# Jeremiah L. Mullock

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# EDUCATION

Ph.D. Oklahoma State University, Stillwater, Oklahoma

Dissertation Chairman: Bill Raun

Major Field: Soil Science/Soil Fertility

Anticipated Graduation Date: *December 2014*

GPA: 3.79

M.S. Oklahoma State University, Stillwater, Oklahoma

Thesis Chairman: Bill Raun

Major Field: Plant & Soil Sciences/Soil Fertility

Date: August, 2012

GPA: 4.0

B.S. Northwest Missouri State University, Maryville, Missouri

Advisor: Rego Jones

Major Field: Agronomy

Minor Field: Precision Agriculture

Date: December, 2009

GPA: 3.93 / magna cum laude

# PROFESSIONAL EXPERIENCE

## May 2011 to Present. *Senior Agriculturalist, Soil Fertility, Department of Plant and Soil Sciences, Oklahoma State University, Stillwater, Oklahoma*.

## **Responsibilities:** Supervisor of all field work and soil fertility research. Aid in design, development, implementation, and statistical analysis of experiments. Research trials include wheat, corn, grain sorghum, and cotton. Responsible for planting, application of fertilizer, herbicides, as well as planting and harvest. Oversee operation and maintenance of field equipment. Coordinate field and lab activities for 10 graduate and undergraduate students in nutrient management.

## January 2010 – May 2011. *Graduate Research Assistant for Bill Raun, Department of Plant and Soil Sciences, Oklahoma State University, Stillwater, Oklahoma.*

## **Responsibilities**: Research plot work, sample processing, storage and organization, and statistical analyses. Implementation of the experimental method in field research including wheat, corn, cotton, soybeans, and sorghum.

## Summer 2008 & Summer 2009. *Research Assistant. Pioneer Hi-Bred, Johnston, Iowa.* **Responsibilities:** Collect physiological traits on commercial and pre-commercial cultivars in corn and soybeans. Maintained research plots.

## January 1998 – December 2009. *Farm Hand. Mullock Farms. Parnell, Missouri*. **Responsibilities:** Farm labor on a 1200 acre corn, soybean, and hay farm with a cow/calf operation.

# INTERNATIONAL EXPERIENCE

# January 2013, Ciudad Obregon, Mexico worked with the International Maize and Wheat Improvement Center (CIMMYT) to collect NDVI readings using various Greenseeker sensors. Demonstrated and received feedback on OSU prototype hand planter for developing countries.

# January 2011, Ciudad Obregon, Mexico worked with CIMMYT personnel to collect maize stalk diameter measurements for by-plant yield prediction, wheat spectrometer data to isolate phosphorus deficiencies, and within field diagnostics for the new hand-held NDVI optical sensor.

# TEACHING EXPERIENCE

* Fall 2012, Soil Nutrient Management Lab (SOIL4234), Oklahoma State University. Taught practical hands-on exercises for upper level undergraduates, including soil sampling techniques, fertilizer and liming calculations under the supervision of Dr. Brian Arnall.

# HONORS, AWARDS, and ACTIVITIES

* Oliver and Bessie Brensing Centennial Graduate Scholarship (2014)
* George Christie Memorial Scholarship (2013-2014)
* Williams Distinguished Graduate Fellowship (2012-2013, 2013-2014)
* Billy Tucker Outstanding Soil Fertility/Soil Chemistry Graduate Student Scholarship (2011-2012)

# PROFESSIONAL MEMBERSHIPS

* American Society of Agronomy
* Soil Science Society of America
* Crop Science Society of America

# JOURNAL PUBLICATIONS

1. Rutto, E., C. Daft, J. Kelly, B. Chim, **J. Mullock**, G. Torres, and W. Raun. 2014. Effect of delayed emergence on corn (Zea mays L.) grain yield. J. Plant Nutr 37:198-208.
2. Arnall, D.B., A.P. Mallarino, M.D. Ruark, G.E. Varvel, J.B. Solie, M.L. Stone, **J.L. Mullock**, R.K. Taylor, and W.R. Raun. 2013. Relationship between grain crop yield potential and nitrogen response. Agronomy Journal 105:1-10,
3. Mohammed, Y.A., J. Kelly, B. Chim, E. Rutto, K. Waldschmidt, **J. Mullock**, and W. Raun. 2013. Nitrogen fertilizer management for improved grain quality & yield in winter wheat in Oklahoma. J Plant Nutr 36: 749-761.
4. Arnall, D. B., **J. Mullock**, B. Seaborn. 2012. Can protein levels be economically increased? Fluid Journal 20: 1-4.

# ABSTRACTS

1. **Mullock. J.L.**, J.T. Bushong, E.C. Miller, Candibyani, W.R. Raun. 2013. Corn grain yield and nitrogen uptake response to preplant placement of nitrogen at different distances from the row. Agronomy Abstracts, ASA, Madison, WI.
2. Miller, E.C. , **J.L. Mullock**, J.T. Bushong, and W.R. Raun. 2013. Evaluation of nitrogen and water use efficiencies on corn hybrids with and without drought tolerance in irrigated and dryland production systems. Agronomy Abstracts. ASA, Madison WI.
3. Dhital, S., **J.L. Mullock**, W.R. Raun, and B. Chim. 2013. Influence of foliar sulfur, chloride and nitrogen on winter wheat grain yield and total nitrogen. Agronomy Abstracts, ASA, Madison, WI.
4. Omara, P., and **J.L. Mullock**. 2013. Effect of seed distribution and population on maize grain yields. Agronomy Abstracts. ASA, Madison, WI.
5. Miller, E.C., **J.L. Mullock**, J.T. Bushong, and W.R. Raun. 2013. Predicting pre-plant nitrogen application to corn using indicator crop N-rich reference strips. Agronomy Abstracts, ASA, Madison, WI.
6. Bushong, J.T., **J.L. Mullock**, E.C. Miller, and W.R. Raun. 2013. Effect of N source, method and timing of application, and irrigation on corn in a water limited environment. Agronomy Abstracts, ASA, Madison, WI.
7. Bushong, J.T., **J.L. Mullock**, E.C. Miller, and W.R. Raun. 2013. Utilizing soil moisture data with optical sensors to determine nitrogen recommendations in winter wheat.. Agronomy Abstracts, ASA, Madison, WI.
8. **Mullock, J.L.**, J.T. Bushong, B. Chim, W.R. Raun, and R.K. Taylor. 2012. Maize grain yield and nitrogen uptake response to preplant nitrogen placement at different distances from the row. Agronomy Abstracts, ASA, Madison, WI.
9. Arnall, D.B., **J.L. Mullock**, and W.R. Raun. 2012. Impact of sensor based nitrogen management on grain yield and soil components. Agronomy Abstracts, ASA, Madison, WI.
10. Macnack, N.E., **J.L. Mullock**, J.P. Kelly, I. Ortiz-Monasterio, and W.R. Raun. 2012. By-plant prediction of maize yield using stalk diameter and plant height. Agronomy Abstracts, ASA Madison, WI.
11. Bushong, J.T., **J.L. Mullock**, and W.R. Raun. 2012. Improving in-season estimation of yield using soil moisture data to make nitrogen fertilizer recommendation. Agronomy Abstracts, ASA Madison, WI.
12. Chim, B. W.R. Raun, **J.L. Mullock**, E.J. Ruto, G.M. Torres, S. Dhital, and N.E. Macnack. 2012. Effect of seed distribution and population on maize grain yield. Agronomy Abstracts, ASA Madison, WI.
13. Dhital, S., B. Chim, **J.L**. **Mullock**, and W.R. Raun. 2012. Influence of foliar sulfur, chloride, and nitrogen on winter wheat grain yield and quality. Agronomy Abstracts, ASA Madison, WI.
14. Torres, G.M., N.E. Macnack, **J.L. Mullock**, B. Chim, and W.R. Raun. 2012. World phosphorus use efficiency for cereal crops. Agronomy Abstracts, ASA Madison, WI.
15. **Mullock, J.L**, B. Chim, J.P. Kelly, G.M. Torres, and W.R. Raun. 2011. By-plant nitrogen fertilization in maize (Zea mays L.) using normalized difference vegetation index. Agronomy Abstracts, ASA Madison, WI.
16. Ali, M., A. Sutradhar, M. Reinert, M. Edano, **J.L. Mullock**, W.R. Raun, and K, Desta. 2011. Response of winter wheat growth, grain yield, and phosphorus and nitrogen uptake to foliar phosphite fertilization. Agronomy Abstracts, ASA Madison, WI.
17. Crain, J.L, J. Ortiz-Monasterio, W.R. Raun, J.P. Kelly, and **J.L. Mullock**. 2011. Evaluation of new OSU NDVI pocket sensor prototype. Agronomy Abstracts, ASA Madison, WI.
18. Macnack, N.E., **J.L. Mullock**, K.M. Walschmidt, J.P. Kelly, E.J. Ruto, and W.R. Raun. 2011. Predicting nitrogen use efficiency and grain protein in winter wheat using Greenseeker NDVI. Agronomy Abstracts, ASA Madison, WI.
19. Torres, G.M., **J.L. Mullock**, B. Chim, and W.R. Raun. 2011. Precison planting of corn to manipulate leaf geometry. Agronomy Abstracts, ASA Madison, WI.
20. Ruto, E.J., J.P. Vossenkemper, G.M. Torres, J.P. Kelly, **J.L. Mullock,** B. Chim, K.M. Waldschmidt, and W.R. Raun. 2011. Effect of nitrogen placement on corn yield. Agronomy Abstracts, ASA Madison, Wi.
21. Chim, B., W.R. Raun, **J.L. Mullock**, E.J. Ruto, K.M. Waldschmidt, G.M Torres, Y.A. Mohammed, and N.E. Macnack. 2011. Effect of seed distribution and population on maize (Zea mays L.) grain yield. Agronomy Abstracts, ASA Madison, WI.
22. Torres, G.M., B. Chim, J.P. Kelly, **J.L. Mullock**, K.M. Waldschmidt, Y. Kanke, J. Vossenkemper, and W.R. Raun. 2010. Phosphorus foliar fertilization in winter wheat. *In* Nitrogen Use Efficiency Conference. Stillwater, OK.

# REFERENCES

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