

James J. Camberato

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Department of Agronomy
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Associate Professor, Department of Agronomy, Purdue University

Previous Employment

Professor and Extension specialist, Clemson University, 2003 - 2005
Associate Professor and Extension specialist, Clemson University, 1995 - 2003
Assistant Professor and Extension specialist, Clemson University, 1989 - 1995
Tennessee Valley Authority, National Fertilizer Development Center - Research Chemist, 1987-1989.

Earned Degrees

Ph.D. North Carolina State University (3/87), Soil Science
M.S. North Carolina State University (12/82), Soil Science
B.S. University of Massachusetts (5/80), Plant and Soil Science

Description of Duties -- 65% Extension, 35% Research.

Extension

Conduct Extension education activities in soil fertility of agronomic crops.

Research

Conduct research leading to the quantification of the status of soil plant nutrients and nutrient budgets in soil as related to the agronomic ecosystem and environmental factors, the optimization of the productive efficiencies of such systems, and the maintenance of productive potential of the system.

Refereed Publications

Camberato, J.J., B. Gagnon, D.A. Angers, M. Chantigny, and W.L. Pan. 2006. Pulp and paper mill byproducts as plant nutrient sources and soil amendments. *Can. J. Soil Sci.* 86:641-653.

Camberato, J.J., P.D. Peterson, and S. B. Martin. 2006. Salinity and salinity tolerance alter rapid blight disease occurrence. Online. *Applied Turfgrass Science* doi:10.1094/ATS-2006-0213-01-RS. <http://www.plantmanagementnetwork.org/pub/ats/research/2006/salinity/>

McCarty, L.B., M.F. Gregg, J.E. Toler, J.J. Camberato, and H.S. Hill. 2005. Minimizing thatch and mat development in a newly seeded creeping bentgrass golf green. *Crop Sci.* 45:1529-1535.

Peterson, P. D., S. B. Martin, and J. J. Camberato. 2005. Tolerance of cool-season turfgrasses to rapid blight disease. Online. *Applied Turfgrass Science* doi:10.1094/ATS-2005-0328-01-RS.

Li, Jianfeng, S. Bruce Martin, Steven N. Jeffers, Ralph A. Dean, and James J. Camberato. Genetic variation among *Rhizoctonia solani* isolates from warm-season turfgrasses. 2005. *Intl. Turfgrass Soc. Res. J.* 230-236.

Royals II, John K., S. Bruce Martin, James J. Camberato, and Steven N. Jeffers. 2005. Development and evaluation of strategic fungicide programs for control of summer diseases in creeping bentgrass. *Intl. Turfgrass Soc. Res. J.* 237-246.

Camberato, J.J., and S. B. Martin. 2004. Salinity slows germination of rough bluegrass. *HortScience* 39(2)394-397.

Toler, J.E., E.C. Murdock, and J.J. Camberato. 2004. Starter fertilizer effects on cotton development and weed interference [Online]. *J. Cotton Sci.* 8:33-41. Available at <http://journal.cotton.org/2004/issue01/pdf/jcs04i1-5.pdf>

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. Quality* 32:535-540.

Bunnell, B.T., L.B. McCarty, R.B. Dodd, H.S. Hill, and J.J. Camberato. 2002. Creeping bentgrass growth response to elevated soil carbon dioxide. *HortScience* 37(2)367-370.

Camberato, J.J., S.B. Martin, and A.V. Turner. 2001. Fungicides affect rough bluegrass germination and seedling development. *Intl. Turfgrass Soc. Res. J.* 9:649-654.

Martin, S.B., J.J. Camberato, and L. Mudge. 2001. Influence of spring-applied preemergence herbicides and nematicides on bermudagrass in nematode-infested soil. *Intl. Turfgrass Soc. Res. J.* 9:780-786.

Chunhua Liu, J.J. Camberato, S. Bruce Martin, and Amy Turner. 2001. Rough bluegrass germination varies with temperature and cultivar/seed lot. *HortScience* 36(1)153-156.

Abstracts

Camberato, J. J., P.D. Peterson, and S.B. Martin. 2006. Irrigation water composition alters plant mineral composition and rapid blight on perennial ryegrass. *In Agronomy abstracts*, ASA,SSSA,CSA, Madison, WI.
<http://a-c-s.confex.com/crops/2006am/techprogram/P24368.HTM>

- Camberato, J. J., P.D. Peterson, and S.B. Martin. 2006. Irrigation water composition effects rapid blight of cool-season turfgrass. *Phytopathology* 96:S18.
- Canegallo, A.L., B. Martin, J.J. Camberato, and S.N. Jeffers. 2006. Occurrence and control of Large Patch (*Rhizoctonia solani* AG 2-2 LP) in seashore paspalum (*Paspalum vaginatum* Swartz) in South Carolina. *Phytopathology* 96:S19.
- Camberato, J. J., P.D. Peterson, and S.B. Martin. 2005. Salinity and salinity tolerance alter rapid blight disease occurrence. *Phytopathology* 95:S83
- Camberato, J.J., B. Gagnon, D.A. Angers, and W.L. Pan. 2004. Pulp and paper mill byproducts as plant nutrient sources and soil amendments. *In* Agronomy abstracts, ASA,SSSA,CSA, Madison, WI.
- Martin, S.B., M.W. Olsen, P.D. Peterson, and J. J. Camberato. 2004. Evaluation of fungicides for control of rapid blight on cool season grasses. *Phytopathology* 94.S66.
- Parker, S.R., S.B. Martin, S.N. Jeffers, and J. J. Camberato. 2004. Identification and pathogenicity of *Pythium* spp. associated with roots of hybrid bermudagrass in overseeded golf course putting greens. *Phytopathology* 94.S81.
- Parker, S.R., S.B. Martin, S.N. Jeffers, and J. J. Camberato. 2004. Effects of spring-applied fungicide applications on disease and quality of rough bluegrass overseeded bermudagrass putting greens. *Phytopathology* 94.S81.
- Peterson, P.D., S.B. Martin, and J. J. Camberato. 2004. Determining the turfgrass host range of *Labyrinthula* sp., the causal agent of rapid blight. *Phytopathology* 94:S83.
- Jones, M.A., and J. J. Camberato. 2004. Do modern cultivars require higher levels of potassium fertilization? Proc. 2004. Beltwide Cotton Conf. San Antonio, TX January 5-9. National Cotton Council, Memphis, TN. P. 2137.
- Jackson, B.P., J.C. Seaman, P.M. Bertsch, M.L. Cabrera, C.W. Wood, and J.J. Camberato. 2002. Trace element speciation in poultry litter leachates. 224th American Chemical Society meeting. Division of Environmental Chemistry. Boston, MA. August 21, 2002. <http://gemini.tntech.edu/~mjw5030/bos2002/post%201.pdf>
- Layfield, K. Dale, Jim Camberato, Mickey A. Hall, and Julie Helm. 2002. Accessing experts in the field: Extension specialists share experiences of instruction via Polycom (internet-based teleconferencing). National Association of Colleges and Teachers of Agriculture. June 19-22, University of Nebraska-Lincoln.
- Camberato, J.J., and S.B. Martin. 2001. Salinity slows germination of rough bluegrass. *In* Agronomy abstracts, ASA,SSSA,CSA, Madison, WI.

Martin, S.B., J.J. Camberato, and C. Liu. 2001. Spring-applied fungicides influence turf quality of bermudagrass overseeded with rough bluegrass. *In Agronomy abstracts*, ASA,SSSA,CSA, Madison, WI.

Albrecht, J.E., J.J. Camberato, and J. Adams. 2001. Nutrient cycling in a soybean-wheat double-crop fertilized with swine manure. *In Agronomy abstracts*, ASA,SSSA,CSA, Madison, WI.

Book Chapters and Regional Publications

Peterson, P.D., S. B. Martin, and J. J. Camberato. Current understanding and management of rapid blight disease on turfgrasses. In: *Handbook of Turfgrass Management and Physiology*. M. Pessaraki, ed. CRC Press, Boca Raton, FL (in press).

McCarty, Bert, and Jim Camberato. 2004. Soil chemical properties. p. 97-125. *In Best golf course management practices*. 2nd Edition. (ed.) L.B. McCarty, Prentice Hall, Upper Saddle River, NJ.

McCarty, Bert, Jim Camberato, and L. Ray Hubbard, Jr. 2004. Soil mineral properties and drainage. p. 127-169. *In Best golf course management practices*. 2nd Edition (ed.) L.B. McCarty, Prentice Hall, Upper Saddle River, NJ.

McCarty, Bert, Daniel C. Bowman, and Jim Camberato. 2004. Water management in turf. p. 351-377. *In Best golf course management practices*. 2nd Edition (ed.) L.B. McCarty, Prentice Hall, Upper Saddle River, NJ.

McCarty, Bert, Daniel C. Bowman, and Jim Camberato. 2004. Irrigation water quality. p. 379-408. *In Best golf course management practices*. 2nd Edition (ed.) L.B. McCarty, Prentice Hall, Upper Saddle River, NJ.

McCarty, Bert, and Jim Camberato. 2001. Soil mineral properties. p. 96-103. *In Best golf course management practices*. (ed.) L.B. McCarty, Prentice Hall, Upper Saddle River, NJ.

Bowman, Daniel C., Bert McCarty, and Jim Camberato. 2001. Water management in turf. p. 261-280. *In Best golf course management practices*. (ed.) L.B. McCarty, Prentice Hall, Upper Saddle River, NJ.

Trade Journals, Industry Newsletters, and Bulletins - Research-based Information

Martin, Bruce, Paul Peterson, and Jim Camberato. 2006. Rapid blight: A research summary. *Carolinas Green*, May-June, p. 21, 23-24, 26-27.

Camberato, J.J., P.D. Peterson, and S. Bruce Martin. 2005. Salinity and what it means to turf after rapid blight. *Carolinas Green*, March-April, p. 19-21.

Camberato, J.J., and M.A. Jones. 2005. Differences in potassium requirement and response by older and modern cotton varieties. *Better Crops* 89(1):18-20.

Peterson, Paul, Bruce Martin, and Jim Camberato. 2004. Rapid blight disease of cool-season grasses. *USGA Green Section Record* Sept.-Oct., 42(5):20-24.

Peterson, Paul, Bruce Martin, and Jim Camberato. 2004. Rapid blight disease of cool-season grasses. *Turf Environmental Research Online*. April 2004. <http://usgatero.msu.edu/v03/n08.pdf>

Martin, Bruce, and Jim Camberato. 2004. Early data in on ultradwarf response to high sand content. *Carolinas Green*, Jan.-Feb., 40(1):20, 22, 24.

Camberato, James J., and S. Bruce Martin. 2003. Lending muscle to ultradwarfs. *Greens Talk*, Jan.-Feb., 6(1):6-8, 10, 11. Texas Golf Course Superintendents Association.

Camberato, James J., and S. Bruce Martin. 2002. Lending muscle to ultradwarfs. *Carolinas Green*, Nov.-Dec., 38(6):20-22, 24,26.

Camberato, James J., S. Bruce Martin, and Shane Parker. 2002. Managing ultradwarf bermudagrasses. *Turfgrass Foundation News*, April-June, 9(2):9-10.
<http://virtual.clemson.edu/groups/turfornamental/tmi/disman/Bermudagrass/Man%20Ultra%20Berm.htm>

Martin, Bruce, and Jim Camberato. 2002. Tracking the toll of rapid blight. *Carolinas Green*, Sept.-Oct., 38(5):20,22-24,26.

Martin, Bruce, Jim Camberato, Chunhua Liu, and Amy Turner. 2001. Spring-applied fungicides increase turf quality. *Carolinas Green*, Mar.-Apr., 37(2):21-23.
<http://virtual.clemson.edu/groups/turfornamental/tmi/disman/poa%20trivialis%20spring%20disease%20for%20web.pdf>

Grants

The effect of planting date and harvest method on borage seed yield in the South Carolina Coastal Plain. 2003. J. Chapin, L. Beckham, J. Camberato, A. Khalilian, and Steven Leath. SC Department of Agriculture Speciality Crops Grant. \$29,500.

Biology and Integrated Management of Rapid Blight - A New Disease of Rough Bluegrass, Perennial Ryegrass, Annual Bluegrass, and Creeping Bentgrass. 2003-2005. United States Golf Association. S.B. Martin and J.J. Camberato. \$77,720.

Enhancing spring transition with fungicides. 2002. Carolinas Golf Course Superintendents Association. Martin and Camberato. \$8,000.

Management of TifEagle and MiniVerde bermudagrasses in the Carolinas. 2002. Carolinas Golf Foundation. S.B. Martin, J.J. Camberato, and T.C. Hale. \$20,000.

Defining the Potassium Requirements of Cotton Cultivars. 3/1/2002 to 12/31/2002. SC Cotton Board. M.A. Jones and J.J. Camberato. \$10,950.

Evaluation of Nitrogen Rates, Sources, and Application Methods in Irrigated and Dryland Cotton. 3/1/2002 to 12/31/2002. SC Cotton Board. M.A. Jones and J.J. Camberato. \$12,050.

Enhancing Turf Quality During Spring Transition with Fungicide Treatments 5/1/2002 to 5/1/2003. Carolina=s Golf Course Superintendents Association. S.B. Martin and J.J. Camberato. \$8,000.

Development of Integrated Weed Management Systems and Their Impact on Soil Fertility in South Carolina Soybeans. 7/1/2001 to 6/30/2002. South Carolina Soybean Board. Jason Norsworthy and James J. Camberato. \$12,800.

Utilizing swine manure nutrients in a three crop rotation. 9/01-8/02. South Carolina Pork Board. Camberato, Albrecht, and Adams.\$10,000.

Enhancing turf quality during spring transition with fungicide treatments. 2001-2002. Carolinas Golf Course Superintendents Association. Martin and Camberato.\$20,000.

Utilizing swine manure nutrients. 9/00-8/01. Camberato, Albrecht, and Adams. South Carolina Pork Board.\$10,000.

Circulars, leaflets, and web-based information

Camberato, Jim and Brad Joern. 5/19/2006. Nitrate-nitrogen: Here today, gone tomorrow? Pest & Crop May 26, 2006 – Issue 9.
http://128.210.99.160/entomology/ext/targets/p&c/PandC2006/PandC9_2006.pdf

Camberato, Jim and Brad Joern. 5/19/2006. Nitrate-nitrogen: Here today, gone tomorrow?
<http://www.agry.purdue.edu/ext/corn/news/articles.06/NLoss-0519.html>

Camberato, Jim. 5/2004. Sampling soil and crop tissue. Chapter 7d in Confined Animal Manure Managers Certification Program Manual B Dairy Version 1. Clemson University Cooperative Extension Service.

Camberato, Jim. 5/2004. Land application of dairy manure. Chapter 5a in Confined Animal Manure Managers Certification Program Manual B Dairy Version 1. Clemson University Cooperative Extension Service.

Dickens, E. David, William H. McKee, and James J. Camberato. 5/2004. Forest land application of animal manures. Chapter 5b in Confined Animal Manure Managers Certification Program Manual B Dairy Version 1. Clemson University Cooperative Extension Service.

Chastain, John P., and James J. Camberato. 5/2004. Dairy manure production and nutrient content. Chapter 3a in Confined Animal Manure Managers Certification Program Manual B Dairy Version 1. Clemson University Cooperative Extension Service.

Camberato, Jim. 5/2003. Sampling soil and crop tissue. Chapter 7d in Confined Animal Manure Managers Certification Program Manual B Swine Version 3. Clemson University Cooperative Extension Service.

Camberato, Jim. 5/2003. Land application of swine manure. Chapter 5a in Confined Animal Manure Managers Certification Program Manual B Swine Version 3. Clemson University Cooperative Extension Service.

Dickens, E. David, William H. McKee, and James J. Camberato. 5/2003. Forest land application of animal manures. Chapter 5b in Confined Animal Manure Managers Certification Program Manual B Swine Version 3. Clemson University Cooperative Extension Service.

Chastain, John P., James J. Camberato, John E. Albrecht, and Jesse Adams, III. 5/2003. Swine manure production and nutrient content. Chapter 3a in Confined Animal Manure Managers Certification Program Manual B Swine Version 3. Clemson University Cooperative Extension Service.

Camberato, Jim. 3/2003. Sampling soil and crop tissue. Chapter 7d in Confined Animal Manure Managers Certification Program Manual B Poultry Version 2. Clemson University Cooperative Extension Service.

Camberato, Jim. 3/2003. Land application of poultry manure. Chapter 5a in Confined Animal Manure Managers Certification Program Manual B Poultry Version 2. Clemson University Cooperative Extension Service.

Dickens, E. David, William H. McKee, and James J. Camberato. 3/2003. Forest land application of animal manures. Chapter 5b in Confined Animal Manure Managers Certification Program Manual B Poultry Version 2. Clemson University Cooperative Extension Service.

Skewes, Peter, John Albrecht, and Jim Camberato. 3/2003. Reducing the nutrient load from poultry manure. Chapter 3a in Confined Animal Manure Managers Certification Program Manual B Poultry Version. Clemson University Cooperative Extension Service.

Chastain, J.P., J.J. Camberato, and P. Skewes. 3/2003. Poultry manure production and nutrient content. Chapter 3b in Confined Animal Manure Managers Certification Program Manual B Poultry Version 2. Clemson University Cooperative Extension Service.

Camberato, Jim. 2003. Effects of litter treatments on litter properties for land application. Chapter 3c in Confined Animal Manure Managers Certification Program Manual B Poultry Version. Clemson University Cooperative Extension Service.

Chapin, Jay W., and James J. Camberato. 3/20/04. Peanut fertility check list. WEB published only (<http://virtual.clemson.edu/groups/peanuts/fertility%20check%20list.PDF>).

Camberato, James J. 3/2004. Manganese deficiency and fertilization of soybeans. Precautions for mixing manganese with glyphosate. WEB published only (<http://www.clemson.edu/edisto/soybean/Precaution%20for%20mixing%20manganese.pdf>).

Camberato, James J. 2/2004. Manganese deficiency and fertilization of cotton. WEB published only (<http://www.clemson.edu/peedeerec/COTTON/MgCotFeb2004SFS1.Web.PDF>).

Chapin, Jay W., and James J. Camberato. Feb. 2003. Beware! High Soil Zinc Can Kill Peanuts. WEB published only (<http://virtual.clemson.edu/groups/peanuts/Zn%20toxicity.PDF>).

J.J. Camberato. 1/2002. Revised Fertility management. *In* 2002 South Carolina Soybean Production Guide. Circular 501.

Camberato, James J. 3/2001. Manganese deficiency and fertilization of soybeans. WEB published only (<http://www.clemson.edu/edisto/soybean/manganese.pdf>).

Trade Journals and Newsletters - Extension-based information

Camberato, Jim. 2004. Acid soil pH - Take two tons and see me in the morning. SC Turfgrass Foundation News. July-September 2004. Volume 10(3): 1-2.

Camberato, James J., Haibo Liu, and Sheila Godwin. 2004. Tissue testing for turfgrasses. Carolina Green, Jul.-Aug., 40(4):21,22,23.
<http://virtual.clemson.edu/groups/turfornamental/tmi/fertlime/Tissue%20Testing%20for%20Turf%20grasses.pdf>

Camberato, Jim, and Bruce Martin. 2004. Don't guess, soil test. Carolinas Green, March-April, 40(2)22,24-26. <http://cgcsa.org/Mar-Apr%202004%20issue.pdf> and <http://virtual.clemson.edu/groups/turfornamental/tmi/fertlime/Soil%20Testing.pdf>

Camberato, Jim, Bruce Martin, Trent Hale and Sam Cheatham. 2004. Clemson University turfgrass field day. South Carolina Turfgrass Foundation News, Jan.-Mar., 10(1):6.

Camberato, Jim, Bruce Martin, Trent Hale, and Sam Cheatham. 2003. Clemson field day draws big crowd. Carolinas Green, Nov.-Dec., 39(6):55.

Camberato, James J., and S. Bruce Martin. 2003. Magnesium is at the heart of your green. Carolinas Green, March-Apr., 39(2):22,24,26.
<http://virtual.clemson.edu/groups/turfornamental/tmi/fertlime/Missing%20Magnesium.pdf>

Godwin, Sheila W., and James J. Camberato. 2003. Clemson=s web guide to healthier turf. Carolinas Green, Jan.-Feb., 39(1):44-45.

Camberato, James J. 2001. Cation exchange capacity B Everything you want to know and much more. Turfgrass Foundation News, Oct.-Dec., 8(4):8-10.
<http://virtual.clemson.edu/groups/turfornamental/tmi/fertlime/Cation%20exchange%20capacity.pdf>

Martin, Bruce, and Jim Camberato. 2001. Solid turnout at field day. Carolinas Green, Nov.-Dec., 37(6):48-49.

Camberato, James J. 2001. Nitrogen: A growing concern. Carolinas Green, Sep.-Oct., 37(5):41-45.

Camberato, James J. 3/2001. Ornamental Irrigation Water Quality Slide Set.
HTTP://virtual.clemson.edu/groups/psapublishing/ppt_files/Irrigwq_files/v3_document

Camberato, James J. 3/2001. Turf Irrigation Water Quality Slide Set.
HTTP://virtual.clemson.edu/groups/psapublishing/ppt_files/Turfwtr_files/v3_document

Camberato, James J. 2001. Nitrogen fertilizer materials. South Carolina Sod Producers Association Newsletter. 2(1):3-6.

Camberato, James J. 2001. Nitrogen in soils and fertilizers. South Carolina Turfgrass Foundation News, Jan.-Mar., 8(1):6-10.
http://virtual.clemson.edu/groups/turfornamental/tmi/soil_and_fertilizer_N.pdf

Society Membership

American Society of Agronomy
Soil Science Society of America
Crop Science Society of America

Honors Received

Clemson University Cooperative Extension Superior Performance Award. 12/01.

Graduate Instruction

Member of the following student's committees.

Doctorate of Philosophy

In progress

Christopher Boomsma. Department of Agronomy, Purdue University. Nitrogen rate and plant density effects on growth and development in maize.

Completed

Ian Rodriguez. 12/03. Investigating influence of surface air movement on physiology of bentgrass. Clemson University. Dept. of Horticulture. Committee member.

Freddie C. Waltz. 12/01. The influence of peat and inorganic amendments on physical properties of sand-based rootzones. Clemson University. Dept. of Crop and Soil Environmental Science. Committee member.

Kirk D. Howell. 8/01. Evaluating production quality and efficiency of loblolly pine with fertilization levels, sowing method, top manipulations and seedbed densities in the nursery and for outplanting. Clemson University. Dept. of Forest Resources. Committee member.

XIII. Service Activities

Editorial

Editorial Board for the Journal of Sustainable Agriculture. 1/02-present.

Associate Editor for the Soil Science Society of America Journal, Division S-4 (Soil Fertility). 1/96-12/01.