

Curriculum Vitae

Karl Guillard

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Field of Specialization: Turfgrass Nutrient Management; Grassland and Pasture Management

Education: 1986 University of Connecticut, Ph.D. Agronomy
1983 University of Connecticut, M.S. Agronomy
1979 Pennsylvania State University, B.S. General Agriculture

Experience: 2004-present Professor of Agronomy, University of Connecticut
1996-2004 Associate Professor of Agronomy, University of Connecticut
1992-1996 Assistant Professor of Agronomy, University of Connecticut
1987-1992 Assistant Professor in Residence, University of Connecticut
1986-1987 Lecturer, University of Connecticut
1980-1986 Graduate Research Assistant, University of Connecticut

Professional Societies: American Society of Agronomy
Crop Science Society of America
Soil Science Society of America

Honors or Awards:

- 2006 Faculty Excellence Award in Teaching at the Undergraduate level, University of Connecticut Alumni Association
- 2002 National Association of State Universities and Land-Grant Colleges, USDA Food and Agriculture Sciences Excellence in Teaching Award
- 2002 National Association of Colleges and Teachers of Agriculture Teaching Award of Merit
- 2001-2002 University of Connecticut Teaching Fellow Award.
- Northeast Branch American Society of Agronomy/Soil Science Society of America 2001 Teaching Award.
- 1999 Editors' Citation for Excellence in Manuscript Review, *Journal of Environmental Quality*
- 1997 Donald M. Kinsman Award for Excellence in CANR/RHSA Undergraduate Teaching by Junior Faculty, College of Agriculture and Natural Resources, University of Connecticut.
- 1992 New York Farmer's Award for Outstanding Achievement in Agriculture.
- Selected to participate in the Outstanding Young Scientist Session of the 1984 American Forage and Grassland Conference.

Peer-Review Journal Articles Last 5 Years:

- Mangiafico, S.S., and **K. Guillard**. 2006. Cool-season lawn turfgrass color and growth calibrated to leaf nitrogen. *Crop. Sci.* *in press*.
- Mangiafico, S.S., and **K. Guillard**. 2006. Nitrate leaching from Kentucky bluegrass soil columns predicted with anion exchange membranes. *Soil Sci. Soc. Am. J.* 71:219–224
- Mangiafico, S.S., and **K. Guillard**. 2006. Anion exchange membrane soil nitrate predicts turfgrass color and yield. *Crop. Sci.* 46:569–577.
- Mangiafico, S.S., and **K. Guillard**. 2006. Fall fertilization effects on nitrate leaching and turfgrass color and growth. *J. Environ. Qual.* 35:163–171.
- Goodall, S.A., **K. Guillard**, W.M. Dest, and K. Demars. 2005. Ball response and traction of skinned infields amended with calcined clay at varying soil moisture contents. *Int. Turfgrass Soc. Res. J.* 10:1085–1093.
- Dest, W.M., **K. Guillard**, J.S. Ebdon. 2005. The effect of reinforcement materials on wear tolerance, playing quality and physical properties in a silt loam and sand rootzone matrix. *Int. Turfgrass Soc. Res. J.* 10:1049–1059.
- Kopp, K.L., and **K. Guillard**. 2005. Clipping contributions to nitrate leaching in turfgrass under variable irrigation and N rates. *Int. Turfgrass Soc. Res. J.* 10:80–85.
- Mangiafico, S.S., and **K. Guillard**. 2005. Relationships among turfgrass reflectance meter measurements, chlorophyll, and soil nitrate desorbed from anion exchange membranes. *Crop Sci.* 45:259–265.
- Fitzpatrick, R.J.M, and **K. Guillard**. 2004. Kentucky bluegrass response to potassium and nitrogen fertilization. *Crop Sci.* 44:1721–1728.
- Guillard, K.**, and K.L. Kopp. 2004. Nitrogen fertilizer form and associated nitrate leaching from cool-season lawn turf. *J. Environ. Qual.* 33:1822–1827.
- Guillard, K.**, and W.M. Dest. 2003. Extractable soil phosphorus concentrations and creeping bentgrass response on sand greens. *Crop Sci.* 43:272–281.
- Wilkinson, J., D. Rood, D. Minior, **K. Guillard**, M. Darre, L.K. Silbart. 2003. Immune response to a mucosally administered aflatoxin B₁ vaccine. *Poultry Sci.* 82:1565–1572.
- Kopp, K.L., and **K. Guillard**. 2002. Clipping management and N fertilization of turfgrass: Growth, N utilization, and quality. *Crop Sci.* 42:1225–1231.
- Kopp, K.L., and **K. Guillard**. 2002. Relationship of turfgrass growth and quality to soil nitrate desorbed from anion exchange membranes. *Crop Sci.* 42:1232–1240.
- Dest, W.M., and **K. Guillard**. 2001. Bentgrass response to K fertilization and K release rates from eight sand rootzone sources used in putting green construction. *Intl. Turfgrass Soc. Res. J.* 9:375–381.

Published Abstracts Last 5 years:

- Mangiafico, S.S., and **K. Guillard**. 2005. Cate–Nelson models of turfgrass relative color and yield predict critical AEM soil NO₃–N concentrations. *In* Northeast Branch Agronomy abstracts. ASA, Madison, WI.
- Barry, T., and **K. Guillard**. 2005. Use of anion exchange membranes to predict nitrate leaching losses from Kentucky bluegrass. *In* Northeast Branch Agronomy abstracts. ASA, Madison, WI.
- Dest, W.M., **K. Guillard**, and J.S. Ebdon. 2005. Differentiating between the influence of wear and soil compaction and their interaction on turfgrass stress. *In* Agronomy abstracts. ASA, Madison, WI.
- Mangiafico, S.S., and **K. Guillard**. 2004. Desorbed nitrate from anion exchange membranes as a predictor of nitrate leaching and turfgrass color. *In* Agronomy abstracts. ASA, Madison, WI.
- Mangiafico, S.S., and **K. Guillard**. 2004. Use of anion exchange membranes to estimate turfgrass growth and quality. *In* Agronomy abstracts. ASA, Madison, WI.
- Guillard, K.**, and S.S. Mangiafico. 2003. Relationships among turfgrass color, chlorophyll, and soil nitrate desorbed from anion exchange membranes. *In* Agronomy abstracts. ASA, Madison, WI.
- Mangiafico, S.S., and **K. Guillard**. 2003. Nitrate leaching losses and turfgrass quality on fall fertilized Kentucky bluegrass. *In* Agronomy abstracts. ASA, Madison, WI.
- Guillard, K.**, W.M. Dest, and J.S. Ebdon. 2003. Methods for assessing performance of natural sports surfaces to playing characteristics: The need for standards. *In* Agronomy abstracts. ASA, Madison, WI.
- Dest, W.M., **K. Guillard**, and J.S. Ebdon. 2003. Cool season turfgrass response to actual wear. *In* Agronomy abstracts. ASA, Madison, WI.

- Dest, W.M., and **K. Guillard**. 2002. Putting green speed from a statistical perspective. *In* Agronomy abstracts. ASA, Madison, WI.
- Goodall, S.A., **K. Guillard**, W.M. Dest, and K.R. Demars. 2002. Baseball reaction off the skinned infield surface. *In* Agronomy abstracts. ASA, Madison, WI.
- Kopp, K.L., and **K. Guillard**. 2002. Decomposition and nitrogen release of turfgrass clippings. *In* Agronomy abstracts. ASA, Madison, WI.
- Guillard, K.**, and W.M. Dest. 2001. Soil test phosphorus and bentgrass response on sand greens. *In* Agronomy abstracts. ASA, Madison, WI.
- Mangiafico, S., and **K. Guillard**. 2001. Nitrogen leaching from newly sodded turf. *In* Agronomy abstracts. ASA, Madison, WI.
- Fitzpatrick, R., and **K. Guillard**. 2001. Potassium and nitrogen fertilization effects on Kentucky bluegrass. *In* Agronomy abstracts. ASA, Madison, WI.
- Dest, W.M., **K. Guillard**, and W.A. Torello. 2001. Reinforcement materials and turfgrass wear, infiltration, and surface properties of sports fields. *In* Agronomy abstracts. ASA, Madison, WI.

Full Length Papers of Proceedings Last 5 Years:

- Kopp, K. and **K. Guillard**. 2004. Decomposition and nitrogen release rates of turfgrass clippings. Proceedings of the 4th International Crop Science Congress. 26 September – 1 October, 2004. Brisbane, Queensland, Australia.

Extension and Trade Journal Articles Last 5 Years:

- Karl Guillard**, Seth A. Goodall, William M. Dest, and Kenneth R. Demars. 2006. Update on infield skin playability. *SportsTurf* 23(02):12, 14, 16, 18.
- Dest, W.M., and **K. Guillard**. 2005. Putting green speed: A reality check. *On the Road Quarterly Bulletin*. Vol. 4. No. 1. Northern California Golf Association.
- Guillard K.** 2004. Fall fertilization and other suggestions for lawn care and water quality considerations. *Home & Garden News* Sept./Oct. issue, pp. 3–4. Home and Garden Education Center, University of Connecticut, College of Agric. Nat. Res.
- Guillard K.** 2004. Sustainable lawns. *Connecticut Gardener* 10(1):7–9.
- Kopp, K.L., and **K. Guillard**. 2002. Adjusting nitrogen rates when clippings are returned. *Golf Course Manage.* 70(1):60–64.
- Marrotte, E.L., and **K. Guillard**. 2001. Soils. pp. 5–7. *In* T.M. Abbey (ed.) *Turfgrass nutrient and integrated pest management manual*. University of Connecticut, College of Agric. Nat. Res.
- Guillard K.** 2001. Fertilizers and plant nutrition. pp. 9–27. *In* T.M. Abbey (ed.) *Turfgrass nutrient and integrated pest management manual*. University of Connecticut, College of Agric. Nat. Res.
- Guillard, K.**, and E.L. Marrotte. 2001. Turfgrass species adapted to Connecticut. pp. 29–40. *In* T.M. Abbey (ed.) *Turfgrass nutrient and integrated pest management manual*. University of Connecticut, College of Agric. Nat. Res.
- Guillard, K.**, 2001. Turf weeds and their management. pp. 55–70. *In* T.M. Abbey (ed.) *Turfgrass nutrient and integrated pest management manual*. University of Connecticut, College of Agric. Nat. Res.
- Ellis, D.R., **K. Guillard**, and R.G. Adams. 2001. Managing weeds in broccoli with purslane living mulch. *IPM Practitioner*. 23 (10):1–9.

Current Teaching Responsibilities:

Plant Science 024. Turfgrass Management. 3 credits. An overview of turfgrass adaptation, selection, and management. Topics include turfgrass growth, physiology, soil interactions, weeds and diseases, morphology and identification, establishment, and maintenance. Cultural system practices for lawns, golf courses, athletic fields, and other turf areas (Ratcliffe Hicks School of Agriculture). Fall semesters 1996-present. Taught jointly with Plant Science 124.

Plant Science 124. Turfgrass Management. 3 credits. An overview of turfgrass adaptation, selection, and management. Topics include turfgrass growth, physiology, soil interactions, weeds and diseases, morphology and identification, establishment, and maintenance. Cultural system practices for lawns, golf courses, athletic fields, and other turf areas (College of Agriculture and Natural Resources). Fall semesters 1998–present. Taught jointly with Plant Science 024.

Plant Science 224 & 224W. Turfgrass Physiology and Ecology. 3 credits. Turfgrass physiology related to growth and development. Response to temperature, light, water, traffic, and wind. Turfgrass community dynamics, competition, and environmental effects of turfgrass management (College of Agriculture and Natural Resources). Spring semesters 1998–present.

Plant Science 257. Ecology and Control of Weeds. 3 credits. Weed origin and classification. Losses caused by weeds. Weed seed production, dormancy, and germination. Cultural, mechanical, biological, and chemical control methods. Weed identification (College of Agriculture and Natural Resources). Fall semesters 1989-1996, 2004–present.

Plant Science 350. Design and Analysis of Agricultural Experiments. 4 credits. The design and analysis of experiments commonly conducted in agricultural field, greenhouse, and laboratory research. Emphasis is placed on use of computers (personal and mainframe) and appropriate computer programs (e.g., SAS, SigmaPlot) (Graduate School). Fall semester 1986; Spring semester 1988 and odd years 1989–present.

Current Graduate Students:

Xingyuan Geng, Dissertation topic: Developing soil-based nitrogen tests to guide nitrogen fertilization of turfgrass.

Completed Graduate Students Last 5 Years:

Thomas Barry, M.S. M.S., 2007. Thesis title: Anion exchange membranes to predict nitrate leaching from turf, and relationship between fall verdure nitrate concentrations and spring color of turf.

Salvatore Mangiafico, Ph.D., 2005. Dissertation title: Nitrogen management of turfgrass utilizing reflectance meters, anion exchange membranes, and timing of fall fertilization.

Seth Goodall, M.S., 2005. Thesis title: Ball response and traction of skinned infields amended with calcined clay at varying soil moisture contents.

Richard Fitzpatrick, M.S., 2002. Thesis title: Potassium and nitrogen fertilization effects on Kentucky bluegrass.

Kelly Kopp, Ph.D., 2000. Dissertation title: Clipping management effects on N availability and leaching in turfgrass.

Grant Funding Last 5 Years:

K. Guillard. Changing Homeowner's Lawn Care Behavior to Reduce Nutrient Losses IN New England's Urbanizing Watersheds. USDA-CSREES. 09/15/06-09/14/09. \$145,072

K. Guillard, S.L. Rackliffe, and E.L. Marrotte. Interactive grass identification tutorials. USDA-Higher Education Challenge Grants Program. 08/01/02 to 07/31/06. \$89,191.

K. Guillard, Handheld light meters and anion exchange membranes to reduce the threat of water pollution from turfgrass fertilizers. Connecticut Institute for Water Resources, USGS. 03/01/03 to 08/31/05. \$26,690.

J.C. Clausen, J. Alexopoulos, and **K. Guillard.** Jordan Cove Urban Watershed. Connecticut Department of Environmental Protection. 03/31/00-06/30/04 supplement. \$100,000.

K. Guillard and T.F. Morris. Late-season fertilization effects on turfgrass growth and nitrate leaching. USDA-NRI. 12/01/99-11/30/02. \$85,000.

J.C. Clausen, J. Alexopoulos, **K. Guillard,** and Tom Morris. Jordan Cove Urban Watershed. Connecticut Department of Environmental Protection. 06/01/00-06/30/02. \$100,000.

K. Guillard. Best Management Practices for Turf Systems in the East. Storrs Agricultural Experiment Station Regional Hatch Project. 10/01/99-09/30/05. approx. \$8,500 per year.

K. Guillard. Potassium fertilization of Kentucky bluegrass to increase summer-stress tolerance. Potash and Phosphate Institute and Foundation for Agronomic Research. 06/01/99-05/31/02. \$11,500.