

# CURRICULUM VITAE

## Bingru Huang

Department of Plant Biology and Pathology  
Rutgers University, New Brunswick, NJ 08901

### Education:

**Ph.D.** 1991, Texas Tech University  
**M.S.** 1987, Shandong Agricultural University, China  
**B.S.** 1984, Hebei Agricultural University, China

### Professional Experiences:

2007 – Present  
Director, Graduate Program in Plant Biology, Rutgers University.

2005 - Present  
Professor I., Department of Plant Biology and Pathology, Rutgers University.

2000 - 2005  
Associate professor, Department of Plant Biology and Pathology, Rutgers University.

2000 - 2003  
Adjunct professor, Department of Horticulture, Forestry, and Recreation Resources,  
Kansas State University

1996 - 2000  
Assistant professor, Department of Horticulture, Forestry and Recreation Resources,  
Kansas State University, Manhattan, KS.

1995 - 1996  
Adjunct professor, Mercer University, Macon, GA.

1994 - 1996  
Post doctoral researcher, Department of Crop and Soil Sciences, University of Georgia

1991 - 1993  
Post doctoral researcher, Division of Environmental Plant Biology, Laboratory of  
Biomedical and Environmental Sciences, University of California, Los Angeles.

1988 - 1991  
Graduate research and teaching assistant, Department of Agronomy, Horticulture and  
Entomology, Texas Tech University.

1987 - 1988  
Lecturer, Department of Agronomy, Agricultural University of Shandong.

### Professional Services and Appointments

#### *Scientific Society*

##### *American Society of Agronomy*

Evaluation of Annual Meeting Structure Task Force, 2007 - present  
Monographs Publication Committee, 2003 – 2004

##### *American Society of Horticultural Science*

Outstanding Research Award committee, 2002 – 2004.  
Rhizosphere Working Group, 1999

*American Society of Plant Biologist*

Panel member, Graduate student training in plant physiology, 1999 – 2003.

*Crop Science Society of America*

Publications Task Force, 2007 - present

Professional Advancement Committee, 2005 - present

Fellow selection committee, 2004 - 2006.

Organizer, C-2 Crop Physiology Division Symposium, Annual meeting of ASA-SSSA-CSSA, Indianapolis, Indiana. 2006.

Presiding officer, C-2 Crop Physiology Division Symposium, Annual meeting of ASA-SSSA-CSSA, Indianapolis, Indiana. 2006

Review panel, Crop Science journal, 2006

Associate editor. Process approximately 15 manuscripts a year, 2000 – 2006

Presiding officer, C-5 Division, Annual meeting of the society, 2001.

Judge, Outstanding Graduate Paper Award, C-5 Division, Annual meeting of the society, 2001.

*ad hoc* committee of Turfgrass Stress Physiology Slide Monograph, 1999 – 2003.

Young Crop Scientist Award Committee, 1998 – 2000.

*Golf Course Superintendent Association of America*

Faculty member in the Education Program and teach short courses to golf course managers in the annual national and regional conferences, 1998 – present.

*Japanese Society for Root Research*

Editor, Plant Root, 2006 - present

*Society for the Advancement of Horticulture*

Editorial Advisory Panel and Country Editor, Journal of Applied Horticulture, 2004 - present

*International Society of Food, Agriculture, and Environment*

Country Editor, 2005 - present

*Soil Science Society of America*

Taylor Memorial Lectureship committee, 2002 – present.

*Grant proposal reviewer* (Average three proposals per year since 1996)

Center of Plant Biotechnology, Kansas State University

Center of Plant Stress and Biotechnology, Texas Tech University

Center of Turfgrass, Rutgers University

Golf Course Superintendent Association of America

International Turfgrass Producers Foundation

National Science Foundation

United States of Golf Association

United States of Agriculture - National Research Initiatives

*Ad hoc manuscript reviewer* (Review approximately 12 articles a year)

Agronomy Journal

Australia Journal of Agriculture

Crop Science

Environmental and Experimental Botany

HortScience

India Journal of Plant Science

International Turfgrass Society Research Journal

Journal of American Society of Horticulture

Journal of Experimental Botany  
Journal of Plant Physiology  
New Phytologist  
Plant Growth Regulation  
Plant and Soil

***University, College and Department***

Chair, Excellence Fellowship Committee, School of Environmental and Biological Science, Rutgers, 207- present.

Executive committee, Center for Turfgrass Science, Rutgers University. 2007 - present

External reviewer, Turfgrass program review in Department of Crop Science, Michigan State University. 2007.

Department Advisory Committee, 2007-present

Horticulture proposal selection committee, Cook College, 2005

FASIP (Faculty Academic Service Increment Program) committee, 2004-2007

Academic standard committee, Plant Biology Program, 2004 - present

Faculty promotion evaluation committee, Department of Plant Biology & Pathology, 2004 and 2005

Finance committee for Center of Turfgrass Science, Rutgers University, 2004 -2006

Faculty mentor committee, Department of Plant Biology & Pathology, 2003 - present

Scholarship committee for Center of Turfgrass Science, Rutgers University, 2003 - present

Graduate admission committee, Rutgers University, 2003-2006

Faculty advisor for undergraduates majored in turfgrass science, Rutgers University, 2003-present

Chair, Faculty promotion/tenure reading committee, 2003.

Rutger University Affirmative Action committee, 2002 - present.

Chair, Turfgrass symposium committee, Center of Turfgrass Science, Rutgers University, 2002

Coordinator, Plant Biology Seminar, Rutgers University, 2001 - 2003

Turfgrass symposium committee, Center of Turfgrass Science, Rutgers University, 2001

Editor, The Proceedings of Turfgrass Symposium, Rutgers University. 2001

Annual Conference Committee, College of Agriculture, Kansas State University, 1998-2000

Greenhouse committee, Department of Horticulture, Kansas State University, 1997 - 2000

Graduate committee, Department of Horticulture, Kansas State University, 1996 - 2000

***Other (community) services***

Principal, Hua Xia East Brunswick Chinese School, September 2004 - June 2005

**Professional Memberships:**

American Society of Agronomy

Crop Science Society of America

International Turfgrass Society

American Society of Plant Physiologist

American Society of Horticultural Science

New Jersey Golf Course Superintendent Association

## Honors and Awards:

1. Outstanding Graduate Paper Award, 1<sup>st</sup> Place Oral (Emily Merewitz) (co-author and advisor), Northeast American Society for Horticultural Science meeting, Jan 3-5, 2008.
2. Outstanding Graduate Paper Award, 3<sup>rd</sup> Place Oral (Yan Xu) (co-author and advisor), C-5 CSSA, 2007
3. Outstanding Overseas Young Scientist Fellowship, National Science Foundation of China, 2007.
4. Research Excellence and Impact Award, School of Environmental and Biological science, Rutgers University. 2007.
5. Honorary professor, Chinese Academy of Science, Jiang Su Institute of Botany. 2007.
6. Chang Jiang Scholar, Chinese Ministry of Education. First and only awardee in turfgrass science. 2006.
7. Distinguished professorship, Hebei Agricultural University, China. 2006.
8. Outstanding Graduate Paper Award, 2<sup>st</sup> Place Oral (Yan Xu) (co-author and advisor), C-5 CSSA, 2006.
9. Outstanding Graduate Paper Award, Industry award (Steve McCann) (co-author and advisor), C-5 CSSA, 2006.
10. Best Paper Award, The third annual Essay/Project Contest of “Efficient Water Management and Conservation in Irrigation Systems, Landscape or Agriculture”. Irrigation Association Education Foundation. October, 2006. (Authors: Steve McCann and Bingru Huang).
11. Research featured in Golfweek’s SuperNews Cutting Edge, June, 2006. Video clips - <http://supernewsonline.com/index.asp?clip=19>
12. Outstanding Graduate Paper Award, 1<sup>st</sup> Place (Yan Xu) (co-author and advisor), Minority Student Poster Contest, ASA-CSSA-SSSA, 2005
13. Outstanding Graduate Paper Award, 1<sup>st</sup> Place Poster (Michelle DaCosta) (co-author and advisor), C-5 CSSA, 2005
14. Outstanding Graduate Paper Award, 3<sup>rd</sup> Place Poster (Yan Xu) (co-author and advisor), C-5 CSSA, 2005
15. Fellow, Crop Science Society of America, 2004
16. Distinguished professorship, Shanghai Jiao Tong University, China, 2004
17. Fellow, American Society of Agronomy, 2003
18. Keynote speaker (invited), International Conference for Turfgrass Science in Sports Field, Athens, Greece. 2003.
19. Outstanding Graduate Paper Award, 1<sup>st</sup> place Oral (Michelle DaCosta) (co-author and advisor), C-5 CSSA, 2003
20. Outstanding Graduate Paper Award, 1<sup>st</sup> place Poster (Michelle DaCosta) (co-author and advisor), C-5 CSSA, 2003
21. Outstanding Graduate Paper Award, 2<sup>nd</sup> place Oral (Michelle DaCosta) (co-author and advisor), C-5 CSSA, 2002
22. Outstanding Graduate Paper Award, 2<sup>nd</sup> place Poster (Michelle DaCosta) (co-author and advisor), C-5 CSSA, 2002
23. Keynote speaker (invited), International Turfgrass Research Conference, Toronto, Canada, 2001.
24. Outstanding Graduate Paper Award, 2<sup>nd</sup> place Poster (Yiwei Jiang) (co-author and advisor), C-5 CSSA, 1999

25. Outstanding Graduate Paper Award, 3<sup>rd</sup> place Poster (Xiaozhong Liu) (co-author and advisor), C-5 CSSA, 1999
26. Outstanding Graduate Paper Award, 2<sup>nd</sup> place Poster (Xiaozhong Liu) (co-author and advisor), C-5 CSSA, 1998
27. Wildcat (Kansas State University) Honor Roll, 1998
28. Young Crop Scientist Award, Crop Science Society of America, 1997
29. Distinguished professorship, Shandong Agric. Univ. China, 1997
30. Alfred Sloan Fellow, 1996
31. Who's Who in the World, 1996
32. Distinguished professorship, Lanzhou University, China, 1996
33. Who's Who in the Southeast America, 1995
34. Outstanding Research Project Award, Technology Commission of Shandong Province, China. 1993.

## **Publications:**

### ***Books***

Huang, B. 2009. Turfgrass physiology and stress adaptation. Blackwells. (in preparation).

Huang, B. 2006. Plant-Environment Interaction. CRC Press.

Fry, J. and B. Huang. 2004. Applied Turfgrass Science and Physiology. John Wileys & Son Inc., New Jersey.

### ***CD-ROM:***

Hull, R. H. Liu, B. B. MaCarty, B. Huang, and F. Rossi. 2004. Turfgrass Physiology (CD-ROM). Crop Science Society of America. Madison, Wisconsin.

Fry, J., and B. Huang. 2001. Applied Turfgrass Physiology (text book in CD-ROM). Golf Course Superintendent Association of America. Lawrence, Kansas.

### ***Book Chapters: Total of 19***

Huang, B. 2008. Water use physiology of turfgrass. In: Water Conservation of Turfgrasses. University of California Riverside Press.

Huang, B. 2007. Turfgrass Water Requirements and Factors Affecting Water Usage. In: Water Quality and Water quantity Proceedings. Eds. J. Beard and M. Kenna. CAST.

DaCosta, M., and B. Huang. 2007. Physiological mechanisms of perennial grass adaptation to drought stress. In. E. De La Barrera. Biophysical Plant Ecology: Perspectives and Trends. Universal Publishers. (In press).

McCann, S.E., and B. Huang. 2007. Turfgrass drought stress physiology and irrigation management. In: Handbook of Turfgrass Management and Physiology. Ed. Mohammad Pessaraki, CRC Press.

Merewitz, E., and B. Huang. 2006. Biotechnology and genetic improvement of grass tolerance to heat/drought stress. In: Plant Stress and Biotechnology, Thangadurai D, Tang W, Song SQ (eds.), Oxford Book Company, Jaipur, India, 2007, pp. 105-125 (ISBN 978-81-89473-10-5).

Huang, B., and Y. Xu. 2006. Recent research advances in drought and heat stress physiology for turfgrass. In Che, Z. and Zhou H. eds. Research Advances in Turfgrass Science. Chinese Forestry Press, Beijing, China. Pp. 38-45.

Huang, B. 2006. Cellular membranes in plant responses to environmental stresses. In: B. Huang (ed.). Plant-Environment Interaction. CRC Press.

Bonos, S., and B. Huang. 2006. Molecular approaches to improve abiotic stresses of plants. In: B. Huang (ed.). Plant-Environment Interaction. CRC Press.

Rachmilevitch, S., M. DaCosta, and B. Huang. 2006. Physiological and biochemical indicators for abiotic stress tolerance. In: B. Huang (ed.). Plant-Environment Interaction. CRC Press.

Wu, Y., J. Ballif, and B. Huang. 2006. Drought tolerance: molecular mechanisms of hormonal regulation. In: B. Huang (ed.). Plant-Environment Interaction. CRC Press.

Huang, B., and X. Liu. 2003. Evaluation of root growth and mortality using minirhizotrons. In: VanToai (eds). Digital Imaging and Spectral Techniques: Applications to Precision Agriculture and Crop Physiology. ASA-CSSA-SSSA, Madison, WI. pp. 27-40.

Huang, B., and Y. Jiang. 2001. Physiological and biochemical responses of plants to drought and heat stress. In: M. Kang (ed.) Crop Improvement in 21<sup>st</sup> Century. Harworth Press, New York. pp. 287-300.

Huang, B. 2000. The role of root morphological and physiological characteristics in drought resistance of plants. In: R. Wilkonson (ed). Plant-Environment Interaction. Mercel Dekker. P. 39-64.

Huang, B., and D.M. Eissenstat. 2000. Root plasticity in exploiting water and nutrient heterogeneity. In: R. Wilkonson (ed). Plant-Environment Interaction. Mercel Dekker. P. 111-133.

Huang, B. 2000. Waterlogging and its interaction with other environmental factors on plant growth. In: R. Wilkonson (ed). Plant-Environment Interaction. Mercel Dekker. P. 263-282.

Huang, B., and J.D. Fry. 1999. Turfgrass Evapotranspiration. In: M.B. Kirkham (ed.). Water Use in Crop Production. Food Products Press. P. 317-334.

Huang, B. 1997. Mechanisms of plant resistance to waterlogging. In: A. Basra (ed). Mechanisms of Environmental Stress Resistance in Plants. Harwood Academic Publisher, The Netherland.

Johnson, J.W., and B. Huang. 1996. Responses of triticale and wheat to hypoxia. In: H.P. Guedes, N Darvey and V.P. Carnide (eds.). *Developments in Plant Breeding: Triticale - Today and Tomorrow*.

Moreshet, S., B. Huang, and M. Huck. 1995. Water permeability of plant roots. In: Y. Waisel et al. (ed). *Plant Roots: The Hidden Half*. 2nd. Ed. Marcel Dekker, New York.

***Refereed Journal Articles: Total of 130***

**Accepted or in Press (total of 10)**

Shaoyun Lu, Zhongcheng Wang, Yuejing Niu, Jiayi Lin, Kaiyun Yan, Zhenfei Guo, Bingru Huang. 2008. Antioxidant Responses of Radiation-Induced Dwarf Mutants of Bermudagrass to Drought Stress. *J. Am. Soc. Hort. Sci.* (accepted).

Xu, Y., T. Gianfagna, and B. Huang. 2008. Effects of SAG12-ipt expression on cytokinin production, growth and senescence of creeping bentgrass (*Agrostis stolonifera* L.) under heat stress. *Plant Growth Regulation*. (accepted June)

Huang, B and C. Xu. 2008. Identification and characterization of proteins associated with plant tolerance to heat stress. *Journal of integrative Plant Biology*. (accepted June)

Liu, X., and B. Huang. 2008. Photosynthetic acclimation to high temperatures for creeping bentgrass. *J. Plant Physiol.* (accepted May 1).

McCann, S., and B. Huang. 2008. Drought responses of Kentucky bluegrass and creeping bentgrass as affected by abscisic acid and trinexapac-ethyl. *J. Am. Hort. Sci.* 133:20-26.

McCann, S.E. and B. Huang. 2007. Evaluation of drought tolerance and avoidance traits in creeping bentgrass. *HortSci.* (Accepted in October).

Xu, Y., and B. Huang. 2007. Differential protein expression for *Agrostis* species differing in heat tolerance. *Environ. Exp. Bot.* (Accepted in October).

Xu, J., F. Belanger, and B. Huang. 2007. Identification of genes associated with heat tolerance in creeping bentgrass using differential display. *Environ. Exp. Bot.* (Accepted in August).

Huang, B. 2007. Mechanisms and Strategies for Improving Drought Resistance in Turfgrass. *Acta Horticulturae*. (in press).

Du, H., Z. Wang, and B. Huang. 2007. Differential responses of tall fescue and zoysiagrass to drought and heat stress. *Acta Horticulturae*. (in press).

**Published: 120**

2007 (13)

He, Y., and B. Huang. 2007. Protein changes during heat stress for three Kentucky bluegrass cultivars differing in heat tolerance. *Crop Sci.* 47:2513-2520.

Xu, J. J. Tian, F. Belanger, and B. Huang. 2007. Identification and characterization of an expansin gene AsEXP1 associated with heat tolerance in C<sub>3</sub> Agrostis grass species. *J. Exp. Bot.* Online access October 10.

Mahalaxmiramesh, V., Y. He, and B. Huang. 2007. Leaf Senescence and Protein Metabolism in Creeping Bentgrass Exposed to Heat Stress and Treated with Cytokinins. *J. Am. Soc. Hort. Sci.* 132:467-472.

McCann, S., and B. Huang. 2007. Effects of Trinexapac-Ethyl Foliar Application on Creeping Bentgrass Responses to Combined Drought and Heat Stress. *Crop Sci* 47:2121-2128.

DaCosta, M., and B. Huang. 2007. Changes in antioxidant enzyme activities and lipid peroxidation for bentgrass species in response to drought stress. *Journal of The American Society for Horticultural Science.* May. 132(3): p. 319-326.

Watkins, E., B. Huang, and W. A. Meyer. 2007. Tufted Hairgrass Responses to Heat and Drought Stress. *J. Amer. Soc. Hort. Sci.*, May 2007; 132: 289 - 293.

Fu, D., Bingru Huang, Yanmei Xiao, Subbaratnam Muthukrishnan and George H. Liang. Overexpression of barley *hva1* gene in creeping bentgrass for improving drought tolerance. *Plant Cell Reports.* 26: 467-477.

Xu, Y., and B. Huang. 2007. Heat-induced leaf senescence and hormonal changes for thermal bentgrass and turf-type bentgrass species differing in heat tolerance. *J. Am. Hort. Sci.* 132(2):185-192.

DaCosta, M. and B. Huang. 2007. Drought survival and recuperative ability of bentgrass associated with abscisic acid and cytokinin production. *J. Am. Hort Sci.* 132(1):60-66.

Rachmilevitch, S., Y. Xu, M.A. Gonzalez-Meler, B. Huang, and H. Lambers. 2007. Cytochrome and alternative pathway activity in roots of thermal and non-thermal Agrostis species in response to high soil temperatures. *Physiologia Plantarum.* 129:163-170.

Lyons, E.M., J. Pote, M. DaCosta, and B. Huang. 2007. Whole-plant carbon relations and root respiration associated with root tolerance to high soil temperature for Agrostis grasses. *Environ. Exp. Bot.* 59:307-313.

Fu, J., J. Fry, and B. Huang. 2007. Growth and Carbon Metabolism of Tall Fescue and Zoysiagrass as Affected by Deficit Irrigation. *HortScience* 42:378-381.

Fu, J., J. Fry, and B. Huang. 2007. Tall Fescue Rooting as Affected by Deficit Irrigation *HortScience* 43:688-691.

2006 (8)

Pote, J., Z. Wang, and B. Huang. 2006. Timing and temperature of physiological decline in creeping bentgrass. *J. Am. Hort. Sci.* 131:608-615.

DaCosta, M., and B. Huang. 2006. Osmotic adjustment associated with variation in bentgrass tolerance to drought stress. *J. Am. Soc. Hort. Sci.* 131:338-344.

DaCosta, M., and B. Huang. 2006. Changes in carbon partitioning and accumulation patterns during drought and recovery for colonial bentgrass, creeping bentgrass, and velvet bentgrass. *J. Am. Soc. Hort. Sci.* 131:484-490.

DaCosta, M. Huang, B. 2006. Deficit irrigation effects on water use characteristics of bentgrass species. *Crop Sci.* 46:1779-1786.

Xu, Q., and B. Huang. 2006. Seasonal Changes in Root Metabolic Activity and Nitrogen Uptake for Two Cultivars of Creeping Bentgrass. *HortScience.* 41:822-826.

DaCosta, M. Huang, B. 2006. Minimum water requirements for creeping, colonial, and velvet bentgrasses under fairway conditions. *Crop Science.* 46: 81-89.

Rachmilevitch, S. Lambers, H. Huang, B. 2006. Root respiratory characteristics associated with plant adaptation to high soil temperature for geothermal and turf-type *Agrostis* species. *Journal of Experimental Botany* 57: 623-631.

Rachvillesmitch, S., Bingru Huang, and Hans Lambers. 2006. Assimilation and allocation of carbon and nitrogen of thermal and nonthermal *Agrostis* species in response to high soil temperature. *New Phytologist.* 170:479-490.

2005 (10)

Larkindale, J. Huang, B. R. 2005. Effects of abscisic acid, salicylic acid, ethylene and hydrogen peroxide in thermotolerance and recovery for creeping bentgrass. *Plant Growth Regulation.* 47: 17-28.

He, Y., X. Liu, and B. Huang. 2005. Changes in protein, amino acid and protease activity associated with heat injury in creeping bentgrass. *J. Am. Soc. Hort.* 130:842-847.

He, Y., X. Liu, and B. Huang. 2005. Protein changes in response to heat stress in acclimated and nonacclimated creeping bentgrass. *J. Am.. Soc. Hort.* 130:521-526.

Liu, X., and B. Huang. 2005. Root physiological factors involved in creeping bentgrass response to high soil temperatures. *Exp. Env. Botany.* 53:233-245.

Zhou, B., Z. Guo, J. Xing, and B. Huang. 2005. Nitric acid is involved in abscisic acid induced antioxidant activities in *Stylosanthes guianensis*. *J. Exp. Bot.* 56:3223-3228.

He, Y., Y. Liu, W. Cao, M. Huai, and B. Huang. 2005. Effects of salicylic acid on heat tolerance associated with antioxidant metabolism in Kentucky bluegrass. *Crop Sci.* 45:988-995.

Luo, Y.Y., T.J. Giangfagna, H.W. Janes, B. Huang, and Z. Wang. 2005. Expression of the *ipt* gene with the AGPase S1 promoter in tomato results in unbranched roots and delayed leaf senescence. *Plant Growth Regulation.* 47:47-57.

Huang, B., and Z. Wang. 2005. Physiological recovery of Kentucky bluegrass from drought stress. *International Turfgrass Society Research Journal.* 10:867-873.

Huang, B., and Z. Wang. 2005. Genotypic variation and physiological factors associated with heat tolerance for Kentucky bluegrass. *International Society Turfgrass Research Journal.* 10:559-564.

Wang, Z., S. Yin, and B. Huang. 2005. Effects of *Streptomyces micflacas* extract on heat tolerance of tall fescue. *International Turfgrass Society Research Journal.* 10:904-909.

2004 (13)

Wang, Z., Q. Xu, and B. Huang. 2004. Endogenous cytokinin levels and growth responses to extended photoperiods for creeping bentgrass under heat stress. *Crop Sci.* 44:209-213.

Fu, J. J.D. Fry, and B. Huang. 2004. Minimum water requirements of four turfgrasses in the transition zone. *HortScience.* 39:1740-1744.

Liu, X., and B. Huang. 2004. Changes in fatty acid composition and saturation level for creeping bentgrass exposed to high soil temperature. *J. Am. Soc. Hort.* 129:795-801.

DaCosta, M., Z. Wang, and B. Huang. 2004. Physiological adaptation of Kentucky bluegrass to localized soil drying. *Crop Sci.* 44:1307-1314.

Wang, Z., and B. Huang. 2004. Physiological recovery of Kentucky bluegrass from simultaneous drought and heat Stress. *Crop Sci.* 44:1729-1736.

Abraham, E., B. Huang, S. Bonos, and W. Meyer. 2004. Evaluation of drought resistance for Texas Bluegrass, Kentucky bluegrass and their hybrids. *Crop Sci.* 44:1746-1753.

Larkindale, J., and B. Huang. 2004. Thermotolerance and antioxidant systems in *Agrostis stolonifera*: involvement of salicylic acid, abscisic acid, calcium, hydrogen peroxide, and ethylene. *J. Plant Physiol.* 161:405-413.

Wang, Z., B. Huang, S. Bonos, and W.A. Meyer. 2004. Abscisic acid accumulation in relation to drought tolerance in Kentucky bluegrass. *HortScience* 39:1133-1137.

Xu, Q., and B. Huang. 2004. Effects of extended daylength on shoot growth and carbohydrate metabolism for creeping bentgrass exposed to heat stress. *J. Am. Hort. Sci.* 129:193-197.

Xu, Q., and B. Huang. 2004. Antioxidant metabolism associated with summer leaf senescence and turf quality decline for creeping bentgrass. *Crop Sci.* 44:553-560.

Larkindale, J., and B. Huang. 2004. Changes of lipid composition and saturation level in leaves and roots for heat-stressed and heat-acclimated creeping bentgrass (*Agrostis stolonifera*). *Exp. Environ. Bot.* 51:57-67.

Huang, B. 2004. Recent advances in drought and heat stress physiology of turfgrass (invited). *Acta Horticulturae* 661:185-192.

Fu, J., and B. Huang. 2004. Leaf characteristics associated with drought resistance in tall fescue cultivars. *Acta Horticulturae.* 661:233-240.

2003 (10)

Abraham E.M., B. Huang, W.A.Meyer, and S.A.Bonos.2003. Physiological indicators for drought resistance in *Poa arachnifera* X *Poa pratensis* hybrids. *Vortrage Pflanzenzuchtung* 59:301-307.

Wang, Z., J. Pote, B. Huang. 2003. Responses of cytokinins, antioxidant enzymes, and lipid peroxidation in shoots of creeping bentgrass to high root-zone temperatures. *J. Am. Soc. Hort. Sci.* 128:648-655.

Wang, Z, B. Huang, and Q. Xu. 2003. Genotypic variation in abscisic acid accumulation, water relations, and gas exchange for Kentucky bluegrass exposed to drought stress. *J. Am. Hort Sci.* 128:349-355.

Wang, Z. B. Huang, Q. Xu. 2003. Effects of abscisic acid on drought responses of Kentucky bluegrass. *J. Am. Soc. Hort. Sci.* 128: 36-41.

Xu, Q., B. Huang, and Z. Wang. 2003. Differential effects of lowering day and night soil temperatures on shoot and root growth of creeping bentgrass. *HortScience* 38:449-454.

Liu, X., and B. Huang. 2003. Mowing height effects on summer turf growth and physiological activities for two creeping bentgrass cultivars. *HortScience* 38:444-448.

Fu, J., and B. Huang. 2003. Effects of foliar application of nutrients on heat tolerant of creeping bentgrass. *J. Plant Nutrition*. 26:81-96.

Xu, Q., and B. Huang. 2003. Seasonal changes in carbohydrate accumulation for two creeping bentgrass cultivars. *Crop Sci*. 43:266-271.

Fu, J., and B. Huang. 2003. Growth and physiological responses of creeping bentgrass to elevated night temperature. *HortSci*. 38:299-301.

Huang, B. and X. Liu. 2003. Summer root decline: Production and mortality for four cultivars of creeping bentgrass. *Crop Sci*. 43:258-265.

#### 2002 (6)

Huang, B., and Q. Xu. 2002. Lowering day or night soil temperatures alleviated heat injury in creeping bentgrass. *Science and Golf*. 4:598-608.

Xu, Q., B. Huang, and Z. Wang. 2002. Photosynthetic responses of creeping bentgrass to reducing root-zone temperature at supraoptimal air temperature. *J. Am. Hort. Sci*. 127:754-758.

Liu, X., and B. Huang. 2002. Mowing effects on root production, turnover, and mortality in two creeping bentgrass cultivars. *Crop Sci*. 42:1241-1250.

Liu, X., B. Huang, and G. Banowetz. 2002. Cytokinin effects on creeping bentgrass responses to heat stress I. Shoot and root growth. *Crop Sci*. 42:457-465.

Liu, X., and B. Huang. 2002. Cytokinin effects on creeping bentgrass responses to heat stress II. Antioxidant enzyme activities and lipid peroxidation. *Crop Sci*. 42:466-472.

Jiang, Y., and B. Huang. 2002. Protein alterations in tall fescue in response to drought stress and abscisic acid. *Crop Sci*. 42:202-207.

#### 2001 (13)

Sang, YM, Zheng S, Li W, Huang B, and Wang X. 2001. Regulation of plant water loss by Phospholipase D. *Plant J*. 28:135-144.

Xu, Q., and B. Huang. 2001. Lowering soil temperature under supraoptimal air temperature improved shoot and root growth in creeping bentgrass. *Crop Sci*. 41:1878-1883.

Liu, X., and B. Huang. 2001. Seasonal changes and genetic variation in creeping bentgrass performance. *HortSci*. 36:1131-1135.

Huang, B., and J. Fu. 2001. Growth and physiological responses of tall fescue to surface soil drying. *Int. Turfgrass Soc. Res. J.* 9:291-296.

Jiang, Y., and B. Huang. 2001. Effects of calcium on physiological responses of tall fescue and Kentucky bluegrass to drought stress. *Int. Turfgrass Soc. Res. J.* 9:297-302.

Xu, Q. and B. Huang. 2001. Morphological and physiological characteristics associated with heat tolerance in creeping bentgrass. *Crop Sci.* 41:127-133.

Huang, B. 2001. Nutrient accumulation and associated root characteristics in response to drought stress in tall fescue. *HortSci.* 36:148-152.

Huang, B., X. Liu, and Q. Xu. 2001. Supraoptimal soil temperature induced oxidative stress in creeping bentgrass cultivars differing in heat tolerance. *Crop Sci.* 41:430-435.

Fu, J., and B. Huang. 2001. Involvement of antioxidants and lipid peroxidation in the adaptation of two cool-season grasses to localized drought stress. *Env. and Exp. Bot.* 45:105-114.

Jiang, Y., and B. Huang. 2001. Drought and heat stress injury of two cool-season turfgrasses in relation to antioxidant metabolism and lipid peroxidation. *Crop Sci.* 41:436-442.

Jiang, Y., and B. Huang. 2001. Physiological responses to heat stress alone or in combination with drought: A comparison between tall fescue and perennial ryegrass. *HortSci.* 36:682-686.

Jiang, Y., and B. Huang. 2001. Osmotic adjustment associated with drought-preconditioning enhanced heat tolerance in Kentucky bluegrass. *Crop Sci.* 41:1168-1173.

Jiang, Y., and B. Huang. 2001. Effects of calcium and antioxidant metabolism and water relations associated with heat tolerance in two cool-season grasses. *J. Exp. Bot.* 355:341-349.

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*Nov. 4-8, New Orleans. 2007.*

*Antioxidant and Protein Metabolism Associated with Genetic Variation in Salinity Tolerance among Cool-season Turfgrass Species.*

**Mahalaxmi Veerasamy**

*Antioxidative Response of Transgenic Creeping Bentgrass Overexpressing Cytokinin Under Heat Stress.*

**Yan Xu** and Bingru Huang. Rutgers University, 59 Dudley Rd., New Brunswick, NJ 08901

*Cultivar Variation in Rooting Characteristics Associated with Drought Tolerance in Creeping Bentgrass.*

**Stephen McCann** and Bingru Huang

*Drought Responses of Kentucky Bluegrass and Creeping Bentgrass as Affected by Abscisic Acid and Trinexapac-ethyl.*

**Stephen McCann**

*Genetic Variation in Rooting of Kentucky Bluegrass (*Poa pratensis* L.) Cultivars and Selections Under Heat Stress.*

**Robert Shortell**, William A. Meyer, Bingru Huang, and Stacy A. Bonos.

*Identification of Heat Stress Responsive Genes in a Thermal Bentgrass Species.*

**Jiang Tian**<sup>1</sup>, Faith Belanger<sup>2</sup>, and Bingru Huang<sup>2</sup>.

*Identification of Quantitative Trait Loci (QTL) Associated with Drought Tolerance in Creeping Bentgrass.*

**Emily Merewitz**<sup>1</sup>, Bingru Huang<sup>2</sup>, Stacy A. Bonos<sup>1</sup>, and Faith Belanger<sup>2</sup>

*Lipid Profiling Associated with Root Thermotolerance in *Agrostis* Species Contrasting in Heat Tolerance.*

**Bingru Huang** and Shimon Rachmilevitch.

*Proteomic Alteration Related to Cytokinin Regulation of Leaf Senescence and Heat Tolerance in Transgenic Creeping Bentgrass.*

**Yan Xu** and Bingru Huang

Monday, November 10-13, 2006 – Indianapolis

*Characteristics of SAG12-IPT Transgenic Creeping Bentgrass.*

**Yan Xu**, Jinpeng Xin, Eddie Zhang, Thomas Gianfagna, and Bingru Huang.

*Drought Tolerance and Water-Saving Characteristics of Kentucky and Hybrid Bluegrasses.*

Bingru Huang and **Emily B. Merewitz**.

*Effects of Exogenous Cytokinin and Ethylene Inhibitor on Heat-Induced Leaf Senescence for Creeping Bentgrass.*

**Yan Xu** and Bingru Huang.

*Efficient Irrigation Scheduling and Crop Water Stress Index for Fairway Bentgrass.*

**Stephen McCann** and Bingru Huang

*Exploring Mechanisms of Heat Tolerance in Perennial Grass Species from Whole-plant to Molecular Biology.*

**Bingru Huang**,

*Heat-inducible Gene Expression Associated with Stress Tolerance in Agrostis species.*

**Bingru Huang**, Dept. of Plant Biology and Pathology, Rutgers University, New Brunswick, NJ 08901, Jichen Xu, Rutgers University, Department of Plant Biology and Pathology, Rutgers University, New Brunswick, NJ 08901, and Faith Belanger, Department of Plant Biology and Pathology, Rutgers University, New Brunswick, NJ 08901-8520.

*Physiological Effects of Trinxapac-ethyl on Bentgrass Adaptation to Summer Stress.*

**Stephen E. McCann** and Bingru Huang.

*Physiological Mechanisms Associated With Bentgrass Species Variation in Drought Resistance.*

**Michelle DaCosta** and Bingru Huang.

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Johnson, J. W., B. Huang, J. E. Box, and D. S. NeSmith. 1995. Sensitivity to ethylene of wheat genotypes differing in waterlogging tolerance. *Agronomy Abstract*. P. 103.

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Huang, B., G. B. North, and P. S. Nobel. 1993. Carbon balance and water relations of rhizosphere for cacti. *Abstract of Ecological Society of America*. p.102.

Huang, B. and P. S. Nobel. 1992. Changes in water relations and structure for roots of *Agave deserti* during drought-induced abscission. *Abstract of Ecological Society of America*. p. 214.

Huang, B. and P. S. Nobel. 1992. Hydraulic conductance and its components of roots, with emphasis on desert succulents. *Agronomy Abstract*. p.327.

Huang, B., H. M. Taylor and B. L. McMichael. 1991. Empirical modeling wheat root growth and development as affected by temperature and plant age. *Agronomy Abstract*. p.19.

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***Published Research Reports: - 25***

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Huang, Bingru; Liu, Xiaozhong; Xu, Qingzhang. 2005. The importance of carbon balance and root activity in creeping bentgrass tolerance to summer stress. *USGA Turfgrass and Environmental Research Online*. Vol. 4, No. 24. p. [1-5].

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Huang, B. 2001. Determination of critical thresholds of soil temperature and heat accumulation capacity controlling summer bentgrass decline for various creeping bentgrass cultivars Turfgrass and Environmental Research Summary. USGA. p. 18.

Jiang, Y., and B. Huang. 2000. Irrigation management to improve heat stress tolerance of Kentucky bluegrass. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 855:53-54.

Xu, Q., and B. Huang. 2000. Seasonal changes in shoot and root growth and carbohydrate metabolism of creeping bentgrass. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 855:55-57.

Fu, J., and B. Huang. 2000. Alleviation of heat injury in creeping bentgrass with a biostimulant (CytoGro) and mineral nutrients. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 855:58-60.

Liu, X., and B. Huang. 2000. Cytokinin effects on shoot and root growth of creeping bentgrass in response to heat stress. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 855:63-66.

Liu, X. and B. Huang. 1999. Seasonal changes and cultivar variations in shoot and root growth of creeping bentgrass. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 836:46-47.

Liu, X. and B. Huang. 1999. Effects of mowing height and irrigation on creeping bentgrass. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 836:48-49.

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- Huang, B. 1999. Creeping bentgrass responses to increasing temperatures. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 836:53-56.
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- Xu, Q., B. Huang, and J.D. Fry. 1999. Effects of root-zone temperature modifications on turf growth and carbohydrate accumulation in creeping bentgrass. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 836:57-59.
- Liu, X. and B. Huang. 1998. Variations in summer performance of bentgrass cultivars. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 812: 44-46.
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- Huang, B. 1998. Responses of buffalosgrass and zoysiagrass to surface soil drying. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 812:52-56
- Huang, B., X. Liu, and J.D. Fry. 1997. Effects of high temperature and poor soil aeration on creeping bentgrass. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 788:16-19.
- Huang, B., B. Wang, and J.D. Fry. 1997. Responses of turf-type and dwarf-type tall fescue cultivars to drought stress and subsequent rewatering. Turfgrass Research Summary. Kansas Agricultural Experiment Station. Report of Progress. 788:20-24.

***Seminar Presentations and Lectures:***

**Invited: - 76**

Advanced stress management strategies for cool-season turfgrass. International Golf Conference and Show, Orlando, Florida, February 2008.

Writing and publishing scientific papers. Institute of Genetics, Chinese Academy of science, Chain. August 2007.

Genetic transformation for improving heat tolerance in turfgrass. Shandong University, China. July 2007.

Exploring mechanisms of heat tolerance from whole-plant to molecular biology, Southern China Agricultural University, China. July 2007.

Advance in plant stress biotechnology. Shandong Agricultural University, China, July 2007.

Keynote address: Water conservation strategies in cool-season turfgrass. 2<sup>nd</sup> International Turfgrass Conference of Sports Field. Beijing, China. June 2007.

Dealing with summer bentgrass decline. Midwest Association of Golf Course superintendents. Chicago, March, 2007.

Advanced stress management strategies for cool-season turfgrass. International Golf Conference and Show, Anaheim, CA, February 2007.

Advanced stress management strategies for cool-season turfgrass (8-hour lecture). Golf Course Association of Maine. Portland, Maine, January, 2007.

Exploring heat tolerance mechanisms on perennial grass. ASA-CSSSA-SSSA annual meeting, November, 2006. Indianapolis, IN.

Dealing with summer stress. NJ Turfgrass Exp. Atlantic City, December, 2006.

Managing turfgrass from the roots up. Wisconsin Golf Turf Symposium. November, 2006.

Keynote address: Root stress physiology and management. Wisconsin Golf Turf Symposium. November, 2006.

Recent research in heat stress physiology and management of creeping bentgrass. Rutgers Geiger Turfgrass Symposium. October, 2006. New Brunswick.

Research methodology in turfgrass stress physiology. Shanghai Jiao Tong University, July 2006.

Writing and publishing scientific papers. Shandong Agricultural University, July 2006.

Genetic transformation of creeping bentgrass for increased cytokinin synthesis and improving heat tolerance. International meeting of Plant Growth Regulation Society. Laval, Canada. April, 2006.

Water conservation strategies in turfgrass. Water Quantity and Quality Workshop. Los Vegas, March, 2006.

Managing soil moisture on fairways. TurfLinks Educational Symposium. Boston. January, 2006.

Efficient Irrigation management for water conservation. NJ Turf Expo. December, 2005.

A holistic approach to mechanisms of cool-season grass tolerance to heat stress, Departmental seminar, Department of Agronomy, Purdue University, October 2005.

Use of plant growth regulator in turfgrass management. New England Turfgrass Expo. March 2005.

Water conservation and efficient irrigation management for fairway bentgrass. New Jersey Irrigation Workshop. February 2005.

Applied Turfgrass Physiology (One-day lecture). International Golf Conference and Show. San Diego, CA, February 2005.

Mechanisms of turfgrass tolerance to drought and heat stress, Departmental seminar, Department of Horticulture, Cornell University, September 2004.

Keynote address: Current trends and future perspectives in turfgrass stress physiology. 1<sup>st</sup> Shanghai International Turfgrass Forum. Shanghai Jiao Tong University, China, August 2004

Managing summer bentgrass decline. 1<sup>st</sup> Shanghai International Turfgrass Forum. Shanghai Jiao Tong University, China. August 2004.

Recent advances in turfgrass stress physiology. Beijing Forestry University. China. August 2004.

Current research trends in plant stress physiology and biotechnology. Shandong Agricultural University, China. August 2004.

Current trends and future perspectives in turfgrass research. Hebei Agricultural University, China. August 2004.

Turfgrass stress physiology: Current trends and future perspectives. Huazhong Agricultural University, China. August 2004.

Water conservation and irrigation management in cool-season turf. Recent Advances in Turfgrass Science Workshop. Northeast Branch of ASA-SSSA. Boardentown, NJ, July 2004.

Applied Turfgrass Physiology (One-day lecture). International Golf Conference and Show. San Diego, CA, February 2003.

Use of plant growth regulators in turfgrass stress management. New Jersey Turfgrass Conference, December, 2003.

Physiological mechanisms of drought and heat tolerance of cool-season grasses. Clemson University, September, 2003.

Keynote address: Recent advances in turfgrass stress physiology. 1<sup>st</sup> International Conference of Turfgrass Science for Sports Fields. Athens, Greece, June, 2003.

Water conservation and irrigation management in landscape turf. NJ Landscape Association, Meadowlands, NY, February, 2003.

Applied Turfgrass Physiology (One-day lecture). International Golf Conference and Show. Atlanta, Georgia, February 2003.

Irrigation and water conservation in turfgrass management. New Jersey Turfgrass Conference, December, 2002.

Summer stress management for cool-season grasses. New Jersey Turfgrass Conference, December, 2002.

Minirhizotron techniques in the evaluation of root growth. Research Center in Mexican Department of Agriculture, Culiacan, Mexico, April, 2002.

Applied Turfgrass Physiology (One-day lecture). Nebraska Golf Course Superintendent Association, March 2002.

Summer bentgrass decline: physiology and management. Advanced Turfgrass Management Symposium, Rutgers University, NJ. March 2002.

Applied Turfgrass Physiology (One-day lecture). International Golf Conference and Show. Orlando, Florida, February 2002.

Irrigation management to reduce water use and improve stress tolerance in turfgrass. Turflink Educational Symposium, Boston, Mass. February 2002.

Physiology and management of summer bentgrass decline (four-hour lecture). Toyo Green Annual Turfgrass Symposium. February 2002.

Methods and techniques to evaluate stress in turfgrass (one-day workshop). Toyo Green Annual Turfgrass Symposium. February 2002.

Hormonal regulation of turfgrass tolerance to drought stress. Rutgers Turfgrass Symposium. January, 2002.

Applied Turfgrass Physiology (One-day lecture). Ohio Golf Conference and Show. Cincinnati, Ohio, January 2002.

Managing summer bentgrass decline. New Jersey Turfgrass Expo. December 2001.

Drought and heat stress physiology of turfgrasses. New Jersey Turfgrass Expo. December 2001.

Keynote address: Current and Future Trends of Turfgrass Research. International Turfgrass Conference. Toronto, Canada, July 2001.

Irrigation management for water conservation and better stress tolerance. Turfgrass Producers International Symposium. Toronto, Canada. July, 2001.

Graduate training in plant physiology. Workshop sponsored by Rockefeller Foundation. Providence, RI, July 2001.

Applied Turfgrass Physiology (One-day lecture). Arizona Golf Course Superintendent Association, Phoenix, March 2001.

Applied Turfgrass Physiology (One-day lecture). International Golf Conference and Show. Dallas, Texas, February 2001.

Dealing with summer bentgrass decline: why and how? Proceedings of the tenth anniversary Rutgers turfgrass symposium. Rutgers University. January 2001.

Physiology and management of summer bentgrass decline. Turfgrass Conference of Kansas Golf Course Superintendent Association, Kansas City, Kansas, January 2001.

Applied Turfgrass Physiology (One-day lecture). Oklahoma Golf Course Superintendent Association, Oklahoma City, January, 2001.

Summer bentgrass decline: from root perspective. Annual Conference of Myerscough Turfgrass Foundation. England, November, 2000.

Applied Turfgrass Physiology (One-day lecture). Golf Course Superintendent of America Conference and Show. New Orleans, February, 2000.

Technique and Methods in Stress Physiology Research (Half-day lecture). Academy of Agricultural Science in Tianjin, China. June, 2000.

Physiological mechanisms of cool-season turfgrass adaptation to high temperature (Half-day lecture). Academy of Agricultural Science in Tianjin, China. June, 2000.

Carbohydrate metabolism and lipid Peroxidation in relation to heat tolerance in creeping bentgrass. Graduate School, Chinese Academy of Agricultural Science, China, June, 2000.

Managing turfgrass from the roots up. 70<sup>th</sup> Annual Michigan Turfgrass Conference. January, 2000.

Evaluation of environmental factors affecting turf growth. 70<sup>th</sup> Annual Michigan Turfgrass Conference. January, 2000.

Root are gone in the summer: Where and why? 70<sup>th</sup> Annual Michigan Turfgrass Conference. January, 2000.

Root characteristics associated with drought resistance. Plant Physiology program, Penn State University, January, 2000.

Soil aeration effects on root growth and activities. Seedling establishment symposium in International Society of Horticultural Science, Roanoke, Virginia. May, 1999.

Environmental and physiological factors influencing creeping bentgrass summer performance. International Golf Course Conference. Anaheim, CA. February, 1999.

Applied Turfgrass Physiology (One-day lecture). Golf Course Superintendent of America Conference and Show. New Orleans, February, 1998.

Research methodology in stress physiology. Chinese Academy of Science, December, 1997.

Current studies in plant stress physiology in the U.S. Shandong Agricultural University and China Agricultural University, China. December, 1997.

Physiological mechanisms of stress tolerance in plants. Shandong Agricultural University and China Agricultural University, China. December, 1997.

Research methodology in stress physiology; cultural practices in cool-season turfgrass management. Shandong Agricultural University and China Agricultural University, China. December, 1997.

Summer Bentgrass Decline. Lake Hefner Golf Club, Oklahoma City, Oklahoma. March, 1997.

Root mortality and plasticity in relation to drought resistance. Root Biology Symposium, C-2 Division, ASA Annual Meeting, Anaheim, California, 1997.

Four-day lecture on stress physiology in Lanzhou University, China. June, 1996.

Root hydraulic conductivity and its components, with emphasis on desert succulents. The Rhizosphere Dynamics Symposium, C-2 Division, ASA Annual Meeting, Minneapolis, Minnesota, 1994.

Hydraulic and structural changes for lateral roots of two desert succulents in response to soil drying and rewetting. The Katherine Easu Symposium, University of California, Davis, 1994.

Hydraulic conductance and its components of roots, with emphasis on desert succulents. Root symposium in memory of Dr. Howard Taylor. Annual meeting of Agronomy Society of America. 1992.

Voluntary:

Physiological recovery of Kentucky bluegrass from drought stress. International Turfgrass Conference. Wales, UK. July 2005.

Acclimation of leaf photosynthesis and Rubisco activity and activation to heat stress in creeping bentgrass. Annual meeting of ASA-SSSA-CSSA, Seattle, WA. November 2004.

Heat tolerance mechanisms in cool-season turfgrasses. Rutgers Turfgrass Symposium. January 2004.

Root factors controlling creeping bentgrass response to high soil temperatures. Annual meeting of ASA-SSSA-CSSA, Denver, CO, November, 2003.

Changes in membrane lipid composition in relation to heat tolerance in creeping bentgrass. Annual meeting of ASA-SSSA-CSSA, Denver, CO, November, 2003.

Mowing effects on creeping bentgrass summer performance. Rutgers Turfgrass Field Day, July 2003.

Minimum water requirements for bentgrass fairways. Rutgers Turfgrass Field Day, July 2003.

Leaf characteristics associated with drought tolerance for tall fescue. 1<sup>st</sup> International Conference of Turfgrass Science for Sports Field. Athens, Greece, June, 2003.

Determination of minimum water requirements of three bentgrass species. Turfgrass Field Day, August 2002.

Cultivar variations and mowing effects in summer performance of creeping bentgrass. Turfgrass Filed Day, August, 2002.

Lowering soil temperature alleviates heat injury in creeping bentgrass. World Scientific Congress of Golf. St. Andrews, Scotland, July 2002.

Hormonal regulation of drought tolerance in cool-season turfgrass Source *The Eleventh Annual Rutgers Turfgrass Symposium*. January 2002.

Root production, growth, and mortality of creeping bentgrass as affected by mowing height Source *2001 Annual Meeting of ASA/CSSA/SSSA*. October 2001.

Evaluation of root growth for tall fescue cultivars using minirhizotron imaging system. Turfgrass Field Day. August 2001.

Root growth of creeping bentgrass as effected by bacteria and mycorrhizal infection. Turfgrass Field Day. August 2001.

Effects of root-zone cytokinin application on creeping bentgrass tolerance to heat stress. Annual meeting of American Society of Agronomy. Minneapolis, Minnesota. October 2000.

Root mortality and nutrient uptake of creeping bentgrass in response to differential root and shoot temperatures. Annual meeting of American Society of Horticultural Science. Orlando, FL. July, 2000.

Root characteristics and drought resistance. Linking root biology to crop performance workshop. Annual meeting of American Society of Horticultural Science, Minneapolis, Minnesota, July, 1999.

Summer bentgrass decline as affected by mowing and irrigation. Annual meeting of American Society of Agronomy. Salt Lake City, Utah. October, 1999.

Genetic and seasonal variation in turf and root growth of creeping bentgrass. Annual meeting of American Society of Agronomy. Salt Lake City, Utah. October, 1999.

Agrobacterium-mediated transformation of creeping bentgrass. Annual meeting of American Society of Agronomy. Salt Lake City, Utah. October, 1999.

Tips for helping your grass survive the summer. 49<sup>th</sup> Conference of Kansas Turfgrass Foundation. December, 1999.

Keeping cool about it: Managing soil temperatures to maintain healthy bentgrass greens. 49<sup>th</sup> Conference of Kansas Turfgrass Foundation. December, 1999.

Gas exchange and water relations of diverse tall fescue cultivars in response to drought stress. Annual meeting of American Society of Horticultural Science. Minneapolis, Minnesota, July, 1999.

Carbon metabolism of tall fescue and Kentucky bluegrass as affected by drought stress. Annual meeting of American Society of Agronomy. Salt Lake City, Utah. October, 1999.

Environmental stress tolerance mechanisms in turfgrass. Annual NCR Turfgrass Discussion Group meeting, Ames, Iowa. June, 1998.

Temperature effects on carbohydrate metabolisms and root activities in creeping bentgrass". Annual meeting of Agronomy Society of America. Baltimore, Maryland, October, 1998.

Antioxidant enzyme activities in relation to heat tolerance in creeping bentgrass. Annual meeting of Agronomy Society of America. Baltimore, Maryland, October, 1998.

Water relations and root activity of buffalograss and zoysiagrass in response to localized drought stress. Annual meeting of Agronomy Society of America. Baltimore, Maryland, October, 1998.

Managing creeping bentgrass summer decline. Kansas Turfgrass Field Day, August, 1998.  
Greens going south: here is why. Kansas Turfgrass Conference. Topeka. December, 1998.

Drought tolerance diversity: how and why. Kansas Turfgrass Conference. Topeka. December, 1998.

Root spatial distribution and activities of seven turfgrasses in response to localized drought stress". The 8<sup>th</sup> International Turfgrass Research Conferences. Sydney, Australia, July, 1997.

Physiological responses of creeping bentgrass to high temperature and poor soil aeration". Annual meeting of Agronomy Society of America. Anaheim, CA. October, 1997.

Using minirhizotron imaging systems to evaluate turfgrass rooting". Kansas Turfgrass Field Day, Wichita, June, 1997.

Summer management of creeping bentgrass". Kansas Turfgrass Field Day, Manhattan, September, 1997.

Stress tolerance: managing turf from ground up". Kansas Turfgrass Conference. Topeka. December, 1997.

Managing creeping bentgrass summer decline". Kansas Turfgrass Conference. Topeka. December, 1997.

Carbon relations of two wheat genotypes as affected by hypoxia. Annual meeting of Agronomy Society of America. Cincinnati, IN. October, 1996.

Response of wheat genotypes to root-zone CO<sub>2</sub> enrichment. Annual meeting of Agronomy Society of America. 1995.

Sensitivity to ethylene of wheat genotypes differing in waterlogging tolerance. Annual meeting of Agronomy Society of America. 1995.

Biomass partitioning and root development of peanut in response to shading. Annual meeting of Agronomy Society of America. 1994.

Genotypic variation in physiological and anatomical responses to hypoxia. Annual meeting of Agronomy Society of America. 1994.

Physiological and growth responses of wheat seedlings to waterlogging. Annual meeting of Agronomy Society of America. 1993.

Carbon balance and water relations of rhizosphere for cacti. Abstract of Ecological Society of America. Annual meeting of Agronomy Society of America. 1993.

Changes in water relations and structure for roots of *Agave deserti* during drought-induced abscission. Abstract of Ecological Society of America. Annual meeting of Agronomy Society of America. 1992.

Empirical modeling wheat root growth and development as affected by temperature and plant age. Annual meeting of Agronomy Society of America. 1991.

Wheat root morphological development as affected by temperature. Annual meeting of Agronomy Society of America. 1990.

## Teaching

### *Courses taught*

Advanced Plant Physiology, 2005 – present, Graduate course, Rutgers  
Plant Physiology, 2001- present, Undergraduate course, Rutgers  
Plant Biology Seminar, 2002-2003, Graduate students, Rutgers  
Turfgrass stress physiology 2001- present, Rutgers Professional Golf Turf Management School  
Turfgrass Science 1996-2000, Graduate and undergraduate students, Kansas State University  
Biology, 1994-1995, Undergraduate students, Mercer University, GA  
Environmental Science, 1995, Undergraduate students, Mercer University, GA  
Crop Physiology, 1987-1988, Undergraduate students, Shandong Agric. Univ., China.

### *Undergraduate Advising*

#### Undergraduate students:

2002 - present, Advisor for undergraduate students majored in turfgrass science. Rutgers University.

1996-2000, Advisor for over 50 undergraduate students in turfgrass science each year, Kansas State University.

#### Undergraduate Independent research

Chirst Hendrikson, 2005 – 2006. Effects of plant growth regulators on turfgrass growth and drought tolerance.

John Jeong, 2004-2005. Effects of wetting agents on turfgrass growth.

### *Graduate advising*

#### 2007 – present: Director, Graduate Program in Plant Biology

#### Graduate students:

##### *advisor or co-advisor*

Tim Sibicky, MS/Ph.D. in progress

Guillaume Gregoire, Ph.D. in progress

Emily Merewitz, Ph.D. in progress

Yan Xu, Ph.D. in progress

Steve McCann, Ph.D. 2007

Michelle Dacosta, Ph.D. 2006

John Pote, Ph.D. in complete 2005

Daolin Fu, Ph.D., 2003

Jinmin Fu, Ph.D., 2003.

Tina Yu, Ph.D., Ph.D, 2001

Yiwei Jiang, Ph.D., 2001

Xiaozhong Liu, Ph.D., 2000

#### Post doctoral trainees and visiting scientists:

Yan Zhang, 2008 – present (post doc.)

Aifang Yang, 2007 – present (visiting scholar)

Chenping Xu, 2007 – present (post doc.)

Cuiyue Liang, 2007 (visiting student)

Jiag Tian, 2006 – 2007 (post doc.)

Maham M., 2006 – 2007 (post doc.)

Xuju Bian, 2006 (visiting scientist)

Jichen Xu, 2003 - 2006 (post doc.)  
Rachmilevitch, 2004 – 2006 (post doc.)  
Jingpeng Xing, 2004 – 2006 (post doc.)  
Yali He, 2003 - 2005 (post doc.)  
Ricardo Cespedes, 2002 - 2005 (post doc.)  
Eric Lyons, 2003 - 2004 (post doc.)  
Eleni Abraham, 2002 - 2003 (post doc.)  
Xiaozhong Liu, 2002 - 2003 (post doc.)  
Jane Larkindale, 2002 - 2003 (post doc.)  
Zhaolong Wang, 2001- 2003 (post doc.)  
Sor Amoyo, 2001 (visiting student)  
Qingzhang Xu, 1998 - 2002 (post doc.)  
Hongwen Gao, 1997 - 1999 (post doc.)  
Bin Wang, 1997 - 1998 (visiting scientist)