

Curriculum Vita

C. Lee Burras

Professor
Department of Agronomy
Program in Environmental Science
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Foreign Associate – Postgraduate College
Facultad de Agronomia
Universidad de la Republica
Montevideo, Uruguay

Adjunct Professor
Division of Continuing Education – Iowa Lakeside Laboratory
The University of Iowa
Iowa City, IA 52242 USA

Degrees Held

PhD	Agronomy/Soil Science	The Ohio State University	1992
MS	Soil Science	Iowa State University	1984
BS	Agronomy	Iowa State University	1981

License Held

Professional Soil Scientist, State of Wisconsin, No. 14-112.

Professional Experience

2007-Present	Professor, Iowa State University
2001-2007	Associate Professor, Iowa State University
1995-2001	Assistant Professor, Iowa State University
1990-1995	Assistant Professor, University of Louisiana-Lafayette
1989-1990	Teaching Associate, The Ohio State University (OSU)
1984-1989	Research Associate, Soil Characterization Laboratory, OSU
1982-1984	Graduate Assistant, Iowa State University
1979-1981	Soil Scientist Trainee USDA-NRCS, Iowa

Honorary & Professional Society Memberships

Phi Kappa Phi
Phi Beta Delta
Sigma Xi
Gamma Sigma Delta
American Association for the Advancement of Science
American Society of Agronomy
Soil Science Society of America
Soil and Water Conservation Society
Iowa Academy of Sciences
European Geosciences Union
Professional Soil Classifiers of Iowa

Position Responsibility

Dr. Burras advances ISU's mission of creating, sharing and applying knowledge that makes Iowa and the world better via effective teaching and conducting original research. His primary activity is sharing knowledge, which he does by teaching four or five undergraduate classes and one graduate class each

year. They pertain to soils, the environment, and agronomy. He offers these on-campus and as immersion/travel courses in and outside of the USA. Dr. Burras creates and applies knowledge important to Iowa and the world through research in pedology, the environment and agronomic systems. As part of his research, he mentors graduate students. Dr. Burras shares and applies his research findings in a variety of ways. These include being active in the Soil Science Society of America and the American Society of Agronomy as well as serving as ISU's representative to the Iowa Cooperative Soil Survey and the National Cooperative Soil Survey. He facilitates institutional quality through outreach and service – both locally and internationally.

Honors and Recognition

Senior Faculty Marshal, Iowa State University Commencement	2017
College of Agriculture & Life Sciences Team Award (for the Master Gardener program)	2016
Seven Seals Award, US DOD ESGR	2016
NC Regional Assoc. State Agr. Exp. Sta. Directors Team Award (NCERA-3)	2016
Patriotic Employer, Office of the Secretary of the Department of Defense	2015
Dean's Citation for Extraordinary Contributions, College of Agriculture & Life Sciences	2013
Faculty Escort to Student Marshall Rachel Owens, College of Agriculture & Life Sci.	2013
Women in Agronomy Mentoring Award, ASA-CSSA-SSSA	2012
USDA Excellence in University Teaching Award for the Midwest Region	2011
Louis M. Thompson Advising Academy, College of Agriculture & Life Sciences	2011
Distinguished Undergraduate Teacher Award, Iowa State University	2010
Soil Science Resident Education Award, Soil Science Society of America	2009
Faculty Escort to Student Marshall Emily Eggleston, College of Agriculture & Life Sci.	2009
Agronomy Resident Education Award, American Society of Agronomy	2008
University Advising Award, Iowa State University	2007
Pioneer Hi-Bred Professor of Agronomy	2004-07
Faculty Escort to first-ever Student Marshall, Sean Johnson, College of Agriculture	2006
Fellow, Iowa Academy of Science	2005
Miller Faculty Fellow, ISU Center for Excellence in Learning & Teaching	2004-05
Outstanding Adviser in the College of Agriculture	2004
VEISHEA Faculty of the Year in the College of Agriculture	2003
Life in Iowa Award for Leadership & Service	2003
Baker Agronomic Award	2001
Outstanding Reviewer, Soil Science Society of America	2001
Early Achievement in Teaching, ISU College of Agriculture	1999
Outstanding Reviewer, J. Nat'l Resources & Life Sci. Educ. (JNRLSE)	1998
Miller Faculty Fellow, ISU Center for Teaching Excellence	1998
Outstanding Club Adviser in Agriculture, ISU College of Agriculture	1998
Soil & Water Conservation Society Award of Merit	1995
Outstanding Reviewer, JNRLSE	1994
Number 1 Faculty Rating, University of Southwestern Louisiana	1993
Summer Research Award, University of Southwestern Louisiana	1991-92
Outstanding Teaching Associate, OSU Agronomy Department	1990
Holowaychuk Pedology Award, Ohio State University	1989
Merit and Excellence Recipient, Ohio State University	1988
Riecken Pedology Award, Iowa State University	1983

SCHOLARSHIP

Refereed articles and proceedings

1. Elhakeem, M., A.N.T. Papanicolaou, C.G. Wilson, Y-J. Chang, C.L. Burras, B. Abban, D.A. Wysocki and S. Wills. 2018. Understanding saturated hydraulic conductivity under seasonal changes in climate and land use. *Geoderma* 315:75-87.

2. Chendev, Y.G., J.A. Hubbart, E.A. Terekhin, A.R. Lupo, T.J. Sauer and C.L. Burras. 2016. Recent afforestation in the Iowa River and Vorskla River Basins: A comparative Trends Analysis. *Forests* 7:278 doi:[10.3390/f7110278](https://doi.org/10.3390/f7110278) 21 p. (available at <http://www.mdpi.com/1999-4907/7/11/278/htm> , reviewed November 20, 2016). xx
3. Ibrahim, M.A., A.M. Merwald, E.A. Elanka, C.L. Burras and L. Follett. 2016. Application of silicon ameliorated salinity stress and improved wheat yield. *J. Soil Sci. Env. Manag.* 7:81-91. (available at <http://www.academicjournals.org/journal/JSSEM/article-full-text-pdf/E54068059353> , reviewed July 08, 2016).
4. Abdelkader, M.A., M.A. Ibrahim and C.L. Burras. 2016. Effect of silicon application on roselle (*Hibiscus sabdariffa*, L.) grown in a Vertisol in Egypt. *J. Soil Sci. Env. Man.* 7:45-52. DOI 10.5897/JSSEM15.0552. (available at http://www.academicjournals.org/journal/JSSEM/edition/April_2016 , reviewed April 13, 2016).
5. Van Meter, K.J., N.B. Basu, J.J. Veenstra and C.L. Burras. 2016. The nitrogen legacy: Emerging evidence of nitrogen accumulation in anthropogenic landscapes. *Env. Res. Letters* 11: 1-12. DOI:10.1088/1748-9326/11/3/035014. (available at <http://iopscience.iop.org/article/10.1088/1748-9326/11/3/035014> , reviewed March 21, 2016).
6. Veenstra, J.J. and C.L. Burras. 2015. Soil profile transformation after 50 years of agricultural land use. *Soil Sci. Soc. Am. J.* 79:1154-1162. Available at: <https://dl.sciencesocieties.org/publications/sssaj/abstracts/79/4/1154doi:10.2136/sssaj2015.01.0027> . Reviewed September 13, 2015.
7. Ibrahim, M., E.A. Elnaka, C.L. Burras. 2015. Clay upward movement in sand columns under partially saturated conditions. *Soil Sci. Soc. Am. J.* 79:896-902. Available at: <http://dx.doi.org/10.2136/sssaj2015.01.0005> . Doi:10.2136/sssaj2015.01.0005. Reviewed April 28, 2015.
8. Chendev, Y.G., T.J. Sauer, G. Hernandez Ramirez and C.L. Burras. 2015. History of East European Chernozem soil degradation: Protection and restoration by tree windbreaks in the Russian steppe. *Sustainability* 7:705-724. doi:10.3390/su7010705.
9. Chendev, Y.G., T.J. Sauer, A.N. Gennadiev, L.L. Novykh, A.N. Petin, V.I. Petina, E.A. Zazdravnykh and C. L. Burras. 2015. Accumulation of organic carbon in Chernozems (Mollisols) under shelterbelts in Russia and the United States. *Eurasian Soil Sci.* 48:43-53.
10. Papanicolaou, A.N., M. Elhakeem, C.G. Wilson, C.L. Burras, L.T. West, H. Lin, B. Clark and B.E. Oneal. 2015. Spatial variability of saturated hydraulic conductivity at the hillslope scale: Understanding the role of land management and erosional effect. *Geoderma* 233-234: 56-68. doi:10.1016/j.geoderma.2014.12.010.
11. Miller, B.A. and C.L. Burras. 2015. Comparison of surficial geology maps based on soil survey and in-depth geological survey. *Soil Horizons* 56: doi:10.2136/sh14-05-0005 .
12. Woli, K.P., C.L. Burras, L.J. Abendroth and R.W. Elmore. 2014. Optimizing corn seeding rates using a field's corn suitability rating. *Agron J.* 106:1523-1532.
13. Ibrahim, M. and C.L. Burras. 2013. Distribution and origin of argillic horizons across Iowa – A novel hypothesis. *Soil Sci. Soc. Am. J.* 77:580-590. doi: 10.2136/sssaj2012.0044.
14. Burras, C.L. and R.K. Owen. 2012. CSR2 – Soil productivity rating for cropland in Iowa, USA. *Sci. Herald Natl Univ Life Env Sci. Ukraine Series of Agron.* 176:167-170.

15. Liu, X., C.L. Burras, Y.S. Kravchenko, A. Duran, T. Huffman, H. Morras, G. Studdert, X. Zhang, R.M. Cruse and X. Yuan. 2012. Overview of Mollisols in the world: Distribution, land use and management. *Can. J. Soil Sci.* 92:383-402.
16. Ibrahim, M. and C.L. Burras. 2012. Clay movement in sand columns and its pedological ramifications. *Soil Horizons* doi: 10.2136/sh12-01-0004.
17. Chendev, Y.G., C.L. Burras and T.J. Sauer. 2012. Transformation of forest soils in Iowa (United States) under the impact of long-term agricultural development. *Eurasian Soil Sci.* 45:357-367.
18. Veenstra, J.J. and C.L. Burras 2012. Effects of agriculture on the classification of Black Soils in the Midwestern United States. *Can. J. Soil Sci.* 92:403-411.
19. Henik, Joshua J., Allen D. Knapp, Kenneth J. Moore, and C. Lee Burras. 2012. Normalized difference vegetative index used to identify spatial variability in vegetative growth and grain yield of corn. *Crop Management* doi:10.1094/CM-2012-0824-01-RS.
20. Ibrahim, M., C.L. Burras, J. Steele, M. La Van, M.L. Thompson and M. Sucik. 2011. Munterville: A new soil series in Iowa. *Soil Survey Horizons* 52:103-110.
21. Wilson, H., R. Cruse and L. Burras. 2011. A method to adapt watershed-scale sediment fingerprinting techniques to small-plot runoff experiments. *J. Soil Water Conservation* 66:323-328.
22. Wilson, H.M., R.M. Cruse and C.L. Burras. 2011. Perennial grass management impacts on runoff and sediment export from vegetated channels in pulse flow runoff events. *Biomass & Bioenergy* 35:429-436.
23. Veenstra, J.J., D. Dembe, J. Nsamba, L. Wasko, C.L. Burras, G. Nonnecke, B. Orum, S. Downie, and R. Cox. 2009. Mapping Soils in Central Uganda. *Soil Survey Horizons* 50:30-34.
24. Lemus, R., E.C. Brummer, C.L. Burras, K.J. Moore, M.F. Barker and N.E. Molstad. 2008. Effects of nitrogen fertilization on biomass yield and quality in large fields of established Switchgrass in southern Iowa, USA. *Biomass & Bioenergy* 32:1187-1194.
25. Miller, B.A., C.L. Burras and W.G. Crumpton. 2008. Using soil surveys to map Quaternary parent materials and landforms across the Des Moines Lobe of Iowa and Minnesota. *Soil Survey Horizons* 49:91-95.
26. Papanicolaou, A.N., M. Elhakeem, C. Wilson, C.L. Burras and B. Oneal. 2008. Observations of soils at the hillslope scale in the Clear Creek watershed in Iowa, USA. *Soil Survey Horizons* 49:83-86.
27. Nyasimi, M., L.M. Butler, L. Burras, H. Ilhahiane, R. Schultz and J. Flora. 2007. Differentiating livelihood strategies among the Luo and Kipsigis people in western Kenya. *J. Ecol. Anthropology.* 11:42-55.
28. Wills, S.A., C.L. Burras and J.A. Sandor. 2007. Prediction of soil organic carbon content using field and laboratory measurements of soil color. *Soil Sci. Soc. Am. J.* 71:380-388.
29. Florine, S.E., K.J. Moore, S.L. Fales, T.A. White and C.L. Burras. 2006. Yield and composition of herbaceous biomass harvested from naturalized grassland in southern Iowa. *Biomass & Bioenergy* 30:522-528.
30. Guretzky, J.A., K.J. Moore, E.C. Brummer, and C.L. Burras. 2005. Species diversity and functional composition of pastures that vary in landscape position and grazing management. *Crop Sci.* 45: 282-289.

31. Tarr, A.B., K.J. Moore, C.L. Burras, D.G. Bullock and P.M. Dixon. 2005. Improving map accuracy of soil variables using soil electrical conductivity as a covariate. *Prec. Ag.* 6:255-270.
32. Guretzky, J.A., K.J. Moore, C.L. Burras and E.C. Brummer. 2004. Distribution of legumes along gradients of slope and electrical conductivity in pastures. *Agron. J.* 96:547-555.
33. Konen, M.E., C.L. Burras and J.A. Sandor. 2003. Organic carbon, texture and quantitative color measurement relationships for cultivated soils in north central Iowa. *Soil Sci. Soc. Am. J.* 67:1823-1830.
34. Tarr, A.B., K.J. Moore, P.M. Dixon, C.L. Burras and M.H. Wiedenhoef. 2003. Use of soil electroconductivity in a multistage soil sampling scheme. Online. *Crop Management* doi:10.1094/CM-2003-1029-01-RS (9 journal pages).
35. Iakovoglou, V., J. Thompson, and L. Burras. 2002. Characteristics of trees according to community population level an by land use in the US Midwest. *J. Arboriculture* 28 (2): 57-66.
36. Iakovoglou, V., J. Thompson, L. Burras, and R. Kipper. 2002. Factors related to tree growth across urban-rural gradients in the Midwest, USA. *Urban Ecosystems* 5: 71-85.
37. Konen, M.E., P.M. Jacobs, C.L. Burras, B.J. Talaga, and J.A. Mason. 2002. Equations for predicting organic carbon concentration using LOI for north central U.S. soils. *Soil Sci. Soc. Am. J.* 66:1878-1881.
38. Lemus, R., E.C. Brummer, K.J. Moore, N.E. Molstad, C.L. Burras, and M.F. Barker. 2002. Biomass Yield and Quality of Twenty Switchgrass Populations in Southern Iowa, USA. *Biomass & Bioenergy* 23:433-442.
39. Harmony, K.R., K.J. Moore, E.C. Brummer, C.L. Burras, and J.R. George. 2001. Spatial legume composition and diversity across seeded landscapes. *Crop Sci.* 93:992-1000.
40. Patton, J.J., L. Burras, M.E. Konen, and N.E. Molstad. 2001. An accurate and inexpensive apparatus and method for teaching and measuring stable aggregate content of soils. *JNRLSE* 30:84-88.
41. Pogranichniy, S., L. Burras, T.A. Polito and M. Wiedenhoef. 2001. The impact of a learning community on freshman agronomy students: Lessons from Iowa State University. *JNRLSE* 30:104-110.
42. Burras, L., J.V. Huner, and D.P. Dautreuil, III. 1999. Environmental factors affecting crayfish yields in Louisiana. *Proc. La. Acad. Sci.* 61:1-10.
43. Smeck, N.E., C.L. Burras, J.M. Bigham, and U. Soto. 1997. Pedogenic smectite in soils of western Ohio. *Proc. 11th Intl. Clay Conf., Ottawa.* p. 733-742.
44. Burras, L., N.E. Smeck, and J.M. Bigham. 1996. Origin of smectite in loessial soils of western Ohio. *Soil Sci. Soc. Am. J.* 60:1961-1968.
45. Burras, L., G. Blakewood, T. Richard, and J.V. Huner. 1995. Laboratory observations on the burrowing in different soils by commercially important procambarid crayfish. *Freshwater Crayfish* 10: 427-434.
46. Novak, J.M. and L. Burras. 1994. Influence of summer storms on solution geochemistry in Coastal Plain hydrosequence. *Intl. J. Ecol. Environ. Sci.* 20: 15-30.
47. Burras, C.L. and W.H. Scholtes. 1987. Basin properties and postglacial erosion rates of minor moraines in Iowa. *Soil Sci. Soc. Am. J.* 51:1541-1546.

Published books, proceedings & booklets

1. Burras, CL. and R. Bednarek (editors). 2015. Proceedings of the North Central Regional Soil Survey Conference. North Central Regional Soil Survey Conference. 145 p. (Available at: <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/?cid=stelprdb1252141> , reviewed January 08, 2015)
2. Miller, G.A., T.E. Fenton, B.R. Oneal, B.J. Tiffany and C.L. Burras. 2010. Iowa soil properties and interpretations database. ISPAID Version 7.3. Iowa State University – IA. Ag. H. Ec. Exp. Station. 30 p.
3. Burras, L. 2002. Study Guide for CSSE Professional Practice Examinations. Soil Sci. Soc. Am., 36 pages, (3rd ed.).
4. Burras, L. 1998. Study Guide for CSSE Professional Practice Examinations. Soil Sci. Soc. Am., 37 pages, (2nd ed.).
5. Burras, L. 1997. Study Guide for CSSE Professional Practice Examination. Soil Sci. Soc. Am., 23 p.
6. Burras, L. and A. Engebretson. 1997. (Ed.) Soil Science Competency Areas and Performance Objectives. Soil Sci. Soc. Am., 12 p.

Published book chapters & position papers

1. Richter, J.L. and C.L. Burras. 2017. Ch. 11. Human-impacted catenas in north-central Iowa, United States: Ramifications for soil mapping. In: P. Pereira, E.C. Brevik, M. Munoz-Rojas and B.A. Miller (Editors). Soil Mapping and Process Modeling for Sustainable Land Use Management, Elsevier, Amsterdam. p.335-363. DOI: <http://dx.doi.org/10.1016/B978-0-12-805200-6.00011-6> .
2. Burras, C.L. 2017. Ch. 13. Soils and soil fertility. In: D. Schrock and S. BeBlieck (Editors). Workbook for Iowa Master Gardeners (MG-5). Iowa State University Extension and Outreach. p. 147-157.
3. Burras, C.L. 2016. Ch. 13. Soils and soil fertility. In: C.L. Haynes and D. Schrock (Editors). Resource Guide for Iowa Master Gardeners. Iowa State University Extension and Outreach. p. 175-191.
4. Burras, C.L., J. Richter, C. DeLong, E. Dahlhauser, Z. Wang, M.L. Tiedeman, J. Mtama and A. Sassman. 2015. Iowa – an introduction by some pedologists. In: Burras, CL. and R. Bednarek (editors). Proc. NC Regional Soil Survey Conference. p. 15-18.
5. Burras, C.L. 2015. Iowa State University – soils, land use and historical impacts. In: Burras, CL. and R. Bednarek (editors). Proc. NC Regional Soil Survey Conference. p. 31-32.
6. Tiedeman, M.L. and C.L. Burras. 2015. Pedogenesis of ant colonized soils at Doolittle Prairie State Preserve, Iowa. In: Burras, CL. and R. Bednarek (editors). Proc. NC Regional Soil Survey Conference. p.34-56.
7. Chendev, Y.G., L.L. Novykh, T.J. Sauer, A.N. Petin, E.A. Zazdravnykr, C.L. Burras. 2014. Ch. 47. Evolution of soil carbon storage and morphometric properties of afforested soils in the US Great Plains. In: A.E. Hartemink and K. McSweeney (Editors). Soil Carbon. Springer Link. P. 475-482.

8. Burras, C.L., C.L. Haynes and D. Schrock. 2014. Ch. 13. Soils and soil fertility. In: C.L. Haynes and D. Schrock (Editors). Resource Guide for Iowa Master Gardeners. Iowa State University Extension and Outreach. p. 173-189.
9. Burras, C.L., C.L. Haynes and D. Schrock. 2014. Ch. 13. Soils and soil fertility. In: C.L. Haynes and D. Schrock (Editors). Workbook for Iowa Master Gardeners. Iowa State University Extension and Outreach. p. 155-166.
10. Burras, C.L., M. Nyasimi and L. Michael Butler. 2013. Ch. 10. Soils, human wealth and health – a complicated relationship. In: E.C. Brevik & L.C. Burgess (Editors). Soils and Human Health. CRC Press/Taylor & Francis. p. 215-226.
11. Burras, C.L. and R.K. Owen. 2012. CSR2- A practical application of modern pedology in Iowa, USA. Proc. of the International Scientific-Practical Conference of Soil Science – Modern Issues & Teaching Methodologies. National University of Life & Environmental Sciences of Ukraine, Kiev. P. 292-296.
12. Burras, C.L., J.J. Veenstra, M. Ibrahim, R.M. Cruse, and T.E. Fenton. 2010. Black soils of the USA – a brief introduction. In: X. Liu, C. Song, R.M. Cruse & T. Huffman (eds.) New Advances in Research and Management of World Mollisols. Proc. Intl. Symp. Soil Quality & Management of World Mollisols. Northeast Forestry University Press, Harbin, China. p. 46-50; map 4.
13. Sauer, T.J., C.L. Burras and Y.G. Chendev. 2009. Dynamics of forest areas within a basin of the Iowa River, USA, from 1972 to 2008. Y. Chendev (Ed.) Proc. Climate Change, Soils & Environment., Belgorod State University, Belgorod, Russia. p. 162-169
14. Chendev, Y. G., C. L. Burras, and T. J. Sauer. 2009. Agrotechnogenic changes of gray forest soils within different climatic conditions of forest-steppe. 5th Russian National Conference on the Evolution of Soil Cover: History of Ideas, Methods, Holocene Evolution, and Forecasts, Nov. 4-10, Pushino, Russia. (In Russian).
15. McMichael, J., C.L. Burras and S.A. Wills. 2007. Understanding pasture quality, soil quality and soil carbon content relationships in south central Iowa. R. Drake (Ed.). Proc. 3rd Nat'l. Conf. Grazing Lands. USDA-NRCS Grazing Lands Initiative, Davis, OK. p. 194-196.
16. Smeck, N.E. and C.L. Burras. 2006. Soils in time and space. R. Lal (Ed.) Encyclopedia of Soil Science. 2nd. Ed. p. 1648-1652.
17. Sandor, J., C.L. Burras and M. Thompson. 2005. Factors of soil formation – Human impacts. D. Hillel (Ed.) Encyclopedia of Soils in the Environment. Elsevier, Ltd., Oxford, UK. p. 520-532
18. Burras, L., R. Borges, Dan Dobill, T. Fenton and B. Larabee. 2004. Lesson 1: Soil development & classification. Web-lesson used in Agron 502, Chemistry, Physics & Biology of Soils. 19 “pages.” On CD.
19. Smeck, N.E. and C.L. Burras. 2002. Soils in time and space. R. Lal (Ed.) Encyclopedia of Soil Science. p. 1336-1341.
20. Burras, C.L., J.M. Kimble, R. Lal, M.J. Mausbach, G. Uehara, H.H. Cheng, D.E. Kissel, R.J. Luxmoore, C.W. Rice, and L.P. Wilding. 2001. Carbon sequestration: Position of the Soil Science Society of America. (Available at <https://www.soils.org/about-society> , reviewed November 17, 2011).
21. Burras, L. 1998. Lesson 1: What is a soil? Web-based chapter 1 for Agron 502, 22 p.

22. Brummer, E.C., L. Burras, M. Duffy, K.J. Moore, M. Downing, and S. McLaughlin. 1997. Integration of technical aspects of switchgrass production in Iowa. Overend, R.P. and E. Chornet (Eds.). Making a Business from Biomass, Proc. 3rd Biomass Conf. Americas 2:1445-1454.
23. Burras, L. 1997. Understanding Soils and Landscapes in Grazing Management. USDA-NRCS Technical Training Course, NEDC Pastureland Ecology, Raleigh, NC, May 13, 7 p.

Research reports

1. Mazur, R., M. Tenwya, R. Miiro, O. Semalulu, R. Maria, S. Mocumbe, E. Abbott, E. Luvaga, B. Miller, L. Burras, R. Yost, J. Bello-Bravo, and B. Pittendrigh. 2017. Farmer decision making strategies for improved soil fertility management in maize-bean production systems. Feed the future Innovation Laboratory for Collaborative Research on Grain Legumes. FY2017 Annual Project Technical Progress Report. 32 p.
2. Burras, C.L., G.A. Miller, T.E. Fenton and A.M. Sassman. 2015. Corn Suitability Rating 2 (CSR2) equation and component values. Soil Survey & Digital Soil Data - Soil and Land Use, Iowa State University Extension and Outreach.
(<http://www.extension.iastate.edu/soils/sites/www.extension.iastate.edu/files/soils/ISU%20CSR2%20formula%20with%20values%20V1.1%2009Mar15.pdf>, reviewed March 23, 2015).
3. Burras, C.L. 2013. CSR2 Equation with values for each term. Working Paper for USDA-NRCS and associated users. 4 p.
4. Burras, C.L. and A.N. Papanicolaou. 2013. Impacts to the land-water-human system of rural Iowa from high intensity continuous maize production. Final Report, Leopold Center for Sustainable Agriculture EOSP2008-01. 16 p.
5. Papanicolaou, A.N., C. L. Burras, C. Wilson and M. Elhakeem. 2012. Prediction of K_{sat} dynamics from remote sensing data and modeling for the State of Iowa. Final Report, USDA-NRCS Nat'l. Soil Survey Center (USDA contract number 68-7482-10-507). 38 p.
6. Wasko, Lisa Marie; Nonnecke, Gail R.; and Burras, Lee. 2009. Alternative Weed Management Strategies: Effects on Weed Control and Grapevine Yield in an Established Vineyard. Iowa State Research Farm Progress Reports. Paper 326. http://lib.dr.iastate.edu/farms_reports/326
7. Papanicolaou, A.N., C. L. Burras, M. Elhakeem and C. Wilson. 2009. Hydropedological investigations on a benchmark catena: Performance of semi-automated measurements of K_{sat} via different sensors under different hydrologic and land management conditions. Technical Report, USDA-NRCS Nat'l. Soil Survey Center (USDA contract number 68-3H75-3-122). 59 p.
8. Papanicolaou, A.N., C. L. Burras, M. Elhakeem and C. Wilson. 2008. Field and laboratory investigations of infiltration on different geomorphic surfaces in a watershed under different land uses. Final Report, USDA-NRCS Nat'l. Soil Survey Center (USDA contract number 68-3H75-3-122). 69 p.
9. Brummer, E.C. and C.L. Burras. 2007. Switchgrass production in Iowa: Soil suitability and varietal performance. Final Report, Bioenergy Feedstock Development Program Oak Ridge National Laboratory (DE-FC36-96GO10148). 23 p.
10. Burras, C.L., J.M. McLaughlin, S.A. Wills, M. Barker and E.C. Brummer. 2005. Soil carbon and quality in Seymour and Clarinda soil map units, Chariton Valley, Iowa. Final Report, Chariton Valley RC&D (ISU Project 400-41-71-4216). 64 p.
11. Burras, C.L. and J. McLaughlin. 2002. Soil Organic Carbon in fields of switchgrass and row crops as well as woodlots and pastures across the Chariton Valley, Iowa. Final Report. Chariton Valley RC&D. 29 p.

12. Brummer, E.C., C.L. Burras, M.D. Duffy and K.J. Moore. 2002. Switchgrass production in Iowa: Economic analysis, soil suitability, and varietal performance Final Report. Oak Ridge National Laboratory. 140 p.
13. Brummer, E.C., C.L. Burras, M.D. Duffy and K.J. Moore. 2001. Switchgrass production in Iowa: Economic analysis, soil suitability, and varietal performance Final Report. Oak Ridge National Laboratory. 71 p.
14. Brummer, E.C., C.L. Burras, M.D. Duffy and K.J. Moore. 2000. Switchgrass production in Iowa: Economic analysis, soil suitability, and varietal performance Final Report. Oak Ridge National Laboratory. 105 p.
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104. Burras, L., N.E. Smeck, and J.M. Bigham. 1991. Layer charge of expanding clays in two Ohio Udalf-Aquoll toposequences. *Agron. Abstracts*, p. 308.
105. Burras, L. and N.E. Smeck. 1989. Origin of smectite in soils of western Ohio. *Agron. Abstracts*, p. 259.
106. Smeck, N.E. and L. Burras. 1989. The relationship between water chemistry and soil mineralogy in an Ohio Udalf-Aquoll toposequence. *Agron. Abstracts*, p. 271.

Invited presentations of significance

1. Burras, C.L. August 15, 2018. Managing soils in the Prairie Provinces – some predictions for 2028. Pioneer Lecture/Field Shortcourse for 15 advanced Agronomists and Farmers. ISU FEEL.
2. Burras, C.L. February 15, 2018. Catenas. Soil Physics Colloquium, Makerere University, Kampala.
3. Burras, C.L. February 08, 2018. Soils 101: Understanding and wisely using soils in organic farming. Accredited Certifiers Association Professional Development Training, San Antonio, TX
4. Burras, C.L. February 08, 2018. Soils 101: “Hands-on” activities about soils in organic farming. Accredited Certifiers Association Professional Development Training, San Antonio, TX
5. Burras, C.L. January 18, 2018. The Soils of Iowa. Practical Farmers of Iowa Annual Conference Short Course, Soils: Cultivating a Deeper Understanding. Keynote presentation. Iowa State Center, Iowa State University.
6. Burras, C.L. September 15, 2017. Soils & their effective management – some predictions for 2025. Pioneer Lecture/Field Shortcourse for 32 advanced Brazilian Farmers. ISU FEEL.
7. Burras, C.L. August 24, 2017. Field indicators and management for soil quality & health. DuPont Pioneer Global Agronomy Forum, Pioneer International Headquarters, Johnston, IA. (*Identical presentation given to four groups (100 total) of international agronomists in and near a pit in a Pioneer field*).
8. Burras, C.L. August 23, 2017. The Soils of Iowa. DuPont Pioneer Global Agronomy Forum, Pioneer International Headquarters, Johnston, IA.
9. Miller, B.A., C.L. Burras, M. Tenywa, O. Semalulu, and S. Kyebogola. August 15, 2018. GIS-based Mapping of the Buganda Soil Catena, Uganda. USAID Feed the Future Innovation Laboratory for Collaborative Research on Grain Legumes, Ouagadougou, Burkina Faso.
10. Burras, C.L. August 15, 2017. Managing soils in the Prairie Provinces – some predictions for 2025. Pioneer Lecture/Field Shortcourse for advanced Agronomists and farmers of western Canada. ISU FEEL.
11. Burras, C.L. July 18, 2017. Iowa – A pedologists perspective. Joint meeting of the National Association of Conservation Districts 2017 Forum & the 71st Annual Iowa Soil and Water Conservation Districts Commissioners Conference, Altoona, Iowa.
12. Burras, C.L. June 18, 2017. Soils of Iowa. Friends Chautauqua 2017. Friends of Lakeside Laboratory, Iowa Lakeside Laboratory.
13. Burras, C.L., M. Tenywa and O. Semalulu. May 30, 2017. Quick techniques for measuring soil pH, available P and available N on Ugandan soils. Masaka Field Day, Kiwanzi, Masaka District, Uganda. (*this was an inaugural field day that included local farmers, private sector agriculturalists, extension*

workers and dignitaries that included President Museveni's personal representative for Masaka District).

14. Burras, C.L. December 05, 2016. Soils & some predictions for 2025. World Soil Day, DuPont Pioneer Innovation Center in Carver Hall, Pioneer Hi-Bred World Headquarters, Johnston.
15. Burras, C.L. November 07, 2016. Succeeding internationally (panelist). Career Path Opportunities for Students, Post-Docs and Early Career Members, SSSA-ASA-SASES, Phoenix, AZ.
16. Burras, C.L. September 29, 2016. Soil mapping & interpretations – Iowa's plan for 1 m² relevance by 2025. Soil Science Visitors Seminar Series, University de la Republica Uruguay, Montevideo.
17. Burras, C.L. July 14, 2016. Soil change & productivity in Iowa's intensely cropped Mollisols. North Central Regional Cooperative Soil Survey Conference, Northern Illinois University, Sycamore.
18. Burras, C.L. and J.L. DeJong. March 04, 2016. The Soils of Northwest Iowa – the pedologist's perspective. Global Agriculture Summit, Dort College, Sioux Center, Iowa.
19. Burras, C.L. January 12, 2016. Applying to graduate school – Lee's three rules. Earth University Visitors' Ad Hoc Seminar Series, Guacimo, Limon Province, Costa Rica.
20. Burras, C.L. September 25, 2015. Soil maps, the catena and future soil maps – a pedologist's perspective. Workshop on GIS & Geospatial Skills for the Buganda Catena, Uganda. Makerere University and National Agriculture Research Organization (NARO), Kampala, Uganda.
21. Burras, C.L. September 08, 2015. Soil change & productivity in intensely cropped Mollisols. Symposium of Mollisol Conservation & Utilization. World Mollisol Association, Northeast Institute of Geography & Agroecology and the Chinese Academy of Sciences, Harbin, China.
22. Wang Z. and C.L. Burras. September 08, 2015. Silicon as an amendment in establishing maize seedlings in three soils of Iowa. Symposium of Mollisol Conservation & Utilization. World Mollisol Association, Northeast Institute of Geography & Agroecology and the Chinese Academy of Sciences, Harbin, China.
23. Burras, C.L., G. Nonnecke and M. Mbeiza. June 29, 2015. How do soils and land tenure impact Kamuli school children lives? Iowa State University Uganda Program Discussion Series, Kamuli, Uganda.
24. Burras, C.L. June 23, 2015. Maize production and pedology – The case for corn suitability ratings in Iowa and beyond. Sokoine University Department of Soil Science/USDA-iAGRI Seminar Series, Morogoro, Tanzania.
25. Burras, C.L. April 15, 2105. Soil science as a field discipline – Experiences in Iowa, USA. European Geosciences Union - Symposium on Bringing Soils to the Field, Vienna, Austria.
26. Lamkey, K.R., A. W. Lenssen and C.L. Burras. February 03, 2015. An overview of the Iowa State University Agronomy Department's capabilities and activities in international agriculture. International Center for Tropical Agriculture (CIAT), Cali Columbia.
27. Burras, C.L. November 07, 2014. The Soils of Iowa – What would Darwin think? Honors Salon, Iowa State University, Ames.
28. Burras, C.L. July 15, 2014. Iowa – A pedologist's perspective. IAAS 57th World Congress – Farming for the Future. Iowa State University, Ames.

29. Burras, C.L. September 07, 2012. The Soils of Iowa: How should we think about them? Geography Graduate Group Colloquium, Michigan State University, East Lansing.
30. Burras, C.L. August 08, 2012. The pedology of modern Mollisols in Iowa. International Workshop on Mollisol Conservation, Harbin, China.
31. Owen, R.K. and C.L. Burras. May 29, 2012. CSR2 - A practical application of modern pedology & overview of black soils in Iowa. International Scientific-Practical Conference of Soil Science & Conservation – Modern Issues & Teaching Methodologies. National University of Life & Environmental Sciences of Ukraine, Kiev.
32. Burras, C.L. April 03, 2012. Carbon Farming – A best practice in sustainable agriculture. Florida International University Agroecology Symposium, Miami.
33. Ibrahim, M.A., and C.L. Burras. March 09, 2012. Origin and distribution of argillic horizons across Iowa – a novel hypothesis. The Association of Ohio Pedologists Annual Meeting at The Ohio State University, Columbus, Ohio, USA.
34. Burras, C.L. September 29, 2011. Iowa's soils & their productivity – A pedologist's perspective on corn suitability ratings. Iowa State University Agronomy Seminar Series.
35. Burras, C.L., T. Papanicolaou, J.J. Veenstra, Y. Chendev and M. Sucik. May 24, 2011. Soil variability and human-induced pedological change across Iowa. National Cooperative Soil Survey Conference, Asheville, NC.
36. Papanicolaou, T., C.L. Burras, C. Wilson and M. Elhakeem. February 22, 2011. Predictions of saturated hydraulic conductivity (Ksat) dynamics in a Midwestern agricultural watershed in Iowa. National Soil Survey Center, Lincoln, NE.
37. Veenstra, J.J. and C.L. Burras. July 14, 2010. Effects of agriculture on the classification of black soils in the Midwestern United States. Intl. Symp. Soil Quality & Management of World Mollisols, Harbin, China. Sponsored by the Chinese Academy of Science & the International Cooperation Project of Heilongjiang Province.
38. Burras, C.L., J.J. Veenstra, M. Ibrahim, R.M. Cruse, T.E. Fenton and M.J. Castellano. July 13, 2010. Formation, management and environmental issues of Black Soils across the USA. Intl. Symp. Soil Quality & Management of World Mollisols, Harbin, China. Sponsored by the Chinese Academy of Science & the International Cooperation Project of Heilongjiang Province.
39. Burras, C.L. January 30, 2010. Hydrogeology of Iowa and its implications to ecosystem restoration. Iowa Prairie Network Region 5 20th Annual Meeting, Ankeny, IA.
40. Burras, C.L. November 23, 2009. Pedology 2009 – Experiences from Iowa. National Soil Survey Center, Lincoln, NE.
41. Burras, C.L. November 02, 2009. Future of Agriculture. Workshop for Students of Agronomy, Soils & Environmental Sciences at the American Society of Agronomy Annual Conference, Pittsburgh.
42. Burras, C.L. June 02, 2009. Lakeside and the physical geography of the Iowa Great Lakes. Iowa Lakeside Laboratory Centennial Lecture Series, Wahpeton, IA.
43. Papanicolaou, T. and C.L. Burras. May 11, 2009. Iowa infiltration and Ksat studies. National Cooperative Soil Survey Conference, Las Cruces, NM.

44. Burras, C.L., T. Papanicolaou, J.J. Veenstra, B.R. Oneal and M.T. Sucik. October 07, 2008. Inventorying dynamic soil properties across Iowa's catenas and land uses. Soil Science Society of America Conference, Houston.
45. Burras, C.L. September 24, 2008. Wheatsfield Cooperative: Does growth facilitate or impede its relevance? Sustainable Agriculture Colloquium, Iowa State University.
46. Papanicolaou, T. and C.L. Burras. September 20, 2007. Linking in-situ measurements of infiltration with pedology in Clear Creek Watershed. National Soil Survey Center, Lincoln, NE.
47. Papanicolaou, T. and C.L. Burras. June 06, 2007. In-situ measurements of infiltration by accounting for the role of management practices. National Cooperative Soil Survey Conference, Madison, WI.
48. Burras, C.L., January 30, 2007. Pedology's role in understanding plant nutrition and water quality. Sub-Committee of the Iowa Legislature Environmental Protection Committee, The Iowa Capitol, Des Moines.
49. McLoughlin, J.J., C.L. Burras and S.A. Wills. December 09, 2006. Soils and pasture quality in south-central Iowa. 3rd Annual Grazing Conference, St. Louis.
50. Burras, C.L. September 07, 2006. Animal and land development near lakes – A pedologist's perspective. Dickinson County-Iowa Great Lakes Planning Group, Spirit Lake.
51. Burras, C.L. July 25, 2006. Land and livelihoods – lessons from Lake Victoria. Faculty Seminar at Lakeside, Iowa Lakeside Laboratory, Wahpeton.
52. Burras, C.L., March 09, 2006. Field scale variability in soil carbon, quality and morphology in Iowa. Forum on Biophysical Research on Terrestrial Carbon Sequestration, University of Minnesota.
53. Burras, C.L. February 08, 2006. Comparing pedological processes of the past 13,000 years with the recent 130 years across Iowa. Iowa State University Soil Science Seminar.
54. Burras, C.L. December 09, 2005. Watersheds & people – a pedologist's perspective. University of Iowa Hydrologic Research Institute Seminar Series.
55. Burras, C.L. April 15, 2005. Iowa's pedology – comparing the past 13,000 years to the most recent 130 years. University of California, Riverside Soil & Water Sciences Seminar.
56. Burras, L. June 09, 2004. Soil organic matter and soil survey. USDA-NRCS Soil Survey Institute, Iowa State University.
57. Burras, L. May 20, 2004. Landscapes and soils of the Des Moines Lobe, Iowa. USDA-NRCS Soil Survey Institute, Iowa State University.
58. Olson, H. and L. Burras. May 15, 2004. The value of early and continuing connections. 6th Annual Learning Communities Institute, Iowa State University.
59. Burras, C.L. April 30, 2004. Soil science education – building for success in the 21st century. The Ohio State University Soil Science Seminar Series.
60. Burras, C.L. February 21, 2003. Landscapes, land use and soil carbon in the Chariton River Watershed, Iowa. Northern Illinois University Geography Department Seminar, DeKalb.
61. Burras, L. February 2002. Soils as a base for agriculture. Global Agricultural Science and Policy Conference, Ames.

62. Burras, L., J. McLaughlin, M. Braster, J. Sellers, and C. Brummer. November 2001. Switchgrass production in the Chariton Valley, Iowa -Impacts on soils & landscapes. ORNL BFDP Cooperators Meeting, Memphis.
63. Burras, L., E.C. Brummer, M. Braster, J. Sellers, and M. Barker. November 2001. Switchgrass as a Biofuel in the Chariton Valley, Iowa - Agronomic Considerations. ORNL BFD P Cooperators Meeting, Memphis.
64. Burras, L., J. Sellers, E.C. Brummer, and M. Braster. December 2000. Switchgrass as a biofuel in the Chariton Valley, Iowa: Agronomic considerations. Oak Ridge National Laboratory Bioenergy Feedstock Development Program Workshop, Atlanta.
65. Burras, L. November 2000. Review of the SSSA position paper on soil carbon sequestration. Soil Science Society of America Annual Conference, Minneapolis.
66. Burras, L. November 2000. Environmental science as a science-based baccalaureate: curriculum development, balance, and implementation. Soil Science Society of America Annual Conference, Minneapolis.
67. Burras, L. November 2000. The role of soil science performance objectives and examinations in professional practice. National Society of Consulting Soil Scientists Annual Conference, Minneapolis.
68. McLaughlin, J.M. and L. Burras. August 2000. Soil carbon across the Chariton River Watershed, Iowa: baseline values and recent changes. Carbon: exploring the benefits to farmers and society. Des Moines.
69. Vepraskas, M.J. and L. Burras. November 1999. Using micromorphology to teach soil science concepts. American Society of Agronomy Annual Conference, Salt Lake City.
70. Burras, L. October 1998. Presentation on role of teaching for PhD agronomists to graduate student members of ASA. American Society of Agronomy Annual Conference, Baltimore, MD.
71. Burras, L. April 1998. Opportunities to sequester carbon via agronomic management in the central USA. Workshop on Carbon Sequestration in Managed Terrestrial Ecosystems, Washington, DC.
72. Burras, L. May 1997. Understanding soils and landscapes in grazing management. USDA-NRCS Tech. Training, NEDC Pastureland Ecology, Raleigh, NC.
73. Burras, L. October 1996. Evolution of soil morphology on the Des Moines Lobe. Geological Sciences Seminar, Iowa State University.
74. Burras, L. February 1996. Soils: a means of teaching dynamic, integrated science. AAAS Annual Meeting and Science Innovation Exposition, Baltimore.
75. Burras, L. September 1995. Making the most of Gulf Coast soils. Stockman Grass Farmer Gulf Coast Grazing Conference, Houston Texas.
76. Burras, L. and A. Nation. December 1994. An organic approach to pasture subdivision. Stockman Grass Farmer North American Grazing Conference, Memphis. Keynote Address.
77. Burras, L., L.J. Desselle, and L.L. Goodeaux. April 1992. Curriculum revisions – how did agriculture become renewable resources? College of Agriculture Seminar Series, Southern University, Baton Rouge, LA.

Invited presentations as part of an Extension or similar activity

1. Burras, C.L. March 04, 2018. Predictions for Iowa's near future in soils and agronomy. ISU ACES Learning Community, Maple Hall.
2. Burras, C.L. February 20, 2018. Iowa's soils – origins, properties and productivity. Soil Fertility & Nutrient Management Short Course, Iowa State University Agribusiness Extension Education Program.
3. Burras, C.L. January 27, 2018. Building soil with prairie. Iowa Prairie Network Conference, Ames High School.
4. Burras, C.L. November 08, 2017. Iowa State University and the Pedology of Iowa. Upper Iowa University (group from UIU visited ISU to describe the FEEL soil pit and learn about ISU).
5. Burras, C.L. October 10, 2017. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Reiman Gardens, Iowa State University.
6. Burras, C.L. October 05, 2017. Iowa – A pedologists perspective. Madison County Soil & Water Conservation District 75th Anniversary Celebration (*150 attendees including dignitaries from the county, state government (elected and appointed), and federal agencies such as NRCS*).
7. Burras, C.L., M.W. Wiedenhoeft and L.L. Timms. July 26, 2017. The agriculture and environment of Iowa. Agriculture tour of the central USA by New Zealand farmers, Iowa State University Dairy Farm.
8. Burras, C.L. February 09, 2017. Iowa's soils – origins, properties and productivity. Soil Fertility & Nutrient Management Short Course, Iowa State University Agribusiness Extension Education Program.
9. Burras, C.L. January 22, 2017. Predictions for the Near Future. ACES Residential Learning Community, Iowa State University.
10. Burras, C.L. November 18, 2016. Iowa and the Soils and Monoliths of Iowa. Agronomy Department hosting of Chinese Academy of Science visitors from the Northeast Institute of Geography & Agroecology (4 attendees, 7 p. handout).
11. Burras, C.L. November 14, 2016. Soil Productivity Ratings. Iowa Assessors Agriculture Adjustment Committee. West Des Moines (30 attendees, CSR2 6 p. handout).
12. Burras, C.L. October 11, 2016. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Reiman Gardens, Iowa State University.
13. Burras, C.L. and A.M. Sassman. September 13, 2016. CSR2 and predicted corn yields of Iowa's soils. USDA-NRCS Soil & Agronomy Training Workshop, 178 Federal Building, Des Moines. (15 attendees = Area Conservationists/Area Agronomists; 2 p. handout)
14. Burras, C.L. August 17, 2016. Soils, roots and crop growth. DuPont-Pioneer Western Canada Agronomy Training field program, ISU FEEL (30 attendees, 2 p. handout)
15. Burras, C.L. August 15, 2016. BS in ISU Agronomy, 2017-2018 & beyond: Insuring success in the mid-21st Century. Department of Agronomy Strategic Retreat, ISU Alumni Center.
16. Burras, C.L. July 19, 2016. Soils, roots and crop growth – a few ideas. DuPont-Pioneer New Employee field program, ISU FEEL (120 attendees, 2 p. handout, 3 presentations).
17. Burras, C.L. March 24, 2016. Predictions for the near future. Iowa State University Agronomy Club Guest Speaker Series.

18. Burras, C.L. February 11, 2016. Iowa's soils – origins, properties and productivity. Soil Fertility & Nutrient Management Short Course, Iowa State University Agribusiness Extension Education Program.
19. Burras, C.L. February 06, 2016. Soil health and gardening. Learn on Saturday Lecture Series, Greater Des Moines Botanical Garden. (60 attendees, 2 p. handout).
20. Burras, C.L. February 05, 2016. Corn suitability ratings and their impact on farm real estate. Iowa Auctioneers Association Convention, Ankeny.
21. Burras, C.L. August 19, 2015. Soils, roots and crop growth in 2030. Corn & Soybean Training for Western Canada, Field Education & Extension Laboratory, Iowa State University. (Program for DuPont Pioneer agricultural leaders in Canada - about 30 attendees, 5 p. handout).
22. Burras, C.L. June 04, 2015. Soil Productivity Ratings. Iowa Association of Realtors/Realtors Land Institute, Iowa Chapter, Burlington.
23. Burras, C.L. February 11, 2015. Iowa's soils – origins, properties and productivity. Soil Fertility & Nutrient Management Short Course, Iowa State University Agribusiness Extension Education Program.
24. Burras, C.L. January 06, 2015. Managing soils in northwest Iowa – some predictions for 2030. Crop Advantage Series, Iowa State University Extension, Sheldon.
25. Burras, C.L. December 04, 2014. CSR2: Understanding Iowa's new Corn Suitability Rating. Session J, 26th Annual Integrated Crop Management Conference.
26. Burras, C.L. December 04, 2014. CSR2: Understanding Iowa's new Corn Suitability Rating. Session J, 26th Annual Integrated Crop Management Conference.
27. Burras, C.L. October 12, 2014. Predictions for the Near Future. ACES Residential Learning Community, Iowa State University.
28. Burras, C.L. October 07, 2014. Predictions for corn production in Iowa. Iowa State University Corn Growers Association, Iowa State University.
29. Burras, C.L., A. Anderson Mba, J. Richter, E. Dahlhauser, Z. Wang, C.R. DeLong and R. Pope. October 01, 2014. Discussion of soil morphology, landscapes and interpretations of 10 pedons in central Iowa. Region 5 Intercollegiate Soil Judging Contest & Workshop (Coaches Meeting), Iowa State University.
30. Burras, C.L. September 28, 2014. Iowa and its soils. Region 5 Intercollegiate Soil Judging Contest & Workshop (Introductory meeting), Iowa State University.
31. Burras, C.L. September 23, 2014. Soil productivity, CSR2 and what is next? 2014 Crops Team Fall In-Service, Iowa State University Extension & Outreach.
32. Burras, C.L. September 12, 2014. The soils, landscapes and watersheds of Iowa – How should we think about them? Environmental Science Club, Iowa State University.
33. Burras, C.L. September 09, 2014. Describing and understand soils and landscapes in the field. Ag Leadership Workshop for high school students, Iowa State University Horticulture Farm.
34. Burras, C.L. August 13, 2014. The roles of soil in successful cropping systems. Corn & Soybean Training for Western Canada and Eastern Europe, Field Education & Extension Laboratory, Iowa State University. (Program organized by Pioneer Hi-Bred, about 30 attendees, 4 p. handout).

35. Burras, C.L. April 23, 2014. What leadership means to me. Induction Ceremony for the Iowa State University Chapter of The National Society of Leadership and Success, Iowa State University.
36. Burras, C.L. February 27, 2014. Soil and landscapes of Iowa. MVTL Agronomy Update Meeting, Ames.
37. Burras, C.L. February 18, 2014. Iowa's soils – origins, properties and productivity. Soil Fertility & Nutrient Management Short Course, Iowa State University Agribusiness Extension Education Program.
38. Burras, C.L. February 06, 2014. CSR2 in Wayne County, Iowa. Wayne County Soil Survey Official Release Meeting, Corydon (2 presentations).
39. Burras, C.L. February 04, 2014. Iowa's soils – formation & productivity. Central Valley Cooperative Agronomist Training Workshop, Johnston.
40. Burras, C.L. January 29, 2014. Soil productivity and best use of CSR2. Crop Advantage Series, Iowa State University Extension, Iowa City.
41. Burras, C.L. January 23, 2014. Soils – Master Gardener Training. Master Gardener Spring Lecture Series, Extension Communication Center, Iowa State University.
42. Burras, C.L. December 18, 2013. What we should know about CSR2. Crop Challenges for 2014, Iowa State University Extension, Charles City.
43. Burras, C.L. October 02, 2013. What we should know about CSR2. Iowa State University Extension Farm Management Specialist In-Service Training, Iowa State University.
44. Burras, C.L. October 01, 2013. What we should know about CSR2. Iowa State Assessors Association Annual Meeting, Des Moines.
45. Burras, C.L. September 24, 2013. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Reiman Gardens Iowa State University.
46. Burras, C.L. June 27, 2013. What we should know about CSR2. Southeast Iowa Research & Demonstration Farm Field Day, Crawfordsville.
47. Burras, C.L. September 10, 2013. Describing and understand soils and landscapes in the field. Ag Leadership Workshop for high school students, Iowa State University Horticulture Farm.
48. Burras, L. May 22, 2013. Implentation of CSR2 at Iowa State University. 86th Annual Soil Management & Land Valuation Conference, Iowa State University. (200 attendees)
49. Burras, C. L., May 02, 2013. CSR2 – An updated method to calculate corn suitability ratings for Iowa soils. Iowa Real Estate Commission, Ankeny. (seven page document)
50. Burras, C.L. April 08, 2013. The Soils of Iowa – How should we think about them? Soil & Water Conservation Club, Iowa State University.
51. Burras, C.L. April 04, 2013. Soils – An introduction for gardeners. Iowa Federated Gardens Club, Iowa Arboretum, Luther. (Includes a 20 question examination).
52. Burras, C.L. March 12, 2013. CSR2 – Iowa's new corn suitability rating. McGuire Auction Co., Inc. Customer Appreciation Day, Holstein.

53. Burras, C.L. February 18, 2013. CSR2 – Iowa’s new corn suitability rating. Iowa Corn Crop Fair, Missouri Valley.
54. Burras, L. February 13, 2013. Iowa’s soils – origins, properties and productivity. Soil Fertility & Nutrient Management Short Course, Iowa State University Agribusiness Extension Education Program. (5 page handout).
55. Burras, C.L. January 29, 2013. CSR2 – Iowa’s new corn suitability rating. Crop Advantage Series, Iowa State University Extension, Le Mars.
56. Burras, L. January 29, 2013. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Extension Building, Haber Road.
57. Burras, C.L. January 25, 2013. CSR2 – Iowa’s new corn suitability rating. Western Iowa No-Till Workshop, Walnut.
58. Burras, C.L. January 24, 2013. CSR2 – Iowa’s new corn suitability rating. Crop Advantage Series, Iowa State University Extension, Waterloo.
59. Burras, C.L. January 22, 2013. CSR2 – Iowa’s new corn suitability rating. Crop Advantage Series, Iowa State University Extension, Carroll.
60. Burras, C.L. January 21, 2013. CSR2 – Iowa’s new corn suitability rating. North Central Iowa Crop & Land Stewardship Clinic, Iowa Falls (two seminars)
61. Burras, C.L. January 09, 2013. CSR2 – Iowa’s new corn suitability rating. Crop Advantage Series, Iowa State University Extension, Okoboji. (two presentations)
62. Burras, C.L. January 03, 2013. CSR2 – Iowa’s new corn suitability rating. Crop Advantage Series, Iowa State University Extension, Sheldon.
63. Burras, C.L. November 02, 2012. CSR2 – Iowa’s new corn suitability rating. ISU Extension Field Agronomists Professional Development. ISU Alumni Center.
64. Burras, L. September 11, 2012. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Reiman Gardens.
65. Burras, C.L. September 06, 2012. CSR2 – Iowa’s revised corn suitability rating. Conservation Districts of Iowa Annual Conference, West Des Moines. (40 attendees).
66. Burras, C.L. July 26, 2012. The natural and agro-ecology of the Doolittle Prairie region. Rooted in Community Conference, Ames.
67. Burras, C.L. May 30, 2012. CSR2 – Iowa’s revised corn suitability rating. Iowa NRCS Leadership Team Meeting, Des Moines. (6 page handout).
68. Burras, C.L. May 29, 2012. How the 20th century changed the soils of Iowa. Iowa Lakeside Laboratory Summer Lecture (30 attendees).
69. Burras, L. May 09, 2012. The new corn suitability rating, CSR2. 85th Annual Soil Management & Land Valuation Conference, Iowa State University. (200 attendees)
70. Burras, L. February 15, 2012. Iowa’s soils – origins, properties and productivity. Soil Fertility & Nutrient Management Short Course, Iowa State University Agribusiness Extension Education Program. (6 page handout). (*Program Evaluation results = 4.4/5.0*)

71. Burras, C.L. February 11, 2012. CSR2 and Land Stewardship in Iowa. Beginning Farmers Conference. (2 presentations, 70 attendees total)
72. Burras, C.L. February 08, 2012. Changes in the Corn Suitability Rating, Cass County, Iowa. Soil Survey Kick-Off, Atlantic. (2 presentations, 80 attendees total)
73. Burras, C.L. January 30-31, 2012. Changes in the Corn Suitability Rating, Dickinson County, Iowa. Soil Survey Kick-Off, Spirit Lake. (3 presentations over two days, 100 attendees total)
74. Burras, C. L. January 20, 2012. Soils, CSR and its viability in modern farming. 5th Annual Land Investment Expo, West Des Moines. (90 attendees).
75. Burras, L. January 17, 2012. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Reiman Gardens.
76. Burras, C.L. January 12, 2012. Practical Farmers of Iowa Soils 101 Workshop. Scheman Auditorium, Iowa State Center. (100 attendees, 3 page handout).
77. Burras, L. and Jason Steele. October 03, 2011. Iowa's soils & their productivity: an examination of CSR2. Iowa State Association of Assessors 2011 School of Instruction and Conference, Des Moines. (250 attendees.)
78. Burras, L. September 13, 2011. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Reiman Gardens.
79. Burras, L. September 09-10, 2011. Glacial footprints of northwest Iowa. Natural History Weekend, Iowa Lakeside Laboratory. (40 attendees at Friday evening lecture and on the 4 hour long Saturday morning field trip).
80. Burras, L. August 31, 2011. Iowa's soils & their productivity: an examination of CSR. Iowa Department of Revenue Agricultural Adjustment Committee, Hoover Building, Des Moines. (17 attendees representing IDR, IDALS, IDNR, Iowa Farm Bureau, Iowa Cattlemen's Associations, County Auditors, County Assessors, etc.)
81. Burras, L. August 24, 2011. Iowa's soils & their productivity. Road to 300 Field Day. Ellsworth Equestrian Center, Iowa Falls. (70 farmers; 30 agronomists)
82. Burras, L. April 26, 2011. The Terrestrial Carbon Cycle. Spirit Lake High School Earth Science class. Via Skype to Iowa Lakeside Laboratory.
83. Burras, C.L. April 21, 2011. Soils – A quick introduction. Homegrown Lifestyle, Iowa State University Extension. (with 2 page handout)
84. Burras, C.L. April 07, 2011. Soils – An introduction for gardeners. Iowa Federated Gardens Club, Iowa Arboretum, Luther.
85. Burras, L. February 16, 2011. Iowa's soils – origins, properties and productivity. Soil Fertility & Nutrient Management Short Course, Iowa State University Agribusiness Extension Education Program. (with 6 page handout).
86. Burras, C.L. January 20, 2011. Human impacts on the soils and water of Iowa. Joint Meeting of the Iowa Chapters of the American Fisheries Association & The Wildlife Society, Honey Creek Resort, Lake Rathbun.
87. Burras, L. January 18, 2011. Soils – Master Gardener Training. Master Gardener Spring Lecture Series, Reiman Gardens.

88. Burras, C.L. November 18, 2010. Iowa soils and their productivity – a pedologist’s perspective. Iowa State Association of Counties - Assessors Workshop, Coralville.
89. Burras, C.L. October 20, 2010. Food. Campus Sustainability Workshop. Sun Room, Memorial Union, Iowa State University.
90. Burras, L. September 14, 2010. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Reiman Gardens.
91. Burras, L. May 12, 2010. Iowa soils and their productivity – an update with CSR2. In-Service Program for Extension Economists, Department of Economics, Iowa State University.
92. Burras, L. March 23, 2010. Iowa soils and their productivity. 6th Annual Meeting of the American Society of Farm Managers & Rural Appraisers and Realtor’s Land Institute, Ames.
93. Burras, L. February 18, 2010. Iowa’s soils – origins, properties and productivity. Soil Fertility & Nutrient Management Short Course, Iowa State University Agribusiness Extension Education Program. (with 6 page handout).
94. Burras, L. September 24, 2009. Soil productivity and corn suitability ratings in Iowa. Iowa State University Extension Agronomist In-Service Workshop (with one page handout)
95. Burras, C.L. September 07, 2009. Pedologic & hydrologic context for Midwest agriculture. Food, Energy & Life in Iowa. Audience included University of Vermont visiting scientists and students and ISU’s SusAg 620X students and instructors. (6 hour trip w/ 12 page handout).
96. Burras, L. April 21, 2009. Undergraduate experiences that advance scholarship – examples from Uganda. 3rd Annual Undergraduate Research Symposium. ISU Honors Program, MU Sun Room.
97. Burras, L. May 03, 2008. Physical geography of the Iowa Great Lakes – understanding soils & geology in conservation. Master Conservationist Program of Dickinson County & Iowa Lakeside Laboratory.
98. Burras, L. February 06, 2007. Advising philosophy and tips from an inadvertent “expert.” Iowa State University Advisor’s Exchange Forum.
99. Burras, L., M. Barker, J. McLaughlin and C. Brummer. July 2004. Soil organic carbon and quality in the Chariton River Watershed, Iowa. ORNL-DOE Annual Review of the Chariton Valley Project, Centerville.
100. Wills, S.A. and L. Burras. 2003. Using geostatistics and GIS to describe and predict soil properties in Hayden Prairie and an adjacent agricultural fields. Baker Council, Agronomy Department, ISU.
101. Burras, L. November 2002. Soil health and Carbon Sequestration. Iowa Grassland Conference, West Des Moines.
102. Burras, L. and J.M. McLaughlin. September 2002. Soil organic carbon across landscapes and land uses in the Chariton Valley, Iowa. Crop Production & Physiology Seminar, ISU Agronomy.
103. Burras, L. and J. McLaughlin. July 2002. Soil quality and carbon content across selected fields of the Chariton Valley. ORNL-DOE Annual Review of the Chariton Valley Project, Centerville.
104. Burras, L., J.M. McLaughlin, and E.C. Brummer. August 2000. Switchgrass and soil carbon sequestration in south central Iowa. Iowa Prairie Lands Annual Meeting, Millerton.

105. Burras, L., J. Patton and J. Pinkston. May 2000. Summary comparison of Fayette and Fayette-like soils on Amish and "English" farms in Fillmore County, Minnesota. Rotational Grazing Field Day, Fillmore Soil & Water Conservation District.
106. Burras, L., J. McLaughlin, and N. Molstad. January 2000. Soil quality and carbon sequestration research. Chariton Valley Biomass Project Partners Meeting, West Des Moines.
107. Burras, L. December 1999. Determining soil carbon dynamics – an abbreviated overview. Working Group for Developing & Marketing a Credible Carbon Credit in Iowa. West Des Moines.
108. Burras, L., G. Miller, J. Cooper, M. Braster, and J. McLaughlin. December 1999. Dynamics of carbon sequestration in the Chariton Valley, Iowa – a preview. Working Group for Developing & Marketing a Credible Carbon Credit in Iowa, West Des Moines.
109. Burras, L., G. Miller, J. Cooper, and M. Braster. March 1999. Spatial and temporal dynamics of carbon sequestration in the Chariton Valley, Iowa – goals and approaches. Iowa Carbon Summit, IFBF, West Des Moines.
110. Burras, L. and M. Konen. September 1998. Spatiality of soils and sediments in closed basins from Iowa and Ohio. ISU Pedometrics Paper for Chad Berghoefer and Devin Helming, Cargill Inc., Ames.
111. Burras, L. August 1998 Human impact on soils in northwest Iowa. Iowa Lakeside Laboratory Summer Seminar Series.
112. Burras, L., K. Moore, and C. Brummer. February 1997. Switchgrass production in relation to soil variability and environmental quality. Chariton Valley RC&D and USDOE Quarterly Review Meeting, Iowa State University.

Expertise on soil productivity ratings and modern soil survey

1. Burras, C.L. December 12, 2017. CSR2 and flooding in Mahaska County. Property Assessment Appeals Board, State of Iowa (telephone testimony).
2. Burras, C.L. August 14, 2017. CSR2 and flooding in Vertisols of the Missouri River valley. Property Assessment Appeals Board, State of Iowa (telephone testimony).
3. Burras, C.L. July 21, 2017. CSR2 and flooding in the Saylorville Reservoir reserve pool, Polk County. Property Assessment Appeals Board, State of Iowa, Hoover Building, Des Moines.

Volunteered research presentations – in or near Iowa or Louisiana

1. Papanicolaou, T. and C.L. Burras. November 29, 2007. Opportunities for hydrogeology using Clear Creek Watershed. Iowa Hydraulics and Hydrology Laboratory, University of Iowa, Iowa City.
2. Lemus, R.W., E.C. Brummer, L. Burras, N.E. Molstad, and R.K. Doorenbos. March 2000. Cultivar and fertility effects on switchgrass yield and quality in the Chariton Valley, Iowa. American Society of Agronomy North Central Region Conference, Johnston, IA.
3. Mullenix, W., L. Burras, M.E. Konen, and N.E. Molstad. October 1999. Yield variability trends across a well-managed cornfield in central Iowa. Plant Sciences Institute Inaugural Colloquium, Iowa State University.
4. Ricks, D., L. Burras, A. Bolender, and M.E. Konen. August 1996. Spatiality and composition of Mima mounds at Kalsow Prairie, Iowa. Program for Women in Science & Engineering.

5. Burras, L. January 1996. Evolution of soil structure during Clarion pedogenesis. ISU Soil Structure Working Group.
6. Burras, L., H.A. DeRamus, E.G. Blakewood, and L.J. Desselle. March 1993. Soil erosion and sedimentation in an intensively row-cropped drainage basin from southern Louisiana. Louisiana Association of Agronomists Annual Conference, Baton Rouge.
7. Burras, L., J.V. Huner, and E.G. Blakewood. May 1993. Impact of crawfish burrowing in soils of southern Louisiana. Louisiana Academy of Science Annual Conference, Lafayette.
8. Blakewood, E.G., L. Burras, and J.V. Huner. May 1993. The effect of hydrological parameters on the burrowing ability of the Red Swamp Crawfish. Louisiana Academy of Science Annual Conference, Lafayette.
9. DeRamus, H.A. and L. Burras. May 1993. Mixed species grazing by sheep and cattle: forage production and utilization. Louisiana Academy of Science Annual Conference, Lafayette.

TEACHING RESPONSIBILITIES AND ACTIVITIES

Dr. Burras has a teaching-focused appointment. His typical teaching load is four or five regular classes/year as well as one travel course. During his 20 years at Iowa State University he has taught 20 different “regular” courses and has taught each an average of five times. In addition he has taught numerous independent and research courses. Ten of Dr. Burras’ 20 regular courses are on campus undergraduate courses, three are co-listed ISU-Iowa Lakeside Laboratory immersion courses, three are travel abroad courses, two are graduate seminar courses, and one was a web-based distant education graduate course. Sixteen of the courses he has always taught solo while the remaining four courses he has taught solo or as part of a team depending on the needs of the program.

Courses taught in the past 2 years

List does not include independent studies, research, and other less structured courses.

Catalog No.	Title	Cr.	Terms	Typical Size	Times Taught
Agron 260	Soils and Environmental Quality	3	F, S	120	1
Agron 282	Soil Conservation & Land Use	3	F, S	70	1
Ensci 250	Environmental Geography	3	F	60	5
Agron/Ensci 360	Environmental Soil Science	3	S	80	5
Agron/Ensci 463	Soil Formation & Landscape....	3	S	25	5
Agron 496A	International travel - Uruguay	3	F	10	1
Agron 496A	International travel – Costa Rica	3	S	25	2
Agron/Ensci 563*	Soil Formation & Landscape....	3	S	5	2
Agron/Ensci 575	Soil Formation & Transformations	3	F	5	2
IALL 3175	Soil Formation	2	Su	4	1

*Agron 563 is dual listed with Agron 463

Summary of recent teaching and course effectiveness given in chronological order. Effectiveness measured using standard student evaluations from discipline-rich courses (travel courses, etc., not included).

Term	Course No.	Course Title (sometimes abbreviated)	Mean rating of instructor	“Very Good” ² (%)	Mean rating of course	Enrollment (n)
F 11	Agron 210	Sophomore Seminar	4.85	87		
	Agron 260	Soils & Environmental Quality	4.92	92		
	Ensci 250	Environmental Geography	4.91	91		
S 12	Agron 260	Soils & Environmental Quality	4.59	68		
	Agron 360	Environmental Soil Science	4.75	86		
	Agron 370	Field Descriptions	5.00	100		

	Agron 463	Soil Formation & Landscape Relat.	4.64	78		
F 12	Agron 210	Sophomore Seminar	4.75	80		
	Agron 260	Soils & Environmental Quality	4.77	82		
	Agron 575	Soil Formation & Transformation	4.71	71		
	Ensci 250	Environmental Geography	4.85	88		
S 13	Agron 260	Soils & Environmental Quality	4.83	84		
	Agron 360	Environmental Soil Science	4.87	88		
	Agron 463	Soil Formation & Landscape Relat.	5.0	100		
	Agron 563	Soil Formation & Landscape Relat.	4.71	86		
F 13	Agron 210	Sophomore Seminar	4.90	90		
	Agron 260	Soils & Environmental Quality	4.76	78		
	Agron 370	Soil Descriptions	5.00	100		
	Ensci 250	Environmental Geography	4.87	89		
S 14	Agron 260	Soils & Environmental Quality	4.77	83		
	Agron 360	Environmental Soil Science	4.93	93		
	Agron 463	Soil Formation & Landscape Relat.	4.81	81		
	Agron 496A	Soils, Crops & Water of Costa Rica	4.83	83		
	Agron 563	Soil Formation & Landscape Relat.	4.67	67		
F 14	Agron 260	Soils & Environmental Quality	4.76	79		
	Agron 370	Soil Descriptions (<i>evaluation "contest"</i>)	4.83	92		
	Agron 575	Soil Formation & Transformation	4.80	80		
	Ensci 250	Environmental Geography	4.67	69		
S 15	Agron 360	Environmental Soil Science	4.70	77		
	Agron 463	Soil Formation & Landscape Relat.	4.79	84		
	Agron 496A	Soils, Crops & Water of Costa Rica				
	Agron 563	Soil Formation & Landscape Relat.	4.41	40		
F 15	Agron 260	Soils & Environmental Quality	4.67	74	4.60	118
	Ensci 250	Environmental Geography	4.82	82	4.52	72
S 16	Agron 360	Environmental Soil Science	4.83	82	4.56	85
	Agron 463	Soil Formation & Landscape Relat.	4.83	83	4.65	26
	Agron 496A	Soils, Crops & Water of Costa Rica	4.80	80	--	26
	Agron 563	Soil Formation & Landscape Relat.	4.67	67	4.67	8
F16	Agron 260	Soils & Environmental Quality	4.85	85	4.72	118
	Agron 575	Soil Formation & Transformation	5.00	100	3.86	10
	Ensci 250	Environmental Geography	4.67	73	4.63	87
S 17	Agron 360	Environmental Soil Science	4.70	78	4.33	92
	Agron 463	Soil Formation & Landscape Relat.	4.76	88	4.88	16
	Agron 496A	Soils, Crops & Water of Costa Rica	5.00	100	5.00	26
	Agron 563	Soil Formation & Landscape Relat.	5.00	100	5.00	3
F17	Agron 282	Soil Conservation & Land Use	4.89	89	4.83	78
	Agron 496A	Soils, Agric. & Env. of Uruguay	5.0	100	5.0	10
	Agron 575	Soil Formation & Transformation	4.33	67	4.67	5
	Ensci 250	Environmental Geography	4.72	77	4.47	87
S 18	Agron 282	Soil Conservation & Land Use	4.84	86	4.65	69
	Agron 360	Environmental Soil Science	4.78	80	4.62	89
	Agron 463	Soil Formation & Landscape Relat.	5.00	100	4.95	36
	Agron 496A	Soils, Crops & Water of Costa Rica	5.00	100	5.00	26
	Agron 563	Soil Formation & Landscape Relat.	5.00	100	5.00	6

Notes:

"Very good" shows percentage of students who rated Dr. Burras in the highest category of teaching effectiveness.

Fall 2017 , Agronomy Department average rating of all instructors and courses for undergraduate courses were 3.91 and 3.71, respectively. For graduate courses they were 4.73 and 4.63, respectively.

Example recent invited guest lectures/teaching

- Burras, C.L. August 09, 2018. Pedology of Iowa and its relevance to Midwest agriculture. Sus Ag 509 Agroecosystem Analysis, *lecture followed by field tour to Doolittle Prairie through Lake Cairo.*
- Burras, C.L. July 21, 2018. The world around us – a pedologist’s perspective. Agron 497, Agroecology – joint course of ISU, UNL, UM & DC housed at Dordt College, *lecture & field. 21 students.*
- Burras, C. L. July 17, 2018. Pedology and soil management. Agron 594, Agronomy Practicum. (2 lectures, 27 students).
- Burras, C.L. July 17, 2018. Iowa agriculture and a tour of Iowa State University. Reciprocal visit to Horticulture, Entomology & Plant Pathology by 15 University of Costa Rica students and faculty.
- Burras, C.L. March 01 and 06, 2018. Soils & their effective management. GLOBE 201, Global Resource Systems, *3.0 hours total, 35 students.*
- Burras, C.L. February 21, 2018. Soils of Uganda. GLOBE 495, Uganda Service Learning Preparation.
- Burras, C.L. February 01, 2018. Geology, stratigraphy and pedology of western Tennessee. Agron 370, “Soil Judging.”
- Burras, C.L. September 27, 2017. The Soils of Iowa – How should I think about them? Agron 182, Fundamentals of Soil Science.
- Burras, C.L. September 26, 2017. Soil bulk density using a soil core. Agron 183, Basic Skills for Agronomists.
- Burras, C.L. September 22 & 25, 2017. Soils. NREM 120, Introduction to Renewable Resources, 320 students (2 lectures).
- Burras, C.L. September 21, 2017. Geology, stratigraphy and pedology of eastern South Dakota. Agron 370, “Soil Judging.”
- Burras, C.L. August 10, 2017. Pedology of Iowa and its relevance to Midwest agriculture. Sus Ag 509 Agroecosystem Analysis, *lecture followed by field tour across the Boone River Watershed, 13 students.*
- Burras, C. L. July 25, 2017. Pedology and soil management. Agron 594, Agronomy Practicum. (2 lectures, 26 students).
- Burras, C.L. July 15, 2017. The world around us – a pedologist’s perspective. Agron 497, Agroecology – joint course of ISU, UNL, UM & DC housed at Dordt College, *lecture & field. 20 students.*
- Burras, C.L. June 23, 2017. Soil formation and descriptions. IALL 4271, Field Archeology. *Field based lecture with descriptions. 12 students.*
- Burras, C.L. April 05 & 07, 2017. Guest “expert” responsible for on-the-spot critique and questions of group presentations. Agron 260, Soils & Environmental Quality (14 presentations reviewed).
- Burras, C.L. February 28 & March 02 and 07, 2017. Soils & their effective management. GLOBE 201, Global Resource Systems, *4.5 hours total over three days, 35 students.*
- Burras, C.L. February 16, 2017. Geology, stratigraphy and physiology of the northern Great Plains. Agron 370, “Soil Judging.”

Burras, C.L. February 15, 2017. Soils of Uganda. GLOBE 495, Uganda Service Learning Preparation.

Burras, C.L. February 14, 2017. Personality as part of effective teaching. Hort 698, Teaching Practicum.

Burras, C.L. February 13, 2017. Soils of Costa Rica. Hort/PI P/Ent 511, Integrated Management of Tropical Crops.

Burras, C.L. February 10 & 13, 2017. Soils. NREM 120, Introduction to Renewable Resources, 250 students (2 lectures).

Burras, C.L. September 22, 2016. Geology around Lincoln, Nebraska – an overview for soil judges. Agron 370, Soil Descriptions, 15 students.

Burras, C.L. September 19 & 21, 2016. Soils. NREM 120, Introduction to Renewable Resources, 250 students (2 lectures).

Burras, C.L. August 29, 2016. Certification and Licensing in Agronomy. Presentation to Agron 210.

Burras, C.L. August 19-20, 2016. Agronomy Learning Community Field Trip.

Burras, C.L. August 11, 2016. Pedology of Iowa and its relevance to Midwest agriculture. Sus Ag 509 Agroecosystem Analysis, *lecture followed by field tour, 8 students.*

Burras, C. L. July 26, 2016. Pedology and soil management. Agron 594, Agronomy Practicum. (2 lectures, 26 students).

Burras, C.L. July 23, 2016. The world around us – a pedologist’s perspective. Agron 497, Agroecology – joint course of ISU, UNL, UM & DC housed at Dordt College, *lecture & field. 20 students.*

Burras, C.L. July 19, 2016. Iowa – its soils and agriculture including a tour of Iowa State University. Reciprocal visit to Horticulture, Entomology & Plant Pathology by 20 University of Costa Rica students and faculty.

Burras, C.L. April 08, 2016. The Soils of Iowa – How should I think about them? Agron 154, Fundamentals of Soil Science (1 lecture, given live to on-campus students while being taped for off-campus students).

Burras, C.L., A. Anderson Mba & H. Dittmer. March 24, 2016. Geology of Kansas and western Minnesota. Agron 370, Field Descriptions of Soils and the ISU Soil Judging Team.

Advising Activities (past 10 to 12 years)

Undergraduate Advisees
(Agron = Agronomy; Ensca/s = Environmental Science)

	F07	S08	F08	S09	F09	S10	F10	S11	F11	S12	F12
Agron	24	23	26	35	28	45	42	44	25	26	31
Ensca/s	19	20	15	17	12	15	10	12	16	18	10
Other	0	0	0	0	0	0	0	0	0	0	0
Total	43	43	41	52	40	60	52	56	41	44	41

Graduate Advisees (i.e., students to whom I serve as major professor)

	3	5	5	6	5	5	5	5	3	2	3
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Undergraduate Advisees
(Agron = Agronomy; Ensca/s = Environmental Science)

	S13	F13	S14	F14	S15	F15	S16	Su16	F 16	S17
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Agron	35	26	29	32	36	30	24	17	16	12
Enscas/s	20	14	13	11	14	11	15	10	10	9
Other	0	0	0	0	0	0	0	0	0	0
Total	55	40	42	43	50	41	39	27	26	21
<i>Graduated</i>	15	4	9	6	10	3	11	2	5	10
Graduate Advisees (i.e., students to whom I serve as major professor or co-major professor)										
Resident	5	7	6	5	5	5	3	3	2	1
Off-campus					2	2	3	3	4	4
<i>Graduated</i>	0	1	0	2	0	2	0	1	1	1

Undergraduate Advisees
(Agron = Agronomy; Enscas/s = Environmental Science)

	F17	S18
Agron	10	8
Enscas/s	3	3
Other	0	0
Total	13	11
<i>Graduated</i>	5	8

Graduate Advisees (i.e., students to whom I serve as major professor or co-major professor)		
Resident	1	1
Off-campus	3	2
<i>Graduated</i>	1	0

Undergraduate advising quality

April 28, 2015 – 78% and 22% of advisees ranked Lee Burras as “excellent” and “good,” respectively, as part of an department/university adviser evaluation program.

Spring 2012 - 82% and 18% of advisees ranked Lee Burras as “excellent” and “good,” respectively, as part of an ISU-wide adviser evaluation program.

Major professor to:

PhD & MS with thesis – date is year of completion

1. Richter, Jennifer L. 2016. Soils of Iowa: An examination of three pedological assumptions. PhD dissertation, 214 p.
2. Dahlhauser, Ethan M. 2016. Pedogenesis of outwash derived soils on terraces of the Des Moines River. Unpubl. MS thesis, 169 p.
3. Wang, Ziyang. 2015. Corn seedling response to silicon amendments in three Iowa and one Chinese soil. Unpubl. MS thesis, 121 p.
4. Mtama, Johnson G. 2015. Pedology of corn productivity indices for parts of Southern Highland Zone of Tanzania. Unpubl. MS thesis, 105 p.
5. Sassman, Aaron M. 2014. Corn production with Instinct nitrification inhibitor applied with urea-ammonium nitrate solution and liquid swine manure. Unpubl. MS thesis, 96 p. (co-major professor)
6. DeLong, Catherine R. 2014. A carbon assessment of Iowa State University’s Land. Unpubl. MS thesis. 92 p.
7. Tiedeman, Mary L. 2013. Pedogenesis of ant colonized soils at Doolittle Prairie State Preserve, Iowa. Unpubl. MS thesis. 72 p.

8. Ibrahim, Mostafa A.A. 2011. Argillic horizons and clay-sized particles – an alternative interpretation of their dynamics in sola development and across catenas. PhD dissertation. 126 p.
 9. Veenstra, Jessica J. 2010. Fifty years of agricultural soil change in Iowa. PhD dissertation. 71 p.
 10. Wasko, Lisa M. 2010. Alternative weed management practices: Effects of weed control, grapevine performance, and soil quality in an established Midwestern vineyard. Unpubl. MS thesis. 125 p.
 11. Oneal, Brad. 2009. Quaternary stratigraphy and pedology of Clear Creek watershed, Iowa County, Iowa. Unpubl. MS thesis. 205 p.
 12. Nyasimi, M.K. 2007. Culture and land as co-transformers of livelihood in the Awach River Basin of Lake Victoria. PhD dissertation, 130 p. (co-major professor).
 13. Miller, B.A. 2006. Spatial integration of watersheds, wetlands and tile drainage systems on the Des Moines Lobe, Iowa. MS thesis, 91 p. (co-major professor)
 14. Wills, S.A. 2005. The spatial distribution of soil properties and prediction of soil organic carbon in Hayden Prairie and an adjacent agricultural field. PhD dissertation, 191 p. (co-major professor)
 15. Larabee, B.E. 2005. Evolution of the Palms (Terric Haplosaprist) soil in Iowa, 1969-2001. Unpubl. MS thesis. 141 p.
 16. Barker, M.E. 2004. Soil quality in the Chariton Valley, Iowa. Unpubl. MS thesis. 128 p.
 17. McLaughlin, J.M. 2003. Soil carbon content, morphology and quality across three levels of pasture quality in the Chariton Valley, Iowa. Unpubl. MS thesis. 135 p.
 18. Kost, J.A. 2003. An assessment of potential agriculture nonpoint sources of water quality impairment in the Rathbun Lake Watershed. Unpubl. MS thesis. 51 p. (co-major professor)
 19. Wills, S.A. 2001. Hapludoll properties in woodlots & fields in central Iowa. Unpubl. MS thesis. 136 p.
 20. Mullenix, W.A. 2000. Pedology and corn yields in relation to landscape across a Mollisol toposequence in north central Iowa. Unpubl. MS thesis. 89 p.
 21. Molstad, N.E. 2000. Landscapes, soil morphology, and switchgrass productivity in the Chariton River Valley, Iowa. Unpubl. MS thesis. 192 p.
 22. Pinkston, J.J. 2000. Morphological and chemical properties of soils in Amish and conventional fields in Minnesota and Ohio. Unpubl. MS thesis. 155 p.
 23. Patton, J.J. 1999. Soil morphology in Amish and conventional fields throughout the central USA. Unpubl. MS thesis. 179 p.
- Non-thesis students – completed
24. Okonek, Steven D. 2017. Reducing soil erosion in the Driftless Iowa, Wisconsin, through education. Creative Component (Agronomy).
 25. Nordstrom, Steven D. 2017. Effectively understanding and communicating Iowa's Corn Suitability Rating 2 (CSR2). Creative Component (Agronomy).
 26. Keninger, David. 2011. Corn suitability ratings: Are they an accurate indicator of crop yield? Creative Component MS (Soil Science).

27. Frederick, Christopher. 2008. A farmer's friend – Compilation of best farming management documents for Ghana. Creative Component MS (Agronomy).
28. Williams, V. 2003. Modeling changes in water-holding capacity using soil properties of subwatersheds containing Lake Osceola, Clarke County, Iowa. Creative Component MS (Water Resources).
29. Kipper, R.L. 2001. Soils under established trees in parks, towns, and cities in the central USA. Creative Component MS (IGS).
30. Steele, J.S. 2000. Designing fieldwork into high school environmental science curricula. Creative Component MS (IGS).

Graduate students being directed currently

1. Anderson Mba, Amber. PhD, Soil Science. Pedology, soil quality and farmer knowledge. Likely completion – May 2020.
2. Berkey, James R. MS, Agronomy. TBD – May 2018.
3. Taylor, Katherine S. MS, Soil Science. TBD – December 2018.
4. Zollinger, Richard L. MS, Agronomy. TBD – May 2019.

Visiting Scholars hosted

Enrique Villalobos. August 2018. Professor emeritus, University of Costa Rica.

Shuai Chen. December 2016 through December 2017. Pre-Doctoral Visiting Scholar, Chinese Academy of Sciences.

Moses Tenywa. January 2017. Professor, Makerere University, Kampala, Uganda (Co-hosted with Bradley Miller within a broader visit coordinated by Rob Mazur and Andy Lenssen).

Onesmus Semalulu. January 2017. Research Scientist, National Agriculture Research Organization, Uganda (Co-hosted with Bradley Miller within a broader visit coordinated by Rob Mazur and Andy Lenssen).

Yury Chendev. July 2008 through May 2009. Fulbright Fellow. (Co-hosted with Tom Sauer, USDA-ARS NLAE).

RESEARCH/CREATIVE ACTIVITIES

Research Responsibilities

Dr. Burras has 30% research appointment. His area of expertise is pedology. His research is aimed at three field-based objectives:

- (1) documenting long-term impact of human use on soil morphology,
- (2) quantifying dynamic and pedological properties within and across pedons,
- (3) developing pedology-based algorithms apply soils knowledge to soil map interpretations such as crop productivity ratings.

Dr. Burras' research is a mix of independent and collaborative projects. As a collaborator he has been especially successful in bridging pedology into other disciplines such as plant breeding, crop production and natural area ecology.

Funded Grants and Contracts

(limited to ones where Dr. Burras is the lead or second PI)

Burras, C.L. 2013-2014. Scientific Information Exchange - North Central Regional Cooperative Soil Survey Conference. USDA-NRCS. \$15,000

Miller, G.A. and C.L. Burras. FY2008-2010. ISPAID and the Iowa Cooperative Soil Survey. Iowa Department of Agriculture and Land Stewardship. \$40,000 (*Burras component = 20%*).

Burras, C.L. 2007 to 2009. Contracts with eight counties regarding updated soil surveys as part of ISU's role in the Iowa Cooperative Soil Survey. Approximate total worth \$600,000

Papanicolaou, T. and C.L. Burras. FY2008-9 (*subcontract at ISU*) Impacts to the land-water-human system of rural Iowa from high-intensity continuous maize production. Leopold Center for Sustainable Agriculture. \$34,800 (*Burras component = 20%*)

Burras, C.L. FY2006-07. Pedology of the eastern Lake Victoria watershed. College of Agriculture Research Travel Grants. \$2500

Burras, C. L. and J.M. McLaughlin. FY2002-2005. Soil carbon farming in the Chariton Valley, Iowa: Landscape scale changes in soil organic carbon and quality. Chariton Valley RCD & Oak Ridge National Laboratory (ORNL). \$216,897 (*Burras component = 100%*)

Brummer, E.C., C.L. Burras and M. Duffy. FY2001-2005. Switchgrass and reed canarygrass as biomass crops in Iowa: Agronomy, germplasm evaluation and development, and soil suitability. ORNL Bioenergy Feedstock Program. \$240,000 (*Burras component = 30%*)

Burras, C. L. FY1999-2001. Spatial and temporal dynamics of carbon sequestration in the Chariton Valley, Iowa. Chariton Valley RC&D, \$112,369 (*Burras component = 100%*)

Thompson, J.R., and C.L. Burras. FY1998-2000. Identifying Environmental Constraints Affecting Tree Survival and Growth in Rural, Suburban, and Urban Public Settings. National Urban and Community Forestry Advisory Council, \$83,790 (*Burras component = 40%*)

Brummer, E.C., C.L. Burras, K.J. Moore, and M. Duffy. FY1998-2000. Switchgrass Production in Iowa: Economics, soils, and varietal performance. Oak Ridge National Laboratories, \$170,436 (*Burras component = 30%*)

DeRamus, H.A., L. Burras, and L. Labbe. 1995-1996. Management Intensive Grazing: Foundation of Sustainable Agriculture in the South. Southern Region SARE/ACE Program, \$94,335 (funding managed by University of Louisiana-Lafayette)

Please note – Dr. Burras does not list proposals that have not garnered funding or ones under review.

SERVICE ACTIVITIES

Service Responsibilities

Dr. Burras is committed to meaningful institutional service appointment. His focus is generally student development. Secondly it ties into the National Cooperative Soil Survey and Iowa Cooperative Soil Survey as well as with his professional societies and international activities.

Selected service for the past 10 years or so

Marshal - University Commencement	ISU	2011-2018
Enscas Presenter - Convocation	ISU CALS	1997-2018
Education Abroad Committee	ISU	2017-2018
Library Advisor Council	ISU College of Library	2012-2018
IA Cooperative Soil Survey Tech Team	ISU Experiment Station	2010-2018
Judge, ISU FFA Soil Judging Contest	FFA	2015-2017

Agronomy Learning Community Trip	ISU Agronomy	2000-2018
Orientation Panel for Parents of New Students	ISU	1998-2018
Chair, Catalog Committee	ISU Agronomy	2017-2018
Lecturer Search Committee	ISU Agronomy	2018
Goldwater Scholarship Committee	ISU Honors	2017
Senator – at large for Agriculture & Life Sciences	ISU Faculty Senate	2016-2017
Curriculum Committee	ISU Agronomy	2011-2017
Student Services Search Committee	ISU Agronomy	2016
“Trainer” on soil mapping and interpretations	MUK & NARO, Uganda	2015
Co-Chair, NC Regional Soil Survey Conference	National Coop. Soil Survey	2014
Co-organizer, Region 5 Soil Judging Contest	ISU Agronomy/ASA-SSSA	2014
ISU FFA Soil Judging Contest, Co-Director	FFA	2014
Host, NCERA-3 Regional Meeting	USDA-Experiment Station	2014
Reviewer, SBIR/STTR Soil Proposal	National Science Foundation	2014
Evaluator of Senior Projects	ISU GLOBE	2014
Sigma Xi- President	ISU Chapter	2013
Golden Scholar Committee	ASA	2012-13
NCERA-3, Soil Survey (Chair)	USDA-Experiment Station	2012
Promotion & Tenure Committee	ISU Agronomy	2012
Program Reviewer - Agroecology	FIU-USDA HSI	2012
Farm Progress Show – Soils of Iowa	ISU	2012
Reviewer of a pedology proposal	National Science Foundation	2012
Conservation & Preserves Committee	Iowa Academy of Science	2012-2013
ISU Chapter President-Elect	Sigma Xi	2012
ISU FFA Soil Judging Contest, Director	FFA	2011-2013
Reviewer, SBIR/STTR Plant Biotechnology Panel	National Science Foundation	2011
Certification Education Committee	SSSA	2011
Teaching & Advising Awards Committee	ISU	2011-2013
Search Committee – Soybean Agronomist	ISU Agronomy	2010-2011
Reviewer, SBIR/STTR Plant Biotechnology Panel	National Science Foundation	2010
Curriculum Committee (Chair)	ISU College of Agriculture	2009-2011
Academic Standards & Admissions (Chair)	ISU Faculty Senate	2010-2011
Curriculum Committee	ISU Faculty Senate	2009-2011
NC ERA-3, Soil Survey	USDA-Experiment Station	2008-2011
National & Iowa Cooperative Soil Survey	Experiment Station	2006-2012
Graduate Poster Reviewer	Iowa Water Conference	2010
Council on History, Phil. & Sociology of Soil	SSSA	2006-2009
Crop Sci. Teaching Improvement Committee	CSSA	2009-2011
Student Research Symposium Contest	ASA	2007-2010
Nominations Committee for Div. A-1	ASA	2007-2009
Chair, Division A-1, Resident Education	ASA	2007
Associate Editor, JNRLSE	ASA	2006-08
Director of Undergraduate Services	ISU Agronomy	2007-2011
Teaching Panel (Chair)	ISU Agronomy	2005-2011
Faculty mentor for Lisa Schulte (Asst. Prof.)	ISU NREM	2004-2008
Social Committee (Co-Chair)	ISU Agronomy	2003-2012
Board Member	Iowa Academy of Science	2003-06
Undergraduate Curriculum Committee	ISU Ensci	1996-2008
Soils Panel	ISU Agronomy	1995-2013
Graduate Curriculum Committee	ISU Ensci	2004-2009
Agronomy Advisory Council	ISU Agronomy	2001-2006
Search Committee – Recruitment (Chair)	ISU Agronomy & Ensci	2005-2006
Council of Environmental Deans & Directors	ISU Agriculture	2006
Teaching Panel	ISU Agronomy	1995-2010
Faculty Awards Committee	ISU Agronomy	2006
Awards and Scholarships (Chair)	ISU College of Agriculture	2002-2006

Agronomy Scholarship (Chair)

ISU Agronomy

1998-2006

In addition, Dr. Burras is regularly participates with in a variety of welcoming and learning community activities for a variety of programs across campus.