panama

WORK EXPERIENCE

**Monsanto Water Utilization Learning Center**, Gothenburg, NE

*Field Technician/Technical Development Research Assistant Intern,* (Apr. 2016 – Sept. 2016)

*●*Assist agronomist with field plot layout and planting of corn, soybean, wheat, and sorghum research plots

*●* Record field trial dataand interpret field trial data for learning center demonstration reports

*●* Present research information to a non-research audience during learning center tours

*●* Inoculate demonstration plots with rootworms and various corn diseases, participate in corn disease trainings

*●* Assist pesticide applicator with chemical mixing and spraying of research plots

*●* Collaborate with learning center team and seasonal interns on project goals, maintain safe working environment

*●* Utilize office business software including, MS Office, MS Databases and Spreadsheets

**University of Nebraska – Department of Agronomy & Horticulture (Dr. George Graef)**, Lincoln, NE

*Plant Breeding Graduate Research Assistant and Fellow,* (June 2013 – Aug. 2016)

*●* Assist in management of UNL soybean breeding program and organize field research projects for 12 yield

locations throughout Nebraska and two winter nurseries in Puerto Rico and Chile

*●* Manage nurseries, conduct nursery operations and cross pollinations in local and international nurseries

*●* Design and map field experiments for multiple locations using PRISM database software and Microsoft Excel

*●* Train and supervise 10+ people in safe seasonal field operations, seed packaging, and inventory activities

*●* Plan and organize harvest activities, lead hand harvesting of 6,000+ plots during each harvest season

*●* Plant and harvest soybean research plots by hand and by Almaco research plot planters and combines

*●* Maintain and manage large shared spreadsheets, maintain and take detailed notes on research projects

*●* Execute drought studies using drip and lateral flow irrigation and manage soil water using computer

model ‘SoyWater’ and soil moisture sensor data

*●* Manage breeding program’s Microsoft Excel data entry and data analysis using SAS

*●* Interpret research data results and present research results at scientific meetings

*●* Communicate timelines and needs with technicians to coordinate projects activities by meetings and emails

*●* Phenotype and obtain descriptor data of 600 soybean plants for 30 plant and yield components

*●* Perform molecular laboratory work with DNA extraction, SSR markers, thermocyclers, and pipeters

WORK EXPERIENCE CONTINUED

**North Carolina State University – Department of Crop Science (Dr. Thomas Carter)**, Raleigh, NC

*Plant Breeding Graduate Research Assistant,* (Aug. 2011 – June 2013)

*●* Assist in management of USDA-ARS soybean breeding program and organize field research projects for

six yield locations throughout North Carolina and a winter nursery in Puerto Rico

*●* Cross pollinate elite germplasm and wild soybeans in local greenhouse and field sites

*●* Evaluate exotic soybean germplasm resources and inbred lines with up to 50% wild soybean background

for improved yield, disease, and agronomic characteristics in the field

*●* Maintain and take detailed notes on research projects; organize, package, and distribute seed resources

*●* Communicate project activities with research farm, industry, and university collaborators

**USDA-ARS Soybean and Nitrogen Fixation Unit (Dr. Thomas Carter)**, Raleigh, NC

*Soybean Breeding Research Assistant,* (June 2011 – Aug. 2011)

*●* Plant research plots, manage part-time help, manage crossing nursery, cross pollinate soybeans, prepare

and maintain sound agronomic field conditions

**Lübberstedt Lab – Department of Agronomy (Dr. Thomas Lübberstedt)**,Iowa State University,Ames, IA

*Maize Plant Breeding Research Lab Assistant,* (Nov. 2008 – May 2011)

*●* Assist graduate students in field and laboratory maize breeding projects, hand harvest corn research

*●* Select and sort double haploid maize seeds, plant and double haploid seedlings in field and greenhouse

*●* Independent undergraduate research project on exploring variety in maize cobs for usage in biomass

production, collect corn cob data, research cob properties, organize cob collection

**University of Lleida – Department of Agronomy (Dr. Jaume Lloveras)**,Lleida, Spain

*Agronomy Intern,* (Summer 2010)

*●* Collect research data onirrigated and dry land maize, wheat, and alfalfa fields for graduate students

*●* Learn about Mediterranean agriculture including apples, peaches, olives, and grapes

**DuPont Pioneer**, Marion, IA

*Maize Product Development Plant Breeding Intern,* (Summer 2009)

*●* Direct 10+ high-school students in maize nursery pollination, collection of opportunity trait data, thinning maize fields, and taking detailed field notes

**Mycogen Seeds**, Dow AgroSciences LLC., Marshalltown, IA

*Maize Production Field Inspector,* (Summer 2008)

*●* Scout and inspect 1,000+ acres of inbred corn fields for hybrid seed production

*●* Take detailed notes, communicate production field statuses to site manager and technicians

*●* Identify corn pests, de-tassel corn, take stand counts, organize seed inventoryproduction plant

COURSEWORK, WORKSHOPS, AND SKILLS

* Plant Pathology and Plant Disease Resistance, Mechanisms and Applications Coursework
* Advanced Quantitative, Population, and Molecular Genetics Coursework
* Experimental and Multivariate Statistics for Plant Sciences Coursework
* Plant Breeding Methods Coursework
* Bioinformatics Coursework
* Pitching to Investors Workshop
* Proficient in Reading, Writing, and Speaking Spanish
* Proficient in SAS, Image J, and Microsoft Word and Excel Computer Programs and Knowledgeable in R.
* Forklift Operator Certified *2015-2018*
* USDA Level 2 Validated eAuthentification ePermits User *2013*
* Biotechnology Quality Management System Trained *2013*

PUBLICATIONS

*Accepted for publication:*

* Jansen, C., N. Lauter, N. de Leon, C. Hirsch, **L.** **Ruff**, T. Lübberstedt. 2013. Genetic and morphometric analysis of cob architecture and biomass related traits in the intermated B73xMo17 recombinant inbred lines of maize. BioEnergy Research.

*Posters and Presentation Abstracts Presented at Professional/Scientific Meetings*:

* **Ruff, L.**, G. Graef, J. Specht, A. Lorenz, and K. Eskridge (2016). Heterosis in Soybean as a Predictor of Drought Tolerance. Water for Food Global Conference. Lincoln, NE. Apr. 24-26. **– *2nd place in poster contest.***
* **Ruff, L.**, G. Graef, J. Specht, A. Lorenz, and K. Eskridge (2016). Soybean Response to Water: A Look at Hybrid Soybeans. University of Nebraska and DuPont Pioneer Plant Breeding Symposium. Lincoln, NE, Mar. 29. ­*–* ***selected abstract for oral presentation***
* **Ruff, L.**, T. Carter Jr., L. Miranda, J. Chaky, and D. Dickey (2013). Are There Yield Genes in Wild Soybean? Hybrid Vigor Observed in Crosses between Wild (*G. soja*) and Cultivated (*G. max*) Soybean. National Soybean Breeders Workshop, St. Louis, MO, Feb. 11-13. **– *1st place in poster contest.***

PROFESSIONAL SOCIETIES

*●* American Society of Agronomy - member since *2008*

*●* Crop Science Society of America - member since *2008*

*●* Soil Science Society of America - member since *2009*

*●* National Association of Plant Breeders – member since *2012*

LEADERSHIP, ACTIVITIES, & MEMBERSHIP

*●* NAPB Congressional Visits Day to Advocate Plant Breeding in Washington, D.C. *2016*

*●* ASA-CSSA-SSSA Graduate Student Leadership Conference *2015*

*●* UNL Agronomy and Horticulture Graduate Student Association – member *2013-2016,*

President *2015-2016*, Vice President *2014-2015*,Banquet Committee Lead *2016,* Mentor Program and Orientation Committee Lead *2013-2015*, Fall Cookout Committee Lead *2015*, Industry Tour Organizer *2015*

*●* National Association of Plant Breeders (NAPB) Education Committee *2012-2014*, Executive

and Meeting Committee Graduate Student Liaison *2014-2015*

*●* NCSU Plant Breeding Club – member *2011-2013*, Treasurer *2012-2013*

*●* Alpha Zeta, Honorary Agricultural Fraternity – member since *2010*

*●* Gamma Sigma Delta, the Honor Society of Agriculture – member since *2008*

*●* ISU Agronomy Club – member *2007-2011*, Secretary *2008,* Treasurer *2009,* Technology Chair *2010*

*●* ISU Soil Judging Team – *2008- 2011 & 1st Place Individual at Regional Competition 2010* National Qualifiers *2009, 2010, 2011 & 4th Place Individual at National Competition 2011*

HONORS

*●* Outstanding Graduate Student in the Agronomy & Hort. Graduate Student Association *2016*

*●* UNL Entrepreneurship Engler Business Plan Competition Finalist *2014*

*●* American Seed Trade Association Roger Kruegar Scholarship *2014*

*●* American Seed Trade Research Foundation Operation Student Exchange *2014*

*●* United Soybean Board Fellowship *2013-2016*

*●* University of Nebraska-Lincoln Othmer Fellowship *2013-2016*

*●* NCSU DuPont Pioneer Graduate Student Fellow *2011-2013*

*●* ASA-CSSA-SSSA National Student Recognition Program: Outstanding Senior in Agronomy *2011 ●* Iowa State Agronomy Department ‘International Scholar in Agronomy’ *2011*

*●* American FFA Degree *2010*

REFERENCES

Dr. George Graef

Professor, Soybean Breeding and Genetics

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Emeritus Professor, Soybean Genetics and Physiology

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Dr. Thomas Carter

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