

**RENATA NAVE OAKES, Ph.D.**  
**Assistant Professor**  
**Forage Systems and Management**

**Contact Information**

University of Tennessee  
Department of Plant Sciences  
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**Education**

**Doctorate of Philosophy, Crop Science** 2012  
The Ohio State University, Columbus/OH  
Dissertation: Forage biomass and nutritive value dynamics of a mixed cool-season grass sward across seasons.  
Areas of concentration: Forage Systems and Management  
Advisors: Dr. R. Mark Sulc and Dr. David J. Barker

**Masters of Science, Agronomy** 2007  
University of Sao Paulo (USP/Esalq), Piracicaba/Sao Paulo/Brazil  
Thesis: Physical characterization and nutritive value of Xaraés palisadegrass [*Brachiaria brizantha* (Hochst ex A. RICH.) STAPF.] as affected by rotational grazing systems.  
Areas of concentration: Forages and Grasslands, Ruminant Nutrition  
Advisor: Dr. Carlos Guilherme Silveira Pedreira

**Bachelor of Science, Agronomy** 2004  
Sao Paulo State University (UNESP), Botucatu/Sao Paulo/Brazil  
Undergraduate Research: Evaluation of super-precocious steers growth with different genotypes and frame size through the ultrasound technique.  
Advisor: Dr. Mario de Beni Arrigoni

**Professional Experience**

**Assistant Professor** – *University of Tennessee, Knoxville TN* May 2013 – Present  
Forage Systems and Forage Management  
My professional goal is to develop science-based solutions to address livestock and crop systems, focusing on forage production management problems by increasing sustainability through improved forage quality and management practices. As a researcher and educator my professional interests include: answering critical issues expressed by livestock and crop producers, agricultural professionals, and extension educators; finding and identifying problems not yet recognized by producers and develop strategies to mitigate these issues; evaluating new technology; and providing novel educational tools to disseminate scientific findings to my clientele.

My current research program has been focused on improved forage systems and management including: improved forage quality and nutritive value, grazing season extension to reduce feeding costs, forage stockpiling and alternative year-round grazing systems, sustainable forage production and fertilization by introducing forage legumes (e.g. cowpea), and integrated crop/livestock systems (in partnership with Brazilian institutions).

**Post-Doctoral Teaching Associate** – *Oklahoma State University, Stillwater OK* Sep. 2012 – May 2013  
Teaching, planning and development of undergraduate courses for approximately 300 students from the Plant and Soil Science Department and Animal Science Department.

**Graduate Research Assistant** – *The Ohio State University, Columbus OH* March 2008 – June 2012  
Forage systems, production and management research including design, setup, data collection and analysis followed by dissemination of results through publications and extension outreach to scientific community and livestock producers.

**Graduate Research Assistant** – *University of Sao Paulo, Piracicaba SP Brazil* Feb. 2006 – Nov. 2007  
Forage management research including proposal writing, laboratory analysis and data collection, followed by dissemination of results through peer-reviewed publications.

**Sales Assistant** – *Cargill Inc., Rio Verde GO Brazil* Jan. – June 2005  
Soybean meal domestic sales responsibilities as well as planning and advising soybean and livestock producers.

**Ruminant Nutrition Internship** – *Nuclear Energy in Ag. Center, Piracicaba SP Brazil* Jan. – Feb. 2004  
Beef cattle nutrition internship focused on forage quality and methane production analysis.

**Ag Extension Internship** – *Boviplan Extension, Piracicaba SP Brazil* June – Dec. 2004  
Extension and outreach internship focused on livestock production, project development and animal nutrition alternatives.

**Beef Cattle Production Internship** – *Aurora Farms, Santa Cruz das Palmeiras SP Brazil* Jan. 2003  
Farming internship focused on the daily operations of a beef cattle production system.

**Department of Animal Science Internship** – *University of California, Davis CA* Dec. 2001 – Feb 2002  
Ruminant nutrition research internship focused on beef cattle production and meat quality.

**Forage Production Internship** – *Witmarsum Agricultural Coop., Palmeiras PR Brazil* Jan. – Feb. 2001  
Extension and outreach internship focused on accompanying the daily operations at a Coop in the South of Brazil, such as consulting.

**Animal Science Internship** – *Animal Science Dept. UNESP, Botucatu SP Brazil* Feb. 2001 – Dec. 2003  
Internship focused on the various livestock production systems at the Research Centers from UNESP, which included swine, equine, sheep and beef cattle feedlots.

### **Extension and Teaching**

#### **Member – The Livestock and Forage Leadership Team**

Livestock and Forage Systems include multiple livestock industries and the forage resources required for their existence in the state of Tennessee. This focus area combines educational programs and application-based research for improving livestock production and management. It delivers this information to both adult and youth livestock owners to ensure sustainable information transfer that will improve the livelihoods of Tennesseans that produce meat, milk and fiber.

#### **Extension Publications**

- M.P. Silva, [Nave, R.L.G.](#), Bates, G.E. 2018. No-till establishment of alfalfa. UT Extension Publications SP 435-B.
- G. E. Bates, A. Rius, J. Rhinehart, [Nave, R. L. G.](#), J. T. Mulliniks and D. W. McIntosh. 2015. Forage Analysis Definitions. UTIA Extension Publications SP 774.
- [Nave, R. L. G.](#), G. E. Bates, D. Corbin, and D. W. McIntosh. 2014. Cool-Season Annual Grass Report. UT Extension and Research Report 14-11.
- G. E. Bates, D. W. McIntosh, and [Nave, R. L. G.](#) 2014. Warm-Season Annual Grass Report. UT Extension and Research Report 14-12.

#### **Extension Presentations**

- Spring seeding winter annuals as emergency forage crop. 2019. Tennessee Forage and Grassland Council. Oral. Nashville, TN.
- Adding Legumes to Grass Systems, Does it Work? 2019. Plateau Research and Education Center Steak and Potatoes Field Day. Oral. Crossville, TN.
- Plant Science and Forage Basic Concepts. 2019. Hampshire Unit School Externship. Oral. Spring Hill.
- Forage Research Studies. Maury County Leadership Team Meeting. 2019. Oral. Spring Hill, TN.
- Using alfalfa in tall fescue and bermudagrass. 2019. West TN Forage Conference. Oral. Jackson, TN.
- Updates on forage research at MTREC. 2018. Hay Day. Oral. Spring Hill, TN.
- Forage Management and Systems Research Program. 2018. UTIA Fellows Program. Oral. Spring Hill, TN.

- Alfalfa as nitrogen source for cool and warm-season grasses. 2017. Beef and Forage Center Research and Recommendation Meeting. Oral. Knoxville, TN.
- Using alfalfa in a grass-legume mix. 2017. Tennessee Forage and Grassland Council, Nashville, TN.
- Alfalfa research and production. 2017. Dairy and Forage Field Day, Piedmont Research Station, Salisbury, NC.
- Pasture management strategies. 2017. Tobacco, Beef and More Field Day and Trade Show, HRREC, Springfield, TN.
- Intercropping corn and forage: a possible alternative. 2016. Tennessee Forage and Grassland Council, Nashville, TN.
- Extending the grazing season. 2016. Northeast Tennessee Beef Expo. RECG, Greeneville, TN.
- Grazing stockpiled fescue. 2015. Fall Forage Field Day. MTREC, Spring Hill, TN.
- Sustainable alternatives to N fertilization in tall fescue pastures for cow-calf production systems. 2015. Tobacco, Beef and More Field Day and Trade Show, HRREC, Springfield, TN.
- Yearlong grazing: alternatives to feeding systems. 2015. The Roane Grazing for Profit Conference, Harriman, TN.
- Cutting nitrogen costs on bermudagrass. 2014. Tennessee Forage and Grassland Council, Nashville, TN.
- Updates on UT Forage Systems. 2014. Plateau Research and Education Center Field Day, Crossville, TN.
- Understanding Forage Quality. 2013. Tennessee Forage and Grassland Council, Nashville, TN.
- Video presentation – Beef and Forage Center Website: UT Department of Plant Sciences: An introduction to Dr. Renata Nave. 2013. <http://utbfc.utk.edu/Videos.html>

### Courses Taught

- Co-Instructor – Multi-university (University of Tennessee, University of Missouri, Virginia Tech and Texas Tech). Summer Semester 2018  
Course: Ecology of Grazing Lands System with 25 graduate students
- Guest Lecturer –Middle Tennessee State University, Murfreesboro TN Fall Semester 2017  
Course: Forage Crops with approximately 35 graduate and undergraduate students
- Guest Lecturer – University of Tennessee, Knoxville TN Fall Semester 2017  
Course: Forage and Field Crops with approximately 45 graduate and undergraduate students
- Guest Lecturer – University of Tennessee, Knoxville TN Spring Semester 2017  
Course: World Food and Fiber Production with approximately 50 undergraduate students
- Guest Lecturer – University of Tennessee, Knoxville TN Spring Semester 2016  
Course: World Food and Fiber Production with approximately 50 undergraduate students
- Guest Lecturer – University of Tennessee, Knoxville TN Fall Semester 2015  
Course: Comparative Animal Nutrition with approximately 100 undergraduate students
- Guest Lecturer – University of Tennessee, Knoxville TN Fall Semester 2015  
Course: Forage and Field Crops with approximately 20 graduate and undergraduate students
- Co-Instructor – Multi-university (University of Tennessee, University of Missouri, Virginia Tech and Texas Tech). Summer Semester 2015  
Course: Ecology of Grazing Lands System with 25 graduate students
- Guest Lecturer – University of Tennessee, Knoxville TN Spring Semester 2015  
Course: World Food and Fiber Production with approximately 50 undergraduate students
- Guest Lecturer – University of Tennessee, Knoxville TN Spring Semester 2015  
Course: Nutrient Evaluation and Ration Formulation with approximately 40 graduate and undergraduate students
- Guest Lecturer – University of Tennessee, Knoxville TN Fall Semester 2013  
Course: Forage and Field Crops with approximately 20 graduate and undergraduate students
- Instructor – Oklahoma State University, Stillwater OK Spring Semester 2013  
Course: Plant Sciences with approximately 120 undergraduate students
- Instructor – Oklahoma State University, Stillwater OK Spring Semester 2013  
Course: Sustainable Agriculture with approximately 10 undergraduate students
- Instructor – Oklahoma State University, Stillwater OK Fall Semester 2012  
Course: Plant Sciences with approximately 300 undergraduate students
- Teaching Assistant – The Ohio State University, Columbus OH Winter Quarter 2012  
Course: Data Analysis with approximately 40 undergraduate students
- Teaching Assistant – The Ohio State University, Columbus OH Spring Quarter 2011  
Course: Forages and Grasslands with approximately 20 undergraduate students

- Teaching Assistant – The Ohio State University, Columbus OH Fall Quarter 2010  
Course: Weed Science with approximately 30 undergraduate students
- Teaching Assistant – The Ohio State University, Columbus OH Winter Quarter 2009  
Course: Plant Responses to the Environment with approximately 40 undergraduate students
- Teaching Assistant – The Ohio State University, Columbus OH Fall Quarter 2008  
Course: Seed Science with approximately 30 undergraduate students

### **Student Mentoring**

1. Marcia Quinby – PhD Student, 2019 to date
2. Jonathan Kubesch, Master Student, 2018 to date
3. M. Dereck Corbin, PhD Student, 2018 to date
4. Marcia Quinby – Master Student, 2017 to 2018
5. Neal Wepking – Master Student, 2016 to 2017
6. Thais Costa – Undergraduate Intern, Summer 2015
7. M. Dereck Corbin – Master Student, 2014 to 2017
8. Rondineli Pavezzi Barbero – Doctorate/Visiting Scholar – July 2014 to July 2015
9. Lilian Anqueli Cordeiro da Silva – Undergraduate Intern, Summer 2014
10. Ludmila de Souza Monteiro – Undergraduate Intern, Summer 2014
11. Christine Gelley – Master Student, 2013 to 2015
12. Jason Rethman – Undergraduate Intern, Summer 2011/2012
13. Gina Yaple – Undergraduate Intern, Summer 2009/2010
14. Ricardo Sa – Undergraduate Intern, Summer 2007
15. Daniel Colucci – Undergraduate Intern, July 2006 to November 2007
16. Felipe Curcelli – Undergraduate Intern, June 2006 to November 2007
17. Cacilia Leonelli – Undergraduate Intern, January 2006 to November 2007

### **Publications**

#### ***Refereed and Peer-reviewed Manuscripts (26)***

Names with an asterisk “\*” were graduate students, postdocs, or visiting scholars who were advised by Dr. Nave.

**Nave, R.L.G.**, M.P. Quinby, A. Griffith, M.D. Corbin, and G.E. Bates. 2019. Forage yield and nutritive value of tall fescue and sorghum-sudangrass interseeded with cowpea at different seeding rates. *Crop Forage and Turfgrass Management*. (under minor revisions)

Barbero, R.P.\*, E.B. Malheiros, N.M. Aguilar, E.P. Romanzini, A.C. Ferrari, **R.L.G. Nave**, J.T. Mulliniks, R.A. Reis. 2019. Supplementation level increasing dry matter intake of beef cattle grazing low herbage height. *Journal of Applied Animal Research*. (under minor revisions).

Quinby, M.P.\*, **R.L.G. Nave**, G.E. Bates, and D. McIntosh. 2019. Harvesting frequencies effects on persistence of alfalfa grown as a monoculture or as a mixture in the Southeastern U.S. *Crop Forage and Turfgrass Management*. (under minor revisions)

Tilhou, N.W.\*, **R.L.G. Nave**, S. Jagadamma, N. Eash, and J.T. Mulliniks. 2019. Forage species, grassland management, and season impact labile soil C and N in southeastern United States grasslands. *Grassland Science*. (in review)

Cui X., Z. Li, Q. Wu, D. Campbell, N. Rajan, S. Nair, T. Pirtle, J. Bai, A. Nevins, F. Walker, S. Jagadamma, **R. L. G. Nave**, J. Kubesch, G. Bates, D. McIntosh, N. Phillips. 2019. Carbon flux and evapotranspiration of a cool-season grass dominated native prairie in the climate transition zone in the U.S. *Journal of Cleaner Production*. (in review)

Gelley, C.H.\*, Ashworth, A., P. Keyser, **R.L.G. Nave**, and J. Rhinehart. Water-use efficiency of annual and perennial warm-season forage grasses. *Grass and Forage Sci*. (in review).

**Nave, R. L. G.**, and M. D. Corbin\*. 2019. Seasonal and diurnal relationship of forage quality and mass in a tall fescue pasture under continuous stocking. *Grassland Sci*. doi.org/10.1111/grs.12231.

Tilhou, N.W.\*, **R.L.G. Nave**, McFarlane, Z.D., and Mulliniks, J.T. 2019. Winter grazing stockpiled native warm-season grasses in the Southeastern United States. *Grass and Forage Sci.* doi.org/10.1111/gfs.12402.

**Nave, R.L.G.**, and M.D. Corbin\*. 2018. Forage warm-season legumes and grasses intercropped with corn as an alternative for corn silage production. *Agronomy*. doi:10.3390/agronomy8100199.

Corbin, M.D.\*, **R.L.G. Nave**, G. E. Bates, D. M. Butler, and S. A. Hawkins. 2018. Alternatives to conventional nitrogen fertilization on tall fescue and bermudagrass. *Agronomy Journal*. doi:10.2134/agronj2018.03.0190.

McFarlane, Z.D. E.R. Cope, J.D. Hobbs, **R. Nave-Oakes**, K.G. Pohler, and J.T. Mulliniks. 2018. Winter grazing of stockpiled native forages during heifer development delays body weight gain without influencing final pregnancy rates. *Journal of Animal Science*. <http://doi.org/10.1093/jas/sky340>.

Tilhou, N.W.\*, and **R.L.G. Nave**. 2018. Improving nutritive value of native warm-season grasses with the plant growth regulator Trinexapac-ethyl. *Agronomy Journal*. doi:10.2134/agronj2018.03.0179.

McFarlane, Z.D. R.P. Barbero, **R.L.G. Nave**, E.B. Malheiros, R.A. Reis, and J.T. Mulliniks. 2017. Effect of forage species and supplement type on rumen kinetics and serum metabolites in growing beef heifers grazing winter forage. *Journal of Animal Science*. doi:10.2527/jas2017/1780.

Gelley, C.H.\*, **R.L.G. Nave**, and G.E. Bates. 2017. Influences of height based management on forage nutritive value of four warm-season forage grasses. *Crop, Forage & Turfgrass Management*. doi:10.2134/cftm2016.10.0067.

Barbero, R.P.\*, E.B. Malheiros, **R.L.G. Nave**, J.T. Mulliniks, L.M. Delevatti, J.F.W. Koscheck, E.P. Romanzini, A.C. Ferrari, D.M. Renesto, T.T. Berchielli, A.C. Ruggieri, and R.A. Reis. 2017. Influence of post-weaning management system during the finishing phase on grasslands or feedlot on aiming to improvement of the beef cattle production. *Agricultural Systems*. 153:23-31.

**Nave, R.L.G.**, R.P. Barbero\*, C.N. Boyer, M.D. Corbin\*, and G.E. Bates. 2016. Nitrogen rate and initiation date effects on stockpiled tall fescue during fall grazing in Tennessee. *Crop, Forage & Turfgrass Management*. doi:10.2134/cftm2015.0174.

**Nave, R.L.G.**, R.P. Barbero\*, C.N. Boyer, M.D. Corbin\*, and J.T. Mulliniks. 2016. Poultry litter as a sustainable fertilizer for stockpiled tall fescue during winter grazing in Middle Tennessee. *Crop, Forage & Turfgrass Management*. doi:10.2134/cftm2015.0187.

Gelley, C.H.\*, **R.L.G. Nave**, and G.E. Bates. 2016. Forage nutritive value and herbage mass relationship of four warm-season grasses. *Agronomy Journal*. doi:10.2134/agronj2016.01.0018.

Barbero, R.P.\*, E.B. Malheiros, T.L. da Ros de Araujo, **R.L.G. Nave**, J.T. Mulliniks, T.T. Berchielli, A.C. Ruggieri, and R.A. Reis. 2015. Combining Marandu grass grazing height and supplementation level to optimize growth and productivity of yearling bulls. *Animal Feed Science & Technology*. doi.org/10.1016/j.anifeedsci.2015.09.010.

Mulliniks, J.T., A.G. Rius, M.A. Edwards, S.R. Edwards, J.D. Hobbs, and **R.L.G. Nave**. 2015. Improving efficiency of production in pasture-and range-based beef and dairy systems. *Journal of Animal Science*. doi:10.2527/jas2014/8595.

**Nave, R.L.G.**, R.M. Sulc, and D.J. Barker. 2014. Changes in forage nutritive value among vertical strata of a cool-season grass canopy. *Crop Science*. doi:10.2135/cropsci2014.01.0018.

**Nave, R.L.G.**, R.M. Sulc, and D.J. Barker. 2013. Relationship of forage nutritive value to cool-season grass canopy characteristics. *Crop Science*. doi:10.2135/cropsci2012.04.0236.

Ferraro F.P., **R.L.G. Nave**, R.M. Sulc, and D.J. Barker. 2012. Seasonal Variation in the Rising Plate Meter Calibration for Forage Mass – *Agronomy Journal*. doi:10.2134/agronj2011.0190.

Barker, D.J., F.P. Ferraro, **R.L.G. Nave**, R.M. Sulc, F. Lopes, and K. Albrecht. 2010. Analysis of Herbage

Mass and Herbage Accumulation Rate Using Gompertz Equations. *Agronomy Journal*.  
doi:10.2134/agronj2009.0381.

**Nave, R.L.G.**, C.G.S. Pedreira, and B.C. Pedreira. 2010. Nutritive value and physical characteristics of Xaraés palisadegrass as affected by grazing strategies – *South African Journal of Animal Science*. 40: 4: 285-293.

**Nave, R.L.G.**; C.G.S. Pedreira; C.G. Lima. 2009. Canonical correlations among chemical, physical and morphological characteristics of Xaraes palisadegrass [*Brachiaria brizantha* (hochst ex a. rich.) stapf. cv. xaraés] under rotational grazing - *Scientia Agricola*. 66: 2: 270-275.

### ***Book Chapters (2)***

Xu, S., S. Jagadamma, **R.L.G. Nave**, S. Cui, E. Byers, and Z. Li. 2019. Potential and Challenges of Growing Cover Crops in Organic Production Systems. In: *Cover Crops and Sustainable Agriculture*, The Ohio State University. (in review).

**Nave, R.L.G.** and D. Hancock. 2019. Forage Systems for Humid Transition Areas. In: 7th Edition of *Forages*, Volume II, The Science of Grassland Agriculture. (in press).

### ***Proceedings and Scientific Abstracts (46)***

Kubesch, J., and **R.L.G. Nave**, G. E. Bates, S. Cui, and D.M. Butler. 2019. Forage species selection for transitional organic production in Middle Tennessee. International Annual Meetings ASA-CSSA-SSSA – San Antonio/TX.

Bracey, W., V. Sykes, G. E. Bates, **R.L.G. Nave**, and X. Yin. 2019. Comparison of dual-use and single-use cover crops in no-till Tennessee production systems. International Annual Meetings ASA-CSSA-SSSA – San Antonio/TX.

**Nave, R. L. G.** 2018. Intercropping corn silage with cowpea, sunn hemp and crabgrass. International Annual Meetings ASA-CSSA – Baltimore/MD.

Bracey, W., V. Sykes, A. Willette, L. Steckel, G. E. Bates, **R.L.G. Nave**, and D. M. Butler. 2018. Economic and environmental impact of multi-use cover crop species in Tennessee no-till soybean/corn rotations. International Annual Meetings ASA-CSSA – Baltimore/MD.

Da Silva, M., and **R.L.G. Nave**. 2018. Nutritive value and forage accumulation of alfalfa and alfalfa-mixtures influenced by forage management. International Annual Meetings ASA-CSSA – Baltimore/MD.

Wepking, N.R., **R.L.G. Nave**, Z.D. McFarlane, and J.T. Mulliniks. 2017. Stockpiling native warm-season grasses in the Mid-South. International Annual Meetings ASA-CSSA-SSSA – Tampa/FL.

McFarlane, Z.D. R.P. Barbero, **R.L.G. Nave**, E.B. Maheiros, R.A. Reis, and J.T. Mulliniks. 2017. Effect of forage species and supplement type on rumen kinetics and serum metabolites in developing beef heifers grazing winter forage. Joint Annual Meeting ADSA-ASAS – Baltimore, MD.

Wepking, N., **R.L.G. Nave**, Z. McFarlane, and J.T. Mulliniks. 2017. Assessing plant and soil responses to stockpiling native warm season grasses. 2017 American Forage and Grassland Council Conference – Roanoke/VA.

**Nave, R. L. G.**, and C. H. Gelley. 2016. Cutting strategy effects on forage mass accumulation of four warm-season grass species. International Annual Meetings ASA-CSSA-SSSA – Phoenix/AZ.

McFarlane, Z. D., J. D. Hobbs, E. R. Cope, **R. L. G. Nave**, and J. T. Mulliniks. 2016. Heifer development using stockpiled, dormant native forages delays gain without altering reproductive performance. Joint Annual Meeting ADSA-ASAS – Salt Lake City/UT.

**Nave, R. L. G.**, and C. H. Gelley. 2015. Initiation date and cutting strategy effects on bermudagrass herbage mass and nutritive value. International Annual Meetings ASA-CSSA-SSSA – Minneapolis/MN.

Edwards, S. R., J. D. Rhinehart, **R. L. G. Nave** and J. T. Mulliniks. 2015. Impact of milk production level on cow-calf productivity in Tennessee. Southern Section, American Society of Animal Science. Atlanta, GA.

Edwards, S. R., **R. L. G. Nave**, J. D. Rhinehart and J. T. Mulliniks. 2015. Developing heifers on stockpiled, dormant native forages delays gain without altering reproductive performance. Southern Section, American Society of Animal Science, Atlanta, GA.

**Nave, R. L. G.**, J. T. Mulliniks, G. E. Bates and L. S. Monteiro. 2014. Effects of nitrogen source on nutritive value of stockpiled tall-fescue under grazing. International Annual Meetings ASA-CSSA-SSSA – Long Beach/CA.

Barbero, R. P., **R. L. G. Nave** and J. T. Mulliniks. 2014. Effect of forage species on the rumen microbial population to estimate methane production. International Annual Meetings ASA-CSSA-SSSA – Long Beach/CA.

Silva, L. A. C., C. Costa, P. R. L. Meirelles, M. A. Facion and **R. L. G. Nave**. 2014. Productivity and morphological characteristics of corn as a function of maturity stage and cutting height for silage production. International Annual Meetings ASA-CSSA-SSSA – Long Beach/CA.

Gelley, C., **R. L. G. Nave** and G. E. Bates. 2014. Nutritive value of switchgrass and sudex as influenced by forage management. 2014. International Annual Meetings ASA-CSSA-SSSA – Long Beach/CA.

van Santen, E., B. Ortiz, W. Alison, A. Blount, V. A. Corriher, D. W. Hancock, **R. L. G. Nave**, L. R. Nelson, J. K. Rogers and S. R. Smith Jr. 2014. Effect of ENSO phase on seasonal forage yield of annual ryegrass. International Annual Meetings ASA-CSSA-SSSA – Long Beach/CA.

Mulliniks, J. T., A. G. Rius, M. A. Edwards, K. B. Brantley, S. R. Edwards and **R. L. G. Nave**. 2014. Improving efficiency of production in pasture/range based beef and dairy systems. Joint Annual Meeting of ADSA, ASAS and CSAS – Kansas City/MO.

**Nave, R. L. G.**, R. M. Sulc and D. J. Barker. 2013. Forage nutritive value changes in a stratified canopy of a mixed cool-season grass sward affected by season. 22<sup>nd</sup> International Grassland Congress – Sydney/Australia.

**Nave, R. L. G.**, R. M. Sulc and D. J. Barker. 2012. Daily losses of forage nutritive value in strata of a mixed cool-season grass sward during grazing. International Annual Meetings ASA-CSSA-SSSA – Cincinnati/OH.

Pedreira, B. C., Pedreira, B. C., C. G. S. Pedreira, **R. L. G. Nave**, M. A. S. Lara. 2012. Palisadegrass pastures under grazing: organic reserve responses to grazing strategies. International Annual Meetings ASA-CSSA-SSSA – Cincinnati/OH.

D.J. Barker, R.M. Sulc, **R. L. G. Nave**, and F.P. Ferraro. 2011. Use of pasture mass as a predictor of herbage accumulation rate, and some implications for pasture management. AFGC – Berea/KY.

**Nave, R. L. G.**, R. M. Sulc and D. J. Barker. 2009. Forage biomass and nutritive value dynamics of a mixed cool-season grass sward across seasons. Graduate Student Competition – Research Retreat – Department of Horticulture and Crop Science – Wooster/OH.

Ferraro, F. P., R. M. Sulc, D. J. Barker, **R. L. G. Nave**, F. Lopes, and K.A. Albrecht. 2009. Seasonal effects on rising plate meter calibration for forage. AFGC – Grand Rapids/MI.

Barker, D. J., F. P. Ferraro, W. S. Klooster, **R. L. G. Nave**, S. Short, and S. L. Wedryck. 2009. Spatial patterns in grassland at local and landscape scales. AFGC – Grand Rapids/MI.

Pedreira, B. C., C. Leonelli, **R. L. G. Nave**, A. M. Debiazzi, D. N. L. Pequeno, F. Tonato and C. G. S. Pedreira. 2009. Reserve components of Xaraes palisadegrass under rotational grazing: 1. Nitrogen. 46<sup>o</sup> Annual Meeting Brazilian Society of Animal Science – Maringa/Brazil.

**Nave, R. L. G.**, and C. G. S. Pedreira. 2008. Xaraes Palisadegrass forage under rotational grazing systems: Physical Characteristics and Nutritive Value. International Annual Meetings ASA-CSSA-SSSA – Houston/TX.

Curcelli, F., B. C. Pedreira, C. G. S. Pedreira, C. Leonelli, **R. L. G. Nave** and M. A. S. Lara. 2007. Xaraés palisadegrass [*Brachiaria brizantha* (A. Rich.) Stapf. cv. Xaraés] under rotational grazing: leaf photosynthesis and sward potential assimilation modeling. 45° Annual Meeting Brazilian Society of Animal Science – Jaboticabal/Brazil.

Pedreira, B. C., C. G. S. Pedreira, **R. L. G. Nave**, C. Leonelli, D. Colucci and M. A. S. Lara. 2007. Agronomic performance of Xaraés palisadegrass [*Brachiaria brizantha* (A. Rich.) Stapf. cv. Xaraés] under rotational grazing. 45° Annual Meeting Brazilian Society of Animal Science – Jaboticabal/Brazil.

Pedreira, B. C., C. G. S. Pedreira, **R. L. G. Nave**, C. Leonelli, M. A. S. Lara and F. Tonato. 2007. Structural characteristics of Xaraés palisadegrass [*Brachiaria brizantha* (A. Rich.) Stapf. cv. Xaraés] under rotational grazing. 45° Annual Meeting Brazilian Society of Animal Science – Jaboticabal/Brazil.

Leonelli, C., B. C. Pedreira, D. Colucci, M. A. S. Lara, **R. L. G. Nave** and C. G. S. Pedreira. 2007. Sward photosynthesis modeling of Xaraés palisadegrass [*Brachiaria brizantha* (A. Rich.) Stapf. cv. Xaraés] under rotational grazing. In: XV International symposium of scientific initiation – USP. Pirassununga-SP-Brazil.

Sa, R. J. F., **R. L. G. Nave**, C. Leonelli, B. C. Pedreira, M. A. S. Lara and C. G. S. Pedreira. 2007. Shear strength of Xaraés palisadegrass [*Brachiaria brizantha* (Hochst ex A. RICH.) STAPF.] forage as affected by rotational grazing systems. In: XV International symposium of scientific initiation – USP. Pirassununga-SP-Brazil.

Leonelli, C., B. C. Pedreira, D. Colucci, F. Tonato, **R. L. G. Nave** and C. G. S. Pedreira. 2007. Forage accumulation and morfologic composition during regrowth in Xaraes palisadegrass [*Brachiaria brizantha* cv. Xaraés] in response to strategies of rotational grazing. In: XV International symposium of scientific initiation – USP. Pirassununga-SP-Brazil.

Debiazzi, A. M., M. A. S. Lara, C. Leonelli, **R. L. G. Nave**, B. C. Pedreira and C. G. S. Pedreira. 2007. Leaf and sward photosynthesis of five *Brachiaria spp.* cultivars. In: XV International symposium of scientific initiation – USP. Pirassununga-SP-Brazil.

Colucci, D., B. C. Pedreira, C. Leonelli, F. Curcelli, **R. L. G. Nave** and C. G. S. Pedreira. 2007. Sward architecture and productivity in Xaraes palisadegrass in response to strategies of rotational grazing. In: XV International symposium of scientific initiation – USP. Pirassununga-SP-Brazil.

Leonelli, C., M. A. S. Lara, D. Colucci, B. C. Pedreira, **R. L. G. Nave**, F. Curcelli and C. G. S. Pedreira. 2006. Forage yield and sward height of *Panicum spp.* cultivars. In: XIV International symposium of scientific initiation – USP. Piracicaba-SP-Brazil.

Curcelli, F., B. C. Pedreira, M. A. S. Lara, C. Leonelli, **R. L. G. Nave**, M. G. Faustino and C. G. S. Pedreira. 2006. Leaf photosynthesis in Xaraés palisadegrass [*Brachiaria brizantha* (A. Rich.) Stapf. cv. Xaraés]. In: XIV International symposium of scientific initiation – USP. Piracicaba-SP-Brazil.

Curcelli, F., B. C. Pedreira, **R. L. G. Nave**, M. A. S. Lara, C. Leonelli, D. Colucci and C. G. S. Pedreira. 2006. Forage characteristics in the stubble postgraze in Xaraés palisadegrass [*Brachiaria brizantha* (A. Rich.) Stapf. cv. Xaraés] under rotational grazing. In: XIV International symposium of scientific initiation – USP. Piracicaba-SP-Brazil.

Leonelli, C., B. C. Pedreira, F. Tonato, M. A. S. Lara, F. Curcelli, **R. L. G. Nave**, F. Curcelli and C. G. S. Pedreira. 2006. Leaf Photosynthetic responses of *Panicum* grasses to light intensity. In: XIV International symposium of scientific initiation – USP. Piracicaba-SP-Brazil.

Colucci, D., B. C. Pedreira, C. Leonelli, M. A. S. Lara, **R. L. G. Nave**, F. Tonato and C. G. S. Pedreira. 2006. Herbage mass, forage morphological composition, and leaf area index pre-grazing in Xaraés palisadegrass [*Brachiaria brizantha* (A. Rich.) Stapf. cv. Xaraés] under rotational grazing. In: XIV International symposium of scientific initiation – USP. Piracicaba-SP-Brazil.



Colucci, D., B. C. Pedreira, F. Curcelli, C. Leonelli, M. A. S. Lara, **R. L. G. Nave**, F. Tonato and C. G. S. Pedreira. 2006. Sward structure and forage production of Xaraés palisadegrass [*Brachiaria brizantha* (A. Rich.) Stapf. cv. Xaraés] under rotational grazing. In: XIV International symposium of scientific initiation – USP. Piracicaba-SP-Brazil.

Salomao, K., B. C. Pedreira, F. Tonato, M. G. Faustino, C. Leonelli, **R. L. G. Nave** and C. G. S. Pedreira. 2005. Leaf area index, leaf angles, and sward light interception of irrigated oats and ryegrass, in pure and mixed stands, under two clipping managements. In: XIII International symposium of scientific initiation – USP. Piracicaba-SP-Brazil.

Salomao, K., B. C. Pedreira, M. A. S. Lara, **R. L. G. Nave**, D. Barthman-Neto, L. S. Barros and C. G. S. Pedreira. 2005. Leaf photosynthesis of Tobiatã guineagrass is affected by the measured portion of the leaf blade. In: XIII International symposium of scientific initiation – USP. Piracicaba-SP-Brazil.

Barthman-Neto, D., B. C. Pedreira, L. S. Barros, M. G. Faustino, **R. L. G. Nave**, M. A. S. Lara and C. G. S. Pedreira. 2005. Productivity and the use of sward height as an estimator of forage mass in *Panicum spp.* grasses. In: XIII International symposium of scientific initiation – USP. Piracicaba-SP-Brazil.

**Nave, R. L. G.**, M. B. ARRIGONI. 2003. Corporal evaluation of tissue growth of young bulls of different genotypes and sizes (Frame size) for the technique of ultrasound. In: XV Congress of scientific initiation – UNESP. Marília-SP-Brazil.

#### *Scientific Oral Presentations (6)*

**Nave, R. L. G.**, R. M. Sulc and D. J. Barker. 2011. Using the correlation of forage nutritive value and morphological composition to manage a cool-season grass sward. Graduate Student Competition –International Annual Meetings ASA-CSSA-SSSA – San Antonio/TX.

**Nave, R. L. G.**, R. M. Sulc and D. J. Barker. 2010. Seasonal Changes in Forage Quality of a Mixed Cool-Season Grass Sward. Graduate Student Competition – International Annual Meetings ASA-CSSA-SSSA – Long Beach/CA.

**Nave, R. L. G.**, R. M. Sulc and D. J. Barker. 2010. Seasonal Changes in Forage Quality in Strata of a Mixed Cool-Season Grass Sward. Graduate Student Competition – Research Retreat – Department of Horticulture and Crop Science – Columbus/OH.

**Nave, R. L. G.**, C. G. S. Pedreira, C. G. Lima. 2009. Canonical Correlations Among Forage Quality Traits of Palisadegrass Under Rotational Grazing. International Annual Meetings ASA-CSSA-SSSA – Pittsburgh/PA.

**Nave, R. L. G.**, R. M. Sulc and D. J. Barker. 2009. Relationship Between Biomass Accumulation and Forage Quality in a Mixed Cool-Season Grass Sward. Graduate Student Competition –International Annual Meetings ASA-CSSA-SSSA – Pittsburgh/PA.

**Nave, R. L. G.**, S. Loerch, R. M. Sulc, D. J. Barker. Nitrogen Fertilization Effects on Full Season Corn for Winter Grazing by Gestating Ewes. 2009. Graduate Student Competition – AFGC – Grand Rapids/MI.

### **Grantsmanship and Funding**

#### **Completed**

<b>Grant</b>	<b>Grant Total</b>	<b>Candidate's Portion</b>
1. <b>Nave, R.L.G.</b> , G.E. Bates, D.J. Barker, R.M. Sulc, and M. Castillo. 2014. Nutritive value and forage accumulation of alfalfa and alfalfa-mixtures as influenced by forage management. USDA-NIFA (Alfalfa and Forage Research Program. Sep. 2014 – Dec. 2018.	\$156,287	\$106,994
2. Mulliniks, J.T., G.E. Bates, <b>R.L.G. Nave</b> , C. Boyer, J.D. Rhinehart, N. Eash, and P.D. Keyser. USDA-NRCS (Conservation Innovation Grant). Sep. 2014 – Oct. 2018.	\$396,911	\$75,000

3. Sykes, V., Yin, X., <b>Nave, R.L.G.</b> , Steckel, L., Bates, G.E., and Butler, D. Economic and environmental impact on multi-use cover crop species in Tennessee no-till soybean/corn rotations. United Soybean Board. Sep. 2017 – Aug. 2018.	\$167,909	\$11,800
4. <b>Nave, R.L.G.</b> 2018. Travel support to attend professional meeting with abstract. UTIA AgResearch. 2018.	\$1,500	\$1,500
5. <b>Nave, R.L.G.</b> 2016. Support to host NC-1182 Multistate meeting. UTIA AgResearch. 2017.	\$500	\$500
6. <b>Nave, R.L.G.</b> 2016. Travel support to attend professional meeting with abstract. UTIA AgResearch. 2016.	\$1,500	\$1,500
7. <b>Nave, R.L.G.</b> 2015. Travel support for faculty visits to federal agencies. UTIA AgResearch. 2015.	\$2,000	\$2,000
8. <b>Nave, R.L.G.</b> 2015. Travel support to attend professional meeting with abstract. UTIA AgResearch. 2015.	\$1,500	\$1,500
9. Keyser, P.D., G.E. Bates, J.T. Mulliniks, K. Lewis, and <b>R.L.G. Nave</b> . 2014. Fescue-Belt forage innovation: improving system sustainability through integration of warm-season grasses. 2014 AgResearch Innovation Grants Program. Nov. 2014 – Oct. 2015.	\$9,500	\$0
10. <b>Nave, R.L.G.</b> , and G.E.Bates. 2014. Warm-season annuals variety trials. May – Sep. 2014.	\$5,000	\$5,000
11. <b>Nave, R.L.G.</b> , and G.E.Bates. 2013. Cool-season annuals variety trials. Sep. 2013 – May 2014	\$5,000	\$5,000
12. <b>Nave, R.L.G.</b> 2013. American Forage and Grassland Council Travel Grant. AFGC. Sep. 2013.	\$2,000	\$2,000
13. <b>Nave, R.L.G.</b> 2011. The Ohio State University Graduate School Incentive Grant. Department of Horticulture and Crop Science. Jan – Jun. 2012.	\$500	\$500
14. <b>Nave, R.L.G.</b> , and R.M. Sulc. 2010. Gladys Wittmeyer Knox-Gene - Wittmeyer Scholarship, The Ohio State University - Department of Horticulture and Crop Sciences. Oct 2010 – Sep. 2011.	\$3,000	\$1,500
15. <b>Nave, R.L.G.</b> 2008. American Society of Agronomy Travel Grant - ASA, CSSA, SSSA. Oct. 2008.	\$75	\$75
16. <b>Nave, R.L.G.</b> 2008. American Society of Agronomy Registration Grant - ASA, CSSA, SSSA. Oct. 2008.	\$225	\$225
17. <b>Nave, R.L.G.</b> , and C.G.S. Pedreira. 2006. M.S. Competitive Assistantship. FAPESP. Feb. 2006 – Nov. 2007.	\$20,000	\$20,000
	\$773,407	\$235,094

#### Funded and in progress

Grant	Grant Total	Candidate's Portion
1. Cui, S., <b>R.L.G. Nave</b> , S. Jagadamma, A. Griffith, and N. Phillips. 2017. Transitioning to organic forage cropping systems, and integrated research, education and extension project in Middle Tennessee. USDA-NIFA-Organic Transitions. Oct. 2017 – Sep. 2020.	\$500,000	\$90,069
2. Hill, N. S., M. Levi, R. Noland, <b>R.L.G. Nave</b> , S. Jagadamma, A. Rius. Demonstrating the soil health benefits of the white clover living mulch production system among different soil classes and geographical landscapes. USDA-NRCS-Conservation and Innovation	\$641,749	\$71,574

Grant. Oct. 2018 – Sep. 2021.		
3. <b>Nave, R.L.G.</b> 2018. PhD Tuition Program. University of Tennessee Institute of Agriculture AgResearch. Nov 2018 – Nov 2022.	\$45,000	\$45,000
4. <b>Nave, R.L.G.</b> , J.J. Tucker, G.E. Bates and A. Griffith. Restoring grasslands with the addition of alfalfa in an effort to sustainably increase alfalfa production in the Southeast. USDA-NIFA-Alfalfa Seed and Alfalfa Forage System Program. Sep 2019-Aug 2021.	\$499,194	\$214,768
	\$1,685,943	\$421,411

**Under review**

Grant	Grant Total	Candidate's Portion
1. Nave, R.L.G., G.E. Bates, H. Naumann, S. Jagadamma, and A. Griffith. 2019. Improving tall fescue forage systems to increase sustainability in the Mid-South. USDA-AFRI-Foundational and Applied Science.	\$500,000	\$127,100

**Pending/Not funded:**

(n = 22; \$25,423,781)

**Professional Service**

<b>Associate Editor</b> – <i>Crop Forage &amp; Turfgrass Mgt</i>	2020 to present
<b>Associate Editor</b> – <i>Agronomy Journal</i>	2017 to present
<b>Reviewer</b> – <i>USDA - NIFA</i>	2018 and 2019
<b>Ad Hoc Reviewer</b> – <i>Agronomy Journal</i>	2012 to present
<b>Ad Hoc Reviewer</b> – <i>Crop Science</i>	2012 to present
<b>Ad Hoc Reviewer</b> – <i>Grassland Science</i>	2013 to present
<b>Ad Hoc Reviewer</b> – <i>Crop Forage &amp; Turfgrass Mgt</i>	2015 to present
<b>Ad Hoc Reviewer</b> – <i>Animal Production Science</i>	2015 to present
<b>Graduate Student Intern</b> – <i>ASA, CSSA and SSSA International Meetings, San Antonio TX</i>	Nov 2011
<b>Graduate Student Intern</b> – <i>ASA, CSSA and SSSA International Meetings, Houston TX</i>	Oct 2008
<b>Competition Co-Chair</b> – <i>Graduate Research Retreat – OSU, Columbus OH</i>	Oct 2010
<b>Judge</b> – Robert F. Barnes Graduate Student Competition – Crop Science – C06	Nov 2014
<b>Judge</b> – <i>St. Michael High School Science Fair, Columbus OH</i>	Sep. 2009
<b>Judge</b> – 15 <sup>th</sup> SIICUSP – International Symposium of Scientific Initiation, Pirassununga/Brazil	June 2007

**Honors and Awards**

2012 Gerald Mott Award – American Society of Agronomy – Outstanding Graduate Student at the Horticulture and Crop Science Department, The Ohio State University

5th Place on Robert F. Barnes Graduate Student Competition, American Society of Agronomy and Crop Science Society of Agronomy, San Antonio/TX. 2011.

The Honor Society of Agronomy, Gamma Sigma Delta – 02/2011

**Professional Association, Memberships and Hatch Projects**

- **Crop Science Society of America, Division C6 (Forage and Grazinglands)** – Incoming Chair 2019, Chair 2020.
- **NCCC31** – Ecophysiological Aspects of Forage Management (Hatch Project)

- **NC1182** – Management and Environmental Factors Affecting Nitrogen Cycle and Use Efficiency in Forage-Based Livestock Production Systems (Multistate Project)

**Secretary Elect – 2016**

**Chair/Host Elect - 2017**

- Member: NIRS Forage and Feed Testing Consortium
- Member: American Society of Agronomy
- Member: Crop Science Society of America
- Member: Soil Science Society of America
- Member: Noble Foundation

#### **Language**

English: Fluent

Portuguese: Fluent (due to my Brazilian nationality)

Spanish: Intermediate conversation and reading.