

Miguel L. Cabrera
Dept. Crop & Soil Sciences
3111 Miller Plant Sciences Bldg.
University of Georgia, Athens, GA 30602,

Positions held and Academic Status

2012-Present: Professor, Crop & Soil Sciences, Univ. of Georgia
2000-2012: Professor, Crop & Soil Sciences/Odum School of Ecology, Univ. of Georgia
1995-2000: Assoc. Professor, Crop & Soil Sciences/Institute of Ecology, Univ. of Georgia
1990-1995: Assist. Professor, Crop & Soil Sciences/Institute of Ecology, Univ. of Georgia
1986-1990: Research Associate, Agronomy Dept., Kansas State University
1980-1986: Grad. Res. Assistant, Agronomy Dept., Kansas State University

University Education

1986-1989: M.S. Computer Science, Kansas State University
1982-1986: Ph.D. Agronomy, Kansas State University
1980-1982: M.S. Agronomy, Kansas State University
1972-1978: B.S. Agronomy, Universidad de la República, Uruguay

Awards

2001 - Fellow of the American Society of Agronomy
2002 - Fellow of the Soil Science Society of America
2017 - Office of International Education's Richard F. Reiff Internationalization Award
(together with George Vellidis and Vicki McMaken)

Memberships

American Society of Agronomy
Soil Science Society of America
Soil and Water Conservation Society

Current Editorial Service

Editorial Board, Nutrient Cycling in Agroecosystems, March 1997 – Present
Editorial Board - Ciencia del Suelo, August 2017-Present
Editorial Board – Soil Systems – March 2018-Present

Expertise

Nitrogen (N) mineralization and phosphorus (P) release from soil organic matter, manures, composts/soil conditioners, and crop residues; nitrification, denitrification, ammonia volatilization from fertilizers and manures; N, P, hormones, and antibiotics in surface runoff.

Teaching

CRSS (HORT) (ECOL) 4590/6590 Soil Fertility and Plant Nutrition
CRSS (HORT) (ECOL) 4590L/6590L Soil Fertility Laboratory
CRSS 8100 Advanced Crop and Soil Sciences Seminar
CRSS (ECOL) 8650 Nutrient Cycling Models
CRSS 8520 Advanced Soil Fertility

Publications

Books authored or co-authored:

Radcliffe, D.E., and M.L. Cabrera (ed.) 2006. Modeling phosphorus in the environment. CRC Press, Boca Raton, FL.

Books edited and co-edited:

1. Sims, T, A. Sharpley, G. Pierzynski, D. Westermann, M. Cabrera, J. Powell, T. Daniel, P. Withers. 2006. Phosphorus: Agriculture and the Environment. Agronomy Monograph 46, ASA, CSSA, ASA, Madison, WI.

Chapters in books:

1. Kissel, D.E. and M.L. Cabrera. 1988. Factors affecting urea hydrolysis. In B.R. Bock and D.E. Kissel (Eds.) Ammonia volatilization from urea fertilizers. Tennessee Valley Authority.
2. Sadeghi, A.M., K.J. McInnes, D.E. Kissel, M.L. Cabrera, J.K. Koelliker, and E.T. Kanemasu. 1988. Mechanistic model for predicting ammonia volatilization. In B.R. Bock and D.E. Kissel (Eds.) Ammonia volatilization from urea fertilizers. Tennessee Valley Authority, pp 67-92.
3. Cabrera, M.L., M.F. Vigil, and D.E. Kissel. 1994. Potential nitrogen mineralization: laboratory and field evaluation. In J. Havlin and C.W. Rice (Eds.) Incorporating nitrogen mineralized in fertilizer recommendations, Special Publication, American Society of Agronomy, Soil Science Society of Agronomy, Madison.
4. Cabrera, M.L. and R.M. Gordillo. 1995. Nitrogen release from land-applied animal manures. In Steele, K. (ed.) Animal Waste and the Land-Water Interface, CRC Press, New York.
5. Golabi, M.H., M.L. Cabrera, W.P. Miller, L.A. Morris, and M.E. Sumner. 1997. Bioremediation of hydrocarbon contaminated soils by using pulp and paper residues: A resource recovery management. *IN* Kosetci, P.T., E.J. Calabrese, and M. Bonazountas (ed.). Contaminated Soils. p. 411-420. Amherst Scientific Publishers, Amherst, MA.
6. Cabrera, M.L., and J.T. Sims. 2000. Beneficial uses of poultry by-products: challenges and opportunities. *p. IN* Power J.F. (Ed.) Beneficial uses of agricultural, industrial, and municipal by-products. Soil Science Society of America, Madison, WI.
7. Kissel, D.E., and M.L. Cabrera. 2005. Ammonia. In Hillel, D. Encyclopedia of Soil and the Environment. Elsevier, Ltd., Oxford, UK.

8. Cabrera, M.L., D.E. Kissel, and M.F. Vigil. 2005. Modeling the nitrogen cycle. In Sheppers, J., and W. Raun (eds.). Nitrogen in Agricultural Soils, ASA, Madison, WI.
9. Cabrera, M.L. 2006. Modeling phosphorus in runoff: Basic approaches. In Radcliffe D.E. and M.L. Cabrera (ed). Modeling phosphorus in the environment. p. 65-80, CRC Press, \ Boca Raton, FL.
10. Radcliffe, D.E., and M.L. Cabrera. 2006. Suggestions to improve modeling of phosphorus. In Radcliffe, D.E., and M.L. Cabrera (ed.). Modeling phosphorus in the environment, p.405-415, CRC Press, Boca Raton, FL.
11. Cabrera, M.L., J.A. Molina, and M.V. Vigil. 2008. Modeling the Nitrogen Cycle. p. 695-730. *IN* J.S. Schepers and W.R. Raun (Eds) Nitrogen in Agricultural Systems. Agronomy Monograph No. 49, American Society of Agronomy, Madison, WI.
12. Kissel, D.E., S. Paramasivan, and M.L. Cabrera. 2008. Ammonium, Ammonia, and Urea Reactions in Soil. p. 101-155. *IN* J.S. Schepers and W.R. Raun (Eds) Nitrogen in Agricultural Systems. Agronomy Monograph No. 49, American Society of Agronomy, Madison, WI.
13. Szajdak L.W., Cabrera M.L., Jezierski A. 2016. Amino acids, indole-3-acetic acid, stable and transient radicals, and properties of humic and fulvic acids as affected by tillage system. Springer International Publishing Switzerland. [In:] *Bioactive Compounds in agricultural soils*. Ed. Szajdak L.W. Springer International Publishing Switzerland. pp. 113-127

Refereed Journal Articles:

1. Maxwell, T.M., D.E. Kissel, D.A. Whitney, M.G. Wagger, M.L. Cabrera, and H.C. Moser. 1984. Optimum spacing of preplant bands of N and P fertilizer for winter wheat. *Agron. J.* 76:243-247.
2. Cabrera, M.L., D.E. Kissel, and D.A. Whitney. 1986. Combinations of preplant-banded and seed-banded applications of N and P fertilizer for winter wheat production. *Agron. J.* 78:620-625.
3. Izaurrealde, R.C., D.E. Kissel, and M.L. Cabrera. 1987. Titratable acidity to estimate ammonia retention. *Soil Sci. Soc. Am. J.* 51:1050-1054.
4. Cabrera, M.L. and D.E. Kissel. 1988. Length of incubation time affects the parameter values of the double exponential model of nitrogen mineralization. *Soil Sci. Soc. Am. J.* 52:1186-1187.

5. Cabrera, M.L. and D.E. Kissel. 1988. Potentially mineralizable nitrogen in disturbed and undisturbed soil samples. *Soil Sci. Soc. Am. J.* 52:1010-1015.
6. Cabrera, M.L. and D.E. Kissel. 1988. Evaluation of a method to predict nitrogen mineralized from soil organic matter under field conditions. *Soil Sci. Soc. Am. J.* 52:1027-1031.
7. Sadeghi, A.M., D.E. Kissel, and M.L. Cabrera. 1988. Temperature effects on urea diffusion coefficients and urea movement in soil. *Soil Sci. Soc. Am. J.* 52:46-49.
8. Kissel, D.E. and M.L. Cabrera. 1988. Ammonia volatilization from urea and an experimental triazone fertilizer. *Hort. Sci.* 23:1087.
9. Kissel, D.E., M.L. Cabrera, and R.B. Ferguson. 1988. Reaction of ammonia and urea hydrolysis products with soil. *Soil Sci. Soc. Am. J.* 52:1793-1796.
10. Sadeghi, A.M., D.E. Kissel, and M.L. Cabrera. 1989. Estimating molecular diffusion coefficients for urea in unsaturated soil. *Soil Sci. Soc. Am. J.* 53:15-18.
11. Moyo, C.C., D.E. Kissel, and M.L. Cabrera. 1989. Temperature effects on soil urease activity. *Soil Biol. Biochem.* 21:935-938.
12. Cabrera, M.L. and D.E. Kissel. 1989. Review and simplification of calculations in ¹⁵N tracer studies. *Fertilizer Research* 20:11-15.
13. Izaurralde, R.C., D.E. Kissel, and M.L. Cabrera. 1990. A simulation model of banded ammonia in soil. *Soil Sci. Soc. Am. J.* 54:917-922.
14. Cabrera, M.L., D.E. Kissel, and B.R. Bock. 1991. Urea hydrolysis in soil: effects of urea concentration and soil pH. *Soil Biol. Biochem.* 23:1121-1124.
15. Shahandeh, H., M.L. Cabrera, and M.E. Sumner. 1992. Ammonia volatilization from urea, ammonium sulfate, and NutraSweet sludge in bare and straw-covered soil. *Commun. Soil Sci. Plant Anal.* 23:775-786.
16. Shahandeh, H., M.L. Cabrera, and M.E. Sumner. 1992. Nitrogen mineralization and nitrification in soils treated with ammonium sulfate and NutraSweet sludge. *Commun. Soil Sci. Plant Anal.* 23:1923-1934.
17. Shahandeh, H., M.L. Cabrera, and M.E. Sumner. 1992. Evaluation of NutraSweet sludge as a nitrogen fertilizer for corn and wheat. *Commun. Soil Sci. Plant Anal.* 23:1911-1921.

18. Cabrera, M.L. and M.H. Beare. 1993. Alkaline persulfate oxidation for determining total nitrogen in microbial biomass extracts. *Soil Sci. Soc. Am. J.* 57:1007-1012.
19. Lal, R.B., D.E. Kissel, M.L. Cabrera, and A.P. Schwab. 1993. Kinetics of urea hydrolysis in wheat residue. *Soil Biol. & Biochem.* 25:1033-1036.
20. Cabrera, M.L. 1993. Modeling the flush of N mineralization caused by drying and rewetting soils. *Soil Sci. Soc. Am. J.* 57:63-66.
21. Cabrera, M.L., S.C. Chiang, W.C. Merka, S.A. Thompson, and O.C. Pancorbo. 1993. Nitrogen transformations in surface applied poultry litter: effect of litter physical characteristics. *Soil Sci. Soc. Am. J.* 57:1519-1525.
22. Tyson, S.C. and M.L. Cabrera. 1993. Nitrogen mineralization in soils amended with composted and uncomposted poultry litter. *Commun. Soil Sci. Plant Anal.* 24:2361-2374.
23. Vigil, M.F., D.E. Kissel, M.L. Cabrera, and C.R. Raczkowski. 1993. Optimal spacing of surface banded N in fescue. *Soil Sci. Soc. Am. J.* 57:1629-1633.
24. Cabrera, M.L., S.C. Tyson, T.R. Kelley, O.C. Pancorbo, W.C. Merka, and S.A. Thompson. 1994. Nitrogen mineralization and ammonia volatilization from fractionated poultry litter. *Soil Sci. Soc. Am. J.* 58:361-367.
25. Beare, M.H., M.L. Cabrera, P.F. Hendrix, and D.C. Coleman. 1994. Aggregate-protected and unprotected pools of organic matter in conventional and no-tillage ultisols. *Soil Sci. Soc. Am. J.* 58:787-795.
26. van der Watt, H.v.H., M.E. Sumner, and M.L. Cabrera. 1994. Bioavailability of Cu, Mn, and Zn in poultry litter. *J. Environ. Qual.* 23:43-49.
27. Cabrera, M.L. and S.C. Chiang. 1994. Water content effect on denitrification and ammonia volatilization in poultry litter. *Soil Sci. Soc. Am. J.* 58:811-815.
28. Cabrera, M.L., S.C. Chiang, W.C. Merka, O.C. Pancorbo, and S.A. Thompson. 1994. Pelletizing and soil water effects on gaseous emissions from surface-applied poultry litter. *Soil Sci. Soc. Am. J.* 58:807-810.
29. Cabrera, M.L. 1994. N-Show: an educational computer program that displays dynamic graphs of nitrogen in soil. *J. Nat. Res. Life Sci. Educ.* 23:43-45.
30. Eiteman, M.A., R.M. Gordillo, and M.L. Cabrera. 1994. Analysis of oxonic acid, uric acid, creatine, allantoin, xanthine, and hypoxanthine in poultry litter by reverse phase HPLC. *Fresenius J. Anal. Chem.* 348:680-683.

31. Cabrera, M.L., T.R. Kelley, O.C. Pancorbo, W.C. Merka, and S.A. Thompson. 1994. NH₃ volatilization and CO₂ emission from poultry litter: effects of fractionation and storage time. *Commun. Soil Sci. Plant Anal.* 25: 2341-2353.
32. Matta-Machado, R.P., C.L. Neely, and M.L. Cabrera. 1994. Plant residue decomposition and nitrogen dynamics in an alley cropping and an annual legume-based cropping system. *Commun. Soil Sci. Plant Anal.* 25:3365-3378.
33. Brinson, S.E., M.L. Cabrera, and S.C. Tyson. 1994. Ammonia volatilization from surface-applied, fresh and composted poultry litter. *Plant and Soil* 167-213-218.
34. Cabrera, M.L., S.C. Chiang, W.C. Merka, O.C. Pancorbo, and S.A. Thompson. 1994. Nitrous oxide and carbon dioxide emission from pelletized and nonpelletized poultry litter incorporated into soil. *Plant and Soil* 163:189-196.
35. Kelley, T.R., O. Pancorbo, W. Merka, S. Thompson, M.L. Cabrera, and H. Barnhart. 1994. Fate of selected bacterial pathogens and indicators in fractionated poultry litter during storage. *J. Appl. Poultry Res.* 3:279-288.
36. Quemada, M. and M.L. Cabrera. 1995. Nitrogen and carbon mineralized from leaves and stems of four cover crops. *Soil Sci. Soc. Am. J.* 59:471-477.
37. Hill, N.S., M.L. Cabrera, and C.S. Agee. 1995. Morphological and climatological predictors of forage quality in tall fescue. *Crop Sci.* 35:541-549.
38. Quemada, M. and M.L. Cabrera. 1995. CERES-N Model Predictions of nitrogen mineralized from cover crop residues. *Soil Sci. Soc. Am. J.* 59:1059-1065.
39. Kelley, T.R., O.C. Pancorbo, W.C. Merka, S.A. Thompson, M.L. Cabrera, and H.M. Barnhart. 1995. Bacterial pathogens and indicators in poultry litter during re-utilization. *J. Applied Poultry Res.* 4:366-373.
40. Campbell, C.A., Y.W. Jame. O.O. Akinremi, and M.L. Cabrera. 1995. Adapting the potentially mineralizable N concept for the prediction of fertilizer N requirements. *Fert. Res.* 42:61-75.
41. Kelley, T.R., O.C. Pancorbo, W.C. Merka, S.A. Thompson, M.L. Cabrera, and H.M. Barnhart. 1996. Elemental concentrations of stored whole and fractionated broiler litter. *J. Applied Poultry Res.* 5:276-281.
42. Menezes, R.S.C., G.J. Gascho, W.W. Hanna, M.L. Cabrera, and J.E. Hook. 1997. Subsoil nitrate uptake by grain pearl millet. *Agron. J.* 89:189-194.

43. Quemada, M., and M.L. Cabrera. 1997. Nitrogen released from cover crop residues under no-till conditions: evaluating the CERES-N submodel. *Agron. J.* 89:723-729.
44. Quemada, M., and M.L. Cabrera. 1997. Temperature and water effects on nitrogen mineralization from surface-applied cover crop residues. *Plant and Soil* 189:127-137.
45. Adams, T.T., S.A. Thompson, M.L. Cabrera, and M.A. Eiteman. 1997. Respiration in broiler litter slurry applied to soil. *Biores. Technol.* 60:123-129.
46. Gordillo, R.M., and M.L. Cabrera. 1997. Mineralizable nitrogen in broiler litter: I. Effect of selected litter chemical characteristics. *J. Env. Qual.* 26:1672-1679.
47. Gordillo, R.M., and M.L. Cabrera. 1997. Mineralizable nitrogen in broiler litter: II. Effect of selected soil characteristics. *J. Env. Qual.* 26:1679-1686.
48. Vervoort, R.W., D.E. Radcliffe, M.L. Cabrera, and M. Latimore, Jr. 1998. Nutrient losses in surface and subsurface flow from pasture applied poultry litter and composted poultry litter. *Nutr. Cycl. Agroecosystems*: 50:287-290.
49. Wagger, M.G., M.L. Cabrera, and N.N. Rannels. 1998. Nitrogen and carbon cycling in relation to cover crop residue quality. *J. Soil Water Cons.* 53:214-218.
50. Cabrera, M.L., and A.A. Vervoort. 1998. Effect of timing of simulated rain on ammonia volatilization from surface-applied broiler litter. *Commun. Soil Sci. and Plant Anal.* 29:575-586.
51. Vervoort, R.W., D.E. Radcliffe, M.L. Cabrera, and M. Latimore. Jr. 1998. Field-scale nitrogen and phosphorus losses from hayfields receiving fresh and composted broiler litter. *J. Environ. Qual.* 27:1246-1254.
52. Marshall, S.B., C.W. Wood, L.C. Braun, M.L. Cabrera, M.D. Mullen, and E.A. Guertal. 1998. Ammonia volatilization from tall fescue pastures fertilized with broiler litter. *J. Environ. Qual.* 27:1125-1129.
53. Kelley, T.R., O.C. Pancorbo, W.C. Merka, S.A. Thompson, M.L. Cabrera, and H.M. Barnhart. 1998. Accumulation of elements in fractionated broiler litter during re-utilization. *J. Applied Poultry Res.* 7:27-34.
54. Nissen, T.M., D.J. Midmore, and M.L. Cabrera. 1999. Aboveground and belowground competition between intercropped cabbage and young *Eucalyptus torelliana*. *Agroforestry Systems* 46:83-93.

55. Johnson, A.D., M.L. Cabrera, D.V. McCracken, and D.E. Radcliffe. 1999. LEACHN simulations of nitrogen dynamics and water drainage in an ultisol. *Agron. J.* 91:597-606.
56. Kuykendall, H.A., M.L. Cabrera, C.S. Hoveland, and M.A. McCann. 1999. Stocking method effects on nutrient runoff from pastures fertilized with broiler litter. *J. Environ. Qual.* 28: 1886-1890.
57. Kuykendall, H.A., C.S. Hoveland, M.A. McCann, and M.L. Cabrera. 1999. Continuous versus rotational stocking of beef steers on mixed endophyte-infected tall fescue-bermudagrass pastures fertilized with broiler litter. *J. Prod. Agric.* 12:472-478.
58. Marshall, S.B., M.L. Cabrera, L.C. Braun, C.W. Wood, M.D. Mullen, and E.A. Guertal. 1999. Denitrification from fescue pastures in the southeastern USA fertilized with broiler. *J. Environ. Qual.* 28:1978-1983.
59. Andrews, S.S., L. Lohr, and M.L. Cabrera. 1999. A bioeconomic decision model comparing composted and fresh litter for winter squash. *Agric. Systems* 61:165-178.
60. Ananyeva, N.D., T.S. Demkina, W.J. Jones, M.L. Cabrera, and W.C. Steen. 1999. Microbial biomass in soils of Russia under long-term management practice. *Biol. Fert. Soils* 29: 291-299.
61. Worley, J.W., L.M. Risse, M.L. Cabrera, and M.P. Nolan, Jr. 1999. Bedding for broiler chickens: two alternative systems. *Applied Eng. in Agric.* 15:687-693.
62. Wood, C.W., Marshall, S.B., M.L. Cabrera, and B.H. Wood. 2000. Improved method for measurement of ammonia volatilization in the field. *Commun. Soil Sci. and Plant Anal.* 31: 31:581-590.
63. Worley, J.W., M.L. Cabrera, and L.M. Risse. 2000. Reduced levels of alum to amend broiler litter. *Applied Eng. in Agric.* 16:441-444.
64. Finlay-Moore, O. P.G. Hartel, and M.L. Cabrera. 2000. 17β -Estradiol and testosterone in soil and runoff from grasslands amended with broiler litter. *J. Environ. Qual.* 29:1604-1610.
65. Marshall, S.B., M.D. Mullen, M.L. Cabrera, C.W. Wood, L.C. Braun, and E.A. Guertal. 2000. Nitrogen budget for fescue pastures fertilized with broiler litter in Major Land Resource Areas of the southeastern United States. *Nutrient Cycling in Agroecosystems* 59:75-83.

66. Qafoku, O., M.L. Cabrera, W. R. Windham, and N.S. Hill. 2001. Rapid methods to estimate mineralizable nitrogen in broiler litter. *J. Environ. Qual.* 30:217-221.
67. Fu, Shenglei, M.L. Cabrera, D.C. Coleman, K.W. Kisselle, C.J. Garrett, P.F. Hendrix, and D.C. Crossley, Jr. 2000. Soil carbon dynamics of conventional and no-till agroecosystems in the Georgia Piedmont - HSB-C models. *Ecological modelling* 131: 229-248.
68. Egelkraut, T.M., D.E. Kissel, and M.L. Cabrera. 2000. Effect of soil texture on nitrogen mineralized from cotton residues and compost. *J. Environ. Qual.* 29:1518-1522.
69. Meding, S.M., L.A. Morris, C.M. Hoover, W.L. Nutter, and M.L. Cabrera. 2001. Denitrification at a Long-Term Forested Land Treatment System in the Piedmont of Georgia. *J Environ. Qual* 30: 1411-1419.
70. Cabrera, M.L., D.E. Kissel, R.C. Davis, W.I. Segars, and N.P. Qafoku. 2001. Design and ammonia-recovery evaluation of a wind-sensitive chamber system. *Soil Sci. Soc. Am. J.* 65:1302-1306.
71. Pierson, S.T., M.L. Cabrera, G.K. Evanylo, H.A. Kuykendall, C.S. Hoveland, M.A. McCann, and L.T. West. 2001. Phosphorus and ammonium concentrations in surface runoff from grasslands fertilized with broiler litter. *J. Environ. Qual.* 30:1784-1789.
72. Pierson, S.T., M.L. Cabrera, G.K. Evanylo, P.D. Shroeder, D.E. Radcliffe, H.A. Kuykendall, V.W. Benson, J.R. Williams, C.S. Hoveland, and M.A. McCann. 2001. Phosphorus losses from grasslands fertilized with broiler litter: EPIC simulations. *J. Environ. Qual.* 30:1790-1795.
73. Schomberg, H.H., and M.L. Cabrera. 2001. Modeling in situ N mineralization in conservation tillage fields: comparison of two versions of the CERES nitrogen submodel *Ecol. Model.* 145:1-15.
74. Endale, D.M., M.L. Cabrera, J.L. Steiner, D.E. Radcliffe, W.K. Vencill, H.H. Schomberg, and L. Lohr. 2002. Impact of soil tillage and fertility management on soil water and yield in cotton fertilized with poultry litter or ammonium nitrate in the Georgia Piedmont. *Soil & Tillage Research* 66:55-68.
75. Franklin, D.H., M.L. Cabrera, J.L. Steiner, D.M. Endale, and W.P. Miller. 2001. Evaluation of percent flow captured by a small in-field runoff collector. *Trans. ASAE* 44:551-554.
76. Quemada, M., and M.L. Cabrera. 2002. Characteristic moisture curves and maximum water content of two crop residues. *Plant and Soil* 238:295-299.

77. Chen, X., M.L. Cabrera, L. Zhang, J. Wu, Y. Shi, W.T. Yu, and S.M. Shen. 2002. Nitrous oxide emission from upland crops and crop-soil systems in northeastern China. *Nutrient Cycling in Agroecosystems* 62:241-247.
78. Franklin, D. H., J.L. Steiner, M.L. Cabrera, and E.L. Usery. 2002. Distribution of Inorganic N and P stream concentrations in stream flow of two Southern Piedmont watersheds. *J. Environ. Qual.*31:1910-1917.
79. Endale, D.M., D.E. Radcliffe, J.L. Steiner, and M.L. Cabrera. 2002. Drainage characteristics of a Southern Piedmont soil following six years of conventionally-tilled or no-till cropping systems. *Trans. ASAE* 45: 1423-1432.
80. Vigil, M.F. B. Eghball, M.L. Cabrera, B.R. Jakubowski, and J.G. Davis. 2002. Accounting for seasonal nitrogen mineralization: an overview. *J. Soil Water Cons.* 57:464-469.
81. Egelkraut, T.M., D.E. Kissel, M.L. Cabrera, and W. Adkins 2003. Predicting N mineralized in a Georgia Coastal Plain Field. *Nutrient Cycling in Agroecosystems* 66:1-12.
82. Bonito, G.M., D.C. Coleman, B.L. Haines, and M.L. Cabrera. 2003. Can nitrogen budgets explain differences in soil nitrogen mineralization rates of forest stands along an elevation gradient? *Forest Ecology and Management* 176:563-574.
83. Chen, X., M.L. Cabrera, L. Zhang, Y. Shi, and S.M. Shen. 2003. Long-term decomposition of organic materials with different carbon/nitrogen ratios. *Commun. Soil Sci. Plant Anal.* 34:43-56.
84. Szajdak, L., M.L. Cabrera, and A. Jeziarski. 2003. Impact of conventional and no-till management on soil's amino acids, stable and transient radicals, and properties of humic and fulvic acids. *Organic Geochemistry* 34:693-700
85. Jackson, B.P., P.M. Bertsch, M.L. Cabrera, J.J. Camberato, J.C. Seaman, and C.W. Wood. 2003. Trace element speciation in poultry litter. *J. Environ. Qual.* 32:535-540.
86. Egelkraut, T.M., D.E. Kissel, M.L. Cabrera, G.J. Gascho, and W. Adkins. Nitrogen concentration in cottonseed as an indicator of N availability. 2004. *Nutr. Cycl. Agroecosyst.* 68:235-242.
87. Gilmour, J.T., M.A. Koehler, M.L. Cabrera, L. Szajdak, and P.A. Moore, Jr. 2004. Alum treatment of poultry litter: decomposition and nitrogen dynamics. *J. Environ. Qual.* 33: 402-405.

88. Tasistro, A., M.L. Cabrera, and D.E. Kissel. 2004. Water soluble phosphorus released by poultry litter: effect of extraction pH and time after application. *Nutrient Cycling in Agroecosystems* 68:223-234.
89. Kissel, D. E., M. L. Cabrera, N. Vaio, J. R. Craig, J. A. Rema, and L. A. Morris. 2004. Rainfall Timing and Ammonia Loss from Urea in a Loblolly Pine Plantation. *Soil Sci. Soc. Am. J.* 68: 1744-1750.
90. Kruse, J., D.Kissel, and M. Cabrera. 2004. Effects of drying and rewetting on C and N mineralization in soils and incorporated residues. *Nutr. Cycl. Agroecosyst.* 69:247-256.
91. McVay, K.A., D.E. Radcliffe, M.L. Cabrera, and G. Hoogenboom. 2004. Water balance of a dairy loafing lot using geotextile and its impact on water quality. *J. Soil and Water Conserv.* 59:142-148.
92. McVay, K.A., D. E. Radcliffe, L.T. West, and M.L. Cabrera. 2004. Anion exchange in saprolite. *Vadose Zone Journal* 3: 668-675.
93. Shroeder, P.D., D.E. Radcliffe, and M.L. Cabrera. 2004. Rainfall timing and poultry litter application rate effects on phosphorus loss in surface runoff. *J. Environ. Qual.* 33:2201-2209.
94. Shroeder, P.D., D.E. Radcliffe, M.L. Cabrera, and C.D. Belew. 2004. Relationship between soil test phosphorus and phosphorus in runoff: effects of soil series variability. *J. Environ. Qual.* 33:1452-1463.
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Grants:

Title	Agency	Amount	Period	Investigator(s)
Modeling N in poultry litter	Univ. of Georgia	5,720	1/1/1991-12/31/1992	M.L. Cabrera
Improved N use in cover crop systems	USDA	99,000	1/1991-12/1994	W.H. Hargrove M.L. Cabrera
Management of dairy waste to minimize groundwater contamination	Subcontract with Texas A&M (USDA grant)	37,201	7/1/1991-6/30/1995	M.L. Cabrera
N and P losses from fresh and composted poultry litter	USDA-NRICGP	200,000	9/1/1992-8/31/1996	M.L. Cabrera M. Latimore W.C. Merka D.E. Radcliffe
Applications of high rates of composted poultry litter	SE Poultry & Egg Federation	12,096	1/1993-12/1994	M.L. Cabrera D.E. Radcliffe
Impact of grazing method on nutrient utilization and runoff in tall fescue pastures	USDA-NRCS	130,000	9/1/1993-9/30/1998	M.L. Cabrera C.S. Hoveland M.A. McCracken D.E. Radcliffe L.T. West
Broiler litter management in major land resource areas	USDA-NRICGP	96,314	10/1/1994-9/30/1997	M.L. Cabrera
Nutrient and pesticide loss in cotton production as affected by tillage and fertility	USDA-NRICGP	247,128	10/1/1994-9/30/1998	D.V. McCracken W.K. Vencill J.E. Box J.L. Steiner L. Lohr D.E. Radcliffe M.L. Cabrera
Monitoring water quality at composting sites	Georgia Department of Corrections	7,440	3/1/1006-2/28/1998	M.L. Cabrera D.E. Radcliffe L.T. West
Long-term soil organic matter dynamics in agroecosystems	NSF	250,000	7/1/1996-6/30/1999	P.F. Hendrix M.L. Cabrera D.C. Coleman D.A. Crossley
Steroids in runoff water from pastures and hayfields amended with poultry litter	USDA-NRICGP	81,239	8/1/1997-7/30/1999	P.G. Hartel M.L. Cabrera

Title	Agency	Amount	Period	Investigator(s)
Producer assessment of land management practices to protect water quality	SARE-ACE	75,620	8/1/1997-7/30/1999	M.L. Cabrera H.E. Hibbs H.E. Houston W.P. Miller L.M. Risse E.L. Usery
Refining rates of poultry litter application to corn	Georgia Commodity for Corn	24,000	7/1/1998-12/31/2000	M.L. Cabrera
Assessment of opportunities and data availability for the use of NLEAP in Georgia	USDA-NRCS	7,000	9/28/1998-6/30/1999	M.L. Cabrera
Ammonia volatilization from urea applied to pine plantations	Traditional Industries, Tessengerlo Kerley, Goldkist	136,000	4/1/1999-3/31/2003	D.Kissel M.L. Cabrera
Development of a P Index for Georgia	USDA-NRCS	130,000	6/1/2000-12/31/2005	M.L. Cabrera D.E. Radcliffe M.A. McCann C.S. Hovelan
Aeration to reduce P losses in runoff from pastures fertilized with poultry litter	US. Poultry and Egg Association	27,600	10/1/2000-9/30/2003	M.L. Cabrera D.H. Franklin
Development of a rapid field method to determine available nitrogen in broiler litter	U.S. Poultry and Egg Association	21,850	5/1/2000-9/15/2002	M.L. Cabrera
Fate of urea and an experimental urea-based fertilizer applied to grasslands in Georgia	Georgia Pacific	91,572	4/1/2004-3/31/2007	M.L. Cabrera D.E. Kissel
Laboratory and field investigations of processes affecting P speciation and dynamics in grasslands fertilized with animal manures	USDA-NRICGP	308,000	9/15/2003-9/14/2007	M.L. Cabrera D.H. Franklin K. Xia A. Tasistro
Title	Agency	Amount	Period	Investigator(s)
Using crop alternatives to improve water quality in high-nutrient status farms	USDA-NRCS	60,000	7/1/2004-6/30/2008	M.L. Cabrera D.H. Franklin J. Gaskin L.M. Risse
Fate of hormones in waste from confined broiler feeding operations	USEPA	695,620	7/1/2007-6/30/2012	M.L. Cabrera P.G. Hartel D.E. Radcliffe W.K. Vencill D.E. Kissel B. Fairchild

Improved efficiency of grazing dairies using complementary pasture species and scheduled irrigation	USDA-SARE	210,000	7/1/2007-6/30/2010	N.Hill D. Hancock M.L. Cabrera
Fate of antibiotics in broiler litter and impact on water quality	Georgia Institute of Technology (subcontract from USDA grant)	196,129	11/1/2009-2/28/2014	M.L. Cabrera A. Thompson
Improving Nutrient Management By Beginning Farmers By Predicting Nitrogen Release From Cover Crops	USDA-NRCS	132,764	9/1/2013-8/31/2016	J.W. Gaskin D.E. Kissel M.L. Cabrera G.E. Boyhan
A Systems Approach for Estimating Plant Available Nitrogen from Organic Materials and Fertilizers	USDA-SARE	248,324	4/1/2016-9/30/2019	M.L. Cabrera J.W. Gaskin D.H. Franklin D.E. Kissel
Effect of Method of UAN Application on N Losses via Ammonia Volatilization and Surface Runoff	Fluid Fertilizer Foundation	36,000	4/1/2016-3/31/2019	M.L. Cabrera D.H. Franklin D.E. Kissel
Cover crops: the cornerstone of water management in the face of increasing demand and a changing climate	USDA-AFRI	779,490	8/1/2019-7/31/2023	M.L. Cabrera J.W. Gaskin J.J. Thompson

Graduate Students Advised:

Name	Degree	Year	Title
Alan D. Johnson (USA)	M.S.	1994	Simulation of soil inorganic nitrogen and water movement in no-till and conventional-till systems using LACHM-N and CERES
Sarah C. Tyson (USA)	M.S.	1994	Nitrogen mineralization from fresh and composted poultry litter
Isaurinda Baptista (Cape Verde)	M.S.	1994	Nitrogen mineralization from soil and animal manures
Rosa Maria Gordillo (Guatemala)	M.S.	1995	Nitrogen mineralization from broiler litter mixed with soil
Miguel Quemada (Spain)	Ph.D.	1995	Carbon and nitrogen mineralization from cover crop residues under no-till conditions
Lois C. Broun (USA)	M.S.	1997	Nitrogen losses from broiler litter applied to fescue grasslands
Odetta S. Qafoku (Albania)	M.S.	1998	Rapid methods to determine potentially mineralizable nitrogen in poultry litter
Todd M. Nissen (USA)	Ph.D.	1998	Intercropping timber with food crops: A bioeconomic assessment of small holder management options in the Philippine uplands
Orla Finlay-Moore (Ireland)	M.S.	1999	Testosterone and 17beta-estradiol in runoff and soil from pastures and hayfields amended with broiler litter
Zachary P. Thomas (USA)	M.S.	2002	The effects on water quality of restricting cattle access to a Georgia Piedmont stream
Monte K. Matthews (USA)	M.S.	2003	Water quality in fenced and unfenced stream reaches flowing through grazing pastures in the Southern Piedmont
Harris Byers (USA)	M.S.	2004	Cattle and water quality responses to shade and alternative water sources in grazed pastures in Georgia, USA
Cathy R. Richards (USA)	M.S.	2006	Determination of limiting nutrient for periphyton growth in Piedmont streams
Nicolas Vaio (Argentina)	M.S.	2006	Ammonia volatilization and nitrogen uptake from urea, urea-ammonium nitrate (UAN), and Nitamin (Urea polymer) applied to tall fescue in Georgia.
David M. Butler (USA)	Ph.D.	2008	Evaluating agricultural management practices for reducing phosphorus losses from grasslands receiving manure
Yebin Zhao (China)	Ph.D.	2008	Manure phosphorus speciation and transformation in an acidic environment

Name	Degree	Year	Title
Catie Young (USA)	MCSS	2009	(Non-thesis master's degree)
Damiano Damianidis (Greece)	M.S.	2009	Ameliorating soils with recycled residual paper pulp to improve soil physical and chemical properties
Sarah A. Doydora (Philippines)	M.S.	2009	Release of inorganic nitrogen and phosphorus from poultry litter amended with acidified biochar
Nathan P. Eason (USA)	M.S.	2010	Nitrogen dynamics on pasture-based dairy farms in Georgia
Erico Mattos (Brazil)	Ph.D.	2013	Biophotonic microalgae biomass enhancement
Jake Mowrer (USA)	Ph.D.	2014	Studies on characterization of broiler litter using NIRS
Kate B. Cassity (USA)	Ph.D.	2014	Relative humidity and dew effects on ammonia volatilization from broiler litter
Daniel C. Burt (USA)	Ph.D.	2015	Flue-gas desulfurization effect on nitrogen and microbial dynamics in broiler litter
Sarah A. Doydora (Philippines)	Ph.D.	2015	Management effects on fate of poultry litter antibiotics
Nicolas Wyngaard (Argentina)	Ph.D.	2015	Phosphorus and nitrogen mineralization from soils receiving large applications of poultry litter
Maria F. Terraza (Guatemala)	Ph.D.	2017	Boron in Guatemalan soils
Carson Dann (USA)	M.S.	2019	Modeling the water potential of rye cover crops on the soil surface

