HUMBERTO BLANCO

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CURRENT POSITION

Associate Professor, Soil Management/Applied Soil Physics, 60% Research, 38% Teaching, and 2% Service (under a 9-month appointment)

EDUCATION

Ph.D. Applied Soil Physics/Soil Conservation. Univ. of Missouri, Columbia, MO (2003).
M.Sc. Applied Soil Physics/Soil Conservation. Univ. of Missouri, Columbia, MO (1995).
B.Sc. Soil Science. Technical Univ. of Oruro, Bolivia (1990).

ACADEMIC EXPERIENCE

Associate Professor, Soil Management, Univ. of Nebraska, Lincoln, NE (2015 – Present).
Assistant Professor, Soil Management, Univ. of Nebraska, Lincoln, NE (2012 – 2014).
Associate Professor, Soil Management, Kansas State Univ. (January 2012 - May 2012).
Assistant Professor, Soil Management, Kansas State Univ. (2008 - 2011).
Research Scientist, The Ohio State Univ., Columbus, OH (2005 - 2007).
Instructor of Laboratory of Soil Physics, The Ohio State Univ., Columbus, OH (2005 - 2007).
Postdoctoral Researcher, The Ohio State Univ. Columbus, OH (2004).
Graduate Research Assistant in Soil Science, Univ. of Missouri, Columbia, MO (2000 - 2003).
Assistant Professor, Soil Science, Technical Univ. of Oruro, Bolivia (1996 - 2000).
Teaching Assistant, Introductory Soil Science, Univ. of Missouri, Columbia, MO (1995).
Graduate Research Assistant, Soil Science, Univ. of Missouri, Columbia, MO (1993 - 1995).

CONTRIBUTION TO PROFESSIONAL ORGANIZATIONS (ALL INVITED)

1. Chair of the Young Scholar Award Committee. SSSA. Div. Soil/Water Conserv. (2018).
2. Chair of the Grad Student Award Committee. SSSA. Div. Soil/Water Conserv. (2018).
3. Member of SSSA-Soil and Water Conservation Scholarship Selection Committee (2018).
4. Chair of the Multi-State NC-1178 Group (2016).
5. Member of the Multi-State NC-1178 Group (2013-Present).
6. Member of the Soil Health Institute Advisory Committee.
7. Associate Editor for Bioenergy Research. (2017-Present).
8. Associate Editor for Agronomy Journal. Division Soils (2010 - 2015).
9. Associate Editor for Soil Science Society of America J. Division S-6 (2006 - 2013).
10. Chair of Best Paper Award Committee, Soil Science Society of America J. (2014-2016).
11. Chair of Technical Sessions at ASA-CSSA-SSSA. Div. Soil/Water Conserv. (2010-2016).
12. Member Grad Student Award Committee. SSSA. Div. Soil/Water Conserv. (2011-Present).
13. Member of Editorial Board of Soil Science Society of America Journal (2006 - 2013).
14. Member of Editorial Board of Agronomy Journal (2010 - Present).
15. Reviewer of USDA-ARS Research Plans (2018).
16. Panelist on the OREI Review Panel (2018).
17. Panelist on the DOE Review Panel (2018).
18. Panelist on the AFRI NIFA Review Panel (2016).
19. Reviewer of about 75 manuscripts for 25 different international journals. 2002-2018.

6. Ulmer K., R. Rasby. J. Cox-O'Neill, K. Jenkins, J. MacDonald, M. Rakkar, H. **Blanco-Canqui,** and M. Drewnoski, 2018. Baling or grazing of corn residue does not reduce crop production in the central United States. Agron. J. (*in press*).
7. Acharya, B.S., **H. Blanco-Canqui**, R.B. Mitchell, R.M. Cruse, and D.A. Laird. 2018. Dedicated bioenergy crops and water erosion. J. Environ. Qual. (*in press*).
8. Shaver, M. T., A.L. Stalker, **H. Blanco-Canqui**, and S.J. van Donk. 2018. Effects of 5 years of corn residue grazing and baling on nitrogen cycling, soil compaction, and wind erosion potential. J. Plant Nutrition 41:1-13.
9. Ruis, S., **H. Blanco-Canqui**, R.B. Ferguson, and P. Jasa. 2018. Impacts of early and late-terminated cover crops on gas fluxes. J. Environ. Qual. 47:1426-1435.
10. Burdette-Barker J.; D. Heeren; K. Koehler-Cole; C. Shapiro; **H. Blanco-Canqui**; R. Elmore; C. Proctor; S. Irmak; C. Francis; T. Shaver, and A. Mohammad. 2018. Cover crops negligible on soil water storage in Nebraska maize–soybean rotation. Agron. J. 110:1718-1730.
11. **Blanco-Canqui, H**. 2018. Cover crops and water quality. Agron. J. 110:1633-1647.
12. Acharya, B.S. and **H. Blanco-Canqui**. 2018. Lignocellulosic-based bioenergy and water quality parameters: A review. Global Change Biology Bioenergy 10:504-533.
13. Parlak. M., G. Ciceka, and **H. Blanco-Canqui**. 2018. Celery harvesting causes losses of soil: A case study in Turkey. Soil & Tillage Res. 180:204-209.
14. **Blanco-Canqui, H**. and S.J. Ruis. 2018. No-tillage and soil physical environment. Geoderma 326:164-200.
15. Rakkar, K.M. and **H. Blanco-Canqui**. 2018. Grazing of crop residues: Impacts on soils and crop production. Agriculture, Ecosystems & Environment. 258: 71-90.
16. Werle, R., C. Burr, and **H. Blanco-Canqui**. 2018. Cereal rye cover crop suppresses winter annual weeds. Canadian J. Plant Sci. 98:498-500.
17. He, Y., D.R. Presley, J. Tatarko, and **H. Blanco-Canqui**. 2018. Crop residue harvest impacts wind erodibility and simulated loss in the Central Great Plains. Global Change Biology Bioenergy 10:213-226.
18. Ruis, S., **H. Blanco-Canqui**, C. Burr, B. Olson, M. Reiman, D. Rudnick, R. Drijber, and T. Shaver. 2018. Corn residue baling and grazing impacts on soil carbon stocks and other properties on a Haplustoll. Soil Sci. Soc. Am. J. 82:202–213.
19. Cox-O'Neill, J.L., K.M. Ulmer, M. Rakkar, L. Franzen-Castle, **H. Blanco-Canqui**, M.E. Drewnoski, J.C. MacDonald, and R.J. Rasby. 2017. Perceptions of crop consultants and crop producers on grazing corn residue in Nebraska. J. Extension. 55:1-11.
20. Ruis, S., **H. Blanco-Canqui**, R.B. Ferguson, P. Jasa, and G. Slater. 2017. Can cover crop use allow increased levels of corn residue removal for biofuel in irrigated and rainfed systems? BioEnergy Research 10:992-1004.
21. Ruis, S. and **H. Blanco-Canqui**. 2017. Cover crops could offset crop residue removal effects on soil carbon and other properties: A review. Agron. J. 109:1785-1805.
22. **Blanco-Canqui, H**., C.W. Wortmann. 2017. Crop residue removal and soil erosion by wind. J. Soil Water Conserv. 72:97A-104A.
23. **Blanco-Canqui, H**. 2017. Biochar and soil physical properties. Soil Sci. Soc. Am. J. 81: 687-711.
24. **Blanco-Canqui, H**., M. Sindelar, and C.S. Wortmann. 2017. Aerial interseeded cover crop and corn residue harvest: Soil and crop impacts. Agron. J. 109:1344-1351.
25. **Blanco-Canqui**, H., R.B. Mitchell, V.L. Jin, M.R. Schmer, and K.M. Eskridge. 2017. Perennial warm-season grasses for producing biofuel and enhancing soil properties: An alternative to corn residue removal. Global Change Biology Bioenergy. 9:1510–1521.

26. Rakkar, M.K., **H. Blanco-Canqui**, M.E. Drewnoski, J.C. MacDonald, T. Klopfenstein, and R.A. Drijber. 2017. Impacts of cattle grazing of corn residues on soil properties after 16 years. Soil Sci. Soc. Am. J. 81:414-424.
27. **Blanco-Canqui, H**., B.J. Wienhold, V.L. Jin, M.R. Schmer, and L.C. Kibet. 2017. Long-term tillage impact on soil hydraulic properties. Soil & Tillage Res. 170:38-42.
28. Williams, D.M., **H. Blanco-Canqui**, C.A. Francis, and T.D. Galusha. 2017. Organic farming and soil physical properties: An assessment after 40 years. Agron. J. 109:600-609.
29. **Blanco-Canqui, H**., C.A. Francis, and T.D. Galusha. 2017. Does organic farming accumulate carbon in deeper soil profiles in the long term? Geoderma 288:213–221.
30. **Blanco-Canqui, H**. and C.A. Francis. 2016. Building resilient soils through agroecosystem redesign under fluctuating climatic regimes. J. Soil Water Conserv. 71:127A-133A.
31. **Blanco-Canqui, H**. 2016. Growing dedicated energy crops on marginal lands and ecosystem services. Soil Sci. Soc. Am. J. 80: 845-858.
32. **Blanco-Canqui, H**., J. Tatarko, A. Stalker, T. Shaver, and S. Van Donk. 2016. Impacts of corn residue grazing and baling on wind erosion potential in a semiarid environment. Soil Sci. Soc. Am. J. 80: 1027-1037.
33. Parlak, M., C. Palta, S. Yokus, **H. Blanco-Canqui**, and D.A. Carkaci, 2016. Soil losses due to carrot harvesting in south central Turkey. Catena 140:24-30.
34. **Blanco-Canqui, H**., A.L. Stalker, R. Rasby, T.M. Shaver, M.E. Drewnoski, S. van Donk, and L.C. Kibet. 2016. Does cattle grazing and baling of corn residue cause runoff losses of sediment, carbon, and nutrients? Soil Sci. Soc. Am. J. 80:168-177.
35. Kibet, L., **H. Blanco-Canqui**, R.B. Mitchell, and W.H. Schacht. 2016. Root biomass and soil carbon response to growing perennial grasses for bioenergy. Energy, Sustainability and Society 6:1 DOI 10.1186/s13705-015-0065-5.
36. Kibet, L.C., **H. Blanco-Canqui**, and P. Jasa. 2016. Long-term tillage impacts on soil organic matter components and related properties on a Typic Argiudoll. Soil & Tillage Res. 155:78–84.
37. Parlak, M., and **H. Blanco-Canqui**.2015. Soil losses due to potato harvesting: a case study in western Turkey. Soil Use and Management. 31:525-527.
38. **Blanco-Canqui, H**., T. M. Shaver, J.L. Lindquist, C.A. Shapiro, R.W. Elmore, C.A. Francis, and G.W. Hergert. 2015. Cover crops and ecosystem services: Insights from studies in temperate soils. Agron. J. 107:2449–2474.
39. Stalker, A., **H. Blanco-Canqui**, J. Gigax, A. McGee, T. Shaver, and S. van Donk. 2015. Corn residue stocking rate affects cattle performance but not subsequent grain yield. J. Animal Sci. 93:4977-4983.
40. Kenney, I., **H. Blanco-Canqui**, D.R. Presley, C.W. Rice, K. Janssen, and B. Olson. 2015. Soil and crop response to stover removal from rainfed and irrigated corn. Global Change Biol. Bioenergy. 7:219-230.
41. Ozaslan A., M. Parlak, **H. Blanco-Canqui**, W.H. Schacht, J.A. Guretzky, and M. Mamo. 2015. Patch Burning: Implications on water erosion and soil properties. J. Environ. Qual. 44:903–909.
42. **Blanco-Canqui, H**., G.W. Hergert, and R.A. Nielsen. 2015. Cattle manure application reduces soil's susceptibility to compaction and increases water retention after 71 years. Soil Sci. Soc. Am. J. 79:212-223
43. **Blanco-Canqui. H**., J. Gilley, D. Eisenhauer, P. Jasa, and A. Boldt. 2014. Soil carbon accumulation under switchgrass barriers. Agron. J. 79:212-223

44. **Blanco-Canqui. H**., R.B. Ferguson, V.L. Jin, M.R. Schmer, B.J. Wienhold, and J. Tatarko. 2014. Can cover crop and manure maintain soil properties after stover removal from irrigated no-till corn? Soil Sci. Soc. Am. J. 78:1368-1377.
45. Chahal, P.S., G. Kruger, **H. Blanco-Canqui**, A.J. Jhala. 2014. Efficacy of pre-emergence and post-emergence soybean herbicides for control of glufosinate-, glyphosate-, and imidazolinone-resistant volunteer corn. J. Agricultural Sci. 6:131-140.
46. Liska, A.J., H. Yang, M. Milner, S. Goddard, **H. Blanco-Canqui**, M.P. Pelton, X.X. Fang, H. Zhu, and A.E. Suyker. 2014. Biofuels from crop residue can reduce soil carbon and increase CO_2 emissions. Nature Climate Change. 4:398–401.
47. **Blanco-Canqui, H**., R.B. Ferguson, C.A. Shapiro, R.A. Drijber, and D.T. Walters. 2014. Does inorganic nitrogen fertilization improve soil aggregation? Insights from long-term tillage experiments. J. Environ. Qual. 43:995-1003.
48. Palm, C., **H. Blanco-Canqui**, F. DeClerck, L. Gatere, and P. Grace. 2014. Conservation agriculture and ecosystem services: An overview. Agric. Ecosystems Environ. 187:87-105.
49. **Blanco-Canqui, H.**, C.A. Shapiro, C.S. Wortmann, R.A. Drijber, M. Mamo, T.M. Shaver, and R.B. Ferguson. 2013. Soil organic carbon: The value to soil properties. J. Soil Water Conserv. 68:129A-134A.
50. **Blanco-Canqui, H.**, J.D. Holman, A.J. Schlegel, J. Tatarko, and T. Shaver. 2013. Replacing fallow with cover crops in a semiarid soil: Effects on soil properties. Soil Sci. Soc. Am. J. 77:1026-1034.
51. Evers, B.J., **H. Blanco-Canqui**, S. A. Staggenborg, and J. Tatarko. 2013. Dedicated bioenergy crop impacts on soil wind erodibility and organic carbon. Agron. J. 105:1271-1276.
52. Du, Z., T. Ren, C. Hu., Q. Zhang., and **H. Blanco-Canqui**. 2013. Soil aggregate stability and aggregate-associated carbon under different tillage systems in the North China Plain. J. Integrative Agriculture. 12:2114-2123.
53. Kaufman, R., J. Wilson, S. Bean, D. Presley, **H. Blanco-Canqui**, and M. Mikha. 2013. The effect of nitrogen fertilization and cover cropping systems on sorghum grain characteristics. J. Agr. Food Chem. 61:5715-5719.
54. Guedes Filho, O., **Blanco-Canqui, H.**, and A.P. da Silva. 2013. Least limiting water range of the soil seedbed for long-term tillage and cropping systems in the central Great Plains, USA. Geoderma 207-208:99-110.
55. **Blanco-Canqui, H.**, A.J. Schlegel. 2013. Implications of inorganic fertilization of irrigated corn on soil properties: Lessons learned after 50 years. J. Environ. Qual. 42:861–871.
56. **Blanco-Canqui, H.** 2013. Crop residue removal for bioenergy reduces soil carbon pools: How can we offset carbon losses? Bioenerg. Res. 6:358-371.
57. **Blanco-Canqui, H.,** M.M. Claassen, and D.R. Presley. 2012. Summer cover crops fix nitrogen, increase crop yield and improve soil-crop relationships. Agron. J. 104: 137-147.
58. **Blanco-Canqui, H**., A.J. Schlegel, and W.F. Heer. 2011. Soil-profile distribution of carbon and associated properties in no-till along a precipitation gradient in the central Great Plains Agric. Ecosyst. Environ. 144:107-116.
59. **Blanco-Canqui, H**., M. Mikha, D.R. Presley, and M.M. Claassen. 2011. Addition of cover crops enhances no-till potential for improving soil physical properties. Soil Sci. Soc. Am. J. 75:1471-1482.
60. **Blanco-Canqui, H**. 2011. Does no-till farming induce water repellency to soils? Soil Use Manage. 27:2-9.
61. **Blanco-Canqui, H**, M.M. Claassen, and L.R. Stone. 2010. Controlled traffic impacts on physical and hydraulic properties in an intensively cropped no-till soil. Soil Sci. Soc. Am. J. 74:2142-2150.

62. **Blanco-Canqui, H**. J.G. Benjamin, A. J. Schlegel, and L.R. Stone. 2010. Continuous cropping systems reduce near-surface compaction in no-till soils. Agron. J. 102:1217-1225.
63. **Blanco-Canqui, H**., N.L. Klocke, A.J. Schlegel, L.R. Stone, and C.W. Rice. 2010. Impacts of deficit irrigation on carbon sequestration and soil physical properties in no-till. Soil Sci. Soc. Am. J. 74:1301-1309.
64. **Blanco-Canqui. H.** 2010. Energy crops and their implications on soil and environment. Agron. J. 102:403-419.
65. **Blanco-Canqui, H**., L.R. Stone, and P.W. Stahlman. 2010. Soil response to long-term cropping systems in the central Great Plains. Soil Sci. Soc. Am. J. 74: 602-611.
66. **Blanco-Canqui, H**., R. Stephenson, O. Nelson, and D.R. Presley. 2009. Impacts of crop residue removal as biofuel feedstocks on runoff, sediment, and nutrient losses. J. Environ. Qual. 38:2365-2372.
67. **Blanco-Canqui, H**., L.R. Stone, A.J. Schlegel, D.J. Lyon, M.F. Vigil, M. Mikha, and P.W. Stahlman. 2009. No-till induced increase in organic carbon reduces maximum bulk density of soils. Soil Sci. Soc. Am. J. 73:1871-1879.
68. **Blanco-Canqui, H**., M.M. Mikha, J.G. Benjamin, L.R. Stone, A.J. Schlegel, D.J. Lyon, M.F. Vigil, and P.W. Stahlman. 2009. Regional study of no-till impacts on near-surface aggregate properties that influence soil erodibility. Soil Sci. Soc. Am. J. 73:1361-1368.
69. **Blanco-Canqui, H.** and R. Lal. 2009. Crop residue removal effects on soil, productivity and environmental quality. Crit. Rev. Plant Sci. 28:139-163.
70. **Blanco-Canqui, H.** and R. Lal. 2009. Corn stover removal for expanded uses reduces soil fertility and structural stability. Soil Sci. Soc. Am. J. 73:418-426.
71. **Blanco-Canqui, H**. and R. Lal. 2009. Extent of subcritical water repellency of soils under long-term no-tillage systems on a regional scale. Geoderma 149:171-180.
72. **Blanco-Canqui, H**. and R. Lal. 2008. Axle-load impacts on hydraulic properties and corn yield in no-till clay and silt loam. Agron. J. 100:1673-1680.
73. **Blanco-Canqui, H.** and R. Lal. 2008. Stover removal impacts on micro-scale soil physical properties. Geoderma 145:335-346.
74. **Blanco-Canqui, H**. and R. Lal. 2008. No-tillage and carbon sequestration: An on-farm assessment. Soil Sci. Soc. Am. J. 72:693-701.
75. **Blanco-Canqui, H**. and R. Lal. 2007. Regional assessment of soil compaction and structural properties under no-till farming. Soil Sci. Soc. Am. J. 71:1770-1778.
76. **Blanco-Canqui, H**. and R. Lal. 2007. Soil and crop response harvesting corn residues for biofuel production. Geoderma 141:355–362.
77. **Blanco-Canqui**, H., and R. Lal. 2007. Soil structure and organic carbon relationships following 10 years of wheat residue management. Soil Tillage Res. 95:240–254.
78. **Blanco-Canqui, H**. and R. Lal. 2007. Changes in soil hydraulic properties due to long-term wheat straw management. Soil Sci. Soc. Am. J. 71:1166-1173.
79. **Blanco-Canqui, H**., R. Lal, F. Sartori, and R.O. Miller. 2007. Changes in organic carbon and physical properties of soil aggregates under fiber farming. Soil Sci. 172:553-564.
80. **Blanco-Canqui, H**., R. Lal, and M.J. Shipitalo. 2007. Aggregate detachment and wettability and their relationships with organic carbon under long-term land use and management practices. Soil Sci. Soc. Am. J. 71:759-765.
81. **Blanco-Canqui, H**., R. Lal, L.B. Owens, and M.J. Shipitalo. 2007. Soil hydraulic properties influenced by corn stover removal from no-till corn in Ohio. Soil Tillage Res. 92: 144-155.
82. **Blanco-Canqui, H**., R. Lal, W. M. Post, and L. B. Owens. 2006. Corn growth, and grain and biomass yield shortly after stover removal from no-till in Ohio. Agron. J. 98:1128-1136.

83. **Blanco-Canqui, H**., R. Lal, and M.J. Shipitalo. 2006. Organic carbon influences on particle density and rheological properties for a silt loam soil. Soil Sci. Soc. Am. J. 70:1407-1414.
84. **Blanco-Canqui, H**., R. Lal, W. M. Post, and L. B. Owens. 2006. Soil structural parameters and organic carbon in no-till corn with variable stover retention rates. Soil Sci. 171:468-482.
85. **Blanco-Canqui, H**., R. Lal, L.B. Owens, and W.M. Post. 2006. Corn stover impacts on near-surface soil properties of no-till corn in Ohio. Soil Sci. Soc. Am. J. 70:266-278.
86. **Blanco-Canqui, H**., C.J. Gantzer, and S.H. Anderson. 2006. Performance of grass barriers and filter strips under interrill and concentrated flow. J. Environ. Qual. 35:1969-1974.
87. **Blanco-Canqui, H**., R. Lal, and R. Lemus. 2005. Soil aggregate properties and organic carbon for switchgrass and croplands in the southeastern USA. Soil Sci. 170:998-1012.
88. **Blanco-Canqui, H**., and R. Lal. 2005. Mechanical properties and soil organic carbon of soil aggregates in the northern Appalachians. Soil Sci. Soc. Am. J. 69:1472-1481.
89. **Blanco-Canqui, H**., R. Lal, 2005. Strength properties and organic carbon of soils in the North Appalachian Region. Soil Sci. Soc. Am. J. 69: 663-673.
90. **Blanco-Canqui, H**. and R. Lal. 2004. Mechanisms of carbon sequestration in soil aggregates. Crit. Rev. Plant Sci. 23:481-504.
91. **Blanco-Canqui, H**., C.J. Gantzer, and S.H. Anderson. 2004. Grass barriers for reduced concentrated flow induced soil and nutrient loss. Soil Sci. Soc. Am. J. 68:1963-1972.
92. **Blanco-Canqui, H**., C.J. Gantzer, S.H. Anderson, and A.L. Thompson. 2004. Soil berms as an alternative to steel plate borders for runoff plots. Soil Sci. Soc. Am. J. 68:1689-1694.
93. **Blanco-Canqui, H**., C.J. Gantzer, S.H. Anderson, E.E. Alberts, and A.L. Thompson. 2004. Grass barriers and vegetative filters strip effectiveness in reducing runoff, sediment, and nutrient loss. Soil Sci. Soc. Am. J. 68:1670-1678.
94. **Blanco-Canqui, H**., C.J. Gantzer, S.H. Anderson, and E.E. Alberts. 2004. Tillage and crop influences on soil properties for an Epiaqualf. Soil Sci. Soc. Am. J. 68:567-576.
95. **Blanco-Canqui, H**., C.J. Gantzer, S.H. Anderson, and E.E. Alberts. 2002. Saturated hydraulic conductivity and its impact on simulated runoff for claypan soils. Soil Sci. Soc. Am. J. 6:1596-1602.

BOOK CHAPTERS (All Invited): TOTAL 7

1. **Blanco-Canqui, H**. 2018. Conservation grass buffers and soil health parameters. Burleigh Dodds Science Publishing. Cambridge, UK.
2. Baumhardt, R.L. and **H. Blanco-Canqui**. 2014. Soil conservation practices. Encyclopedia of Agriculture and Food Systems. Elsevier Inc. p. 153-165.
3. **Blanco-Canqui, H.** and J.G. Benjamin. 2013. Impacts of soil organic carbon on soil physical behavior. Advances Agric. Systems Modeling. Soil Science Society of America, Inc. 3:11-40.
4. Unger, P.W. and **H. Blanco-Canqui**. 2012. Conservation tillage. In Handbook of Soil Science, Levy et al. (Eds). 2nd Edition. CRC Press, Boca Raton, FL
5. **Blanco-Canqui, H.** 2012. Soil conservation. *In* Ecosystem Management and Sustainability. Berkshire Encyclopedia of Sustainability 5/10.
6. **Blanco-Canqui, H.**, and R. Lal. 2008. Crop residue management and soil carbon dynamics. *In:* Follet R.F. and Lal, R. (Eds) Soil C Sequestration/Greenhouse Effect. SSSA Special Pub.
7. **Blanco-Canqui, H.** and R. Lal. 2004. Tensile strength of soil aggregates. *In* R. Lal (Ed.). Encyclopedia of Soil Science. Marcel Dekker, New York.

BOOKS: 1

Blanco, H., and R. Lal. 2008. Principles of Soil Management and Conservation. Springer. 617 p. (textbook for upper undergrad and grad students). The 2nd edition will be published in 2019.

SUMMARY OF ACCOMPLISHMENTS

RESEARCH: 60% position responsibility page

TEACHING: 38% position responsibility

EXTENSION: 0% position responsibility

SERVICE: 2% position responsibility

CANDIDATE STATEMENT

It has been an immense honor and humbling experience to be part of this great department and university as well as other national and international institutions that contributed to my success. While there have been a few challenges along the way, as expected, the end results have always been rewarding. During the past 11 yr as an assistant and associate professor, I have accomplished many goals in regards to research, teaching, service, and scholarly activity, which together have regional, national, and international implications. In the past 7 yr at UNL, the evaluation received from my annual Academic Performance Evaluation has been either "**Outstanding Work" or "Extraordinary".** Indeed, in the last 2 yr the evaluation has been "**Extraordinary**", which can reflect an increased level of research and teaching performance. My previous work experience at K-State as an assistant and then as an associate professor (*Appendix I*) enabled me to rapidly establish this successful program at UNL. **Our research and teaching activities are still on an upward trajectory**. For example, the research output is increasing, so are the efforts to further excel in teaching. **This success would not have been possible without our team**, which consists of outstanding post docs, grad students, undergrad interns, visiting scholars, and many colleagues at UNL and other institutions.

These are exciting times to be a soils researcher and teacher when the value of soils in terms of soil health is being emphasized. This warrants more up-to-date research on innovative soil management strategies and improved understanding of indicators of soil health such as **soil physical properties.** Our program is fulfilling this need. Our research and teaching program on **soil management and applied soil physics** is an integral piece to the soils program and has implications at local, regional, national and international levels. We assess soil processes and properties under timely topics such as crop residue baling and grazing, cover cropping, conservation tillage, dedicated bioenergy crops, and organic amendments (i.e., biochar, char). Our goal is to improve the general understanding of practices to better manage soils, protect the environment, and adapt to climatic extremes.

Our research, teaching, and service goals closely link with those of the Department and the Institute of Agriculture and Natural Resources (IANR) vision and mission, which are to "***serve Nebraska by providing internationally-recognized science and education to assure the state's competitiveness in a changing world".*** One of the specific priorities of IANR is to **"*achieve world-class excellence in sustainable food, fiber, and natural resource system that support a bio-based economy; economics and environments for a sustainable future****".*** Our team contributes to this priority by 1) advancing knowledge through fundamental research on the sustainable management of soil and water resources, 2) preparing professionals through teaching and advising, and 3) providing service in committees.

The impact of our team has been through publications, presentations, teaching, and extension activities. Our research work on soil management and applied soil physics has resulted in the publication of **102 peer-reviewed articles (**95 journal articles and 7 book chapters (Fig. 1A). **On average, after PhD graduation (2004), this includes publication of 7 manuscripts per year**. We have also been successful in securing state and federal funding for our program. We **secured $4,568,783 (Blanco's portion $2,400,430;** *Appendix II*). Conducting research, publishing data, and securing funding are product of a strong interdisciplinary collaboration, which is reflected in multiple author-manuscripts and jointly funded projects (p. *2*).

The following suggests the **impact of our work**. Most of our publications have been well cited (Fig. 1B). **My *h index,*** which is one of the impact measures**, is 35** (*source: Google Scholar*). This reflects both productivity and impact of these publications. Two papers were selected as *the* ***2012 and 2016 Best Papers*** **by the SSSAJ** due to their high impact through a competitive evaluation (*Appendix III*). Five papers are "Highly Cited Papers" (Web of Science; Appendix IV). Ten papers were classified as "Most Read and Most Cited Papers" and 10 included in news releases in the CSA News Magazine (*Appendix V*). National and international

recognition of this work is reflected by the **numerous citations to our manuscripts and invitations as speaker to Symposia at the International Annual Meetings (Baltimore, MD, Nov 2018; Tampa, FL, Oct 2017; Long Beach, CA. Nov 2010.) and countries (Germany, Canada, Argentina, Brazil, and Ukraine;** *Appendix VI*).

Our team research is linked with teaching. Most of our research findings are linked with our undergraduate and graduate instruction. Our research complements the Soil Management Course (AGRO 269) that includes 75-80 undergrad students each fall (Table 1). We published a textbook "Principles of Soil Management and Conservation [617 pp.], Springer-Verlag" in 2008, which is also used in many other universities, received positive reviews (*Appendix VII*), and cited 458 times. I use portions of this textbook to teach AGRO 269. A 2nd edition of this textbook will be published in 2019. Each fall, I also teach Applied Soil Physics (AGRO 472/872) for upper-level undergrad and grad students. In addition, I co-teach Plant Nutrition (AGRO 824 /HORT 824) with Dr. Paparozzi every other spring. There have been >800 students in these classes in the past 7 yr at UNL. **I also advised about 15 undergraduate students per year**. Working on course selection and identifying opportunities for their career development have been rewarding. **My FTE for teaching and advising activities has increased since 2012 and now is around 70%, which is well above my teaching appointment split (38%; *Appendix VIII*).**

My teaching philosophy is to actively involve students in the learning process through hands-on practical experiences as well as in interactive lecture/discussions. **The field is our laboratory for soil courses**. For example, the undergrad Soil Management Course (AGRO 269) course does not have a lab section, so we have been taking this high-enrollment class with 75-80 students to the crop fields near campus a few times per semester to conduct soil measurements. We also emphasize and build communication skills in this class where students **write a term paper on their favorite soil topic or soil problem and then propose a sound solution**. The term paper is peer-reviewed and feedback provided by classmates, instructor, and TAs. Based on anonymous surveys, students highly value the field practicals and the writing project. Our **proposal on Teaching Enhancement was funded** in 2018 to further facilitate active learning. We also prepared 2 journal articles on teaching; one was published in NSE and another is under review. **My philosophy is that teaching is a learning process for the instructor, so I am constantly exploring emerging teaching strategies, attending teaching workshops, and seeking feedback to further excel in teaching.**

Graduate students, undergraduate students, and postdoctoral researchers are key players in my research and teaching program. **I have advised 7 graduate students as major advisor and 13 graduate students as committee member. Exposing undergraduate students to research has been one of the main highlights of my program.** Fifteen undergrad students conducted research for the past 4 years. Some published journal articles but everyone presented posters at the tri-society meetings and wrote extension (i.e., Crop Watch) articles. My advising activities have increased since 2012 (*Appendix VIII*).

Quality service to the department, university, and many professional organizations has been another of my priorities. I served on departmental committees (i.e., P&T, Graduate, Head search, Faculty searches; Award), university (i.e. UNL Res. Council). I also served as elected 2017 SSSA Division S-6 Chair (*Appendix IX*). Additional service on national and international committees include serving as Associate Editor for 3 journals (*Appendix X*), Review Panels, Chair of SSSA Young Scholar Award and Graduate Student Award, SSSA Best Paper Award, Multi-State NC1178, and invited speaker to various countries and national Symposia. Although without a formal extension appointment, I have frequently been invited and given talks at meetings and published team extension articles. Please see the Overall Summary (Table 2).

Finally, my commitment is to further contribute to the mission and vision of the Department. Developing or refining a **Strategic Action Plan** for our department, encompassing research, teaching, and extension programs, is a high priority. Having a visionary strategic plan for 2025 and 2050 with definite metrics would strengthen our 5-yr Academic Program goals, particularly in

a time when we are facing significant changes including 1) a new incoming Department Head, 2) retirement of many experienced faculty, 3) many junior faculty recruited, and 4) budget issues. I am eager to contribute to the development of this strategic action plan for the department to help shape 'our common future'. Challenges with new plans may surface but we should see them as opportunities to excel. Thanks to the energy of junior faculty hired in recent years alongside a new Head, we are well positioned to reshape our research, teaching, and extension programs, and elevate the department to new heights. I am envisioning a department and university with further cutting-edge, transformative, and innovative research, extension, and teaching portfolio ready to meet growing societal needs for food and other outputs from agriculture, especially in a world of scarcity and increasing polarization. Despite looming budget issues, I see nothing but a bright future for the department and the whole university as long as we have a clear and strategic vision for the coming decades. Because of the wide diversity of people and expertise in this department, we have a special obligation and opportunity to become the integrators and 'agricultural systems specialists' who can look over the horizon, anticipate the needs of the future, and pursue solutions to these needs through our comprehensive education and research programs.

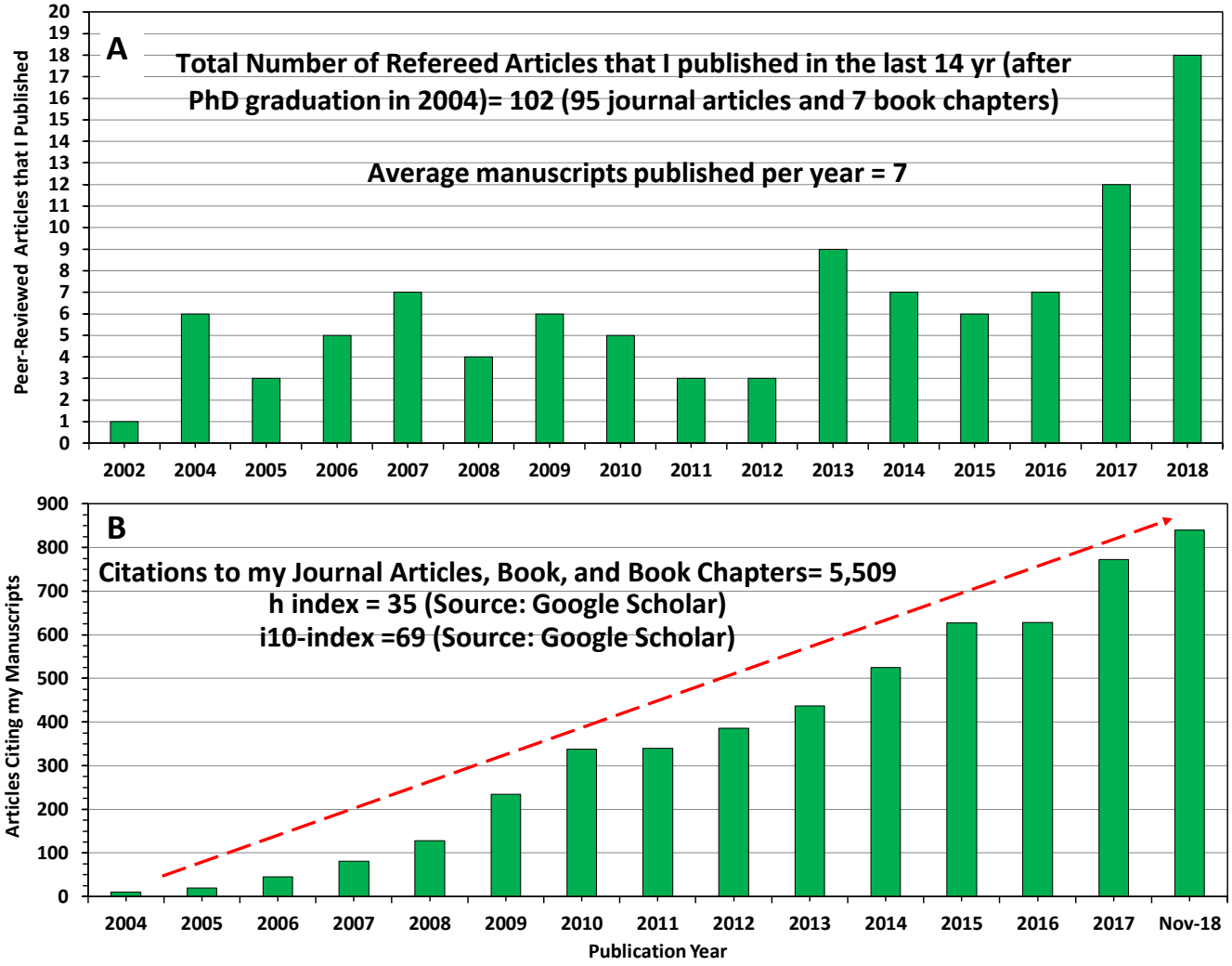


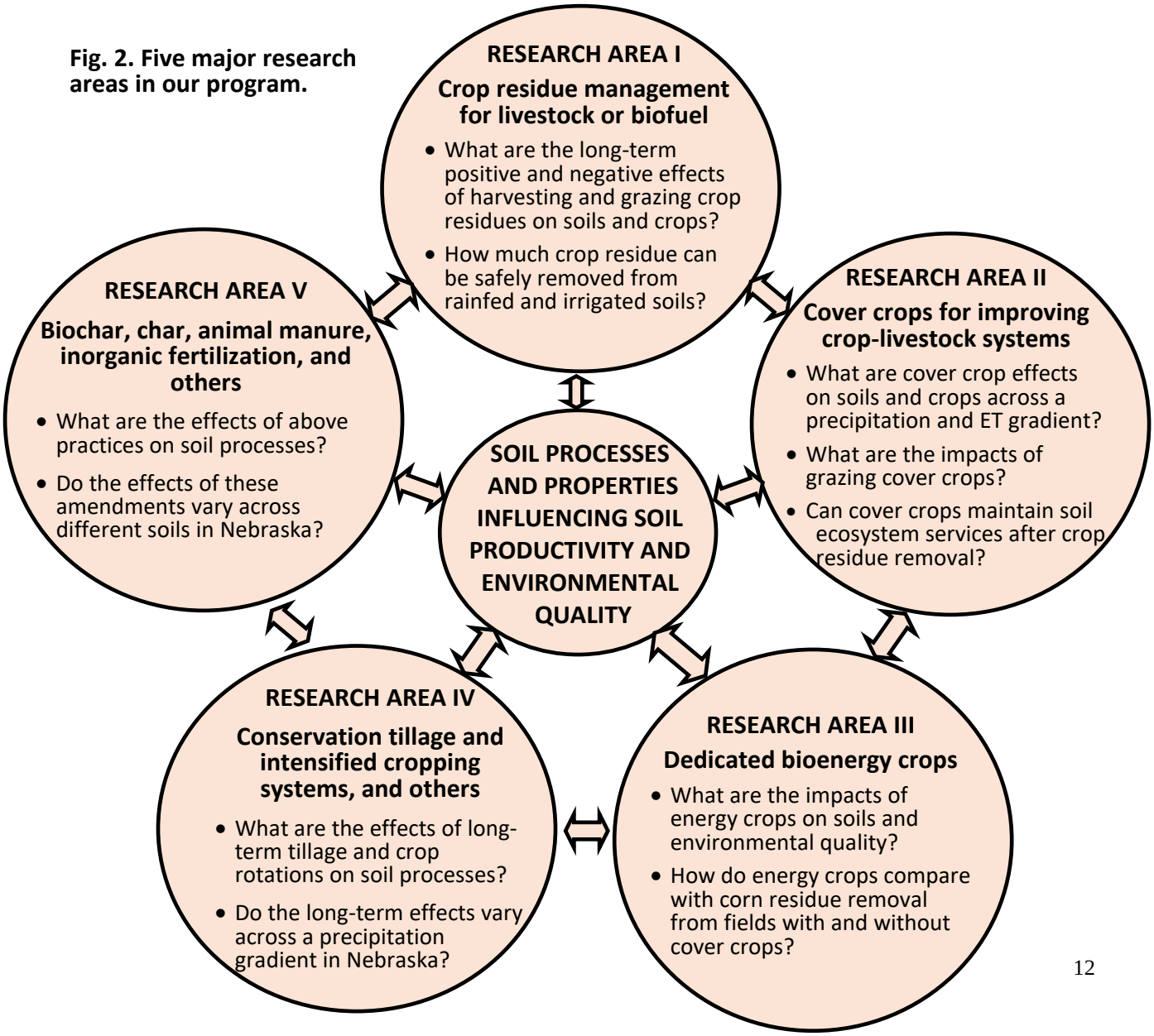
Fig. 1. A) Number of peer-reviewed articles I published in 14 years since PhD graduation in 2004 and B) citations to all our publications (journal articles, book, and book chapters: *source: Google Scholar* https://scholar.google.com/citations?user=kkj8a48AAAAJ&hl=en&oi=ao

RESEARCH PHILOSOPHY AND ACCOMPLISHMENTS

Our program is designed to respond to the needs of Nebraska agriculture through relevant research and teaching activities that emphasize the application of basic scientific principles to judicious soil management and solutions for environmental problems. The ultimate goal is to better manage soils to meet the increasing demands for food, feed, fuel, and fiber. We have developed a collaborative and grant-funded research program that has regional, national, and international recognition (Fig. 2.). We emphasize basic and applied research to investigate and recommend practices that improve soil productivity and enhance environmental quality under changing climatic conditions or climatic extremes. Specifically, our team assesses soil physical processes, water and wind erosion, soil C cycling or C sequestration, soil gas fluxes, crop production, and others at the plot and field scales. This team in collaboration with many others has been investigating soil properties, particularly physical properties, which are critical indicators of soil health and quality.

My five major research areas are crop residue management (i.e., baling and grazing), cover cropping (i.e., haying and grazing), conservation tillage (i.e., no-till, reduced till), organic amendments (i.e., char, biochar, animal manure), and growing dedicated energy crops (Fig. 2).

Fig. 2. Five major research areas in our program.



Short-, medium-, and long-term research has answered a number of important questions posed under these major areas (Fig. 2). We have developed a research program through interdisciplinary collaboration across a precipitation gradient (west to east) in Nebraska. This has required cultivating multidisciplinary cooperation with colleagues from several departments or units (Agronomy & Horticulture, Animal Science, Biological Systems Engineering, Agricultural Economics, USDA-ARS, research centers, and others) and other universities in the United States and other countries to accomplish major research goals. These collaborative efforts have resulted in the publication of many manuscripts (p. 2). Our research has implications for the Midwest and central Great Plains in general and Nebraska in particular. We received funding from federal and state agencies to conduct research work on the major research areas (Fig. 2). Appendix II shows details of each grant proposal. In addition to the 5 major research areas depicted in Fig. 2, we have other collaborative projects including:

1. Successful establishment of roadside vegetation funded by NDOT. In this project, we are assessing vegetation establishment and monitoring changes in soil and environment.
2. Use of processed corn residue as an alternative to peat moss in the greenhouse industry. This project is funded by Pellet Technologies Inc.

EVIDENCE OF RESEARCH ACCOMPLISHMENT

Research Area I: Crop Residue Management

Crop residue, particularly corn residue, is often grazed by livestock or baled as animal feed or bioenergy feedstock. These practices are expected to increase to meet the increasing demands for forage and feedstock. Particularly, under the emerging integrated crop-livestock systems, crop residue is considered as a low-cost feed for livestock. However, **the implications of crop residue removal on soil ecosystem services (**crop production, soil C sequestration, greenhouse gas fluxes, water quality, wind erosion, soil quality indicators (soil physical, chemical, and some biological properties)**, particularly those of grazing crop residues are not well understood**. We have been evaluating how corn residue grazing and baling affect soil ecosystem services. Some of the key questions that my team is addressing include: How much (threshold level) residue can we bale from different soils, cropping systems, and climates without negatively affecting soil ecosystems services? Does crop residue removal effect vary between rainfed and irrigated regions? What are the short and long-term effects of residue baling and grazing on soil services? These questions came from producers through our surveys (*See our paper: Cox-O'Neill et al., 2017. Perceptions of crop consultants and crop producers on grazing corn residue in Nebraska. J. Extension*). To answer these questions, we have been conducting on-farm (5 sites) and plot (4 sites) experiments across Nebraska funded by SARE and the Corn Board in the past 7 yr. This work in Nebraska complements our previous work in other states (OH and KS) and further advances our understanding of crop residue removal implications on soil ecosystem services in the Midwest and the central Great Plains. We have also used models (Dr. Tatarko, USDA-ARS) to assess how residue removal affects soil services at regional scales.

- ***Output:*** My team has published about 20 journal articles on crop residue removal and soil ecosystem services. Our articles cover corn residue grazing with cattle and their effects on soil compaction, animal weight gain, crop yields, water and wind erosion, gas fluxes, and overall soil quality indicators. Two of our papers in *Nature Climate Change* (2014) and *Critical Reviews in Plant Science* (2009) are “Highly Cited Papers”. I was also invited to Canada in 2012 to talk about crop residue removal and C sequestration. We also published extension and delivered talks about crop residue management in field days and others.
- ***Impacts (What do we know now that we did not know before?)*****: Change in knowledge:** High rates (>50%) of corn residue removal can increase risks of wind and water erosion in the short term (< 2 yr). In the long-term (>5 yr), high rates of residue baling and removal can

reduce soil C levels and adversely affect soil health indicators. Irrigated croplands with high residue production can allow greater amounts of residue removal than rainfed regions. Corn residue grazing minimally affects soils and crops, which suggests that residue grazing can be more sustainable practice to feed livestock than residue baling in the central Great Plains.

Research Area II: Cover Crops

Enhancing soil ecosystem services of current cropping systems is a high priority for sustaining crop and livestock production, developing biofuel industries, and maintaining or improving soil and environmental quality. Integrating cover crops with existing cropping systems can be a potential strategy to enhance the above services. The use of cover crops is not a new concept, but the implications for delivering multiple ecosystem services across different soils, management scenarios, and climates are not well understood. Thus, our team has been assessing the multi-functionality of cover crops in the central Great Plains. We established various cover crop experiments across a precipitation gradient in Nebraska to answer these questions: What are the effects of cover crop grazing and haying on soil ecosystem services? Can cover crops ameliorate the adverse effects of crop residue removal on soil properties, C sequestration, soil erosion, and other services? Does mixture (cocktail) of cover crops provide additional soil and crop benefits relative to single cover crop species? Can cover crops be harvested for biofuel production? What management strategies can we use to increase cover crop biomass production across different soils, cropping systems, and climates? Our projects are funded by NIFA, SARE, NE Environmental Trust, and Corn and Soybean Boards.

- ***Output:*** To disseminate our findings, we published 15 journal articles on this topic in the past 8 yr (p. *2*). One of my papers (Blanco-Canqui et al., 2015. *Cover crops and ecosystem services:* Agron. J.) is a "Highly Cited Paper" with 3,448 cumulative downloads when the average downloads per article for this journal is only 137. I have been also invited as a Symposium Speaker at the ASA-CSSA-SSSA International Annual Meetings (Tampa, FL, 2017) to talk about "Cover crop grazing and haying: Implications on soils and crop production across in the central Great Plains". In addition, we published extension articles (10 Cropwatch articles on this specific topic in the last 3 yr; *Please see Appendix XII*)
- ***Impacts (What do we know now that we did not know before?)*****: Change in knowledge:** Cover crop grazing and haying may not negatively affect soil properties and crop production, indicating that grazing and haying cover crops could be a potential practice to improve crop-livestock production systems while maintaining soil productivity and environmental quality although more long-term research is needed to corroborate this. In the short term (<3 yr), use of cover crop after high rates (>50%) of corn residue removal may not offset adverse residue removal effects on soil erosion risks and soil properties if cover crop biomass production is <1 ton/ha (0.5 ton/ac). Cover crop mixes (cocktail) and single cover crop species may have similar effects on soil properties, suggesting that cover crop mixes may not always be better than high-biomass producing single cover crop species.

Research Area III: Dedicated Bioenergy Crops

Developing sustainable dedicated bioenergy cropping systems such as perennial warm-season grasses is a priority to promote energy independence, enhance rural development, and improve soil ecosystem services such as erosion control, C sequestration, and water and nutrient cycling, among others. Growing dedicated bioenergy crops including switchgrass, big bluestem, and other warm-season grasses can be an alternative to corn residue removal as biofuel. Dedicated bioenergy crops can supply cellulosic biomass feedstocks for bioenergy while providing essential soil ecosystem services, increasing long-term soil health. Marginally-productive lands have been suggested as potential lands for the production of cellulosic biomass. However, field research assessing soil and environmental responses to growing

energy crops in marginally-productive lands is limited. Our program is fulfilling this. Our team has been assessing biomass production (aboveground and belowground biomass), wind and water erosion potential, soil compaction, soil physical and hydraulic properties, soil C sequestration, soil fertility, and other soil health parameters under perennial warm-season grasses on marginally-productive lands in Nebraska and Iowa. Our team from two States consisting of UNL (H. Blanco and post docs), USDA-ARS (R. Mitchell), and Iowa State Univ. (D. Laird and R. Cruse) has been perennial warm-season grass experiments in Nebraska and Iowa to evaluate soil health indicators (physical, chemical, and biological properties), water quality, wind erosion, C sequestration, and root biomass production funded by the NC Sun Grant. Our UNL team has also been examining the effects of conservation buffers on soil C and physical properties area.

- ***Output:*** Our team has published 10 journal articles on this topic in the past 10 yr. One of these papers (*Energy crops and their implications on soil and environment. Agron. J.*) is a "Highly Cited Paper" with 2,151 cumulative downloads when the average downloads per article for the journal is only 137. I have been also invited as a Conference Speaker in Leipzig, Germany and Symposium Speaker at the ASA-CSSA-SSSA International Annual Meetings to discuss energy crops and soil ecosystem services.
- ***Impacts (What do we know now that we did not know before?)*: Change in knowledge:** Our data to this point suggest that warm-season grasses have more beneficial effects on soils when grown in marginally productive than in highly productive croplands. Warm-season grasses in marginally-productive croplands can be an alternative to corn residue removal to provide biomass feedstocks while reducing risks of soil erosion and improving soil health in marginal lands. Switchgrass barriers as conservation buffers when integrated with intensively managed agroecosystems can increase soil organic C pool and improve soil properties.

Research Area IV: Conservation Tillage and Diversified Systems

While implications of conservation tillage such as no-till impacts on soil C dynamics, soil fertility, and crop yields have been studied, there are still several gaps that deserve investigation. For example, conservation tillage impacts on soil physical and hydraulic properties are not well understood. Yet, this information is necessary to conserve and manage soil water under increasing intense and frequent rainstorms or droughts, particularly in water-limited or rainfed regions such as the western Corn Belt. My team has been quantifying changes in soil hydraulic properties (i.e., infiltration, water retention) under different long-term tillage and cropping systems to determine the ability of the soil to capture and store precipitation or irrigation water. Also, because previous studies have mostly measured soil properties such as soil C pools near the soil surface, our team has been measuring changes in soil C and related properties for the whole soil profile (1 m) to better understand soil profile changes in soil properties and C storage. **The long-term tillage experiments have been ideal laboratories.** In some instances, reduced till s considered as an alternative to continuous no-till to deal with some challenges with no-till management. Thus, we have been also comparing reduced till with other systems.

- ***Output:*** We published more than 15 articles on the impacts of conservation tillage on soil C accumulation, soil compaction, and other properties. One of our papers (*Conservation agriculture and ecosystem services: An overview.* Agric. Ecosystems Environ.) is a "Highly Cited Paper". Recently, we also synthesized global data (*No-till management and soil physical environment.* Geoderma). I was also invited to give talks in Ukraine.
- ***Impacts (What do we know now that we did not know before)*: Change in knowledge:** We found that conservation tillage may improve soil properties primarily near the soil surface (< 10 cm depth), suggesting that this practice, particularly no-till, can lead to stratification of soil properties. We also found that reduced till effects on soil properties can be between no-till and conventional till. No-till positively affect soil physical properties with the extent depending

on soil textural class and duration**.** Recommendation is to assess the feasibility of conservation tillage practices in different agro-ecological and socio-economic conditions worldwide.

Research Area V: Organic Amendments

Application of C amendments may improve soil quality and crop production as organic C accumulation is a key indicator of improvement in soil quality. Particularly in semiarid regions such as in western Nebraska, soils are generally low in organic matter and susceptible to wind and water erosion. **Our team has been conducting field research on how addition of C-enriched amendments including animal manure, biochar, char, and others can affect crop yields, soil fertility, C storage, and soil physical characteristics**. Previous research on biochar under laboratory or greenhouse studies has shown some promising results, but field data are limited. We are addressing this need in degraded soils. We established experiments of biochar and char with and without animal manure and N fertilizer application at UNL Panhandle Res. and Extension Center near Scottsbluff and UNL High Plains Ag Lab near Sidney, NE. Our projects are funded by the Western Sugar Cooperative and the High Plains Biochar.

- ***Output:*** I wrote an invited review paper on biochar in 2017 (*Biochar and soil physical properties. Soil Sci. Soc. Am. J.)*, which identified many research needs. Chadd Cupit's M.Sc. thesis is on biochar, char, and other C amendments, which will generate timely data and more publications in 2019. Our team also published: 1) *Cattle manure application reduces soil's susceptibility to compaction and increases water retention after 71 years*; 2) *Does inorganic nitrogen fertilization improve soil aggregation? Insights from long-term tillage experiments*.
- ***Impacts (What do we know now that we did not know before?)*: Change in knowledge:** We found that biochar can generally improve soil physical properties, but more field data are needed. Char application from Western Sugar Cooperative can increase bean yields when applied at large rates (>50 ton/ac) in degraded croplands. We are generating field research data on the potential use of biochar and char to provide recommendations to producers.

GRANT FUNDING

To conduct our collaborative and successful program, the team has secured **$4,568,783** from different internal, state, and federal agencies (*Appendix II*). **Blanco's portion is $2,400,430.** We received funding from NIFA AFRI, Sun Grant (DOE and USDA), SARE, State Corn and Soybean Boards, NDOT, NE Environmental Trust, and other agencies (*Appendix II*). The significant funding from the federal agencies has allowed to recruit grad students and postdoctoral researchers. It also allowed me to cover 3 months of my summer salary each year.

Our funded proposals are a result of a strong interdisciplinary collaboration, which is reflected in multiple CO-PIs in our jointly funded projects (*Appendix II*). The large funding received indicates that our work is relevant. The most significant funding has been for research on cover crops in which we are evaluating potential of cover crops for producing biomass for biofuel and livestock and delivering other ecosystem services. Grazing of cover crops is another important area of emphasis supported by significant funding.

EVIDENCE OF NATIONAL AND INTERNATIONAL RESEARCH ACTIVITIES

National and international collaboration is key to our program. We have been collaborating with scientists from different institutions who work on similar areas such as Conservation agriculture, Dedicated energy crops, Soil erosion, C sequestration, and others (Fig. 2). Our efforts resulted in many papers (*see below*), most of which are well cited due to their relevance.

1. Iowa State University

Our collaborative team from UNL and Iowa State Univ. are collecting data on biomass yield, water quality, soil physical properties, C sequestration, fertility, and other soil health parameters

under perennial warm-season grasses on marginally-productive land in eastern Nebraska and southwestern Iowa. Our team consists of UNL (H. Blanco and post docs), USDA-ARS (R. Mitchell), and ISU (D. Laird and R. Cruse) This is funded by the NC Sun Grant.

2. Institution: Ankara University, Faculty of Agriculture, Turkey

We have been collaborating with colleagues from the Ankara University, Turkey and conducted experiments on grazing and crop harvesting impacts on soil loss. This has been a productive collaborative effort as we have published 4 manuscripts in the last 5 yr (*Parlak et al.*).

3. Institution: Earth Institute at Columbia University, USA; FAO; and Australia

The Independent Science and Partnership Council (ISPC) of the CGIAR invited me to attend the CGIAR workshop a few years ago and write a manuscript about conservation tillage with researchers from Earth Institute at Columbia Univ., USA; FAO, and Queensland Univ. of Technol., Australia. Palm et al. *Conservation agriculture and ecosystem services: An overview. Agric. Ecosyst. Environ.,* which is a "**Highly Cited Paper**".

4. Institution: USDA-ARS, Bushland, TX

Invited by Dr. Baumhardt, USDA-ARS, Bushland, TX to publish together a manuscript on conservation tillage. *Baumhardt, R.L. and H. Blanco-Canqui. Soil conservation practices.*

5. Institution: Chinese Academy of Science, China

I was invited by Dr. Zhangliu Du (Chinese Academy of Sciences) to work on a project on tillage systems and soils in northern China. *Soil aggregate stability and aggregate-associated C under different tillage systems in the North China Plain. J. Integrative Agriculture*.

6. Institution: University of Sao Paulo, Piracicaba, Brazil

We worked with visiting Ph.D. students (Osvaldo Guedes and Fernando Viero) from Brazil and published: *Guedes et al. Least limiting water range of the soil seedbed for long-term tillage and cropping systems in the central Great Plains, USA. Geoderma.* Another manuscript is in review..

EVIDENCE OF NATIONAL AND INTERNATIONAL RECOGNITION: INVITED TO TALKS

Here is a list of invitations as Keynote Speaker or Meeting Organizer (*Appendix VI*):

1. Invited to the Organizing Committee of the XIII Latin American and Caribbean Congress of Agricultural Engineering. San Jose, **Costa Rica**. 2018.
2. Invited Speaker: Conference "Biomass for energy". Leipzig, **Germany** Nov 24-25, 2014.
3. Invited Speaker: Bioeconomy Conference "Crop residue removal vs. soil organic C pool and greenhouse gas emissions". Univ. of Alberta, Banff, **Canada**, Oct 3-4, 2012.
4. Invited Speaker: The "XIX Latin American Congress and XXIII Argentine Congress of Soil Science", Mar del Plata, **Argentina**, April 16-20, 2012.
5. Invited visiting professor by the Univ. of Sao Paulo and State Univ. of Maringá**, Brazil**. *I presented seminars, visited no-till farms, and planned future projects*. August 13-27, 2010.
6. Invited Speaker: The 7th International No-till Conservation Agriculture Conference, Dnepropetrovsky, **Ukraine**. June 18-26, 2009.
7. USDA-China MOST (Ministry of Science and Technology) Climate Change Workshop. San Diego, CA. November 9-11, 2010.
8. Invited to the Crop Residues for Advanced Biofuel Workshop organized by ASA- CSSA-SSSA. Sacramento, CA Aug 15-17, 2017.

I have been **invited as Speaker** to International Annual Meetings in the USA (*Appendix VI*):

9. Symposium Speaker. "Effects of soil health management practices on soil-plant-water relations in a changing climate" ASA-CSSA International Meeting. Baltimore, MD. Division: ASA Section: Climatology. Soil-Plant-Water Relations Community. Nov 4-7, 2018.
10. Symposium Speaker. "Cover crop grazing and ecosystem services" ASA-CSSA-SSSA

International Meeting, Tampa, FL. Oct 22-25, 2017.

11. Symposium Speaker: “Biomass Energy & Soil Quality” Presentation: What are the impacts of bioenergy crops on soil and environmental quality? Long Beach, CA. 2010.

GRADUATE STUDENT ADVISING

I have advised 7 outstanding grad students. Most of our grad students are distinguished by being highly prolific (published numerous manuscripts) and receiving numerous awards. I think that forming high quality grad students can be more relevant than focusing on the number of grad students. For example, one of my PhD students published **5 journal articles in high impact factor journals, excelled as TA, and won many awards**. Seeing how grad students grow intellectually and excel broadly in their discipline has been highly rewarding to me.

1. Chadd Cupit. M.Sc. will graduate in spring 2018. He is working on the biochar project and preparing two manuscripts for submission.
2. Manbir K. Rakkar. PhD, graduated in spring 2018. She published 5 journal articles and received 5 Awards in 3 yr including Oral Competitions at the International Annual Meetings.
3. Michael Sindelar. M.Sc. graduated in spring 2018. He published 3 journal articles and received 2 Awards in 2 yr including Oral Competitions at the International Annual Meetings.
4. Fernando Viero. PhD. Visiting doctoral student from the Federal University of Rio Grande do Sul (UFRGS), Brazil. He is working on a manuscript “Soil chemical response to long-term tillage in a tropical and temperate soil” from work in the USA and Brazil
5. Byron Evers. M.Sc. student. Graduated in 2013. Published one manuscript.
6. Ian Kenney. M.Sc. student. Graduated in 2012. Published one manuscript.
7. Osvaldo Guedes. PhD. Visiting student from the Univ. of Paulo, Dept. of Soil Science. Graduated in 2012. Published one manuscript.

GRADUATE COMMITTEE MEMBER

Here is a list showing heavy involvement as a committee member in advising **13 grads**. Being in committees for other grad students has been a great way of collaborating with colleagues and helping students achieve their goals. My main contribution has been with the preparation and publications of their manuscripts.

1. Elise Read. M.Sc. Major advisor: Dr. Wortman. Sustainable agriculture. Graduation: 2019.
2. Shad Mills. M.Sc. Major advisor: Dr. Mamo. Roadside vegetation. Graduation: 2019.
3. Hussein Alserae. PhD. Major advisor: Dr. Drijber. Tillage and soil biology. Graduation: 2019.
4. John Laborde. M.Sc. Major advisor: Dr. Lindquist. Sustainable intensification via conservation agriculture in maize production systems of Nepal. Graduation: 2017.
5. Salvador Ramirez. PhD. Major advisor: Dr. Drijber. Cover crops and soils. Graduation: 2019.
6. Justin Allen. M.Sc. Major advisor: Dr. Francis. Crops and soil structure. Graduation: 2018.
7. Linda Schott. PhD. Major advisor: Dr. Schmidt. Soil Health. Graduation: 2018.
8. Daniel Ruterbories. M.Sc. Major advisor: Dr. Schacht. Drought. Graduation: 2017.
9. John Burdette. PhD. Major advisor: Dr. Heer. Soil moisture monitoring. Graduation: 2017.
10. Mark Keck. M.Sc. Major advisor: Dr. Kreuser. Turfgrass and Water. Graduation: 2019.
11. Jason McMahon. M.Sc. Major advisor: Dr. Wortmann. Cover crops. Graduation: 2019.
12. Kayla Tarr. M.Sc. Major advisor: Dr. Schacht. Grassland Management. Graduation: 2016.
13. Parminder Chahal. M.Sc. Major advisor: Dr. Jhala. Herbicides and crops. Graduated: 2015.

POST-DOCTORAL RESEARCHER ADVISING

All the postdoctoral researchers I had the privilege the work with have been outstanding. My former postdoctoral researchers ended up in permanent positions (faculty or research scientist).

1. Dr. Leonard Kibet. Projects: Published 4 journal articles. 2015-2016.
2. Dr. Sabrina Ruis. She has published 6 journal articles in 2 yr at UNL. 2016-Present.
3. Dr. Bharat Sharma. Published 3 journal articles in one year. 2017.
4. Dr. Sanku Dattamundi. I recruited Dr. Dattamunid in summer 2018. He is working on projects dealing with perennial warm season grasses and ecosystem services.
5. Dr. Chris Proctor. Project: Sustainable corn and soybean production. Dr. Roger Elmore and I worked with Chris for the cover crop project funded by the Corn and Soybean Boards. 2015.
6. Dr. Katja Khoeler-Cole. Project: Sustainable corn and soybean production. Dr. Roger Elmore and worked with Katja for a project funded by the Corn and Soybean Boards. 2016-present.

HOSTING OF VISITING SCHOLARS

1. Garba Maman. Dr. Wortmann hosted Dr. Maman from Niger as a visiting professor in 2018. I worked with them on a paper on organic amendments and soil aggregation.
2. Linran Qiao. Visiting scholar from China. Worked on cover crops and root biomass. 2017.
3. Bulent Sezer. International Agricultural Training Center, Ankara, Turkey. He worked on energy crops and mitigation of carbon emissions. 2014.
4. Mehmet Parlak. Çanakkale Onsekiz Mart Univ., Turkey. He worked on patch-burn grazing and soil physical processes and published a manuscript. 2014.

IMPACT OF OUR RESEARCH WORK

How impactful is our work? This is the question I always ask myself. Being prolific is great, but this has to be matched with quality. The latter is more important than quantity. While evaluating the whole impact of our work may not be straightforward, the following can be an indicator of the impact of my research work.

1. Most of my 102 peer-reviewed articles (95 journal articles and 7 book chapters= 102; Fig. 1B) have been well cited. My publications (journal articles, book, and book chapters) were cited 5,509 times (source: Google scholar; *https://scholar.google.com/citations?user=kkj8a48AAAAJ&hl=en&oi=ao ;* Fig. 1B).
2. My *h index* is 35 and i10 index = 69 (Fig. 1B). This shows both my productivity and impact of publications. **The *h index* indicates that 35 of my papers were cited 35 times**, while the *i10 index* indicates that 69 of my papers were cited 10 times.
3. Two of my papers were selected as ***the Best Papers*** **by the Soil Science Society of America Journal in 2012 and 2016** (*Appendix III*).
4. Five of my papers (below) are “Highly Cited Papers”. Please see *Appendix IV*.
5. Ten of my papers were classified as “Most Read and Most Downloaded Papers” (Some of them are shown in *Appendix V*).
6. Ten of my papers were selected for news release and featured in the CSA News Magazine (The Magazine for members of the CSSA, SSSA, and ASA). Please see *Appendix XI*.
7. The **invitations as speaker to meetings in Germany, Canada, Argentina, Brazil, and Ukraine** as well as to three Symposiums of the CSSA-SSSA-ASA International Meetings also reflect my national and international recognition and research impact (*Appendix VI*).
8. Three papers were featured as stories in the High Plains/Midwest Ag Journal.
9. Invited to various regional meetings to talk due to the relevance of my work (Table 2).
10. About **80% of my papers** were published in journals of high impact factor (>2; Table 2).
11. **My textbook has been cited 458 times** (*source: Google scholar*), used in a few universities, and received a positive review (*Appendix VII*).

FUTURE GOALS

My research program is still in an upward trajectory and expanding in breadth with focus on soil ecosystem services. We will specifically expand work on soil physical processes, soil-water-

plant-atmosphere relations, soil-water-root interactions, and C and nutrient cycling with a perspective of increased climate variability. To accomplish this, we will:

1. Expand projects and research team (i.e., grad students, postdoctoral researchers, others).
2. Further strengthen regional or multi-state research through interdisciplinary collaboration.
3. Further secure larger external funding from federal agencies to expand my research program not only at regional scales but also national and international scales.
4. Further increase the impact of my research program on Nebraska agriculture as well as on national and international research through applied research, extension and journal articles.

TEACHING PHILOSOPHY AND ACCOMPLISHMENTS

My FTE for teaching and advising activities has increased since 2012 and now is around 70%, which is above my teaching appointment (38%; *Appendix VIII*). The overall goal of my teaching is to ensure that students understand the concepts and overarching implications of soil management, applied soil physics, and interactions of soil-water-nutrient-plant relationships. My teaching emphasis is that students understand how to manage better soils in order to meet the increasing demands for food, fiber, and fuel while enhancing ecosystem services and mitigating/adapting to climatic extremes or fluctuations. To achieve this goal, we discuss the connections of improved soil management practices with more productive agriculture, and improved air and water quality. **Based on the student evaluations (CIEQ; Table 1), in-class anonymous surveys, and student feedback after graduation, we have been accomplishing the above goals.**

My philosophy is that teaching is about student learning. If students have learned my class material that I teach as reflected in quizzes, exams, and **feedback after graduation**, then I feel that I am doing my job as an instructor. **I heavily rely on students' feedback through anonymous surveys to help me adjust my teaching strategies**. Active learning is something that we have been emphasizing more. Engaging students through active participation in class (i.e., recitations) is critical. Students have indicated in our surveys that they learn my class material (soils) more by doing and participating in practicals than by listening or reading class material. Many students are not very excited about reading class materials. Thus, involving students in active learning in the classroom (i.e., problem-solving activities, group discussion) and field (i.e., hands-on activities), and others has been very helpful. We combine lectures with recitations and field trips (*Please Strategies in Appendix XIII*). **For example, this fall (2018), thanks to our Teaching Enhancement proposal funded by UNL, we have assessed the impact of incorporating a recitation section on AGRO 269 (undergrad Soil Management class with 80 students; *Appendix II*). Surveys showed students benefited from recitation.**

My teaching strategies are designed to enhance student's critical thinking, active learning and participation, and writing skills. The experience I gained when I was a student and now as an instructor is that students will better understand and appreciate the subject discussed in class if they see the practical applications. It is about integrating both basic and applied science. Thus, we stress how a given topic applies to real world scenarios such as soil management, water management, crop or livestock production, etc. I have learned that simply giving a lecture is not as effective as involving students in class or field activities

TEACHING ACTIVITY (THREE COURSES)

Principles of Soil Management (AGRO 269)

I teach this sophomore level class every fall semester. The class usually has 75 to 80 students and is taught twice per week, with 75 min lectures each. The overall objective of this course is that students will understand the concepts and overarching implications of soil management. The specific objectives are that students will be able to; 1) describe the processes

and management factors responsible for soil degradation, 2) analyze soil management & conservation issues and formulate sound management practices to manage and conserve soil and water for sustainable, highly productive agriculture, 3) critically evaluate information using scientific principles, and 4) describe the connection of judicious management of soils with more productive agriculture, and improved, air, and water quality.

The course does not have a laboratory section and thus lectures can be long. Thus, since 2013, every fall, we have been including some hands-on activities in the field, which were well received by the students. **The field is thus our laboratory for this course**. We have been refining the field demonstrations, so students can better understand the class material.

Below are some strategies I used in this course for improving teaching effectiveness.

- A survey at the start of the semester to learn the student background in the subject.
- Two surveys during the semester to gather feedback from students to evaluate my teaching effectiveness and student learning. This includes surveys on field practical and writing.
- Quizzes at the end of each class to assess student learning of the subject just discussed.
- Small group activities during class (problem solving activities).
- Hands-on activities in the field (*Please see Teaching Strategies in Appendix XIII*).

Plant Nutrition and Nutrient Management (AGRO 824/HORT 824) course

I have co-taught this course (30 to 35 students) with Dr. Ellen Paparozzi for the first 7 lectures of the semester. This course is offered every other spring for grad and upper-level undergrad students. It is for both resident and distance students. Lectures are recorded during lectures for resident students and then posted to Canvas for distance students. The first 7 lectures of the class are devoted to link soil processes with nutrient uptake, supply, and transport using principles of soil physics (i.e., solute movement). We assign reading materials, which included select book chapters and research papers. We also develop some assignments. Distance students communicate and ask questions through emails and discussion on Canvas. **Students find this class unique as it integrates soil-water-nutrients-roots-shoots.**

Applied Soil Physics (AGRO 472/872)

We teach this course each fall for grad and upper undergrad students. The number of students ranges between 5 and 12. The course includes both lectures and lab sessions. Student value this course as it integrates lectures with field and laboratory hands-on practicals. It is applied course in which theory is linked with practicals to better understand soil physical processes and properties. I cover:

- Applications of soil physics to soil and environmental quality, crop production, and sustainable use of natural resources.
- Soil physical properties and their importance to soil productivity and water management.
- Assessment of soil structural, compaction, and hydraulic properties focusing on water, air, and heat fluxes as well as soil-plant-water relations under increasing climatic fluctuations.
- Soil water flow and retention in intensively managed agricultural systems.
- Methods of evaluation and management of soil physical properties.

The content of the course is designed for students in Agronomy, Horticulture, Turfgrass & Landscape Management, Natural Resources, Biological Systems Engineering, Forestry, Environmental Sciences, Plant Biology and others.

UNDERGRADUATE STUDENT ADVISING (30 advisees)

Our instructional and advising philosophy centers on student success during their academic or professional career. I have been heavily engaged in undergraduate advising. On average, I have advised about 15 undergraduate students each year. This has been a great experience as I interact with them, plan their curricular activities, and address their questions.

ADVISING UNDERGRADUATE INTERNS IN RESEARCH (15 Interns)

Exposing interested undergrad students to the research process has been the highlight of my program. I enjoy engaging undergrad students in scientific activity, starting from literature review and then to formulation of objectives and hypothesis, data collection, management, and analysis, and finally dissemination of results through posters, extension articles, and journal articles. Undergrad students who are considering grad school often publish their first journal article with us. This output is extraordinary for an undergrad student. Observing undergrad students taking ownership of a given research project/topic through a scientific activity is a unique experience. This activity empowers the students and help them to better understand what they learned in the classrooms. Some interns commented after attending the internship:

- "I learned a lot about agronomy and soils"
- "The fellowship helped narrow my interests to plant science and sustainable production"
- "Thanks for a wonderful experience"

Undergraduate Student Research Program

I had the privilege to work with **two outstanding undergrad senior students** (Dallas Williams and Raihanah Hassim) under the **UNL Agricultural Research Division (ARD) Undergraduate Student Research Program**. "*This program gives undergraduate students the opportunity to conduct research under the direction of an ARD faculty mentor"*. These two students conducted research on their topic of interest under my guidance for 1 yr and learned the whole process of research, from problem identification/hypothesis formulation to the publication of journal articles, which was impressive for undergraduate students.

1. *Williams, D.M., H. Blanco-Canqui, C.A. Francis, and T.D. Galusha. 2017. Organic farming and soil physical properties: An assessment after 40 years. Agron. J. 109:600-609*.
2. Hassim, R., *H. Blanco-Canqui, C. Shapiro, and P. Jasa. Long-term no-till and reduced till systems reduce soil's susceptibility to compaction*. *Soil & Tillage Research (in review).*

NIFA Undergraduate Research and Extension Experiential Learning Fellowship

I hosted **8 summer interns** in the past 3 yr from different universities. These students were awarded a NIFA Undergraduate Research and Extension Experiential Learning Fellowship in Integrated Agronomic Systems at UNL whose goal is to "*promote research and extension learning experiences for undergraduates such that upon graduation they may enter the agricultural workforce with exceptional skills*". We had 24 interns in this Fellowship whose PI was Dr. Guretzky. The interns worked with the PI and CO-PIs (Drs. Elmore, Blanco, and Redfearn) depending on their area of interest. Eight interns worked on soils with me. These students presented posters at the UNL Summer Research Symposium and the ASA-CSSA-SSSA International Annual Meetings and wrote extension articles (*Appendix XI*). The interns were:

2018

1. Emma Richmond. University of Delaware. Topic: Cover crops and water quality.
2. Julie McDowell. Tulane University. Topic: Cover crops and C sequestration.

2017

3. Grace Kurtz. Seattle University. Topic: Conservation buffers and soil properties.
4. Ivori Schley. North Carolina Agricultural and Technical State University. Topic: Temporal changes in greenhouse gas fluxes under long-term tillage systems.
5. Amber Blue. Alabama Agricultural and Mechanical University. Topic: Do cover crops ameliorate corn residue removal impacts on wind erosion?
6. Lindsey Anderson. University of Missouri. Topic: Using char as a soil amendment.

2016

7. Andi Nichols, Oklahoma State Univ.. Topic: Cover crop effects on soil health indicators.
8. Rebecca Clay. Iowa State Univ. Topic: Does cattle grazing of cover crops compact soil?

I also hosted 4 summer interns from **Northwest A&F Univ., China and one from K-State**. They also prepared posters for symposiums and conferences.

2012-2015

9. Mr. Xinli Xie. China. Biochar and cover crop use; Effects on soil properties.
10. Ms. Li Zhiying. Univ., China. Corn residue management and soil organic carbon
11. Mr. Liao Yi-nan. Soil quality benefits of energy crops.
12. Mr. Yang Ming. China. Impacts of N fertilization of switchgrass on root biomass.
13. Carolyn Fox, K-State. Soil property issues affecting roadside vegetation establishment

ACTIVITIES TO IMPROVE MY TEACHING AND ADVISING SKILLS

I know that teaching and advising are a learning process. Teaching approach evolves as new teaching tools become available. **I** continue to build my knowledge on teaching by regularly attending college or campus-wide teaching symposiums/workshops (winter, spring, and fall CASNR and UNL workshops, Academic Success Plans, training in the use of MyRed, MyPlan, Canvas, and other tools). **I have also attended a course ARISE: Learning by Design (6 sessions) for STEM faculty in fall 2017 to learn about course design principles and apply them to the design of a new course or the partial or full redesign of an existing course**. These workshops were highly beneficial to further improve my teaching skills, learn about new teaching tools, and learn from colleagues with heavier teaching appointment than me.

Finally, I remember that about 7 years ago, Dr. Dennis L. McCallister, Teaching Coordinator in the Department, (now Emeritus Professor), came and sit in my AGRO 269 sophomore level class to listen and evaluate my teaching, **I found his comments very helpful. I think evaluation of an instructor by their peers should be an integral part of teaching.**

TEACHING IMPACTS: FEEDBACK FROM STUDENTS

There have been >800 students in classes that I taught (AGRO 269, and AGRO 472/872, and AGRO 824/HORT 824,) since joining UNL in 2012. Students provided positive feedback on the student evaluation forms (Table 1). Some comments on Evaluation forms were:

- “Humberto is one of the most energetic professors I have ever had, and one of the few who cares that his students learn”
- “Instructor was very knowledgeable in this course”
- “This course was extremely relevant to my agronomy degree”
- “Field day papers took a long time to complete”.
- “Material was relevant”
- “The instructor tried to get the class involved way too much in my opinion. I learn more when the teacher goes over the material”
- “I would prefer more information on crop water usage”
- “Many assignments and four exams on top of a final and a term paper is way too much packed into a semester”
- Dr. Blanco and TA were great in this course I learned a lot and it was easy to tell both of them enjoy soils, which is contagious for someone who wants to learn more"
- “Dr. Blanco used his own book which was nice and made it flow great”
- “Widened my soil management knowledge”
- Instructor was good
- Excellent always willing to help and engage with students
- “Too much content, less grading points”
- “Homework was numerous and sometimes slightly daunting”
- “Exams were fair”
- “Less in class quizzes”
- “I learned some information from this class and it was a valuable educational experience”
- “Got things out of the class that I can use down the road”
- A valuable educational experience

Table 1. Student feedback (CIEQ) on three courses.

Categories	Soil Management (n = 75- 80 undergrad students)	Applied Soil Physics (n = 5-12 upper undergrad and grad students)	Plant Nutrition and Nutrient Management (n = 30-35 resident and online students)
	Mean across 6 years	Mean across 4 years	Mean across 3 years
General Attitude	**2.91**	**3.30**	**3.60**
Method	**2.79**	**2.92**	**2.95**
Content	**2.68**	**3.00**	**2.99**
Interest	**2.81**	**3.13**	**3.15**
Instruction	**2.99**	**3.45**	**3.41**
Total	**2.87**	**3.20**	**3.23**

REFLECTIVE ASSESSMENT OF STUDENT FEEDBACK

The above student comments and anonymous class surveys are very valuable to improve my teaching strategies and assess teaching impact. For example, students liked conducting field tests (i.e., soil erosion). One challenge with working with a large class in the field is the difficulty with involving all students in the field experiments. Adjustments are being made to find ways to involve all students in hands-on activities in the field. Dividing the large class in smaller groups in the field or class can improve student participation. As discussed earlier under "ACTIVITIES TO IMPROVE MY TEACHING AND ADVISING SKILLS", I continue to improve my teaching strategies based on the emerging teaching tools to teach classes.

TEACHING PUBLICATIONS

Journal Publications

My team has prepared two journal articles after collecting 3-yr data on the integration of field practicals and lectures as well as preparation of term papers to improve student writing skills while learning soil management topics. These activities are followed by surveys for feedback.

1. Blanco H., S, Ruis,C. Speth, and D. Lee. "Teaching Undergraduate Soil Management to Diverse Majors: Linking Lectures with Field Practicals" Natural Sci. Education 47:180017.
2. Blanco H., S, Ruis, C. Speth, and D. Lee. "Promoting Undergraduate Learning of Soil Management Through Writing" (*in review*).

TEXTBOOK

I published a textbook (below) in 2008 *(Blanco, H., and R. Lal. 2008. Principles of Soil Management and Conservation. Springer. 617 pages (textbook for upper undergrad and grad students).* I use portions of this textbook as I teach AGRO 269. I **have been writing the 2nd edition of this textbook**, which will be published with Springer n 2019.

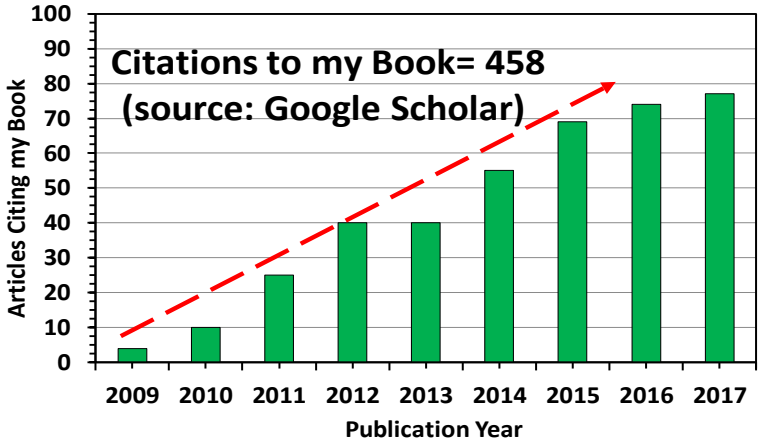


Fig. 3. Citations to my textbook: *Principles of Soil Management and Conservation*. Springer. A second of this textbook is being prepared with the addition of timely topics

MY TEXTBOOK: IMPACT

The following shows some of the impact of my textbook.

1. Required Textbook

While it is somewhat difficult to find all the universities where this textbook is being used, a quick web search shows several universities that use my textbook for teaching Soils.

- Oklahoma State University (See book requirement at http://soilwater.okstate.edu/courses/files/SOIL_4463_Syllabus.pdf)
- University of Guelph, Ontario Agricultural College, Canada (See book requirement at https://courses.opened.uoguelph.ca/search/publicCourseSearchDetails.do?method=load&courseId=18740
- The Technical University of Munich. Germany. (See book requirement at https://www.forst.wzw.tum.de/fileadmin/Master_SRM/Modulhandbuch_MSc_SRM_WS1718.3.
- University of Florida (See book requirement at http://agronomy.ifas.ufl.edu/pdfs/syllabi/agr4212.pdf)
- AGH University of Science and Technology, Poland (See book requirement at (http://syllabuskrk.agh.edu.pl/2014-2015/en/magnesite/study_plans/stacjonarne-inzynieria-srodowiska--6/module/dis-1-723-s-soil-protection-and-management)
- University of Crete. Greece. (See book requirement at http://www.ccsafs.edc.uoc.gr/wp-content/uploads/D4.2-CCSAFS-course-syllabi-course-modules.pdf)

2. Citations to my Textbook and Translations

As of Nov 30, 2018, the textbook has been cited 458 times (Fig. 3). Source Google Scholar: https://scholar.google.com/citations?user=kkj8a48AAAAJ&hl=en&oi=ao. The textbook has been translated into Ukrainian and Mongolian languages. I have received translated courtesy copies.

FUTURE GOALS IN TEACHING

1. Because teaching is learning, I will continue attending more teaching training workshops specifically focused on effective teaching strategies that foster student learning.
2. Incorporate more hands-on practices in the field and laboratory.
3. Publish journal articles related to teaching. I have two articles in preparation.
4. Seek funding for teaching related activities and publications.
5. Further integrate my research with teaching by combining basic and applied science.

EXTENSION ACTIVITIES

Although I do not have a formal extension appointment, I have been involved in some activities related to extension. As a team, we have published numerous extension articles (CropWatch articles) and given presentations in field days (Table 2). My goal is to be involved in extension activities as much as my schedule allows. I am well aware that dissemination of research results is essential to translate basic research data into practice. **We have published more than 20 extension articles in the past 5 yr** (Please see *Appendix XII).*

SERVICE CONTRIBUTIONS

My service philosophy has been to engage in departmental, college, university, regional, national, and international activities to advance common goals. To meet this philosophy, I have taken every opportunity to serve on different committees (Please see below). I believe I have made significant contribution to different committee activities. Serving on committees has been a highly rewarding for advancing committee and my professional goals. I have been successfully in balancing my research and teaching goals with service goals.

As listed below, I have chaired and served on numerous committees. One of the most important service activities that I performed recently was serving as Chair of the Soil Science Society of America-Division Soil and Water Management and Conservation in 2017 (*Appendix IX)*. Spending significant amount of time with organizing the sessions and coordinating the Division activities for the 2017 Annual Meetings in Tampa, FL was a great experience. I have also served as Associate Editor for three prestigious journals and I am a member of the Promotion and Tenure Committee in the Department. Below is the list of my service activities:

Departmental and University Level

I. Served on departmental and university committees:
1. UNL Research Council (review of proposals submitted to the Council). 2016-Present.
2. Promotion & Tenure Committee. Agronomy and Horticulture. 2017-Present.
3. Academic Program Review Writing Team (Research). Agronomy and Horticulture. 2017.
4. Award Committee. Agronomy and Horticulture. 2018-Present.
5. Graduate Admissions Committee. Agronomy and Horticulture. 2015-2016.
6. Peer Evaluation Committee (Soil and Water Sciences). Agronomy and Horticulture. 2015
7. Curriculum Committee. Agronomy and Horticulture. 2016
8. Activities and Entertainment Committee. Agronomy and Horticulture. 2014
9. Safety Committee. Agronomy and Horticulture. 2015

II. Served on faculty search committees in the Department and others:
1. Department Head. Department of Agronomy and Horticulture. 2018.
2. Soil Fertility-Precision Ag. Department of Agronomy and Horticulture. 2018
3. Applied Soil Chemist. Department of Agronomy and Horticulture. 2017.
4. Pedologist. School of Natural Resources. 2016.
5. Turfgrass Specialist. Department of Agronomy and Horticulture. 2012.
6. Beef Specialist, Animal Science Department. 2012.
7. Crop Residue and Forage Specialist. Department of Agronomy and Horticulture. 2013.
8. Postdoctoral Associate under Dr. Walter Schacht. Agronomy and Horticulture. 2017.
9. Postdoctoral Associate under Dr. Michael Kaiser. Agronomy and Horticulture. 2018.
10. Hops Program Coordinator. University Extension. 2017.
11. Technician III. Department of Agronomy and Horticulture. 2015.

National and International Level

1. Division Chair. SSSA. Div. Soil/Water Conserv. 2017 (*Appendix IX*).
2. Associate Editor for Soil Science Society of America (SSSA) J. (Soil & Water Conservation Division). I handled and reviewed about 25 articles. 2006 to 2013 (*Appendix X*).
3. Associate Editor for Agronomy J. (*Appendix X*. I reviewed 20 articles. 2010-2013).
4. Associate Editor for Bioenergy Res. Handled and reviewed about 8 articles per year. 2018
5. NE representative to the Multi-State NC-1178 (Crop Residues Management). 2012-Present.
6. Chair of the Best Paper Award Committee. SSSA. Div. Soil/Water Conserv. 2014.
7. Grad Student Award Committee. SSSA. Div. Soil/Water Conserv. 2014-2018.
8. Chair of technical sessions at the ASA- CSSA-SSSA Annual Meetings. 2010-2014.
9. Chair of Young Scholar Award. SSSAJ-Division: Soil Water Conserv. 2018.
10. Chair of Best Graduate Award. SSSAJ-Division: Soil Water Conserv. 2018.
11. Member of the Organizing Committee of the XIII Latin American and Caribbean Congress of Agricultural Engineering. San Jose, Costa Rica. 2018.
12. Served on Review Panels for AFRI Foundational Program, OREI, and DOE. 2016-2018
13. Invited to the USDA-China MOST (Ministry of Science and Technology) Climate Change Workshop. San Diego, CA. Nov 9-11, 2010.
14. Invited to Biofuel Workshop. ASA- CSSA-SSSA. Sacramento, CA Aug 15-17, 2017.
15. Invited as Reviewer of grant proposals and manuscripts (about 25 international journals).

Table 2. Summary of Activities and Deliverables for research, extension, teaching, and service.

Deliverables	#	Details
RESEARCH AND EXTENSION DELVERABLES (60% research appointment)		
Refereed Journal Articles	94	N**umber of Articles in each Journal (Impact factor)** 31 in Soil Science Society of America Journal (**2.05**) 15 in Agronomy Journal (1**.614**) 8 in Journal of Environmental Quality (**2.652**) 6 in Geoderma (**3.78**) 5 in Soil & Tillage Research (**3.47**) 4 in Global Change Biology Bioenergy (**5.61**) 3 in Agriculture, Ecosystems & Environment (**4.099**) 3 in Soil Science (1**.051**) 3 in Soil and Water Conservation Journal (**1.42**) 2 in Critical Reviews in Plant Sciences (**5.52**) 2 in Bioenergy Research (**2.56**) 2 in Soil Use and Management (**2.16**) 1 in Nature Climate Change (**19.304**) 1 in Journal of Agricultural Food Chemistry (**3.82**) 1 in Journal of Integrative Agriculture (1.02) 1 in Journal of Agricultural Science (**1.08**) 1 in Journal of Plant Nutrition (**0.68**) 1 in Catena (**3.34**) 1 in Energy, Sustainability, and Society (**1.90**) 1 in Journal of Extension (**0.33**) 1 in Natural Science Education **(>1**)
Book chapters	7	All invited
Proceedings	10	Meetings in Germany, Canada, Argentina, Australia, and USA
Abstracts	83	Mostly attendance of ASA-CSSA-SSSA and Soil Water Conservation Society (SWCS) Annual Meetings since 2002.
CSA News Magazine	10	News releases from some of my papers
Extension publications	19	Extension journals, Nebguides, and CropWatch Articles
Invited to give talks	30	Local and regional
Invited to give talks	5	International: Germany, Canada, Brazil, Argentina, and Ukraine
Invited to give talks at Symposiums	3	ASA-CSSA-SSSA International Annual Meetings (Long Beach, CA; Tampa, FL; and Baltimore, MD)
Collaborative efforts	6	I worked with national and international institutions
Graduate students	7	Three at K-State and the rest at UNL
Graduate committee member	13	M.Sc. and PhD students
Postdoctoral researchers	6	I advised 6 outstanding post docs
Visiting scholars	4	Different countries
TEACHING DELVERABLES (38% teaching appointment)		
Courses taught	3	>800 students in these courses in the last 7 yr at UNL
Journal articles	2	Field practicals, term papers, and surveys
Books	1	Blanco, H., and Lal. R. 2008. Principles of Soil Management and Conservation. Publisher Springer. p. 617. **2nd edition in review**
Undergrad advisees	30	Advised about undergrad students between 2012 and 2018.
Undergrad interns in research	15	Trained 15 undergrad students from different universities
Funds to train undergrads	1	Received $275,667 (Blanco's portion = 88,000) from AFRI NIFA
Funding for teaching	1	Received $8,750 (PI: Blanco's portion = 6,750) from UNL
SERVICE DELVERABLES (2% appointment)		
Departmental and UNL committees	9	UNL Research, Council, P&T committee, Academic Program Writing Team, Award Committee, and others
Faculty search committees	10	I served on committees including search for Department Head
National and international	14	I served as SSSA Division S-6 Chair, Associate Editor for 3 journals, Review Panels, Organized Meetings, and many others

SUPPORTING DOCUMENTS

Appendix I. Achievement Prior to Joining UNL: Promotion and Tenure at KSU

Appendix II. Grant Proposals Funded

Appendix III. Best Research Paper Awards

Appendix IV. Five "Highly Cited Papers" (Web of Science)

Appendix V. Most-Read and Most-Cited Research Papers

Appendix VI. Some Letters of Invitation to National and International Meetings

Appendix VII. Book Review (review of my textbook)

Appendix VIII. Calculated FTE

Appendix IX. SSSA S-6 Division Chair

Appendix X. Associate Editor Appointments

Appendix XI. Additional Impact of Our Work

Appendix XII. Our Extension Publications

Appendix XIII. Some Teaching Strategies

Appendix I: Achievement Prior to Joining UNL

KANSAS STATE UNIVERSITY | Office of the Provost and Senior Vice President

February 9, 2012

Humberto Blanco
Agronomy/WKARC
Western Kansas Agricultural Research Center
1232 240th Avenue
Hays, KS 67601

Dear Professor Blanco,

Upon the recommendation of the Deans Council, I am pleased to inform you that I have recommended and President Schulz has approved your promotion to Associate Professor and Tenure. I appreciate all the outstanding contributions you have made to your department, college, and to the university.

Congratulations and continued good wishes.

Sincerely,

April Mason

April C. Mason
Provost and Senior Vice President

cc: Gary Pierzynski
William Schapaugh
Robert Gillen

108 Anderson Hall, Manhattan, KS 66506-0113 | (785) 532-6224 | fax: (785) 532-6507 | k-state.edu/provost

Appendix II. GRANT PROPOSALS FUNDED

#	Investigators	Short Title	Sponsor	Duration	Amount	Blanco's portion
	RESEARCH AREA: CROP RESIDUE REMOVAL					
1	Rasby R., J. MacDonald, and Blanco H.	Grazing and Baling Corn Residue: On-farm Research	SARE	2013-2016	$199,019	**$90,000**
2	Blanco, H.	Establishment of Permissible Levels of Corn Stover Removal	SARE	2013-2015	$173,912	**$173,912**
3	Blanco, H., C. Wortmann, R. Ferguson, T. Shaver, A. Stalker, and S. Van Donk	Soil Physical Quality Effects of Residue Harvest	UNL Research Council	2013	$18,962	**$18,962**
4	Blanco, H., D.R. Presley, K.A. Janssen, and B. Olson	Impacts of corn stover removal on crop, soil, and water quality	Kansas Corn Commission	2010-2012	$88,326	**$75,000**
5	Blanco, H	Crop residue management and water quality	KS Dept. of Health and Environment	2008	$7,000	$7,000
	RESEARCH AREA: COVER CROPS					
6	Blanco, H, Ruis, Sabrina J., Koehler-Cole, Katja, Elmore, Roger W. Francis, Charles A. Shaver, Tim M. Creech, Cody F., Yang, Haishun,: Parsons, Jay	Assessing Innovative Strategies to Maximize Cover Crop Yields for Biofuel Across a Precipitation Gradient	NIFA AFRI	2017-2019	$500,000	**$500,000**
7	Blanco, H., Ruis S., Jasa, P., Ferguson, R.	Soil Ecosystem - Cover Crops	NE Environ. Trust	2016-2018	$253,821	**$253,821**
8	Blanco, H., Drewnoski, M., MacDonald, J., Shapiro, C., Proctor, C., Thompson, L. and McMechan, A.	Cover Crops to Improve Water Quality and Soil	Nebraska Corn Board	2016-2018	$149,687	**$145,687**
9	Drewnoski, M., H. Blanco, Redfearn, M., MacDonald, J, Parsons, J.	Grazing Impacts on Soil Health	NE Environ. Trust	2018-2019	$74,381	**$24,500**

10	Elmore, R., Koehler-Cole, Katja, H. Blanco, C. Francis, Redfearn, D., S. Ruis, and A. Basche	Cover crops and soil health	NE Corn	2018-2019	$100,000	**$10,000**
11	Blanco, H. Redfearn, D., Drewnoski, M., MacDonald, J, Parsons, J. Stalker, L.	Grazing/Harvesting CC Affect Soils	SARE	2015-2018	$200,000	**$185,000**
12	Werle, R., Creech, C., Rudnick, D., Peterson, J., Adesemoye, A., Blanco, H., Burr, C., Santra, D., Stockton, M., and Stepanovic, S.	Field Peas in Cereal Based Crop Systems	SARE	2016-2019	$200,000	**$5,000**
13	Blanco, H., R. Ferguson, C. Wortmann, and R. Ward	Managing Corn Stover Removal with Cover Crops	NE Corn Board	2013-2015	$69,167	**$69,167**
14	Stalker A., Blanco H., Shaver T., and Schacht W.	Integrating Grazing of Crop Residues and Cover Crops	UNL Internal Grant	2014-2015	$150,000	**$75,000**
15	Elmore, R., H. Blanco, S. Young, R. Ferguson, C. Shapiro, C. Francis, and T. Shaver	Sustainable corn and soybean production	NE Corn and Soybean Boards	2015-2017	$600,000	**$60,000**
16	Drijber, R., Lindquist, J., Blanco, H.	Organic Soil Matter w/ Cover Crops	Ceres Trust, Associations/ Foundations	2015-2017	$180,000	**$0.00**
17	Blanco, H. and T. Prosser	Conserving soil and enhancing soil productivity with single and multi-species cover crops	KS Center for Sust Agg.	2012-2013	$10,000	**$10,000**
18	Blanco, H., J.D. Holman	Cover crop effects on soil erosion and soil quality	USDA-Ogallala Aquifer Program	2009-2010	$19,552	**$19,552**
	RESEARCH AREA: DEDICATED BIOENERGY CROPS					
19	Blanco, H., R. Mitchell and V. Jin	Dedicated Bioenergy Crops on Marginal Lands	North Central Sun Grant Initiative, USDA-NIFA	2014-2015	$94,619	**$94,619**

20	Blanco, H., R. Mitchell, Laiid D., and Cruse R.	Growing Bioenergy Crops	North Central Sun Grant Initiative, USDA-NIFA	2016-2017	$150,000	**$140,000**
21	Blanco, H. and K. Harmoney	Growing warm season grasses as biofuel and forage	USDA Water Conservation Grant	2011	$66,330	**$50,000**
	RESEARCH AREA: HIGH-CARBON CHAR AND BIOCHAR					
22	Blanco, H. and Creech, C	Biochar and Soils/Crops	High Plains Biochar	2018	$5,000	**$5,000**
23	Maharjan, B., Blanco, H., Schild, J. Luebbe, M.	High Carbon Char West NE	Western Sugar Coop	2017	$15,000	**5,000**
24	Blanco, H. Creech, C. Schild, J., Haghverdi, A., Maharjan, B.	Using Char to Impr Soil/Crop Yield	Western Sugar Coop	2016-2018	$52,500	**$40,000**
	OTHER RESEARCH AREAS					
25	Blanco, H., Ruis S., and Paparozzi.	Processed Corn Stover as an Alternative to Peat Moss	Pellet Technology Inc.	2017-2018	$63,354	**$60,000**
26	MacDonald J., T. Awada, H. Blanco, M. Drewnoski, G. Eriskson., J. Okalebo, D. Redfearn, J. Parsons, and A. Suyker	Enhancing Animal Protein, Crops, and Cattle	FFAR	2017-2020	$355,329	**$55,000**
27	Mamo, M., H. Blanco, and W. Schacht,	Successful Vegetation Establishment	NDOT	2017-2019	$167,009	**$0**
28	Xu Li, M. Mamo, T. Awada, W. Schacht, and H. Blanco	Soil Property Issues Affecting Roadside Vegetation	NDOT	2014-2016	$80,178	**$10,000**
29	Suyker, A., Arkebauer, T., Walter-Shea, E., Zygielbaum, A., Liska, A., Yang, H., Blanco, H., Franz, T., Hubbard, K., Gitelson, A., Liska, A.	AmeriFlux Core Site Network",	Univ of California-Berkeley Natl Lab	2015-2020	$205,399	**0**

30	Blanco, H.	Resilience Emerging from Scarcity and Abundance	UNL	2016	$500	**$500**
31	Blanco, H., N.L. Klocke, and A.J. Schlegel	Quantifying the impacts of limited irrigation on soil carbon	Ogallala Aquifer Program	2011	$27,361	**$25,000**
30	Blanco, H.	Faculty Development Award. Funding for international travel	Office of the Provost	2008	$2,000	**$2,000**
33	Blanco, H.	Crop residue management	KSU Mentoring Fellowship	2008	$5,960	**$5,960**
	UNDERGRADUATE STUDENT TRAINING					
34	Guretzky, J., Redfearn, D., Blanco, H., Elmore, R. Howell, and Smith, M.	Dev Rsrch Ext Skills of Students	AFRI NIFA	2015-2019	$275,667	**88,000**
	TEACHING GRANT					
35	Blanco, H., Ruis, S, and C. Speth	Incorporating Active Learning Strategies for Enhancing Student Achievement	UNL	2018	**$8,750**	**$6,750**
			TOTAL		**$4,568,783**	**$2,400,430**

Appendix III. Best Research Paper Awards

Soil Science Society of America

Soil and Water Management and Conservation Division

presents to

Humberto Blanco-Canqui and Rattan Lal

Award Place First

in the

2016 Best Division Paper

"Corn Stover Removal for Expanded Uses Reduces Soil Fertility and Structural Stability" Soil Science Society of America Journal 73 (2):418-426 2009

Soil Science Society of America

Jane M.F Johnson

Division Chair

SOIL SCIENCE SOCIETY OF AMERICA

Humberto:

Congratulations on receiving the 2012 Division S6 Best Paper Award along with Dr. Lal for your paper, **No-Tillage and Soil-Profile Carbon Sequestration: An On-Farm Assessment.** You will be recognized for your achievement at the Division S6 Business meeting on Wednesday October 24th, 2012 in Cincinnati. I hope you can attend. See the attached meeting agenda for details.

Please send me a picture of yourself this week to be included on the Division poster which will be displayed at the meeting. Thanks.

Cheers,

Jeff

~~~~~~

Jeff Strock, Ph.D
Professor, Soil Scientist

University of Minnesota
Southwest Research & Outreach Center
23669 130th St.
Lamberton, MN 56152

email: jstrock@umn.edu
Tel. 507-752-5064
FAX 507-752-5097
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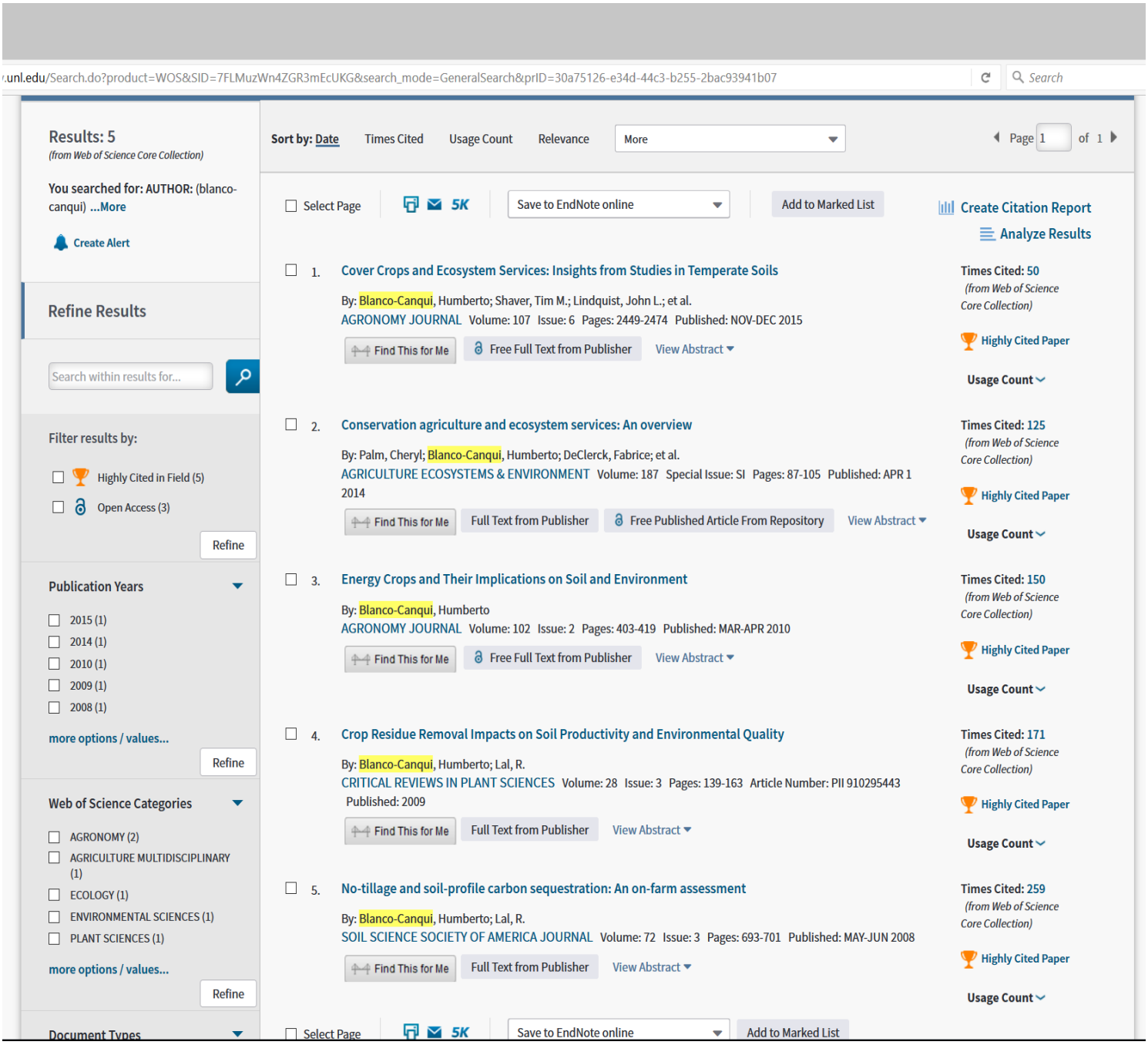
Appendix IV. OUR FIVE "HIGHLY CITED PAPERS" (Source: Web of Science)



Appendix V. Some Most Read and Most Cited Papers

Home » Publications » Science Society of America Journal

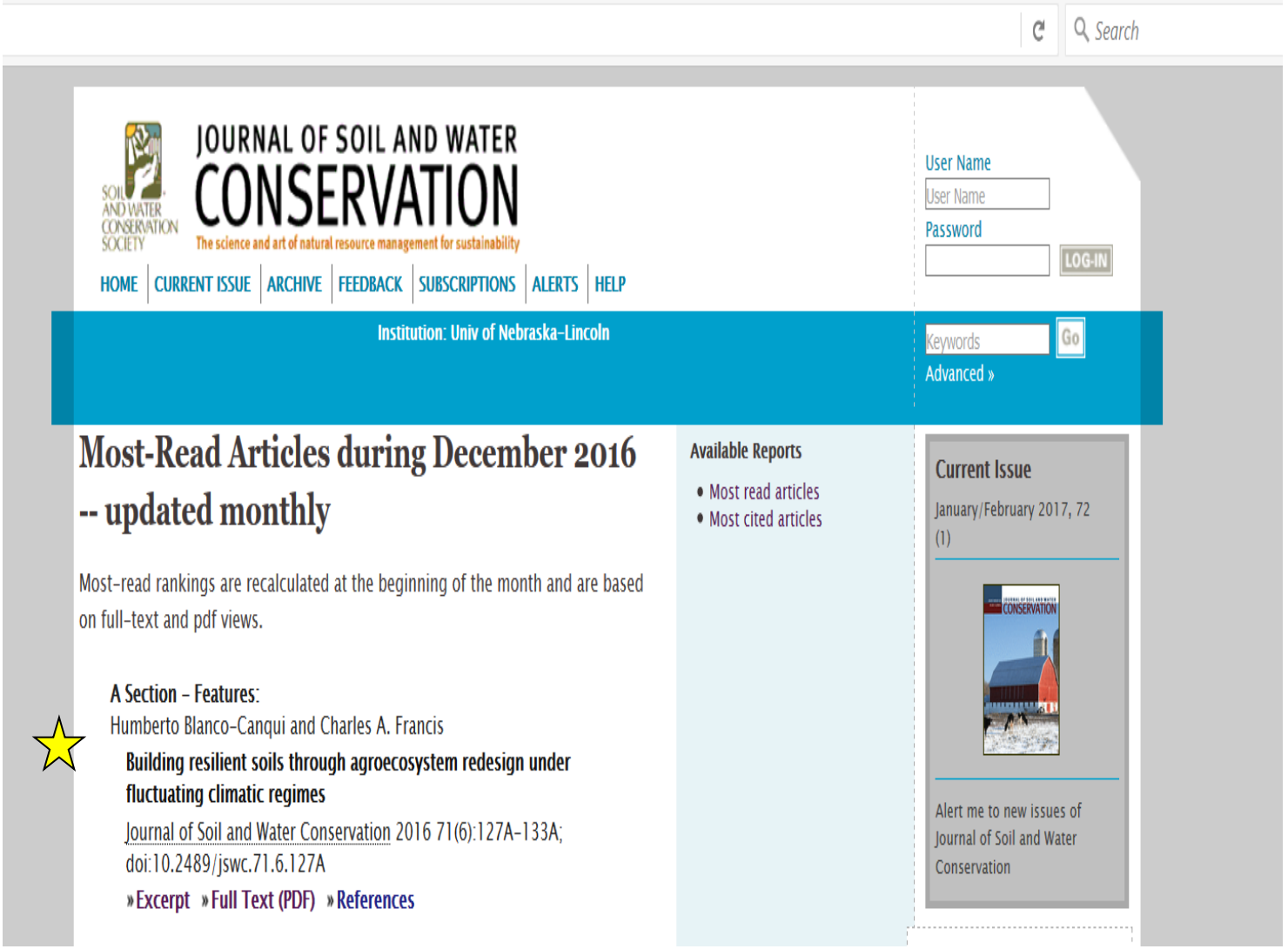
SSSAJ | Most Cited and Most Read

Soil Science Society of America Journal | Current Issue | First Look | Just Published | Popular Content | Archive | About

Most-Read Papers

The most-read papers from October 2018.

Article	Downloads
Evaluating Nonequilibrium Solute Transport through Four Soils of Pakistan using a HYDRUS Model and Nonparametric Indices Shah Rukh, Mohammad S. Akhtar, Ayaz Mehmood, Nahal Hoghooghi and David E. Radcliffe	394
Surfactant Chemistry Effects on Organic Matter Removal from Water Repellent Sand Enzhan Song, Keith W. Goyne, Robert J. Kremer, Stephen H. Anderson and Xi Xiong	217
Soil Quality: A Concept, Definition, and Framework for Evaluation (A Guest Editorial) D. L. Karlen, M. J. Mausbach, J. W. Doran, R. G. Cline, R. F. Harris and G. E. Schuman	188
★ **Biochar and Soil Physical Properties** Humberto Blanco-Canqui	174
Numerical Solution of Richards' Equation: A Review of Advances and Challenges Matthew W. Farthing and Fred L. Ogden	169
History of Chemical Fertilizer Development Darrell A. Russel and Gerald G. Williams	144
New Soil Index Development and Integration with Econometric Theory Katsutoshi Mizuta, Sabine Grunwald and Michelle A. Phillips	138
Changes in Inorganic and Organic Soil Phosphorus Fractions Induced by Cultivation Practices and by Laboratory Incubations M. J. Hedley, J. W. B. Stewart and B. S. Chauhan	137
A Closed-form Equation for Predicting the Hydraulic Conductivity of Unsaturated Soils M. Th. van Genuchten	132
Permanganate Oxidizable Carbon Reflects a Processed Soil Fraction that is Sensitive to Management Steven W. Culman, Sieglinde S. Snapp, Mark A. Freeman, Meagan E. Schipanski, Josh Beniston, Rattan Lal, Laurie E. Drinkwater, Alan J. Franzluebbers, Jerry D. Glover, A. Stuart Grandy, Juhwan Lee, Johan Six, Jude E. Maul, Steven B. Mirksy, John T. Sparge and Michelle M. Wander	129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JOURNAL OF SOIL AND WATER
CONSERVATION
The science and art of natural resource management for sustainability
SOIL AND WATER CONSERVATION SOCIETY
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User Name
User Name
Password
LOG-IN
Institution: Univ of Nebraska-Lincoln
Keywords
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Most-Read Articles during December 2016 -- updated monthly
Most-read rankings are recalculated at the beginning of the month and are based on full-text and pdf views.
A Section - Features:
Humberto Blanco-Canqui and Charles A. Francis
Building resilient soils through agroecosystem redesign under fluctuating climatic regimes
Journal of Soil and Water Conservation 2016 71(6):127A-133A; doi:10.2489/jswc.71.6.127A
»Excerpt »Full Text (PDF) »References
Available Reports
• Most read articles
• Most cited articles
Current Issue
January/February 2017, 72 (1)
Alert me to new issues of Journal of Soil and Water Conservation

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- Journal Insights
- Policies and Guidelines
- Recent Open Access Articles
- News
- Most Cited Articles
- Special Issues

Most Downloaded Agriculture, Ecosystems & Environment Articles

The most downloaded articles from ScienceDirect in the last 90 days.

1. The ecological role of biodiversity in agroecosystems

June 1999
Miguel A. Altieri

Increasingly research suggests that the level of internal regulation of function in agroecosystems is largely dependent on the level of plant and animal biodiversity present. In agroecosystems, biodiversity...

2. Conservation agriculture and ecosystem services: An overview

1 April 2014
Cheryl Palm | Humberto Blanco-Canqui | Fabrice DeClerck | Lydiah Gatere | Peter Grace

Conservation agriculture (CA) changes soil properties and processes compared to conventional agriculture. These changes can, in turn, affect the delivery of ecosystem services, including climate regulation...

3. Avoiding a bad apple: Insect pollination enhances fruit quality and economic value

1 February 2014
M.P.D. Garratt | T.D. Breeze | N. Jenner | C. Polce | J.C. Biesmeijer | S.G. Potts

Insect pollination is important for food production globally and apples are one of the major fruit crops which are reliant on this ecosystem service. It is fundamentally important that the full range...

4. The impact of conservation agriculture on smallholder agricultural yields: A scoping review of the evidence

1 April 2014
Sylvie M. Brouder | Helena Gomez-Macpherson

Widespread implementation of conservation agriculture (CA) in North and South America and Australia suggests significant farmer profitability achieved through some combination of sustained or increased...

AJ: Most-Cited and Most-Read Articles

Agronomy Journal

Most Cited Papers (https://www.soils.org/publications/aj/most-cited)

The most cited papers are based on data from **12/2009 to 12/2010** (updated 12/17/2010)

Peppermint Productivity and Oil Composition as a Function of Nitrogen, Growth Stage, and Harvest Time
V.D. Zheljazkov, C.L. Cantrell, T. Astatkie, and M. Wayne Ebelhar

Profitability Analysis of Cellulosic Energy Crops Compared with Corn
L.K. James, S.M. Swinton, and K.D. Thelen

Ground-Based Canopy Reflectance Sensing for Variable-Rate Nitrogen Corn Fertilization
N.R. Kitchen, K.A. Sudduth, S.T. Drummond, P.C. Scharf, H.L. Palm, D.F. Roberts, and E.D. Vories

Productivity, Oil Content, and Composition of Two Spearmint Species in Mississippi
V.D. Zheljazkov, C.L. Cantrell, T. Astatkie, and M.W. Ebelhar

Energy Crops and Their Implications on Soil and Environment
H. Blanco-Canqui

A Sustainable Management Package to Improve Winter Wheat Production and Competition with Weeds
B.L. Beres, G.W. Clayton, K.N. Harker, F.C. Stevenson, R.E. Blackshaw, and R.J. Graf

Nonstructural Carbohydrate Concentrations in Timothy as Affected by N Fertilization, Stage of Development, and Time of Cutting
S. Pelletier, G.F. Tremblay, C. Lafreniere, A. Bertrand, G. Bélanger, Y. Castonguay, and J. Rowsell

Effect of Deficit Irrigation and Fertilization on Cucumber
K.H. Amer, S.A. Midan, and J.L. Hatfield

Comparison of Certified and Farm-Saved Seed on Yield and Quality Characteristics of Canola
G.W. Clayton, S. Brandt, E.N. Johnson, J. T. O'Donovan, K.N. Harker, R.E. Blackshaw, E.G. Smith, H.R. Kutcher, C. Vera, and M. Hartman

Biomass Production in Switchgrass across the United States: Database Description and Determinants of Yield
S.D. Wullschleger, E.B. Davis, M.E. Borsuk, C.A. Gunderson, and L.R. Lynd

SSSAJ: Most Cited and Most Read Papers

15 Most Cited Papers

The most cited papers are based on data from 12/2009 until 11/2010. (last updated 12/8/2010)

1. Interactive Effects of Tillage and Mineral Fertilization on Soil Carbon Profiles
   Vincent Poirier, Denis A. Angers, Philippe Rochette, Martin H. Chantigny, Noura Ziadi, Gilles Tremblay, and Josée Fortin
2. Complex Permittivity Model for Time Domain Reflectometry Soil Water Content Sensing: I. Theory
   R. C. Schwartz, S. R. Evett, M. G. Pelletier, and J. M. Bell
3. Modeling of Soil Organic Carbon Fractions Using Visible-Near-Infrared Spectroscopy
   Gustavo M. Vasques, Sabine Grunwald, and James O. Sickman
4. Corn Stover Removal for Expanded Uses Reduces Soil Fertility and Structural Stability
   Humberto Blanco-Canqui, and R. Lal
5. Reducing Saturated Hydraulic Conductivity of Sandy Soils with Polyacrylamide
   Michael H. Young, Ernesto A. Moran, Zhongbo Yu, Jianting Zhu, and Del M. Smith
6. Continuing Acidification of Organic Soils across the Northeastern USA: 1984-2001
   Richard A. F. Warby, Chris E. Johnson, and Charles T. Driscoll
7. Correction of Bulk Density and Sampling Method Biases Using Soil Mass per Unit Area
   Stewart B. Wuest
8. Rapid Clay Weathering in the Rhizosphere of Norway Spruce and Oak in an Acid Forest Ecosystem
   Christophe Calvaruso, Louis Mareschal, Marie-Pierre Turpault, and Elisabeth Leclerc
9. Role of Divalent Fatty Acid Salts in Soil Water Repellency
   E. R. Graber, S. Tagger, and R. Wallach
10. Complex Permittivity Model for Time Domain Reflectometry Soil Water Content Sensing: II. Calibration
    R.C. Schwartz, S.R. Evett, and J.M. Bell
11. Spiking Improved Solution Phosphorus-31 Nuclear Magnetic Resonance Identification of Soil Phosphorus Compounds
    A.L. Doolette, R.J. Smernik, and W. J. Dougherty
12. Comparing the EM38DD and DUALEM-21S Sensors for Depth-to-Clay Mapping
    T. Saey, D. Simpson, H. Vermeersch, L. Cockx, and M. Van Meirvenne
13. Cultivation Affects Soil Organic Nitrogen: Pyrolysis-Mass Spectrometry and Nitrogen K-edge XANES Spectroscopy Evidence
    Peter Leinweber, Fran Walley, Jens Kruse, Gerald Jandl, Kai-Uwe Eckhardt, Robert I.R. Blyth, and Tom Regier
14. Regional Study of No-Till Effects on Carbon Sequestration in Midwestern United States
    Sheila F. Christopher, Rattan Lal, and Umakant Mishra
15. Accuracy and Precision Analysis of Chamber-Based Nitrous Oxide Gas Flux Estimates
    Rodney T. Venterea, Kurt A. Spokas, and John M. Baker

Two Papers Among the 20 Most Cited Articles

Critical Reviews in Plant Sciences

http://www.tandfonline.com/action/showMostCitedArticles?journalCode=bpts20#.U8QcPLGTr5k

Home > List of Issues > **Most Cited articles**

Taylor & Francis

1. Crop Residue Removal Impacts on Soil Productivity and Environmental Quality

Humberto Blanco-Canqui & R. Lal

pages 139-163

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Full access **DOI:**10.1080/07352680902776507

- **Published:** 17 Apr 2009
- **Citing Articles:** CrossRef (63) | Web of Science (65) | Scopus (66)
- **Article Views:** 1723

2. Mechanisms of Carbon Sequestration in Soil Aggregates

Humberto Blanco-Canqui & Rattan Lal

pages 481-504

View full textDownload full text

Full access: **DOI:**10.1080/07352680490886842

- **Published :** 10 Aug 2010
- **Citing Articles:**

CrossRef (75) | Web of Science (89) | Scopus (106)

- **Article Views:** 638

Appendix VI. Some Letters of Invitation to National and International Meetings

Invitation to Symposiums

From: Feng, Gary - ARS <Gary.Feng@ars.usda.gov>
Sent: Tuesday, June 12, 2018 5:08 PM
To: Humberto Blanco <hblanco2@unl.edu>
Subject: Invitation

Hi Humberto,

Appended below is the symposium that I organize for the ASA meeting in Baltimore on Nov.3-8, 2018. You are very productive and a well-known authority in this area, therefore, I cordially invite you to give us an invited presentation in the symposium.
I still can have your abstract submitted as an organizer. Please send me your abstract if you plan on attending the ASA meeting this year and would like to present your research in the symposium. Thanks.
Here is the description of the symposium:
Effects of Soil Health Management Practices on Soil-Plant-Water Relations in a Changing Climate
There is growing interest in soil health management practices that include cover crops, organic additions, conservation tillage, and diverse rotations. Implementation of those systems can impact soil-plant-water relations, as results, improve water use efficiency of both rainfed and irrigated crops. A better understanding of soil-plant-water relations will support modeling efforts and will aid in the development of effective and sustainable management practices. The invited speakers will address emerging needs, share innovations and advancements based on both experiment and modeling research on soil-plant-water relations in response to cover crops, soil organic amendments, conservation tillage, diverse crop rotation and other management practices.
Keywords: Conservation tillage, cover crop, soil amendments and soil-plant-water relations

Please feel free to email me with any questions.

Sincerely,

Gary Feng, PhD
Leader of Soil_Plant_Water Relation (SPWR) Community & Organizer of the Symposium
Research Soil Scientist
United States Department of Agriculture -Agriculture Research Services
Genetics and Sustainable Agriculture Research Unit
Crop Science Research Laboratory
PO Box 5367 810 Highway 12 East
Mississippi State, MS 39762
Phone Number: 662-320-7449
Email: gary.feng@ars.usda.gov

From: Jay B. Norton [mailto:jnorton4@uwyo.edu]
Sent: Tuesday, May 2, 2017 1:40 PM
To: Humberto Blanco <hblanco2@unl.edu>
Subject: Abstract upload for cover crop symposium

Humberto,

It was nice to speak to you and thank you for accepting my invitation to speak at the symposium entitled:

Cover Crops and Forage Utilization in Integrated Crop-Livestock Systems III, sponsored by the Cover Crop Management Community

This will be one of four 30-minute presentations that generally focus on the topic of tradeoffs between "dual-use" forage/cover crops, and "true" cover crops planted solely to benefit the soil.

Please use this link in order to waive the abstract fee when you submit the abstract:

https://scisoc.confex.com/scisoc/2017am/invited.html

Click "Submit a New Abstract" and then select "ASA Section: Land Management and Conservation"

Then click "Oral Session" and "Symposium--Cover Crops and Forage Utilization in Integrated Crop-Livestock Systems III"

Let me know if you have any problems or questions about the submittal.

Jay B. Norton
Associate Professor and Soil Fertility Specialist
Department of Ecosystem Science and Management, Dept 3354
College of Agriculture and Natural Resources
University of Wyoming
1000 E. University Avenue
Laramie, WY 82071

Office: 307-766-5082
Cell: 307-760-5781
Email: jnorton4@uwyo.edu
Web page: http://www.uwyo.edu/esm/faculty-and-staff/jay-norton.html

Dear Paul, Dan, Emily, Rattan, Humberto, and Dale,

Thanks for agreeing to participate as an invited speaker in the symposium series that we have developed on biomass energy production systems at the 2010 ASA/CSSA/SSSA Annual Meeting in Long Beach, CA. Your session will deal with the effects of biomass energy production on soil quality. . You will need to submit a title and abstract for the presentation. Fortunately, SSSA waives the title/abstract fee for invited speakers. Because this is an invited speaker only symposium, I must first enter your name, email, contact information and title into the system. You will then get an email that will direct you to the website where you will be able to input your abstract. You will have until August to modify and change your title and abstract.

Below are the titles for your talks that Dan Richter provided me. Please reply to me via email indicating your contact information (address, phone number) and confirm the title you wish to use. When I receive the email, I will input the information into the SSSA website and you will then be able to input your abstract.

Thanks again for your help to make this symposium a success.

Tom Fox
S7 Division Chair

Thomas R. Fox
Professor of Forestry
Site Director, NSF Center for Advanced Forestry Systems
Co-Director, Forest Nutrition Cooperative
Department of Forest Resources and Environmental Conservation
Virginia Polytechnic Institute and State University
228 Cheatham Hall
Blacksburg, Virginia 24061
Phone: (540) 231-8862
FAX: (540) 231-3330
Email: trfox@vt.edu

****

Sustaining the soil resource while moving toward the bioenergy mandate
Paul M. Bertsch and Daniel Richter
pmbert2@email.uky.edu, drichter@duke.edu

Soil physical impacts associated with forest-biomass removals in the southeastern U.S
Emily Carter, eacarter@fs.fed.us

Cellulosic Ethanol and Soil Quality
Rattan Lal, lal.1@osu.edu

What Are the Impacts of Bioenergy Crops on Soil and Environmental Quality?
Humberto Blanco, hblanco@k-state.edu

Invitation to Workshops

April 25, 2017

Dear Humberto;

The Crop Residues for Advanced Biofuels: Exploring Soil Carbon Effects Workshop, sponsored by the American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and Soil Science Society of America (SSSA), will be held at the Sheraton Grand Hotel in Sacramento, CA, on August 15 to 17, 2017. This workshop was conceived in response to a stakeholder request to the ASA for assistance in resolving questions regarding reduced carbon intensity (CI) credits given to corn grain ethanol versus cellulosic (primarily corn stover) ethanol by the California Air Resources Board (CARB).

An ASA appointed Task Force (#1607) developed a short white paper for the ASA Board recommending that before responding to the request, a technical workshop should be held to rigorously examine the science and assumptions behind Life Cycle Analysis (LCA), CI, and soil organic matter modeling. The Task Force suggested that the ASA, CSSA, and SSSA were well suited to lead the recommended workshop and that the primary goal should be to bring the best available scientific thought and leadership together to discuss both these modeling issues and the processes associated with conversion of crop residues into soil organic matter including at a landscape scale.

You have been suggested as a person to be given a special invitation to participate in this important workshop which will produce a more comprehensive white paper for CARB, the EPA and others based on the science-based deliberations. The workshop will be structured using a combination of technical presentations and rigorous breakout sessions where all perspectives will be shared and debated. (To see the full schedule, please visit https://www.agronomy.org/meetings/crop-residues/program.) Also, to ensure all perspectives are captured for the final report, ThinkTank™ software will be used to record and accept input during or after each session. Your input and scientific insight are desired and needed to ensure the final Tri-Society report accurately captures and interprets the science associated with all aspects of the original question.

As Chair for the Workshop, I am extending a special invitation to you to participate in this important workshop. To do so, please go to https://www.agronomy.org/meetings/crop-residues and register today. Prompt registration is important as registration is capped at 200 attendees to provide ample time for discussion and effective communication among all participants. If you will not be able to attend, please let me know through an email to Doug.Karlen@ars.usda.gov.

Thank you in advance for helping bring the best science and ASA-CSSA-SSSA leadership to help address this important problem that not only affects advanced biofuel production but also many other current and future bio-products.

Sincerely,
Douglas L. Karlen
Workshop Chair & USDA Research Soil Scientist and the Workshop Planning Committee

United States Department of Agriculture
Research, Education, and Economics
Agricultural Research Service

August 6, 2010

Dr. Humberto Blanco-Canque
Kansas State University
Agricultural Research Center-Hays
1232 240th Avenue
Hays, Kansas 67601-9228

Dear Dr. Blanco-Canque:

Since 2002, agricultural scientists of the United States and the People's Republic of China and have been engaged in bilateral research under the *Protocol on Cooperation in Agricultural Science and Technology between the Ministry of Science and Technology (MOST) of the People's Republic of China and the Department of Agriculture of the United States of America*. The protocol has resulted in meaningful transfer of technology and skills on several high-priority topics between countries.

I am inviting you to participate in a bilateral workshop to be convened under the China MOST - U.S. Department of Agriculture (USDA) protocol. This workshop is entitled *Mitigation, Adaptation, and Integration for Climate Change Science and Agriculture* and will be hosted by the USDA Agricultural Research Service during November 9-11, 2010, in San Diego, California. Participation in the workshop is limited by invitation only to approximately 25 experts on climate change and agriculture from each country who share an interest in building new international research collaborations.

We are taking a real "working session" approach to this meeting; formal presentations will be minimal. Instead, the workshop will rely on breakout sessions to foster interaction among the participants and provide opportunities for discussions on potential collaborations among scientists conducting complementary research. Each participant will prepare a single slide and remarks requiring no more than five minutes to deliver, outlining their research backgrounds and interests. The slides and brief remarks will serve as self-introductions during the breakout sessions and will provide starting points for discussions on potential collaborations. Additional material about your research may be shared informally during the breakouts, as the discussions develop. Each breakout session will be moderated jointly by an American and a Chinese scientist, who will then report to the final plenary session on projects that are possible given available resources.

I hope you will accept my personal invitation to this small, focused workshop. If you accept, lodging details and other arrangements for the workshop will follow. Non-government scientists may contact me with inquiries about possible travel support.

I look forward to receiving your reply (yes or no) to this invitation by September 10, 2010.

Sincerely,

Steven R Shafer

STEVEN R. SHAFER
Deputy Administrator

Invitation to Other Countries

HELMHOLTZ CENTRE FOR ENVIRONMENTAL RESEARCH – UFZ

Helmholtz Centre for Environmental Research – UFZ | Permoserstrasse 15 | 04318 Leipzig/Germany

Prof. Humberto Blanco
Dept. of Agronomy & Horticulture
202 Keim Hall
Lincoln, NE 68583-0915
United States of America

Katja Bunzel
Department Bioenergy
fon ++49 (0)341 2434 409
katja.bunzel@ufz.de

Leipzig 12.08.2014

Dear Professor Blanco,

we are very pleased to invite you to the workshop "Biomass for energy – lessons from the Bioenergy Boom", scheduled from 24-25 November 2014 in Leipzig, Germany. This workshop will be a joint effort of the Department Bioenergy of the Helmholtz Centre for Environmental Research and the German Biomass Research Centre.

The aim of this workshop is to discuss the state of the art developments for the understanding of the interactions among bioenergy, environment and society at different levels and areas: from the impacts of bioenergy crops on water bodies, soils and biodiversity, to impacts and challenges in the political, legal and societal fields, as well as to the challenges in the system integration and in the evaluation of potential environmental impacts at a regional scale.

The workshop features the presentation of keynote lectures followed by six parallel sessions on environmental effects and social-political challenges in parallel. Your presentation will be part of the session on ""Effects of energy crop cultivation on soil functions". All travel and accommodation costs will be covered by our department.

On behalf of the Department Bioenergy, we look forward to the prospect of you speaking at our workshop.

Yours sincerely,

Katja Bunzel

Katja Bunzel

Helmholtz-Zentrum für
Umweltforschung GmbH - UFZ
Dept. Bioenergie
in Kooperation mit dem DBFZ
Torgauer Straße 116
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XIX Congreso Latinoamericano y XXIII Congreso Argentino de la Ciencia del Suelo

Latinoamérica unida protegiendo sus suelos
Mar del Plata
16 al 20 de abril del 2012

Dear Dr. Humberto Blanco:

I have the pleasure to communicate with you as a member of the Academic Committee, which organizes the "XIX Latin American Congress and XXIII Argentine Congress of Soil Science" under a slogan "LATIN AMERICAN UNITED PROTECTING THEIR SOILS", at Mar del Plata, Argentina, April 16-20, 2012.

In accordance with your expertise in the area, I would appreciate your participation in this Congress as a conference speaker. We would also value your participation in a Symposium in which you could talk about "Soil Management for Sustainable Production". Your discussion could be aimed particularly at the "Control of water and wind erosion and new approaches using predictive models". We also welcome your participation in the Conference with a presentation about the "Impact of crop residue removal for biofuel production on runoff, sediment and nutrient loss."

We will contact you with specific guidelines for both presentations and the dates of presentation..

Best regards,

Dr. Hernán Sainz Rozas

UNIVERSIDADE DE SÃO PAULO
ESCOLA SUPERIOR DE AGRICULTURA "LUIZ DE QUEIROZ"
DEPARTAMENTO DE CIÊNCIA DO SOLO
Av. Pádua Dias, 11 • Caixa Postal 9 • Cep 13418-900 • Piracicaba, SP • Brasil
Fone (19) 3417-2101

Dr. Humberto Blanco
Assistant Professor of Soil Science
Kansas State University Agricultural Research Center-Hays
1232 240th Avenue Hays, KS 67601-9228

Dear Dr. Blanco:

On behalf of the Soil Science Department at ESALQ, University of Sao Paulo - Brazil, I would like to extend an invitation for you to join us as a visiting professor for a period of *ten days* beginning *August 15th* and ending *August 25th*. During this period we will discuss common research interest in soil science in order to set up a collaborative research project. In addition to this activity we will visit important no-tillage crop production areas. We will also organize a seminar when you could present your point of view on research in no-tillage system.

Best regards,

Alvaro Pires da Silva
Full Professor
Head of Soil Science Department
ESALQ
University of Sao Paulo
Brazil

АГРО·СОЮЗ

Товариство з обмеженою відповідальністю
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ТОВ «Корпорація «Агро-Союз»
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Дніпропетровський р-н, Дніпропетровська обл.,
Україна, 52005

Общество с ограниченной ответственностью
«Корпорация «Агро-Союз»

ООО «Корпорация «Агро-Союз»
ул. Нижнеднепровская, 1, пгт Юбилейный,
Днепропетровский р-н, Днепропетровская обл.,
Украина, 52005

Humberto Blanco Canqui
Assistant Professor Soil Management
KSU Hays Western Agricultural Research Center
1232 240th Av
Hays, KS 67601 USA

Professor Humberto Blanco Canqui,

The Organizing Committee of the Seventh NT CA 2009 Conference in Ukraine scheduled to be held from June 23-26, 2009 in Dnipropetrovsk, Ukraine would like to extend an invitation to you to participate as a keynote speaker and panel discussant. Should you accept our invitation, our Technical Scientific Committee will be in contact with you to provide guidance to the presentation topics.
Організаційній Комітет Сьомої NT CA 2009 Конференції на Україні, яка спланована на 23-26 червня 2009 року на Дніпропетровщині (Україна), запрошують Вас взяти участь у конференції як доповідач і член публичних дискусій. Якщо Ви вирішите прийняти наше запрошення, наш Технічно Науковій Комітет вийде на звязок із Вами щоб надати Вам наведення для тем Ваших презентаціях.

The Organizing Committee will cover your travel expenses from Hays, Kansas to Dnipropetrovsk, Ukraine and expenses incurred for in-country transportation, food, lodging, translation during your stay in Dnipropetrovsk, Ukraine.
Організаційний Комітет покриє Ваші витрати на поїздку із Hays (Kansas) до Дніпропетровська і витрати за внутрішний транспорт по країні, харчування, нічліг, переклади продовж Вашого перебуття на Дніпропетровщині (Україна).

Neonila Martyniuk, our representative will serve as the liasion for developing the relationship between you and Agro-Soyuz.
Неоніля Мартинюк, наш представник, буде служити як зв'язок для розвитку відносинь між Вами і Агро-Союзем.

Appendix VII: Review of my textbook

LAND DEGRADATION & DEVELOPMENT

Land Degrad. Develop. **21**: 69–70 (2010)

BOOK REVIEW

PRINCIPLES OF SOIL CONSERVATION AND MANAGEMENT, by Blanco H., Lal R. Springer, Heidelberg, Germany, 2008. ISBN 978-1-4020-8708-0, £138.50 (hardback), xxiv + 620 pp.

Soil erosion and associated environmental quality issues currently feature high on the environmental agenda for many countries worldwide. This new text from Blanco and Lal promises to deliver a key contribution to the literature. *Principles of Soil Conservation and Management* collates many topical issues surrounding the soil conservation debate into one state-of-the-science textbook for undergraduate and postgraduate students, practitioners, extension officers, soil conservationists and policymakers.

The comprehensive coverage of information dissecting soil conservation and management related research is to be admired. Well-presented chapters explore soil erosion and conservation in relation to topics as diverse as agroforestry, grass speciation, engineering solutions, biofuel production, water scarcity, carbon dynamics and soil resilience, never treading short of highlighting controversial debates or failing to acknowledge key areas of research still in their infancy and thus needing considerable refinement through future research agendas. The authors were clearly intent on providing breadth to this text and this has resulted in fascinating discussions surrounding complex and highly relevant issues such as soil erosion and its relationship to food security and population increase, and also climate change and implications for soil erosion risks. Often the chapters are written with an appreciation of social, technological and environmental constraints to erosion management which serves to enhance the usefulness of the book. While the book provides a global perspective for the interesting debates surrounding the multi-functionality of soil through numerous international case studies, it does maintain a US outlook and thus lacks some key European references.

The text keeps a firm grounding in explaining the underlying principles of soil erosion science and takes care to lead the reader through tight definitions of terminology. Attention is drawn to the importance of soil as a basic resource, underpinning food security and environmental quality. The multi-functionality of soils and their ecosystem service provision is a recurrent concept and one that is very welcome. Readers are likely to warm to the style of the book which is written in a way that draws the reader into informative historical and current perspectives and contextualizes issues using well-considered case studies. The text acknowledges the 'age of modelling' and refers to the use of mathematical tools and decision support systems throughout many of the chapters. The value of tools such as Geographic Information Systems (GIS) and Remote Sensing feature in numerous chapters, as does a discussion of empirical and process based modelling approaches, including a detailed overview of components (and revisions) of the Universal Soil Loss Equation (USLE). The value of models and predictive equations is reinforced regularly using guided examples. While the authors introduce readers to the need for integration of data across scales, both temporally and spatially, and briefly touch on the associated uncertainties, there are too few words dedicated to exploring the issues and limitations inherent to scale appropriate modelling approaches which would have complemented the text significantly. This is one of several examples where the depth of the text has suffered as a result of the breadth of content.

Early chapters consider the fundamentals of water and wind erosion before introducing discussions of erosion resulting from the harvesting of crops which is largely ignored in terms of human induced soil erosion research. The multi-faceted benefits of biological erosion control and provision of ecosystem services are also explored. Further interesting issues are raised with regard to residue harvesting for biofuel production and this provides a tantalizing and timely taster of the implications of this topical agronomic issue. The concept (and constraints) of no-till farming as an extreme form of conservation tillage is framed as a new paradigm of soil management for controlling soil erosion. This is followed by a chapter on buffer strips that will have wide appeal to those involved in agricultural pollution research. Later chapters begin to assess the role of grazing lands and their contribution to both soil and nutrient erosion and subsequent eutrophication of watercourses and knock-on impacts on human health. Pathogens are briefly mentioned in this discussion of non-point source pollution yet fail to register in a more detailed description of common pollutants which includes sediment, nitrogen, phosphorus, animal manure and pesticides. This lack of detail on the relationship between microbial contaminants and erosion potential is perhaps a little surprising given that the United States Environmental Protection Agency consistently cite microbial pollution as one of the top three causes of watercourse impairment across all states in the US. Each chapter ends with a series of study questions which not only test the reader on the content of each chapter but also refresh themes and concepts in an interesting way. They provide a useful and well designed study aid.

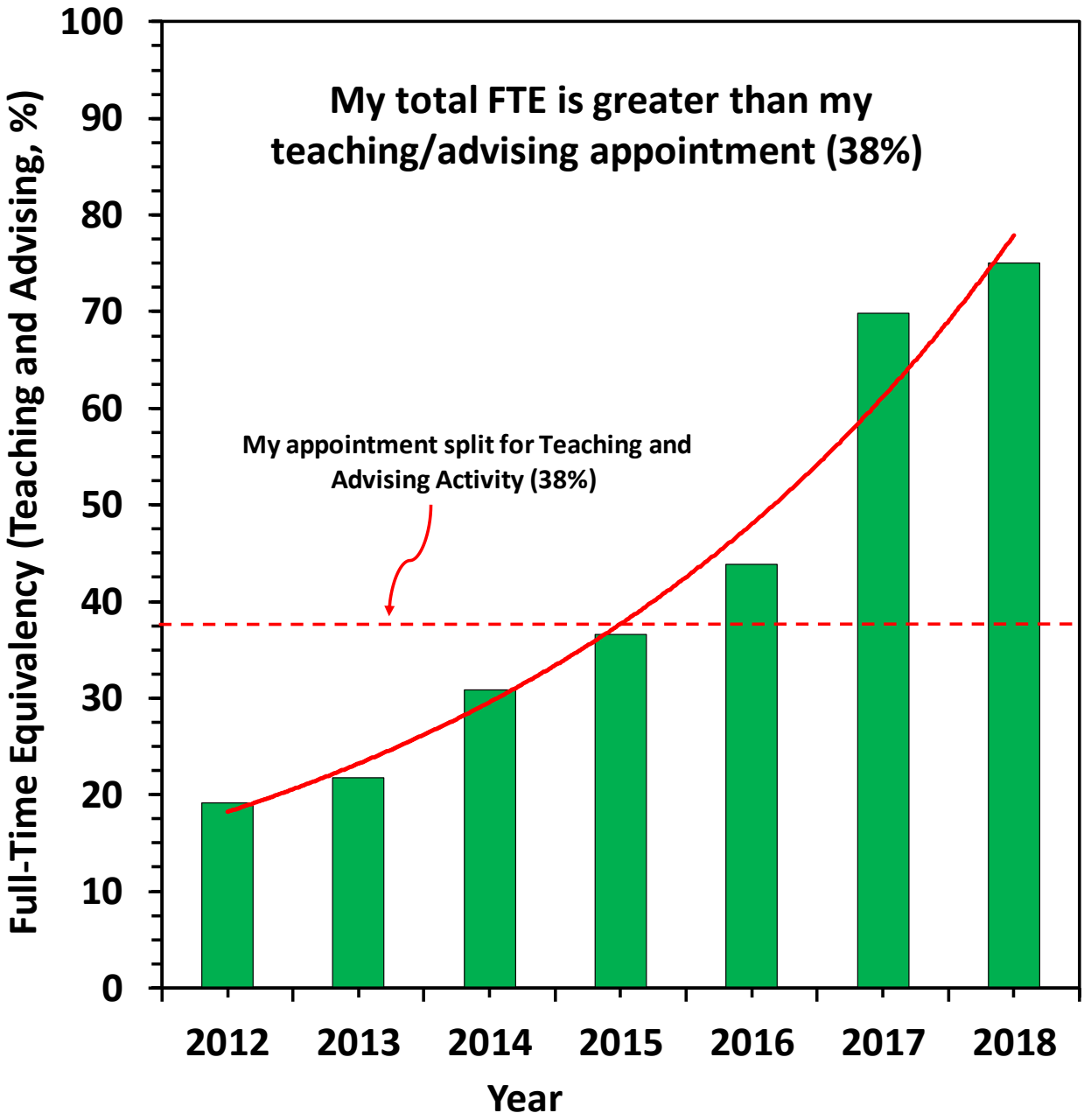
Closing chapters of the book interrogate concepts such as soil resilience and soil quality and the associated debates surrounding these themes. The book successfully brings to the fore controversies in divided research opinion and succeeds in providing a balanced view of current arguments. This is exemplified further with regard to the two main contrasting views about whether carbon transported by erosion is a source or sink of atmospheric CO_2. The book approaches its conclusion by explaining the need to understand soil erosion better as agriculture undergoes unprecedented change in response to climate and food security drivers. The final pages make for an intriguing read as the book stresses the need for a paradigm shift and a new direction for soil conservation and

management at a time when demands on soil resources have become more critical than ever before. A comprehensive set of recommendations that require multidisciplinary efforts drawing on skills in hydrology, soil science, sedimentology, crop science and meteorology to effectively address global soil-related issues of the 21st century are proposed but these are best revealed courtesy of the authors rather than by this review. As such they are all the more convincing following the eloquent preceding text which provides a useful and original evaluation of past, present and future needs for soil conservation and management.

DAVID M. OLIVER
Centre for Sustainable Water Management, Lancaster Environment Centre, Lancaster, LA1 4YQ, UK

Published online 23 September 2009 in Wiley InterScience (www.interscience.wiley.com)
DOI: 10.1002/ldr.950

Appendix VIII: Calculated FTE based on CASNR (College of Agricultural Sciences and Natural Resources) formula



Note: My FTE for teaching and advising activities has increased since 2012 and now is above my teaching and advising appointment (38%)

Appendix IX: SSSA S-6 Division Chair

The
Soil Science Society of America

recognizes with gratitude

Humberto Blanco

for dedication and service as the 2017
Soil & Water Management & Conservation Division Chair

President
SSSA Chief Executive Officer

Appendix X: Associate Editor Appointments

SOIL SCIENCE
SOCIETY OF AMERICA
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June 29, 2006

Dr. Humberto Blanco-Canqui
The Ohio State University
2021 Coffey Road
Columbus, OH 43210-1085

Dear Dr. Blanco-Canqui:

I would like to appoint you as an Associate Editor of Division S-6, Soil & Water Management & Conservation, of the *Soil Science Society of America Journal* (*SSSAJ*) and a member of the SSSAJ Editorial Board (S302). The term of service will be three years, beginning on 1 January 2007 and terminating on 31 December 2009. I hope that you will accept this responsibility as a service to the Soil Science Society of America.

Please fill in the blanks on both copies of this letter to indicate (i) whether you accept this editorial assignment, and (ii) your contact information by phone, *fax*, and e-mail. After signing and dating the letter, please return one copy to me at my University of Illinois address indicated on the letterhead. The other copy is for your file.

Thank you for your willingness to serve our Society. A prompt response to this request will be greatly appreciated.

Sincerely,

R. L. Mulvaney
SSSAJ Editor

copies: SSSA Executive Committee
Technical Editor
Editor-in-Chief

____ I accept the appointment.

_____ I prefer not to accept the appointment.

Office telephone number: (____)_____

FAX number: (____)_____

E-Mail address: _____

Signature: _____ Date: July 10, 2006

— SOILS SUSTAIN LIFE —

American Society of Agronomy
5585 Guilford Road • Madison, WI 53711-5801 • Tel. 608-273-8080 • Fax 608-273-2021
www.agronomy.org • email: headquarters@agronomy.org

June 3, 2010

Dr. Humberto Blanco
Kansas State University
Agricultural Research Center-Hays
Hays, KS 67601

Dear Dr. Blanco:

Congratulations on your appointment to serve as an Associate Editor on the editorial board of *Agronomy Journal*. Your service as Associate Editor will be a valuable contribution to our profession and to increased scientific advancement in the agricultural and natural resource sciences. Your efforts as Associate Editor will have a direct impact on our science and the quality and reputation of *Agronomy Journal*.

This official term of this appointment runs from 1 July 2010 through 31 December 2013.

Again, congratulations on your appointment to the *Agronomy Journal* editorial board. I look forward to working with you. Your service and dedication to *Agronomy Journal* are greatly appreciated.

Please sign, date, and return a copy of this letter to Ms. Meg Ipsen, Editorial Assistant, American Society of Agronomy, 5585 Guilford Road, Madison, WI 53711. Also let her know if any corrections or changes need to be made to your contact information. Alternatively, you may electronically sign the letter and email it to Ms. Ipsen (mipsen@sciencesocieties.org) or fax the signed letter to her at 608-273-2021.

If you have any questions about this appointment, please communicate with me.

Sincerely,

Brent Godshalk
Editor, *Agronomy Journal*

Copy to: Francis J. Pierce, ASA President
Susan Ernst, Managing Editor

H Blanco June 15, 2010
Humberto Blanco Date

From: MICHAEL D CASLER [mailto:mdcasler@wisc.edu]
Sent: Monday, February 13, 2017 8:37 AM
To: Humberto Blanco <hblanco2@unl.edu>
Subject: BioEnergy Research?

Dear Dr. Blanco-Canqui:

Would you have any interest in joining the editorial board of the journal BioEnergy Research, as an associate editor? Duties would involve helping us handle editorial duties for manuscripts submitted in areas related to your interest, mostly related to agronomics, life cycle analysis, and soil science. Most associate editors are responsible for handling about 6-12 manuscripts per year, depending on the discipline. Associate editors who are assigned a manuscript will handle all the editorial duties, including facilitating reviews, communicating with authors, and making the final decisions regarding acceptance and editorial changes. Editors are also encouraged to participate in the process of identifying potential authors to contribute timely and topical papers for the journal, both original research and review papers.

It would be my pleasure to work with you on the editorial board, should this be something that is of interest and timely for you.

Best regards,

Mike

Michael D. Casler
USDA-ARS
U.S. Dairy Forage Research Center
1925 Linden Dr.
Madison, WI 53706-1108
==========
Email: mdcasler@wisc.edu
Phone: 608-890-0065
Fax: 608-890-0076

Appendix XI. Additional Impact of Our Work

Five "Highly Cited" papers. Please see: http://0-apps.webofknowledge.com.library.unl.edu/summary.do?product=WOS&parentProduct=WOS&search_mode=GeneralSearch&parentQid=&qid=1&SID=7C3MqSoMgh8kVB8ScvO&&update_back2search_link_param=yes&page=1

1. Blanco-Canqui, H., T. M. Shaver, J.L. Lindquist, C.A. Shapiro, R.W. Elmore, C.A. Francis, and G.W. Hergert. 2015. Cover crops and ecosystem services: Insights from studies in temperate soils. Agron. J. 107:2449–2474.
2. Palm, C., H. Blanco-Canqui, F. DeClerck, L. Gatere, and P. Grace. 2014. Conservation agriculture and ecosystem services: An overview. Agric. Ecosystems Environ. 187:87-105.
3. Blanco-Canqui. H. 2010. Energy crops and their implications on soil and environment. Agron. J. 102:403-419.
4. Blanco-Canqui, H. and R. Lal. 2009. Crop residue removal effects on soil, productivity and environmental quality. Crit. Rev. Plant Sci. 28:139-163.
5. Blanco-Canqui, H. and R. Lal. 2008. No-tillage and carbon sequestration: An on-farm assessment. Soil Sci. Soc. Am. J. 72:693-701.

Ten papers selected for news release and featured in the CSA News Magazine (The Magazine for members of the CSSA, SSSA, and ASA)

1. Rakkar, M.K., H. Blanco-Canqui, M.E. Drewnoski, J.C. MacDonald, T. Klopfenstein, and R.A. Drijber. 2017. Impacts of cattle grazing of corn residues on soil properties after 16 years. Soil Sci. Soc. Am. J. 81:414-424.
2. Williams, D.M., H. Blanco-Canqui, C.A. Francis, and T.D. Galusha. 2017. Organic farming and soil physical properties: An assessment after 40 years. Agron. J. 109:600-609.
3. Blanco-Canqui, H., C.A. Francis, and T.D. Galusha. 2017. Does organic farming accumulate carbon in deeper soil profiles in the long term? Geoderma 288:213-221.
4. Blanco-Canqui, H. 2016. Growing dedicated energy crops on marginal lands and ecosystem services. Soil Sci. Soc. Am. J. 80: 845-858.
5. Blanco-Canqui, H., A.J. Schlegel. 2013. Implications of inorganic fertilization of irrigated corn on soil properties: Lessons learned after 50 years. J. Environ. Qual. 42:861-871.
6. Blanco-Canqui. H. 2010. Energy crops and their implications on soil and environment. Agron. J. 102:403-419.
7. Blanco-Canqui, H. et al. 2009. Regional study of no-till impacts on near-surface aggregate properties that influence soil erodibility. Soil Sci. Soc. Am. J. 73:1361-1368.
8. Blanco-Canqui, H. and R. Lal. 2009. Corn stover removal for expanded uses reduces soil fertility and structural stability. Soil Sci. Soc. Am. J. 73:418-426.
9. Blanco-Canqui, H. and R. Lal. 2008. No-tillage and carbon sequestration: An on-farm assessment. Soil Sci. Soc. Am. J. 72:693-701.
10. Blanco-Canqui, H. et al. 2004. Grass barriers and vegetative filters strip effectiveness in reducing runoff, sediment, and nutrient loss. Soil Sci. Soc. Am. J. 68:1670-1678.

Appendix XII. Our Extension Publications

19 extension articles in the past 5 yr

1. Cox-O'Neill, J.L., K.M. Ulmer, M. Rakkar, L. Franzen-Castle, H. Blanco-Canqui, M.E. Drewnoski, J.C. MacDonald, and R.J. Rasby. 2017. Perceptions of crop consultants and crop producers on grazing corn residue in Nebraska. Journal of Extension. 55:1-11.
2. Wortmann, C., Shapiro, C., Ferguson, R., Shaver, T., Blanco, H., Ruis, S., Maharjan, B. (2017). Soil management for increased soil organic matter. Nebguide NE Ext. Publications.
3. http://extensionpublications.unl.edu/assets/html/g2283/build/g2283.htm
4. Ulmer, K, Blanco, H., Drewnoski, M., MacDonald, J., Rasby, R. (2017). Effect of corn residue grazing or baling on subsequent crop yield and nutrient removal. NE Beef Cattle Report. https://beef.unl.edu/documents/2017-beef-report/201717-Effect-of-Corn-Residue-Grazing-or-Baling-on-Subsequent-Crop-Yield-and-Nutrient-Removal.pdf
5. Rakkar, M. K., Blanco, H., Drewnoski, M., MacDonald, J., Klopfenstein, T. (2017). Effect of long- term corn residue grazing on soil properties. (pp. 50-52). NE Beef Cattle Report. https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1969&context=animalscinbcr
6. Cox, J. L., Ulmer, K. M., Blanco, H., Drewnoski, M., Rasby, R. (2017). Perceptions of crop consultants and producers on grazing corn residue in Nebraska. NE Beef Cattle Report. https://beef.unl.edu/documents/2017-beef-report/201741-Perceptions-of-crop-consultants-and-producers-on-grazing-corn-residue-in-Nebraska.pdf
7. Drewnoski, M.E. and H. Blanco, 2015. Effect of grazing double-cropped annual forages on soil and crop yields. Nebguide. http://extensionpublications.unl.edu/assets/pdf/g2264.pdf
8. Streich A.M., M Mamo, C.S. Wortmann, H. Blanco, and D.L. McCallister. 2012. Properties of landscape soils. EC1267. 16 p. https://alec.unl.edu/documents/cde/2017/natural-resources/properties-of-landscape-soils.pdf
9. *****Koehler-Cole, K. R. Elmore, C. Shapiro, H. Blanco. 2017. Cover crop productivity in corn and soybean systems.
10. *****Clay, R. and H. Blanco. 2016. Does the grazing of cover crops by cattle compact soil?
11. *****Nichols, A. and H. Blanco. 2016. Cover crop effects on soil properties.
12. *****Drewnoski, M., J. Cox, J. MacDonald, H. Blanco, L. Franzen-Castle, and R. Rasby. Nebraska Farmer Perspectives on Grazing Corn Residue. 2016.
13. *****Koehler-Cole, K., R. Elmore, H. Blanco, C. Francis, C. Shapiro, T. Shaver, M. Stockton, R. Ferguson, S. Irmak, D. Heeren. 2016. Implementation of cover crops in corn and soybean systems in Nebraska.
14. *****Koehler-Cole, K., R. Elmore, H. Blanco, C. Francis, C. Proctor, C. Shapiro, T. Shaver, M. Stockton, R. Ferguson, S. Irmak, D. Heeren. 2016. Biomass production of winter annual cover crops in corn and soybean.
15. *****Blue A. S. Ruis, H. Blanco, P. Jasa, R. Ferguson, and G. Slater, 2018. Can a rye cover crop reduce wind erosion from fields with little residue cover?
16. *****Anderson L., H. Blanco, C. Creech, G. Hergert, R. Nielsen, and B. Maharjan, 2018. Using high-carbon char as a soil amendment to improve soil properties.
17. *****Kurtz G., H. Blanco, M. Rakkar, J. Guretzky, and T. Franti. 2018. Switchgrass barriers as a soil water conservation practice.
18. *****Rakkar M., H. Blanco, C.S. Wortmann, and T. Williams, and V. Jin. 2018. Corn residue removal and CO_2 emissions.
19. *****Schley I., S. Ruis, H. Blanco, and P. Jasa, 2018. Long-term tillage and soil CO_2 fluxes.
20. *****Ruis S., H. Blanco, C.S. Wortmann, V. Jin, and T. Williams. 2018. Cover crop and CO_2 emissions.

- **Cropwatch Articles (Available at https://cropwatch.unl.edu)**

Appendix XIII. Some Teaching Strategies

We use these strategies in classes:

1. **Conducting field tests or hands-on activities. The field is my laboratory.** For example, one of the courses I teach each fall (Soil Management, a sophomore level course with 75-80) has no Lab section, so I take students to the field a few times per semester to conduct soil measurements. Students value the field practicals based on the surveys.
2. **Presenting information from field research, farm trials, and case studies.** I try to show practical applications of each subject to foster interest and motivate students. I use many field photos from my research, graphs or tables with field data, and other examples.
3. **Developing applied problem or calculation sets**. I think it is important to assign problem sets of field applications so students can relate both basic and applied aspects of the class material. For example, displaying a photo of a compacted soil can prompt discussions on factors, causes, processes, effects, and solutions. It will enhance critical thinking.
4. **Enhancing student writing skills**. To achieve this, students in AGRO 269 prepare written report of field work and write a term paper. Students write the term paper in groups based on their topic of interest, receive feedback from classmates and instructors, and revise and submit final paper. This group project allows students to explore their interests in a given soils topic and encourages teamwork to articulate individual and group thinking.

In my classes, I use the following teaching strategies:

- **Written surveys** at the start of the semester to determine the student background in soils and interests. Then, I conduct mid-semester and neat the end surveys to gather feedback. Carol Speth, Assessment Specialist in the Department, helps me with the surveys. Based on student feedback, I make adjustments to my teaching approach and style as needed.
- **Non-graded or graded quizzes** at the end of each class to assess if students understood the topic just covered (teaching effectiveness). I learned that giving quizzes keeps students engaged with the lectures and class materials throughout the semester.
- **Small group activities.** Problem solving activities in class and field. Students value this.
- **Instructor's enthusiasm**. I think enthusiasm is a critical component of an effective teaching. I noticed that students become more interested in class if I show personal motivation and interest in the subject matter.
- **Delivery of lecture with specific objectives**. I normally use slides for my lectures. Each of my lectures includes both objective and take-home message slides. I often have a slide at the start with a number of questions about the topic to be answered during the lecture.