

Sarah Lyons
Graduate Student
Department of Animal Science
318 Morrison Hall
Cornell University
Ithaca, NY 14853
(828) 290-3584
sel248@cornell.edu

CURRENT RESEARCH: Growing requirements, nutritional potential and economic and environmental benefits of double cropping with winter cereals and forage sorghum or corn silage in dairy production systems in New York State.

EDUCATION

- 2015-2019 Ph.D. Animal Science; Cornell University, Ithaca, NY
Agronomic, soil, forage quality and nutrition, and economic aspects of double cropping on dairy farms in NY State.
- 2013-2015 M.S. Animal Science; North Carolina State University, Raleigh, NC
Fescue toxicity and beef heifer growth and reproduction.
- 2009-2013 B.Sc. Biology: Cum Laude; Furman University, Greenville, SC

PROFESSIONAL EXPERIENCE

- 2015- Graduate Research and Teaching Assistant; Department of Animal Science; Cornell University; Ithaca, NY
- 2013-15 Graduate Research and Teaching Assistant; Department of Animal Science; North Carolina State University; Raleigh, NC
- 2012-13 Intern; Poinsett Animal Hospital; Greenville, SC
- 2012 Intern; Greenbrier Farms; Easley, SC
- 2012 Student Assistant; Piper Ethics Seminar; Greenville, SC
- 2010-12 Undergraduate Research Assistant; Department of Biology; Furman University; Greenville, SC
- 2010 Assistant Farm Manager; Furman Farm; Greenville, SC

PUBLICATIONS

Journal Articles

- Lyons, S.E., T. Kilcer, and Q. M. Ketterings. 2017. Early fall planting increases growth and nitrogen uptake of winter cereals. *Agron. J.* 109:1-7.
- Tagarakis, A., Q. M. Ketterings, S. E. Lyons, and G. Godwin. 2016. Proximal sensing to estimate yield of brown midrib forage sorghum. *Agron. J.* 109(1):107-114.
- Lyons, S. E., A. D. Shaeffer, M. Drewnoski, M. H. Poore, and D. H. Poole. 2015. Effect of protein supplementation and forage allowance on heifer growth and reproduction. *Journal of Animal Science.* 94(4):1677-1688.
- Poole, D. H., J. A. Moore, and S. E. Lyons. 2015. Changes in student perception of food animal agriculture following discussion of controversial topics. *NACTA Journal.* 60(3):313-317

Conference Papers

Lyons, S.E., T.F. Kilcer, S. Ort, S. Swink, G. Godwin, J. Hanshar, K.J. Czymmek, and Q.M. Ketterings. 2016. Double crop rotations with winter cereals and corn silage or forage sorghum. Cornell Nutrition Conference. Syracuse, NY. Oct 20, 2016.

Extension Publications

- Lyons, S.E., Q. M. Ketterings, G. S. Godwin, J. H. Cherney, K. J. Czymmek, and T. F. Kilcer. 2017. Planting date and N availability impact fall N uptake of triticale. What's Cropping Up?
- Liu, C., S.E. Lyons, Q.M. Ketterings, T.F. Kilcer, K. Oneil, and M. Hunter. 2016. Guidance for growing BMR brachytic dwarf forage sorghum. Nutrient Management Spear Program Agronomy Factsheet # 92.
- Chamberlain, L., S.E. Lyons, Q.M. Ketterings, D.J. Cherney, T.F. Kilcer, K.J. Czymmek, and P. Cerosaletti. 2016. Forage quality parameters explained. Nutrient Management Spear Program Agronomy Factsheet # 94.

Abstracts for Scientific Meetings

- Lyons, S.E., Q.M. Ketterings, D.J. Cherney, J.H. Cherney, G.S. Godwin, and T.F. Kilcer. 2017. Growth stage at harvest influences forage quality and yield of brown midrib forage sorghum. ASAS National Conference. Jul 9-12, 2017. Baltimore, MD (Abstr.)
- Lyons, S.E., Q.M. Ketterings, Z. Tang, S. Ort, G. Godwin, K. Czymmek, S. Swink, and T.F. Kilcer. 2016. How much N should you apply to winter cereal double crops in the spring? An evaluation of agronomic, economic, and environmental consequences. ASA/CSSA/SSSA National Conference. Nov 7-9, 2016. Phoenix, AZ (Abstr.)
- Lyons, S. E., T.F. Kilcer, G. Godwin, and Q.M. Ketterings. 2016. The impact of planting date on the establishment and nitrogen uptake of winter cereals grown as double crops in corn silage rotations in New York. ASA/CSSA/SSSA National Conference. Nov 7-9, 2016. Phoenix, AZ (Abstr.)
- Poole, D. H., Lyons, S. E., Mackey, J. C., Tyson, A. M., Shaeffer, G., and Poore, M. H. 2016. 060 Ergot alkaloid induced vasoconstriction of bovine uterine and ovarian blood vessels. American Society of Animal Science Southern Section. Feb 6-9, 2016. San Antonio, TX (Abstr.)
- Lyons, S. E., Godwin, G., Cherney, D., Cherney, J., Ketterings, Q. 2016. Effect of nitrogen fertilizer application rate on yield and quality of Brachytic Dwarf Brown Midrib (BMR) forage sorghum. Northeastern Plant, Pest, and Soils Conference. Jan 4-6, 2016. Philadelphia, PA (Abstr.)
- Lyons, S. E., Ketterings, Q. M., Ort, S., Godwin, G., Czymmek, K., Swink, S., and Kilcer, T. 2015. Double Cropping of Corn Silage Rotations with Winter Cereals as Forage Crop. ASA/CSSA/SSSA National Conference. Nov 15-18, 2015. Minneapolis, MN (Abstr.)
- Lyons, S. E., Poore, M. H., Poole, D. H., Freeman, S. R., Shaeffer, A. D., Kennedy, P. M., Alley, M. L., and Drewnowski, M. E. 2015. Effect of protein supplementation and forage allowance on heifer growth and reproduction. American Society of Animal Science Southern Section. Jan 31 – Feb 3, 2015. Atlanta, GA (Abstr.)

- Poole, D. H., S. E. Lyons, and J. A. Moore. 2015. Changes in student perception of food animal agriculture topics following discussion of controversial topics. *NACTA Journal* 59 (Suppl. 1):60 (Abstr.).
- Lyons, S. E., Poore, M. H., Poole, D. H., Freeman, S. R., Shaeffer, A. D., Alley, M. L., and Drewnoski, M. E. 2014. Effect of protein supplementation and forage allowance on heifer growth and reproductive development. *American Society of Animal Science Southern Section*. Feb 1-4, 2014. Dallas, TX (Abstr.)
- Lyons, S. and Thompson, L. 2012. Dyes from invasive plant species in the South Carolina Piedmont. 53rd Annual Meeting, Society for Economic Botany, June 3-7, 2012, Frostburg State University, Frostburg, MD (Abstr.).

SCHOLARLY ACTIVITIES

Conference Presentations

- Lyons, S.E., Q.M. Ketterings, Z. Tang, S. Ort, G. Godwin, K. Czymmek, S. Swink, and T.F. Kilcer. 2016. How much N should you apply to winter cereal double crops in the spring? An evaluation of agronomic, economic, and environmental consequences. *ASA/CSSA/SSSA National Conference*. Pheonix, AZ. Nov 7-9, 2016.
- Lyons, S. E., T.F. Kilcer, G. Godwin, and Q.M. Ketterings. 2016. The impact of planting date on the establishment and nitrogen uptake of winter cereals grown as double crops in corn silage rotations in New York. *ASA/CSSA/SSSA National Conference*. Pheonix, AZ. Nov 7-9, 2016.
- Lyons, S.E., T.F. Kilcer, S. Ort, S. Swink, G. Godwin, J. Hanshar, K.J. Czymmek, and Q.M. Ketterings. 2016. Double crop rotations with winter cereals and corn silage or forage sorghum. *Cornell Nutrition Conference*. Syracuse, NY. Oct 20, 2016.
- Lyons, S. E., Godwin, G., Cherney, D., Cherney, J., Ketterings, Q. 2016. Effect of nitrogen fertilizer application rate on yield and quality of Brachytic Dwarf Brown Midrib (BMR) forage sorghum. *Northeastern Plant, Pest, and Soils Conference*. Philadelphia, PA. Jan 4-6, 2016.
- Lyons, S. E., Ketterings, Q. M., Ort, S., Godwin, G., Czmmeck, K., Swink, S., and Kilcer, T. 2015. Double cropping of corn silage rotations with winter cereals as forage crop. *ASA/CSSA/SSSA National Conference*. Nov 15-18, 2015. Minneapolis, MN.
- Lyons, S. E., Poore, M. H., Poole, D. H., Freeman, S. R., Shaeffer, A. D., Kennedy, P. M., Alley, M. L., and Drewnowski, M. E. 2015. Effect of protein supplementation and forage allocation on heifer growth and reproductive performance. *American Society of Animal Science Southern Section Annual Meeting*. Feb 3, 2015.
- Lyons, S. E., Poore, M. H., Poole, D. H., Freeman, S. R., Shaeffer, A. D., Alley, M. L., and Drewnoski, M. E. 2014. Effect of protein supplementation and forage allowance on heifer growth and reproductive development. *American Society of Animal Science Southern Section Annual Meeting*. Feb 3, 2014.

Extension Presentations

- Lyons, S.E., T.F. Kilcer, and Q.M. Ketterings. 2016. Triticale and forage sorghum rotations. *Certified Crop Advisor Training*. East Syracuse, NY. Nov 30, 2016.
- Lyons, S.E., Q.M. Ketterings, T.F. Kilcer, S. Ort, S. Fessenden, S. Swink, G. Godwin, J.

- Hanshar, K.J. Czymmek, J.H. Cherney, and D. Cherney. 2016. Timing of planting and harvesting winter cereals grown as double crops in corn silage or sorghum rotations: Dilemmas and solutions. Cornell Nutrient Management Spear Program presentation for Cover Crop and Soil Health workshop and tour. Big Flats, NY. Nov 4, 2016.
- Lyons, S.E., Q.M. Ketterings, G. Godwin, S. Ort, S. Swink, T.F. Kilcer, S. Fessenden, J. Cherney, and D. Cherney. 2016. Winter cereals as double crops: Yield and quality. Ag In-service event at Cornell University. Nov 1, 2016.
- Lyons, S.E., Q.M. Ketterings, G. Godwin, J. Cherney, T.F. Kilcer, P. Barney, and S. Beer. 2016. BMR forage sorghum vs. corn silage in double cropping rotations. Ag In-service event at Cornell University. Nov 1, 2016.
- Tagarakis, A., S.E. Lyons, L. Chamberlain, C. Liu, and Q.M. Ketterings. 2016. Crop sensing for nitrogen management and yield predictions. Musgrave Research Farm Field Day, Cornell University. Aurora, NY. July 14, 2016.
- Lyons, S.E., T.F. Kilcer, J. Hanshar, Q.M. Ketterings, S. Ort, G. Godwin, K. Czymmek, and S. Swink. 2015. Double cropping with winter cereals for forage. Certified Crop Advisor training. Syracuse, NY. Dec 2, 2015.
- Lyons, S.E., Q.M. Ketterings, A. Sadeghpour, G. Godwin, S. Swink, S. Ort, and K. Czymmek. 2015. Double cropping of corn or sorghum with winter cereals in New York. Cornell Nutrient Management Spear Program presentation for Cover Crop and Soil Health workshop and tour. Big Flats, NY. Nov 6, 2015.
- Lyons, S.E., Q.M. Ketterings, G. Godwin, S. Ort, S. Swink, and T.F. Kilcer. 2015. Double cropping with winter cereals in New York. Ag In-service event at Cornell University. Nov 3, 2015.
- Lyons, S.E., Q.M. Ketterings, J. Cherney, G. Godwin, T.F. Kilcer, P. Barney, and S. Beer. 2015. Incorporating BMR forage sorghum into double crop rotations in New York. Ag In-service event at Cornell University. Nov 3, 2015.
- Lyons, S.E., P.M. Kennedy, and M.H. Poore. 2013. Pastureland Ecology. Wake County Cattlemen's Association Meeting. Raleigh, NC.

Seminar Presentations

- Lyons, S.E., Q.M. Ketterings, T.F. Kilcer, S. Ort, S. Fessenden, S. Swink, G. Godwin, J. Hanshar, K.J. Czymmek, J. Cherney, and D. Cherney. 2016. Double cropping rotations with winter cereals and forage sorghum or corn silage: Agronomic, economic, environmental, and nutritional aspects. Cornell Animal Science Department. Ithaca, NY. Nov 17, 2016.
- Lyons, S. E., Poore, M. H., Poole, D. H., Freeman, S. R., Shaeffer, A. D., Kennedy, P. M., Alley, M. L., and Drewnowski, M. E. 2014. Fescue toxicity and heifer reproduction. NCSU Animal Science Department.
- Lyons, S. E., Poore, M. H., Poole, D. H., Freeman, S. R., Shaeffer, A. D., Kennedy, P. M., Alley, M. L., and Drewnowski, M. E. 2014. Fescue toxicity and heifer reproduction. NCSU Soil Science Department.
- Lyons, S.E. 2014. Ruminant Physiology. NCSU Animal Science Department.

Poster Presentations

- Poole, D. H., J. A. Moore, and S. E. Lyons. 2015. Changes in student perception of food

animal agriculture topics following discussion of controversial topics. NACTA Conference, June 16-20, 2015, Athens, GA
Lyons, S.E., and M.H. Poore. 2014. Dung Beetles of North Carolina, Center for Environmental Farming Systems Soilbration Field Day, October 17-18, 2014, Goldsborro, NC
Lyons, S.E., and M.H. Poore. 2014. Grazing and Soil Health, Center for Environmental Farming Systems Soilbration Field Day, October 17-18, 2014, Goldsborro, NC

RESEARCH FUNDING

2015-2016 Northeast Sustainable Agriculture Research and Education (NESARE) Graduate Student Grant. Project Title: *Unraveling the milk production potential of winter cereals grown as forage double crops in corn or sorghum rotations*. Award: \$14,999.
2011-2012 Duke Endowment Farming/Food Systems Student Research Fellow
2010-2012 Furman Advantage Fellowship

AWARDS AND HONORS

2016 3rd place in the S4/S8 National Conference PhD student oral presentation competition. How much N should you apply to winter cereal double crops in the spring? An evaluation of agronomic, economic, and environmental consequences. ASA/CSSA/SSSA National Conference. Phoenix, AZ. Nov 7-9, 2016. \$300.00.
2016 1st place in the Northeastern Branch ASA/CSA/SSSA conference graduate student oral presentation competition.
2015 5th place in the S4/S8 National Conference PhD student oral presentation competition. *presentation* Double cropping of corn silage rotations with winter cereals as forage crop. ASA/CSSA/SSSA National Conference. Nov 15-18, 2015. Minneapolis, MN. \$100.00.
2015 Cornell Graduate Student Conference Grant, ASA/CSSA/SSSA conference and abstract presentation. Award: \$390.00
2015 University Outstanding Teaching Assistant Award, presented by the University Graduate Student Association, NC State University, Raleigh, NC
2013-2015 North Carolina Agricultural Foundation Graduate Research Assistantship
2012 Elizabeth Thackston Taylor Botany Medal, Furman University Biology Departmental Award

TEACHING EXPERIENCE

Spring 2017 *Teaching Assistant*, Whole Farm Nutrient Management (ANSC 4120), Department of Animal Science, Cornell University. Main instructors: Quirine M. Ketterings, Mike Van Amburgh, Karl J. Czymmek. Students: 26.
Fall 2016 *Teaching Assistant*, Animal Nutrition (ANSC 2120), Department of Animal Science, Cornell University. Main instructor: Debbie H. Cherney. Students:
Spring 2016 *Teaching Assistant*, Whole Farm Nutrient Management (ANSC 4120), Department of Animal Science, Cornell University. Main instructors: Quirine M. Ketterings, Mike Van Amburgh, Karl J. Czymmek. Students:
2014-2015 Certificate of Accomplishment in Teaching, North Carolina State University
Spring 2015 *Teaching Assistant*, Introduction to Animal Science Laboratory (ANS 151),

Department of Animal Science, North Carolina State University. Main instructor: Jeannette Moore. Students:

Fall 2014 *Teaching Assistant*, Reproductive Physiology Lecture and Laboratory (ANS 220/221), Department of Animal Science, North Carolina State University. Main instructor: Daniel H. Poole. Students:

Spring 2014 *Teaching Assistant*, Beef Cattle Management Lecture and Laboratory (ANS 402/462), Department of Animal Science, North Carolina State University. Main instructor: Johnny Rogers. Students:

ACADEMIC AND COMMUNITY SERVICE

2017 Expanding Your Horizons conference, “Holey Cow” workshop leader, Cornell University. A program to stimulate interest in the STEM fields for middle and high school girls. Apr 15, 2017.

2016 Dewitt Middle School Career Day, “Turn a Passion for Animals into a Career” section leader. A program to introduce middle schoolers to a wide variety of different careers. Dec 2, 2016.

2016 Expanding Your Horizons conference, “Holey Cow” workshop leader, Cornell University. A program to stimulate interest in the STEM fields for middle and high school girls. Apr 30, 2016.

2014-2015 Historian and Social Chair, Sustainable Agriculture Graduate Student Association, North Carolina State University.

2014 Animal Science Department Event Volunteer Assistant and Photographer

2014 Assistant in hosting students from the Universidad Intercultural Maya de Quintana Roo agroecology program.

2014-2015 Journal Club, North Carolina State University.

2014-2015 Soil Ecology and Management Team, North Carolina State University.

2014 Graduate student panel for the development of the Food Security course. North Carolina State University.

2013-2015 Creator and manager of the NCSU Amazing Grazing Facebook page.

2013-2015 North Carolina State University Graduate Student Association.

MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

American Society of Agronomy (ASA), 2015-present

Crop Science Society of America (CCSA), 2015-present

Soil Science Society of America (SSSA), 2015-present

American Society of Animal Science (ASAS), 2013-2015, 2017-present

Sustainable Agriculture Education Association (SAEA), 2014-2015

North American Colleges and Teachers of Agriculture (NACTA) 2015-2016