**Peer-Reviewed Articles (2009-2013)**

**2013**

Chintala, R., D. E. Clay, T.E. Schumacher, D.D. Malo, and J.L. Julson. 2013. Optimization of Oxygen parameters for analyzing carbon and nitrogen in biochar materials. Analytical Letters 46(3):532-538.

Chintala, R., J. Mollinedo, T.E. Schumacher, D.D. Malo, and J.L. Julson. 2013. Effect of Biochar on Chemical Properties of Acidic Soil. Archives of Agronomy and Soil Science. DOI:10.1080/03650340.2013.789870.

 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.

 Morton, L.W. and K.R. Olson. 2013. Birds Point – New Madrid Floodway: Redesign, Reconstruction and Restoration. J. Soil Water Conservation 68: 35A-40A.

 Olson, K.R., A. N. Gennadiyev, A. P. Zhidkin, M. V. Markelov, V.N. Golosov and J. M. Lang. 2013. Magnetic tracer methods to determine cropland erosion rates. Catena. 104:103-110.

 Olson, K.R. and L W Morton. 2013. Restoration of 2011 Flood Damaged Birds Point–New Madrid Floodway. J. Soil Water Conservation 68: 13A-18A.

 Olson, K.R. 2013. Soil organic carbon sequestration in U.S. cropland: Protocol development.

 Geoderma 195-196: 201-206.

 Olson, K.R., S.A. Ebelhar and J.M. Lang. 2013. Effects of 24 years of tillage on SOC and crop productivity. Special edition. Soil Management for Sustainable Agriculture 2013. Applied and Environmental Soil Science 2013 (1):1-10. http://dx.doi.org/10.1155/2013/617504

Olson, K.R. A. N. Gennadiyev, R. G. Kovach and J. M. Lang. 2013. The use of fly ash to determine the extent of sediment transport on nearly level western Illinois landscapes.

 Soil Science 178 (1): 24-28.

 Olson, K.R. and L W Morton. 2013. Impacts of 2011 Len Small levee breach on private and public lands. J. Soil Water Conservation.68 (4): 89A-95A. .

 Olson, K.R. and L W Morton. 2013. Soil and Crop Damages as a result of Levee Breaches on Ohio and Mississippi Rivers. Journal of Earth Sciences and Engineering 3 (3): 1-20.

 Veum, K.S., K.W. Goyne, R.J. Kremer, R.J. Miles, and K.A. Sudduth. 2013. Biological indicators of soil quality and soil organic matter characteristics in an agricultural management continuum. Biogeochemistry DOI 10.1007/s10533-013-9868-7. Published online 01 June 2013.

**2012**

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.

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. Eurasion Soil Sci. 45:357-367.

Hamilton, E.J., Miles, R.J., Lukaszewska, K.M., Remley, M., Massie, M, and D. G. Blevins. 2012. Liming of two acidic soils improved grass tetany ratio of stockpiled tall fescue with increasing plant available phosphorus. Journal of Plant Nutrition 35:1-14

He, Y., T. DeSutter, L. Prunty, D. Hopkins, X. Jia, and D. Wysocki. 2012. Evaluation of 1:5 soil to water extract electrical conductivity methods. Geoderma 185-186: 12-17.

Hopkins, D., K. Chambers, A. Fraase, Y. He, K. Larson, L. Malum, L. Sande, J. Schulte, E. Sebesta, D. Strong, E. Viall, and R. Utter. 2012. Evaluating salinity and sodium levels on soils prior to drain tile installation: a case study. Soil Horizons 53 (4): 24-29.

Hussain, I. and K.R. Olson. 2012. Factor analysis of tillage effects on soil properties of Grantsburg soils in Southern Illinois under corn and soybean. Pakistan Journal of Botany 44(2):795-800.

Ibrahim, M. and C.L. Burras. 2012. Clay movement in sand columns and its pedological ramifications. Soil Horizons doi: 10.2136/sh12-01-0004.

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. 92:483-402.

Olson, K.R. and L W. Morton. 2012. The impacts of 2011 man-induced levee breaches on

agricultural lands of the Mississippi River Valley J. Soil Water Conservation.67 (1):5A-10A.

 Olson, K.R. and L. W. Morton. 2012. The effects of 2011 Ohio and Mississippi River Valley

flooding on Cairo, Illinois area. J. Soil Water Conservation. 67(2): 42A-46A.

Olson, K.R., A. N. Gennadiyev, A.P. Zhidkin and M.V. Markelov. 2012. Impact of land use

change, slope and erosion on soil organic carbon retention and storage USA. Soil Science. 177

(4)**:** 269-278.

Sims A, Horton J, Gajaraj S, McIntosh S, Miles RJ, Mueller R, Reed R, Hu ZQ. 2012. Temporal and spatial distributions of ammonia-oxidizing archaea and bacteria and their ratio as an indicator of oligotrophic conditions in natural wetlands. Water Res. **46**(13): 4121-4129

Thompson, Y.L., E.M. D’Angelo, A.D. Karathanasis, and B. Sandefur. 2012. Plant Community Composition as a Function of Geochemistry and Hydrology in three Appalachian Wetlands. Ecohydrology 5: 389-400.

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.

**2011**

Clay, S.A. and Malo, D.D. 2011. The Influence of Biochar Production on Herbicide Sorption Characteristics. In Herbicides Book 3. Ed. Hasaneen, M.N. Intech. Rijeka, Croatia. ISBN 979053-307-729-0.

Golosov, V.N**,**  Gennadiyev, A.N., K.R. Olson,M.V. Markelov, A. P. Zhidkin, Yu. G. Chendev,

and R. G. Kovach. 2011. Spatial and temporal features of soil erosion in the forest-steppe zone

of the East-European Plain. Eurasian Soil Science 44 (7):794-801.

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.

Jacob D. L., Hopkins, D. G., and M. L. Otte. 2011. Phyto(in)stabilization of elements. International Journal of Phytoremediation. 13: 34-54.

Reitsma, K.D., and Malo, D.D. 2011. Integration of USDS-NRCS Web Soil Survey and Site Collected Data. Chapter 5 In GIS Applications in Agriculture Volume Two –Nutrient Management for Improved Energy Efficiency. Ed. Clay, D.E. and Shanahan, J.F. CRC Press. Taylor and Francis Group. Boca Raton, FL 33487-2742 (pp. 81-99).

Malo, D.D. 2011. Soil Productivity Ratings and Estimated Yields for Moody County, South Dakota. TB101. South Dakota Agricultural Experiment Station. Plant Science Department. College of Agriculture and Biological Sciences. South Dakota State University. Brookings. 57007-2141.

Miles, R.J. and J.R. Brown. 2011. The Sanborn Field Experiment: Implications for Long-Term Soil Organic Carbon Levels. Agron.J. 103:268-278

Miller, J.O., A.D. Karathanasis, and C.J. Matocha. 2011. In-situ generated

colloid transport of Cu and Zn in reclaimed mine soil profiles associated with

biosolids application. Applied and Environ. Soil Science J. 2011:1-9.

Myers, D.B., N.R. Kitchen, K.A. Sudduth, R.J. Miles, E.J. Sadler, and S. Grunwald. 2011. Peak Functions for Modeling High Resolution Soil Profile Data. Geoderma. 166(1): 74-83

O'Donnell, T. K., Goyne, K.W., Miles, R.J., Baffaut, C., Anderson, S.H., and Sudduth, K.A., 2011. Determination of representative elementary area of soil redoximorphic features identified by digital image processing. Geoderma 161: 138-146.

Olson, K.R., M. Reed and L W. Morton. 2011. Multifunctional Mississippi River leveed

bottomlands and settling basins: Sny Island Levee Drainage District. J of Soil and Water

Conservation 66 (4) :104A-110A.

Olson, K.R., A.N. Gennadiyev, A.P. Zhidkin and M.V. Markelov. 2011 Impact of land use

change and soil erosion in Upper Mississippi River Valley on soil organic carbon retention and

greenhouse gas emissions. Soil Science 176 (9): 449-458.

Presley, DeAnn R., M.D. Ransom, William A. Wehmueller, and Wes Tuttle. 2011. Sodium accumulation in sparsely vegetated areas of native grassland in Kansas: A potential need for a paranatric diagnostic horizon. Soil Survey Horizons 52:95-101.

Stiles, Cynthia A., R. David Hammer, Mark G. Johnson, Richard Ferguson, John Galbraith, Toby O'Geen, Julie Arriaga, Joey Shaw, Anita Falen, Paul McDaniel and Randy Miles. 2011. Validation testing of a portable kit for measuring an active soil carbon fraction. Soil Science Society of America Journal 75:2330-2340.

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.

Wilson, H., R. Cruse and L. Burras. 2011. A method to adapt watershed-scale sediment fringerprinting techniques to small-plot runoff experiments. J. Soil Water Conservation 66:323-328.

**2010**

DeSutter, T, E. Viall, I. Rijal, M. Murdoff, A. Guy, X. Pang, S. Koltes, R. Luciano, X. Bai, K. Zitnick, S. Wang, F. Podrebarac, F. Casey, and D. Hopkins 2010. Integrating Field-Based Research into the Classroom: An Environmental Sampling Exercise. J. Nat. Resour. Life Sci. Educ. 39:132–136.

Dillehay, T.D., J. Rossen, A.D. Karathanasis, V. Vasquez, and P.J. Netherly. 2010.

Early Holocene Coca Leaves and Calcite from Houses in Northern Peru. Antiquity J.

Gennadiyev, A.N., A.P. Zhidkin, K.R. Olson, and V.L. Kachinskii. 2010. Soil erosion under

different land uses: Assessment by the magnetic tracer method. Eurasian Soil Science 43

(9):1047-1054.

Gennadiyev, A.N., A.P. Zhidkin, K.R. Olson, and V.L. Kachinskii. 2010. Soil erosion and loss of

soil organic carbon as a result of tillage. Moscow University. Geography Herald 6:32-38.

Hopkins, D., Ulmer, M., and J. Knuteson. 2010. Donald Dean Patterson (1926-2009) -- A composite of our memories. Soil Survey Horizons: Winter; p. 130-132.

Karathanasis, A.D., J Edwards\*, and C.D. Barton. 2010. Manganese and Sulfate

 Removal from a Synthetic Mine Drainage through Pilot Scale Bioreactor Batch

 Experiments. Mine Water & Environ., 29: 144-153.

Malo, D.D. 2010. South Dakota Soils: Their Genesis, Classification, and Management. Korean Society of Soil Science and Fertilizer Annual Meeting Proceedings 43(1):28-57 (May 6-7, 2010 – Hongcheongun, South Korea).

Miller, J.O.\*, A.D. Karathanasis, and O.O.B. Wendroth. 2010. In-situ Colloid

Generation and Transport in 30 Year Old Reclaimed Mine Soil Profiles Receiving

Biosolids. Intern.J. Mining, Reclam. and Environ.

[http://www.informaworld.com/smpp/title~content=t713658227](http://www.informaworld.com/smpp/title~content%3Dt713658227)

O'Donnell, T. K., Goyne, K.W., Miles, R.J., Baffaut, C., Anderson, S.H., and Sudduth, K.A., 2010. Identification and quantification of soil redoximorphic features by digital image processing. Geoderma 157, 86-96

Olson, K. R. 2010. Impacts of tillage, slope, and erosion on soil organic carbon retention.

Soil Science 175:562-567.

Olson, K. R., S. A. Ebelhar and J.M. Lang. 2010. Cover crop effects on crop yields and soil

organic carbon content. Soil Science 175:89-98.

Pike, A.C., T.G. Mueller, A. Schörgendorfer, J.D. Luck, S.A. Shearer, and A.D. Karathanasis. 2010. Locating eroded waterways with United States Geologic Survey Elevation Data. Agron. J.102:1269-1273.

Presley, D.R., P.E. Hartley, and M.D. Ransom. 2010. Mineralogy and morphological properties of buried polygenetic paleosols formed in Late Quaternary sediments on upland landscapes of the Central Plains, USA. Geoderma 154:508-517.

Steele, D.D., T.F. Scherer, D.G. Hopkins, S.R. Tuscherer, and J. Wright. 2010. Spreadsheet implementation of irrigation scheduling by the checkbook method for North Dakota and Minnesota. Appl. Eng. Agric. 26(6):983-995.

**2009**

Edwards, J.\*, C.D. Barton, and A.D. Karathanasis. 2009. A Small Scale Sulfate

Reducing Bioreactor Mn Removal from a Synthetic Mine Drainage. Water Air &

Soil Poll.: 203: 267-275.

Hamilton, N.J., B. Mijatovic, T.G. Mueller, B.D. Lee, B.W. Kew, H. Cetin, and A.D. Karathanasis. 2009. Google Earth Dissemination of Soil Survey Derived Interpretations for Land –Use Planning. Journal of Extension (<http://www.joe.org/joe/2009october/a3.php>)

Howe, L.E., Winter, S.D., Shurtliff, D.R., and Malo, D.D. 2009. Pedon PC 3.02–South Dakota User’s Guide. USDA-NRCS, Huron, SD and SDSU.

Karathanasis, A.D. and P.D. Shumaker\*. 2009. Organic and Inorganic Phosphate

Interactions with Soil Hydroxyinterlayered Minerals. J. Soil & Sedim. 9: 501-510.

Karathanasis, A.D. and P.D. Shumaker\*. 2009. Preferential Sorption and Desorption

 of Organic and Inorganic Phosphates by Soil Hydroxyinterlayered Minerals. Soil Sci.

 174: 417-423.

Lowery, B.C. Cox, D. Lemke, P. Nowak, K R. Olson and J. Strock. 2009. The 2008 Midwest flooding impact on Soil Erosion and Water Quality: Implications for Soil Erosion control practices. Journal Soil Water Conservation. 64:166A.

Manios, T., M.S. Foundoulakis, and A.D. Karathanasis. 2009. Construction Simplicity and Cost as Selection Criteria Between Two Types of Constructed Wetlands Treating Highway Runoff. Environ. Management, 43:908-920.

Olson, K. R.J. M. Lang and S. A. Ebelhar. 2009. Impacts of conservation tillage systems on

long-term crop yields. Journal of Agronomy 8(1):14-20.

Pike, A.C., T.G. Mueller, A. Schorgendorfer, S.A. Shearer, and A.D. Karathanasis. 2009. Erosion Index Derived from Terrain Attributes Using Logistic Regression and Neural Networks: An Approach fro Precision Conservation. Agron. J. 101: 1068-1079.

Thompson\*, Y.L., B. C. Sandefur\*, A.D. Karathanasis and E.M. D’Angelo. 2009. Redox Potential and Seasonal Porewater Biogeochemistry of Three Mountain Wetlands in Southeastern, Kentucky, USA. Aquatic Geochem. 15: 349-370.

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.

**Books and Peer-Reviewed Book Chapters (2009-2013)**

**2013**

Burras, C.L., M. Nyasmi 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.

Malo, D. 2013. Identifying Potential Iron Chlorosis Soils for Soybean Production. In Clay, D.E., C.G. Carlson, S.A. Clay, L. Wagner, D. Deneke, and C. Hay (eds). iGrow Soybean: Best Management Practices for Soybean Production. South Dakota State University, SDSU Extension, Brookings, SD.

**2012**

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.

Lindbo, D.L., Malo, D.D., and Robinson, C. 2012. Chapter 5 – Soil Classification, Soil Survey, and Interpretations of Soil. In Know Soils: Know Life. Ed. D.L. Lindbo, D. A. Kozlowski, and C. Robinson. Soil Science Society of America. 5585 Guilford Road, Madison, WI 53711-5801. ISBN:978-0-89118-954-1.

Malo, D.D. 2012. Online Web Soil Survey (WSS) Information. Chapter 18 in IGROW Agronomy – Wheat. Clay, D.E., C.G. Carlson, and K. Dalsted ed. College of Agriculture and Biological Sciences, SDSU Extension Service. South Dakota State University. Brookings. SD. p 139-164.

Mastin, C.B., J.D. Edwards, C.D. Barton, A.D. Karathanasis, C.T. Agouridis and R.C.

Warner. 2012. Development and Deployment of a Bioreactor for the Removal of Sulfate

and Manganese from Circumneutral Coal Mine Drainage. Pp. 121-140.  In: P.G. Antolli and Z. Liu (eds.); Bioreactors: Design, Properties and Applications. Nova Science Publishers: Hauppauge, NY.

**2011**

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.

Karathanasis, A.D. and J.O Miller. 2011. Colloid-Associated Transport of Trace Metals

at Reclaimed Mine Sites Following Biosolid Application. P 129-146, *In* M. Selim (ed.)

Heavy Metal Dynamics: Reactivity and Transport in the Soil Rootzone, CRC Press, Boca

Raton, FL.

**2010**

Karathanasis, A.D.2010. Composition and Transport Behavior of Soil Nanocolloids in

Natural Porous Media. P. 35-54, *In* F. Frimmel, and R. Niebner (eds.) Nanoparticles in the

Water Cycle. Properties, Analysis, and Environmental Relevance. Springer.

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.

**2009**

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).

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

**Outreach and Extension publications (2009-2013)**

**2013**

Burras, C.L., Y. Chendev, M. Ibrahim, B. Larabee and T. Sauer. 2013 Human-induced soil change in Iowa: Two contrasting examples.. Getting into Soil & Water 2013. Iowa Water Center & Soil & Water Conservation Club, Iowa State University, p. 18-21.

**2012**

Burras, C.L. March 2012. Unintended impacts on soils from long-term farming in Iowa. Getting into Soil & Water 2012. Iowa Water Center & Soil & Water Conservation Club, Iowa State University, p. 24-25.

**2011**

Burras, C.L. Fall 2011. What every Iowan should know about soils. Iowa Natural Heritage p. 8-10. Also available at <http://www.inhf.org/iowa-soil.cfm> , reviewed November 17, 2011.

**2010**

Buchanan, John R., Deal, N.E., Lindbo, D. L., Hanson, A.T., D. G. Gustafson, and R.J. Miles. 2010. Decentralized Systems Performance and Costs Fact Sheets. C1: Gravity Sewer Systems; C2: Pressure Sewer Systems; C3: Effluent Sewer Systems; C4: Vacuum Sewer Systems; T1: Liquid-Solid Separation; T2: Suspended Growth Aerobic Treatment; T3: Fixed Growth Aerobic Treatment; T4: Constructed Wetland Systems; T5: Lagoons; T6:Nutrient Reduction; T7: Denitrification; T8: Residuals Management; D1:Gravity Distribution; D2: Low Pressure Distribution; D3: Drip Distribution; D4: Spray Distribution; D5: Evapotranspiration Systems; D6:Surface Water Discharge; D7: Wastewater Reuse; User’s Guide; Wastewater Planning Model, Version 1.0. Water Environment Research Foundation,

**2009**

Burras, C.L. 2009. Soils and their degradation in Iowa – an eclectic overview. Getting into Soil & Water. The Soil & Water Conservation Club & The Iowa Water Center, Iowa State University - University Extension, p. 16.

Steele, D., and D. Hopkins. 2009. Summary of the Devils Lake basin water utilization test project. In: Water Spouts, No. 247 (October). Fargo: N. Dak. St. Univ. Ext. Serv.

**Extension Programs, Workshops, and Activities (2009-2013)**

**2013**

Burras, L. May 22, 2013. Implentation of CSR2 at Iowa State University. 86th Annual Soil Management & Land Valuation Conference, Iowa State University.

Burras, C. L., May 02, 2013. CSR2 – An updated method to calculate corn suitability ratings for Iowa soils. Iowa Real Estate Commission, Ankeny.

Burras, C.L. April 08, 2013. The Soils of Iowa – How should we think about them? Soil & Water Conservation Club, Iowa State University.

Burras, C.L. April 04, 2013. Soils – An introduction for gardeners. Iowa Federated Gardens Club, Iowa Arborteum, Luther. (Includes a 20 question examination).

Burras, C.L. March 12, 2013. CSR2 – Iowa’s new corn suitability rating. McGuire Auction Co., Inc. Customer Appreciation Day, Holstein.

Burras, C.L. February 18, 2013. CSR2 – Iowa’s new corn suitability rating. Iowa Corn Crop Fair, Missouri Valley.

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.

Burras, C.L. January 29, 2013. CSR2 – Iowa’s new corn suitability rating. Crop Advantage Series, Iowa State University Extension, Le Mars.

Burras, L. January 29, 2013. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Extension Building, Haber Road.

Burras, C.L. January 25, 2013. CSR2 – Iowa’s new corn suitability rating. Western Iowa No-Till Workshop, Walnut.

Burras, C.L. January 24, 2013. CSR2 – Iowa’s new corn suitability rating. Crop Advantage Series, Iowa State University Extension, Waterloo.

Burras, C.L. January 22, 2013. CSR2 – Iowa’s new corn suitability rating. Crop Advantage Series, Iowa State University Extension, Carroll.

Burras, C.L. January 21, 2013. CSR2 – Iowa’s new corn suitability rating. North Central Iowa Crop & Land Stewardship Clinic, Iowa Falls.

Burras, C.L. January 09, 2013. CSR2 – Iowa’s new corn suitability rating. Crop Advantage Series, Iowa State University Extension, Okoboji.

Burras, C.L. January 03, 2013. CSR2 – Iowa’s new corn suitability rating. Crop Advantage Series, Iowa State University Extension, Sheldon.

Decentralized Wastewater Treatment (CIDWT), March 2013. Consortium of Institutes for 2 day national train-the-trainer program, Nashville, TN,

NOWRA 2-day Installers Academy in New Jersey, May 2013

Flooding of Agricultural Lands. January and February 2013. Crop Management Conferences. Malta, IL, Champaign, IL, Springfield, IL, and Mt. Vernon, IL.

Basic Soil Morphology Training and Regional Onsite Soil Evaluation Workshops (2009-2013). Kentucky State Department of Health.

Soil pit stop; Importance of soils and soil properties. (2009-2013). Kansas Elementary School/Kids Field Day.

Soils and Onsite Wastewater Systems; Aeration Treatment Units; Media Filters; Effluent Distribution in Soils; Fundaments of Drip Dispersal; Hydraulics and Onsite Wastewater Systems; Operations and Maintenance; High Strength Waste; Selling the Onsite System to the Customer. (2009-2013) Missouri SmallFlows Organization.

Inspection and Evaluation of Onsite Wastewater Systems at Time of Sale, (2009-2013). Missouri Department of Health and Senior Services. Basic Soils; Media Filters; Drip Dispersal; Aeration Treatment Units; High Strength Waste; Soil and Site Installation Fundamentals. Iowa Onsite Wastewater Training Center. (2009-2013)

Soils and dispersal and treatment of wastewater in decentralized wastewater systems. (2009-2013). Northern Illinois, Central Illinois, Iowa, Kansas, Indiana, Kentucky; Tennessee, and Minnesota wastewater meetings.

**2012**

Burras, C.L. November 02, 2012. CSR2 – Iowa’s new corn suitability rating. ISU Extension Field Agronomists Professional Development. ISU Alumni Center.

Burras, L. September 11, 2012. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Reiman Gardens.

Burras, C.L. September 06, 2012. CSR2 – Iowa’s revised corn suitability rating. Conservation Districts of Iowa Annual Conference, West Des Moines.

Burras, C.L. July 26, 2012. The natural and agro-ecology of the Doolittle Prairie region. Rooted in Community Conference, Ames.

Burras, C.L. May 29, 2012. How the 20th century changed the soils of Iowa. Iowa Lakeside Laboratory Summer Lecture Series.

Burras, L. May 09, 2012. The new corn suitability rating, CSR2. 85th Annual Soil Management & Land Valuation Conference, Iowa State University.

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.

Burras, C.L. February 11, 2012. CSR2 and Land Stewardship in Iowa. Beginning Farmers Conference.

Burras, C.L. February 08, 2012. Changes in the Corn Suitability Rating, Cass County, Iowa. Soil Survey Kick-Off, Atlantic.

Burras, C.L. January 30-31, 2012. Changes in the Corn Suitability Rating, Dickinson County, Iowa. Soil Survey Kick-Off, Spirit Lake.

Burras, C. L. January 20, 2012. Soils, CSR and its viability in modern farming. 5th Annual Land Investment Expo, West Des Moines.

Burras, L. January 17, 2012. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Reiman Gardens.

Burras, C.L. January 12, 2012. Practical Farmers of Iowa Soils 101 Workshop. Scheman Auditorium, Iowa State Center.

Soil property demonstration. July 19, 2012. Langdon, North Dakota Research and Extension Center Field Day,

North Dakota soils: a priceless legacy, October 26, 2012. 24th North Dakota Governors History Conference.

Devils Lake Basin Water Utilization Test Project: Soil Sustainability Investigations, January 25, 2012. North Dakota State University Extension Service, Soil and Soil Water Workshop.

Soils, January 28, 2012. Advanced Master Gardener Class. North Dakota State University Extension Service.

Soils and urban forestry, January 30, 2012. North Dakota Urban & Community Forestry Association.

Soil Carbon Sequestration. January and February 2012. Crop Management Conferences. Malta, IL, Champaign, IL, Springfield, IL, and Whittington, IL.

Illinois FAA Soil Judging Contest. January 2012.

Soils and Geology of the High Plains, June 2012. Range Short Course, Chadron State University, Chadron, Nebraska.

**2011**

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.

Burras, L. September 13, 2011. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Reiman Gardens.

Burras, L. September 09-10, 2011. Glacial footprints of northwest Iowa. Natural History Weekend, Iowa Lakeside Laboratory.

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.

Burras, L. August 24, 2011. Iowa’s soils & their productivity. Road to 300 Field Day. Ellsworth Equestrian Center, Iowa Falls. (70 farmers; 30 agronomists)

Burras, L. April 26, 2011. The Terrestrial Carbon Cycle. Spirit Lake High School Earth Science class. Via Skype to Iowa Lakeside Laboratory.

Burras, C.L. April 21, 2011. Soils – A quick introduction. Homegrown Lifestyle, Iowa State University Extension.

Burras, C.L. April 07, 2011. Soils – An introduction for gardeners. Iowa Federated Gardens Club, Iowa Arborteum, Luther.

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.

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.

Burras, L. January 18, 2011. Soils – Master Gardener Training. Master Gardener Spring Lecture Series, Reiman Gardens.

Soils in Time, January 26, 2011. North Dakota State University Extension Service Soil and Soil Water Training; Fargo, ND.

Regional Soil Properties-Physical and Chemical impacts on Productivity, February 22, 2011. DuPont Pioneer HiBred KB Area Agronomy Training; Fargo, ND.

You are Ready to Tile - Are your soils ready? September 13, 2011. Tile Drainage session; Big Iron. West Fargo Fairgrounds; 9/13/2011

Soil Science Institute for the National Cooperative Soil Survey at Kansas State University. June 6 – 24, 2011

Soil Erosion-Crop Yields. January and February 2011. Crop Management Conferences. Malta, IL, Champaign, IL, Springfield, IL, and Whittington, IL.

**2010**

Burras, C.L. November 18, 2010. Iowa soils and their productivity – a pedologist’s perspective. Iowa State Association of Counties - Assessors Workshop, Coralville.

Burras, L. September 14, 2010. Soils – Master Gardener Training. Master Gardener Fall Lecture Series, Reiman Gardens.

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.

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.

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.

Effects of tillage on soils. August 2010. Dixon Springs, Illinois Crop Field Tour.

Soil productivity. July 2010. Monmouth, Illinois Crop Field Tour.

Illinois FAA Soil Judging Contest. January 2010

Regional soil properties and lab data, March 18, 2010. Western Crop Management School, Minot, North Dakota Research and Extension Center.

Soils pit presentation and demonstration, July 15, 2010.Williston, North Dakota Research and Extension Center Field Day.

Field trip on geology and soils of eastern Kentucky, October 2010. Visiting German farmers group.

Inspection of Onsite Wastewater Systems: Considerations for the Lake of the Ozarks, August 2010. Missouri Attorney General’s Lake of Ozarks Water Quality Symposium.

Soils and Geology of the High Plains, June 2010. Range Short Course, Chadron State University, Chadron, Nebraska.

**2009**

Burras, L. September 24, 2009. Soil productivity and corn suitability ratings in Iowa. Iowa State University Extension Agronomist In-Service Workshop.

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.

Impacts of Flooding in 2008. January 2009. Wisconsin Crop Management Conference. Madison, WI.

Decentralized Wastewater Treatment (CIDWT) Installer Training Program. August 2009. Train-the-Trainer Academy, Consortium of Institutes. St. Louis, MO,

**Teaching (2009-2013)**

**Course, Credit Hours, and Number of Students**

Advanced Soil Genesis and Classification, 2-3 credits, 12 students

Advanced Soil Genesis, 3 credits, 22 students

Advanced Soil Genesis, Chungnam National University, South Korea, 3 credits, 22 students

Advanced Soil Judging, 1 credit, 15 students

Clay Mineralogy, 3 credits**,** 19 students

Earth’s Natural Resources Systems, 3 credits, 32 students

Environmental Soil Management, 3 credits, 28 students

Environmental Soil Science, 3 credits, 60 Students

Field Experience: Interpretation of field soils, 2 credits, 11 students

Field Studies in Pedology, 2 credits, 5 students

Genesis of Soil Landscapes**,** 4 credits,72 students

Great Plains Field Pedology, 4 credits, 45 students

Integrated Natural Resource Management, 3 credits, 259 students

Introduction to Soil Science, 3-4 credits, 1786 students

Pedology**,** 3 credits,14 students

Puerto Rico Soil and Land use Field Course, 2 credits, 7 students

Rural Real Estate Appraisal, 3 credits, 106 students

Soil and Water Conservation and Management, 3 credits, 197 students

Soil Evaluation, 1 credit, 52 students

Soil Formation and Transformations, 3 credits, 7 students

Soil Formation and Landscapes, 4 credits, 43 students

Soil Genesis and Classification, 3 credits, 65 students

Soil Genesis and Survey, 4 credits, 118 students

Soil Geography and Land Use, 3 credits, 120 students

Soil Mineralogy, 4 credits, 35 students

Soil Morphology, 3 credits, 26 students

Soil Profile Descriptions, 1 credit, 60 Students

Soils and Environmental Quality, 3 credits, 110 students

Soils Judging, 0 to 3 credits, 253 students

Watershed Hydrology, 4 credits, 7 students

Wetland Delineation, 3 credits, 31 students