

Lawrence Aula
Department of Agronomy and Horticulture
University of Nebraska-Lincoln
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EDUCATION

Ph.D. in Soil Science Oklahoma State University, Stillwater, Oklahoma, USA Major: Soil Fertility	Dec 2020
Master of Science in Plant and Soil Science Oklahoma State University, Stillwater, Oklahoma, USA Major: Soil Fertility/Agronomy	Dec 2014
Post-Graduate Diploma in Project Planning and Management Gulu University, Gulu, Uganda	Jan 2013
Bachelor of Agriculture Gulu University, Gulu, Uganda	Jan 2009

PROFESSIONAL EMPLOYMENT

University of Nebraska-Lincoln, Scottsbluff, Nebraska	
Research Assistant Professor	March 2025 - Present
<ul style="list-style-type: none">• Conduct and publish research in the areas of resource efficient crop management and optimal cropping system practices in water-limited environments• Mentor graduate students• Actively participate in conferences• Write grant proposal• Attend faculty meetings• Play supporting role in the ongoing Nebraska State Variety Testing and Dryland Cropping Systems projects	
Kabale University, Kabale Municipality, Uganda	
Lecturer – Soil Science	Sep 2023 – Feb 2025
Responsibilities	
<ul style="list-style-type: none">• Prepared and delivered lectures to undergraduate and postgraduate students (these course units were handled during this period: AGR1102/BAL1101- Introductory Soil Science, AGR2101 – Soil fertility and plant nutrition, BAL	

2104 – Soil Survey and Land Evaluation, HEC1116 – Foundation of Soil Science, AGR 1204 – Soil Physics and Chemistry, and BAL 1204 – Soil Chemistry and Biology)

- Set tests, examinations, and coursework.
- Administered and invigilated tests and examinations.
- Marked tests, course work, and examinations scripts, compiled, and graded examination results.
- Guided and advised students on their academic performance.
- Attended to students' non-academic challenges and referred to those that need further counseling and guidance.
- Conducted research and disseminate research findings through conferences, seminars, and publications.
- Supervised undergraduate and postgraduate students undertaking research projects.
- Carried out official administrative duties in the department as directed by the Head of Department.
- Contributed to the University and wider society through community service.

University of Nebraska-Lincoln, Scottsbluff, Nebraska

Post-Doctoral Research Associate, Dryland Cropping Systems

**Dec 2021 –
Aug 2023**

Responsibilities;

- Conducted research, that is, one experiment on crop rotation and one study investigating how the transition from one tillage practice to another affects soil health indicators like active carbon, aggregate stability, and soil organic matter.
- Wrote research proposals to seek grants. Four were funded
- Published three scientific articles
- Mentored one graduate student through data analysis and review of thesis

Oklahoma State University, Stillwater, Oklahoma

Graduate Research Assistant

**Aug 2018 –
Dec 2020**

Responsibilities;

- Conducted soil fertility trials for improving cereal production and nutrient use efficiencies; regularly collected and processed field data including NDVI using proximal remote sensing instrument, GDD, soil samples, and weather variables; prepared grain and soil samples for laboratory analyses.
- In total, the work resulted in six senior-authored, peer-reviewed research articles in renowned scientific journals such as Agronomy Journal and Agronomy (MDPI).
- The research experience gained here made me contribute directly to twelve publications as a secondary author.
- One model for winter wheat yield prediction was developed with the aim of refining nitrogen recommendations for winter wheat.

Lutheran World Federation, Pader, Uganda

Project Manager

**Apr 2018 –
Jul 2018**

Job responsibilities;

- Provided technical and programmatic guidance to the project team to ensure good quality implementation of the agroforestry project which focused on improving energy security sustainably
- Took lead in coordination, planning, and implementation of the project
- Designed, deployed, and managed appropriate M&E framework
- Monitored cash flow projections and actual cash flows and reported to the supervisor the variances in cash flows
- Conducted regular review of project progress to ensure that standards and targets are met

Lutheran World Federation, Pader, Uganda

Agroforestry Project Officer

**May 2015 –
Apr 2018**

Responsibilities;

- Conducted training for ten field extension workers with the aim of improving agronomy and post-harvest handling skills as well as tree planting and management
- Engaged in planning, implementing, monitoring, and mid-term evaluation of the project
- Because of the above, 1,304 ha (96.4%) was under agro-forestry management with trees having a 76% survival rate. About 70% of farmers reported having access to and use of fruits from personal farms
- Liaised with the district technical team to conduct 40 trainings and sensitization meetings for communities with a particular focus on agronomy and post-harvest handling, tree planting and management, bushfire management and construction, and use of improved cookstoves with about 40% efficiency level
- Produced monthly, biannual, and annual reports consistently
- Village savings and loan association scheme introduced to smallholder farmers increased access to financial resources for approximately 86% of the farmer group members

Oklahoma State University, Stillwater, Oklahoma

Graduate Research Assistant

**Aug 2013 –
Dec 2014**

Responsibilities;

- Conducted soil fertility research using long-term experiments where soil samples were collected, processed, and analyzed in the lab for soil organic carbon, total nitrogen, and soil pH as influenced by N fertilization.
- As a result, one senior-authored, peer-reviewed research article was published.

- Further collaboration with other researchers led to two more publications that addressed the effect of cattle manure on soil properties and yield as well as the evaluation of precision hand planters for developing countries to achieve plant homogeneity and high nitrogen use efficiency.

Lutheran World Federation, Pader, Uganda

Field Extension Worker

Sep 2009 –

Jun 2013

Responsibilities;

- Increased access to improved seeds of open-pollinated varieties such as maize, groundnuts, and soybeans among farmer groups. These included linkages to agro-input stores and project seed distribution
- Proactively trained 20 smallholder farmer groups on agronomy, post-harvest handling, pest and disease management, soil and water conservation, and savings and loan association methodology to implement farming as a business but also to increase access to financial resources
- Proactively monitored the project through on-farm visits and where necessary, corrective actions taken
- Ensured active participation of local leaders during the different phases of the project life cycle particularly implementation and monitoring
- Produced and submitted monthly reports timely together with human interest stories.

SCHOLARLY ACTIVITIES AND ASSOCIATED OUTPUTS

1. **Aula, L.**, Easterly, A.C. and Creech, C.F., 2025. Tillage practices do not affect winter wheat grain yield trend. *Agrosystems, Geosciences & Environment*. ;8:e70070. DOI: <https://doi.org/10.1002/agg2.70070>
 2. **Aula, L.**, Easterly, A. C., Mikha, M. M., & Creech, C. F. (2024). Tillage practices affect soil fertility of a long-term winter wheat–fallow rotation. *Soil Science Society of America Journal*.
 3. **Aula, L.**, Mikha, M. M., Easterly, A. C., & Creech, C. F. (2023). Winter wheat grain yield stability under different tillage practices. *Agronomy Journal*, 115(2), 1006-1014. DOI: 10.1002/agj2.21236.
 4. **Aula, L.**, Easterly, A. C., & Creech, C. F. (2023). Tillage practices influence winter wheat grain yield prediction using seasonal precipitation. *Frontiers in Agronomy*, 5, 1067371. DOI: 10.3389/fagro.2022.1067371
 5. **Aula, L.**, Easterly, A.C. and Creech, C.F., 2022. Winter Wheat Seeding Decisions for Improved Grain Yield and Yield Components. *Agronomy*, 12(12), p.3061. DOI: <https://doi.org/10.3390/agronomy12123061>
 6. Omara, P., **Aula, L.**, Otim, F., Obia, A., Souza, J.L.B. and Arnall, D.B., 2022. Biochar Applied with Inorganic Nitrogen Improves Soil Carbon, Nitrate and Ammonium Content of a Sandy Loam Temperate Soil. *Nitrogen*, 3(1), pp.90-100. DOI: <https://doi.org/10.3390/nitrogen3010007>
 7. **Aula, L.**, Omara, P., Nambi, E., Oyebiyi, F.B., Dhillon, J., Eickhoff, E., Carpenter, J. and Raun, W.R., 2021. Active Optical Sensor Measurements and
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Weather Variables for Predicting Winter Wheat Yield. *Agronomy Journal*. DOI: 10.1002/agj2.20620

8. **Aula, L.**, Omara, P., Oyebiyi, F.B., Eickhoff, E., Carpenter, J., Nambi, E., Fornah, A. and Raun, W.R., 2021. Improving Winter Wheat Grain Yield and Nitrogen Use Efficiency Using Nitrogen Application Time and Rate. *Agrosystems, Geosciences & Environment*. DOI: 10.1002/agg2.20148
 9. Nambi, E., **Aula, L.**, Oyebiyi, F.B., Eickhoff, E.M., Omara, P., Carpenter, J. and Raun, W.R., 2021. Evaluation of Sorghum Emergence and Grain Yield Response to Seeding Density and Plant Spacing Attained Using the OSU Hand Planter. *Communications in Soil Science and Plant Analysis*, 52(15), pp.1762-1771.
 10. **Aula, L.**, Omara, P., Nambi, E., Oyebiyi, F.B. and Raun, W.R., 2020. Review of Active Optical Sensors for Improving Winter Wheat Nitrogen Use Efficiency. *Agronomy*, 10(8), 1157. DOI: 10.3390/agronomy10081157
 11. Rayne, N. and **Aula, L.**, 2020. Livestock Manure and the Impacts on Soil Health: A Review. *Soil Syst*. DOI: 10.3390/soilsystems4040064
 12. Dhillon, J., **Aula, L.**, Eickhoff, E. and Raun, W., 2020. Predicting in-season maize (*Zea mays* L.) yield potential using crop sensors and climatological data. *Scientific Reports*, 10(1), pp.1-8. DOI: 10.1038/s41598-020-68415-2.
 13. **Aula, L.**, Omara, P., Eickhoff, E., Oyebiyi, F., Dhillon, J.S. and Raun, W.R., 2020. Effect of winter wheat cultivar on grain yield trend under different nitrogen management. *Agrosystems, Geosciences & Environment*, 3(1), p.e20017.
 14. Omara, P., **Aula, L.**, Oyebiyi, F.B., Eickhoff, E.M., Carpenter, J. and Raun, W.R., 2020. Biochar Application in Combination with Inorganic Nitrogen Improves Maize Grain Yield, Nitrogen Uptake, and Use Efficiency in Temperate Soils. *Agronomy*, 10(9), p.1241.
 15. Dhillon, J., Eickhoff, E., **Aula, L.**, Omara, P., Weymeyer, G., Nambi, E., Oyebiyi, F., Carpenter, T. and Raun, W., 2020. Nitrogen management impact on winter wheat grain yield and estimated plant nitrogen loss. *Agronomy Journal*, 112(1), pp.564-577.
 16. Fornah, A., **Aula, L.**, Omara, P., Oyebiyi, F., Dhillon, J. and Raun, W.R., 2020. Effect of spacing, planting methods and nitrogen on maize grain yield. *Communications in Soil Science and Plant Analysis*, 51(12), pp.1582-1589.
 17. Omara, P., **Aula, L.**, Dhillon, J.S., Oyebiyi, F., Eickhoff, E.M., Nambi, E., Fornah, A., Carpenter, J. and Raun, W., 2020. Variability in winter wheat (*Triticum aestivum* L.) grain yield response to nitrogen fertilization in long-term experiments. *Communications in Soil Science and Plant Analysis*, 51(3), pp.403-412.
 18. **Aula, L.**, Dhillon, J. S., Omara, P., Wehmeyer, G. B., Freeman, K. W., & Raun, W. R. (2019). World Sulfur Use Efficiency for Cereal Crops. *Agronomy Journal*. doi:10.2134/agronj2019.02.0095
 19. **Aula, L.**, Omara, P., Dhillon, J. S., Fornah, A., & Raun, W. R. (2019). Influence of Applied Cattle Manure on Winter Wheat (*Triticum aestivum* L.) Grain Yield, Soil pH and Soil Organic Carbon. *Communications in soil science and plant analysis*, 50(16), 2056-2064.
 20. Raun, W.R., Dhillon, J., **Aula, L.**, Eickhoff, E., Weymeyer, G., Figueirdeo, B., Lynch, T., Omara, P., Nambi, E., Oyebiyi, F. and Fornah, A., 2019. Unpredictable nature of environment on nitrogen supply and demand. *Agronomy Journal*, 111(6), pp.2786-2791.
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21. Omara, P., **Aula, L.**, Oyebiyi, F., & Raun, W. R. (2019). World cereal nitrogen use efficiency trends: Review and current knowledge. *Agrosystems, Geosciences & Environment*, 2(1).
 22. Omara, P., **Aula, L.** and Raun, W.R., 2019. Nitrogen uptake efficiency and total soil nitrogen accumulation in long-term beef manure and inorganic fertilizer application. *International Journal of Agronomy*, 2019.
 23. Omara, P., **Aula, L.**, Eickhoff, E. M., Dhillon, J. S., Lynch, T., Wehmeyer, G. B., & Raun, W. (2019). Influence of No-Tillage on Soil Organic Carbon, Total Soil Nitrogen, and Winter Wheat (*Triticum aestivum* L.) Grain Yield. *International Journal of Agronomy*.
 24. Omara, P., **Aula, L.**, Oyebiyi, F., Nambi, E., Dhillon, J. S., Carpenter, J., & Raun, W. R. (2019). No-tillage Improves Winter Wheat (*Triticum Aestivum* L.) Grain Nitrogen Use Efficiency. *Communications in Soil Science and Plant Analysis*, 50(19), 2411-2419.
 25. Oyebiyi, F. B., **Aula, L.**, Omara, P., Nambi, E., Dhillon, J. S., & Raun, W. R. (2019). Maize (*Zea mays* L.) Grain Yield Response to Methods of Nitrogen Fertilization. *Communications in Soil Science and Plant Analysis*, 50(21), 2694-2700.
 26. Omara, P., Macnack, N., **Aula, L.** and Raun, B., 2017. Effect of long-term beef manure application on soil test phosphorus, organic carbon, and winter wheat yield. *Journal of Plant Nutrition*, 40(8), pp.1143-1151.
 27. Dhillon, J. S., Figueiredo, B., **Aula, L.**, Lynch, T., Taylor, R. K. & Raun, W. R. (2017): Evaluation of Drum Cavity Size and Planter Tip on Singulation and Plant Emergence in Maize (*Zea mays* L.), *Journal of Plant Nutrition*
 28. **Aula, L.**, Macnack, N., Omara, P., Mullock, J. & Raun, W (2016): Effect of Fertilizer Nitrogen (N) on Soil Organic Carbon, Total N and Soil Ph in Long-Term Continuous Winter Wheat (*Triticum aestivum* L.), *Communications in Soil Science and Plant Analysis*, DOI: 10.1080/00103624.2016.114704
 29. Omara, P., **Aula, L.**, Raun, B., Taylor, R., Koller, A., Lam, E, Ringer, J., Mullock, J., Dhital, S. & Macnack, N. (2015): Hand Planter for Maize (*Zea mays* L.) in the Developing World, *Journal of Plant Nutrition*, DOI: 10.1080/01904167.2015.1022186
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PROFESSIONAL SERVICE

- Associate Editor, Agronomy Journal (March 2025 – present)
 - Editorial Board Member, Discover Soil (August 2024 – present)
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ORAL PRESENTATIONS

- Improving winter wheat grain yield and nitrogen use efficiency using nitrogen application time and rate. Graduate Seminar, Department of Plant and Soil Sciences, Oklahoma State University, Stillwater, OK, USA, September 2020
 - Fifty Years of Experimentation-An audit of Experiment 502. Graduate Seminar, Department of Plant and Soil Sciences, Oklahoma State University, Stillwater, OK, USA, April 2020
 - Effect of Fertilizer Nitrogen (N) on Soil Organic Carbon, Total N and Soil pH in Long-Term Continuous Winter Wheat. Graduate Seminar, Department of Plant and Soil Sciences, Oklahoma State University, Stillwater, OK, USA, November 2014
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POSTER PRESENTATIONS

- Influence of Applied Cattle Manure on Winter Wheat Grain Yield, Soil pH and Organic Carbon. 2019 American Society of Agronomy International Meeting, San Antonio, Texas, USA, November 8-11, 2019
 - Influence of Applied Cattle Manure on Winter Wheat Grain Yield, Soil pH and Organic Carbon. 2019 Nitrogen Use Efficiency Workshop, University of Missouri, Columbia, Missouri, USA, August 5-7, 2019– **won 3rd place Award in Granular Graduate Student Data Hack-a-thon Contest**
 - Development and evaluation of a singulating maize hand planter for use in developing countries. 2014 Nitrogen Use Efficiency Workshop, Sioux Fall, South Dakota, August 4-5, 2014 – **1st place finish in the poster competition**
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AWARDS, RECOGNITIONS AND SCHOLARSHIPS

- Jerry Grant International Scholarship (2020)
 - Third Place Award in Granular Graduate Student Data Hack-a-thon Contest during 2019 Nitrogen Use Efficiency (NUE) Workshop, Columbia, Missouri, USA, August 2020
 - H.F. “Pat” Murphy Memorial Scholarship (2019)
 - Best employee of the year (2017) - Lutheran World Federation, Pader, Uganda
 - Winner of the graduate student poster competition at NUE Workshop, Sioux Fall, South Dakota (2014)
 - Dale E. and Ardith H. Weibel Memorial Scholarship (2014)
 - Named on the Faculty of Agriculture and Environment Dean’s list of achievers, 2006-2008, Gulu University, Uganda
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GRANTS

- **Aula L.**, Milena Oliveria and Easterly A. 2023. Dry Pea Response to Phosphorous, Plant Density & Variety. Submitted for Specialty Crop Block Grant, funded for \$75,000 for one year from spring 2024.
 - **Aula L.** 2023. Dry Pea Response to Phosphorous, Plant Density & Variety. Submitted to Nebraska Dry Pea and Lentil Commission for \$5,000, funded for \$5,000 for one year starting July 2023.
 - **Aula L.** 2022. Dry Pea Response to Phosphorous, Plant Density & Variety. Submitted to Nebraska Dry Pea and Lentil Commission for \$5,000, funded for \$5,000 for a duration of one year starting July 1, 2022.
 - Creech C., **Aula L.**, Easterly A., and Maharjan B. 2022. Replacing Fallow and Cover Crops with Field Pea and Chickpea in the Semi-Arid Northern High Plains: Impacts on Production and Sustainability. Submitted to Dept of Agriculture-ARS for grants worth \$136,978 for August 1, 2022, to July 31, 2023.
 - Raun W.R., Omara P., **Aula L.**, and Oyebiyi F. 2019. Improving agricultural economy using corn hand planter in Wassa District - APO, Abuja Nigeria Submitted to Rotary International for a grant worth \$59,900. September 2022
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FIELD DAYS

- **Aula L.**, Creech C., and Easterly A. 2022. UNL High Plains Ag Lab Field Day: Replacing winter wheat-fallow and winter wheat-cover crops with pulses. Attended by 100 researchers, industry professionals, educators, and farmers in Sidney, NE.
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LANGUAGE

- Lango/Luo – native language
 - Fluent in English
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PROFESSIONAL AFFILIATIONS

- American Society of Agronomy
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