CURRICULUM VITAE

Bingru Huang
Department of Plant Biology
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Education:

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

Professional Experiences and Appointments:

2012 – Present:
Distinguished professor, Department of Plant Biology and Pathology, Rutgers University.
2011 – 2019:
Ralph Geiger Endowed Chair in Turfgrass Science, Department of Plant Biology and Pathology, Rutgers University.
2007 – Present
Director, Graduate Program in Plant Biology, Rutgers University.

Editorial positions

Editorial board, *Scientific Reports*, 2019-present
Associate editor, *International Journal of Molecular Science*, 2018-present
Associate editor, *Environmental and Experimental Botany*, 2015-present
Associate editor, *Horticulture Research Journal*, 2013 – present
Editorial board, *Environmental and Experimental Botany*, 2013- 2015
Screening Editor, *Agronomy Journal*, 2010 – 2013
Associate editor, *Physiologia Plantarum*, 2008-present
Editor, *Plant Roots*. 2006 - Present
Country (USA) Coordinating Editor, *Journal of Applied Horticulture*, 2004 – present
Senior Associate Editor, *Crop Science*, 2009 - 2012
Associate editor, *Crop Science*, 2006-2012

Honors and Awards:

Awards from National Scientific and Professional Societies

1. Tengtu Agricultural Science Award, American Society of America, 2015
2. Fellow, American Association of the Advanced Science (AAAS), 2011
3. Excellence Award for Educational Materials, U.S. Council for Agricultural Science and Technology (CAST). 2008.
4. Fellow, Crop Science Society of America, 2004
5. Fellow, American Society of Agronomy, 2003
6. Young Crop Scientist Award, Crop Science Society of America, 1997
7. Alfred Sloan Fellow, 1996
8. Research highlighted in Science Daily, September 2010: American Society for Horticultural Science (2010, April 15). "Common plant growth regulator helps creeping

bentgrass weather drought." *ScienceDaily*. http://www.sciencedaily.com/releases/2010/04/100415185818.htm

9. Research featured in Golfweek's SuperNews Cutting Edge, June, 2006. Video clips - http://supernewsonline.com/index.asp?clip=19

Outstanding paper awards as senior author, advisor or co-advisor of the student recipient

10. Outstanding Graduate Paper Award, 2nd place oral (William Errickson) (senior author and advisor). C-5 division, CSSA annual meeting, 2018.
11. Outstanding Graduate Paper Award, 2nd place poster (Stephanie Rossi) (senior author and advisor). C-5 division, CSSA annual meeting, 2018.
12. Outstanding Graduate Paper Award, 3rd place oral (Cathryn Chapman) (senior author and advisor). C-5 division, CSSA annual meeting, 2018.
13. Outstanding Graduate Paper Award, 3rd place oral (Cathryn Chapman) (senior author and advisor). C-5 division, CSSA annual meeting, 2017.
14. Outstanding Graduate Paper Award, 3rd place oral (Stephanie Rossi) (senior author and advisor). The 16th International Turfgrass Research conference, New Brunswick, NJ, July 2017.
15. Outstanding Graduate Paper Award, 1st place oral (David Jespersen) (senior author and advisor). C-5 division, CSSA annual meeting, 2015.
16. Outstanding Graduate Paper Award, 3rd place oral (David Jespersen) (senior author and advisor). C-2 division, CSSA annual meeting, 2014.
17. Outstanding Graduate Paper Award, 3rd place oral (David Jespersen) (senior author and advisor). C-2 division, CSSA annual meeting, 2013.
18. Outstanding Graduate Paper Award, 3rd place oral (Pat Burgess) (senior author and advisor). C-2 division, CSSA annual meeting, 2013.
19. Outstanding Graduate Paper Award, 1st place oral (Pat Burgess) (senior author and advisor). C-5 division, CSSA annual meeting, 2012.
20. Outstanding Graduate Paper Award, 1st place poster (Emily Merewitz) (senior author and advisor). C-5 division, CSSA annual meeting, 2011.
21. Outstanding Graduate Paper Award, 1st place oral (David Jespersen) (senior author and advisor). C-5 division, CSSA annual meeting, 2011.
22. Outstanding Graduate Paper Award, 1st place poster (James Cross) (co-author, co-advising with William Meyer). C-5 division, CSSA annual meeting, 2011.
23. Outstanding Graduate Paper Award, 1st place poster (Yan Zhao) (senior author and advisor). C-5 division, CSSA annual meeting, 2010.
24. Outstanding Graduate Paper Award, 2nd place oral (Emily Merewitz) (senior author and advisor). C-2 CSSA annual meeting, 2010.
25. Outstanding Graduate Paper Award, 3rd place oral (Priti Senesax) (co-author and co-advising with William Meyer). C-5 CSSA annual meeting, 2010.
26. Outstanding Graduate Paper Award, 2nd place poster (Emily Merewitz) (senior author and advisor). C-5 CSSA annual meeting, 2008.
27. Outstanding Graduate Paper Award, 2nd place oral (Yan Xu) (senior author and advisor). C-5 CSSA annual meeting, 2008.
28. Outstanding Graduate Paper Award, 1st Place Oral (Emily Merewitz) (senior author and advisor), Northeast American Society for Horticultural Science meeting, Jan 3-5, 2008.
29. Outstanding Graduate Paper Award, 3rd Place Oral (Yan Xu) (senior author and advisor), C-5 CSSA annual meeting, 2007

30. Outstanding Graduate Paper Award, 2st Place Oral (Yan Xu) (senior author and advisor), C-5 CSSA Outstanding Overseas Young Scientist Fellowship, National Science Foundation of China, 2007.
31. Outstanding Graduate Paper Award, Industry award (Steve McCann) (senior author and advisor), C-5 CSSA annual meeting, 2006.
32. 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).
33. Outstanding Graduate Paper Award, 1st Place Oral (Yan Xu) (senior author and advisor), Minority Student Poster Contest, ASA-CSSA-SSSA annual meeting, 2005
34. Outstanding Graduate Paper Award, 1st Place Poster (Michelle DaCosta) (senior author and advisor), C-5 CSSA annual meeting, 2005
35. Outstanding Graduate Paper Award, 3rd Place Poster (Yan Xu) (senior author and advisor), C-5 CSSA annual meeting, 2005
36. Outstanding Graduate Paper Award, 1st place Oral (Michelle DaCosta) (senior author and advisor), C-5 CSSA annual meeting, 2003
37. Outstanding Graduate Paper Award, 1st place Poster (Michelle DaCosta) (senior author and advisor), C-5 CSSA annual meeting, 2003
38. Outstanding Graduate Paper Award, 2nd place Oral (Michelle DaCosta) (senior author and advisor), C-5 CSSA annual meeting, 2002
39. Outstanding Graduate Paper Award, 2nd place Poster (Michelle DaCosta) (senior author and advisor), C-5 CSSA annual meeting, 2002
40. Outstanding Graduate Paper Award, 2nd place Poster (Yiwei Jiang) (senior author and advisor), C-5 CSSA annual meeting, 1999
41. Outstanding Graduate Paper Award, 3rd place Poster (Xiaozhong Liu) (senior author and advisor),C-5 CSSA annual meeting, 1999
42. Outstanding Graduate Paper Award, 2nd place Poster (Xiaozhong Liu) (senior author and advisor),C-5 CSSA annual meeting, 1998

Awards from Regional Professional Associations

43. Hall of Fame, New Jersey Turfgrass Association, 2016.
44. Recognition Award, New Jersey Turfgrass Association, 2008.

Awards from university

45. Faculty Honors, Rutgers University Commencement, 2016
46. Outstanding Professor of the Year Award, Department of Plant Biology and Pathology, Rutgers, 2011.
47. Research highlighted in Spotlight – Rutgers School of Environmental and Biological Sciences. "Turfgrass Research Grows from new jersey to Norway and China". 2009. http://sebs.rutgers.edu/spotlight/turf-collaboration.asp.
48. Outstanding Professor of the Year Award, Department of Plant Biology and Pathology, Rutgers, 2008.
49. Research Excellence and Impact Award, School of Environmental and Biological Science, Rutgers, 2007.
50. Wildcat (Kansas State University) Honor Roll, 1998

Publications:

Books

Huang, B. 2019. Turfgrass physiology and stress adaptation. Wiley-Blackwell Publisher. (in writing).

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

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

e-Course 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 Review:

Huang, B. 2010. CO2 enrichment and plant productivity by Mary Beth Kirkham. John Wileys.

Book Chapters: **Total of 29 (**Corresponding author is underlined)

1. Zhang, X., and B. Huang. 2019. Drought priming-induced heat tolerance: metabolic pathways and molecular mechanisms. In: Mohammad Anwar Hossain, Fulai Liu, David J. Burritt , Masayuki Fujita , and Bingru huang. (eds) Priming-mediated Stress and Cross-stress Tolerance in Plants: Physiological, Biochemical and Molecular Interventions. Elsevier.
2. Rossi, S., and B. Huang. 2019. Regulatory Mechanisms for Stress-induced Leaf Senescence. In: Mohammad Pessarakli (ed.). 4th Edition of the Handbook of Plant & Crop Stress. CRC Press.
3. Errickson, W., and B. Huang. 2019. Roles and Mechanisms of Rhizobacteria in Regulating Plant Tolerance to Abiotic Stress. In: Mohammad Pessarakli (ed.). 4th Edition of the Handbook of Plant & Crop Stress. CRC Press.
4. Chapman, C., and B. Huang. 2019. Physiological, Biochemical, and Molecular Mechanisms Regulating Post-Drought Stress Recovery in Grass Species. In: Mohammad Pessarakli (ed.). 4th Edition of the Handbook of Plant & Crop Stress. CRC Press.
5. Xu, Y. and B. Huang. 2017. Exogenous ascorbic acid mediated abiotic stress tolerance in plants. In: Hossain, Mostofa, and Tran (eds.) Ascorbic acid in plant growth, development and stress tolerance. John Wiley.
6. Burgess, P. and B. Huang. 2016. Mechanisms of hormone regulation for drought tolerance. In: Drought Stress Tolerance in Plants, Vol 1 - Physiology and Biochemistry. Hossain, M. A., S. H. Wani, S. Bhattachajee, D. J. Burritt, and L. P. Tran (eds.). published by Springer in June 2016.
7. Gupta, B., K. Gupta, T. Goswami, and B. Huang. 2014. Role of Polyamines in Plant Abiotic Stress Responses. In: M. Pessarakli (eds.). Handbook of Plant and Crop

Physiology. 3rd edition. CRC Press. P. 369-388. http://www.crcnetbase.com/doi/abs/10.1201/b16675-24

8. Jespersen, D., and B. Huang. 2014. Physiological and Biochemical Mechanisms of Plant Tolerance to Heat Stress. In: M. Pessarakli (eds.). Handbook of Plant and Crop Physiology. 3rd edition. CRC Press. P. 389-404. http://www.crcnetbase.com/doi/abs/10.1201/b16675-25
9. DaCosta, M., and B. Huang. 2013. Heat stress physiology and management. Turfgrass Monograph. ASA. Madison, WS.
10. DaCosta, M., and B. Huang. 2009. Physiological adaptation of perennial grasses to drought stress. P. 169–190. In: E. De la Barrera and W.K. Smith (eds.). Perspectives in Biophysical Plant Ecophysiology. Universidad Nacional Autónoma de México. (Collaborative role: 50% development, writing, and editing).
11. Xu, Y. and B. Huang. 2008. Hormonal regulation of plant tolerance to high temperature. In: R.M. Mohan (ed.) Research Advances in Crop Science. Global Research Network, Kerala, India. (Collaborative role: 50% development, writing, and editing).
12. Huang, B. 2008. Water use physiology of turfgrass. P. 43-56. In: S. T. Cockerham and B. Leunauer (eds.). Turfgrass Water Conservation. University of California Riverside Press.
13. Huang, B. 2007. Turfgrass water requirements and factors affecting water usage. P. 193-203. In: J. Beard and M. Kenna (eds.). Water Quality and Water Quantity Issues for Turfgrasses in Urban Landscapes. Council for Agricultural Science and Technology.
14. McCann, S.E., and B. Huang. 2007. Turfgrass drought stress physiology and irrigation management. P. 431-445. In: M. Pessarakli (ed.). Handbook of Turfgrass Management and Physiology. CRC Press. (Collaborative role: 60% development, writing, and editing).
15. Merewitz, E., and B. Huang. 2007. Biotechnology and genetic improvement of grass tolerance to heat/drought stress. P. 105-125. In: D. Thangadurai, W. Tang, S.Q. Song (eds.). Plant Stress and Biotechnology. Oxford Book Company, Jaipur, India. (Collaborative role: 60% of development, writing, and editing).
16. Huang, B., and Y. Xu. 2006. Recent research advances in drought and heat stress physiology for turfgrass. P. 38-45. In Z. Chen and H. Zhou (eds.). Research Advances in Turfgrass Science. Chinese Forestry Press, Beijing, China.
17. Huang, B. 2006. Cellular membranes in plant responses to environmental stresses. P. 1-25. In: B. Huang (ed.). Plant-Environment Interaction. CRC Press.
18. Bonos, S., and B. Huang. 2006. Molecular approaches to improve abiotic stresses of plants. P. 357-376. In: B. Huang (ed.). Plant-Environment Interaction. CRC Press. (Collaborative role: 50% of development, writing, and editing).
19. Rachmilevitch, S., M. DaCosta, and B. Huang. 2006. Physiological and biochemical indicators for abiotic stress tolerance. P. 321-356. In: B. Huang (ed.). Plant-Environment Interaction. CRC Press. (Collaborative role: 40% of development, writing, and editing).
20. Wu, Y., J. Ballif, and B. Huang. 2006. Molecular mechanisms in hormla regulation of drought tolerance. P. 101-120. In: B. Huang (ed.). Plant-Environment Interaction. CRC Press. (Collaborative role: 30% of development, writing, and editing).
21. Huang, B., and X. Liu. 2003. Evaluation of root growth and mortality using minirhizotrons. O. 27-40. In: VanToai (eds). Digital Imaging and Spectral Techniques: Applications to Precision Agriculture and Crop Physiology. ASA-CSSA-SSSA, Madison, WI. (Collaborative role: 70% of development, writing, and editing).

22. Huang, B., and Y. Jiang. 2001. Physiological and biochemical responses of plants to drought and heat stress. P. 287-300. In: M. Kang (ed.) Crop Improvement in 21st Century. Harworth Press, New York. (Collaborative role: 90% of development, writing, and editing).
23. Huang, B. 2000. The role of root morphological and physiological characteristics in drought resistance of plants. P. 39-64. In: R.Wilkonson (ed). Plant-Environment Interaction. Mercel Dekker.
24. Huang, B., and D.M. Eissenstat. 2000. Root plasticity in exploiting water and nutrient heterogeneity. P. 111-133. In: R.Wilkonson (ed). Plant-Environment Interaction. Mercel Dekker. (Collaborative role: 80% of development, writing, and editing).
25. Huang, B. 2000. Waterlogging and its interaction with other environmental factors on plant growth. P. 263-282. In: R. Wilkonson (ed). Plant-Environment Interaction. Mercel Dekker.
26. Huang, B., and J.D. Fry. 1999. Turfgrass Evapotranspiration. P. 317-334. In: M.B. Kirkham (ed.). Water Use in Crop Production. Food Products Press. (Collaborative role: 80% of development, writing, and editing).
27. Huang, B. 1997. Mechanisms of plant resistance to waterlogging. P. 59-81. In: A. Basra (ed). Mechanisms of Environmental Stress Resistance in Plants. Harwood Academic Publisher, The Netherland.
28. 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. (Collaborative role: 60% of development, writing, and editing).
29. Moreshet, S., B. Huang, and M. Huck. 1995. Water permeability of plant roots. P. 659-677. In: Y. Waisel et al. (ed). Plant Roots: The Hidden Half. 2nd. Ed. Marcel Dekker, New York. (Collaborative role: 30% of development, writing, and editing).

Refereed Journal Articles: 304 Published and in press

(*corresponding author underlined)

2019 (10)

1. Yu, J., N. Fan, R. Li, L. Zhuang, Q. Xu, and B. Huang. 2019. Proteomic profiling for metabolic pathways involved in interactive effects of elevated carbon dioxide and nitrogen on leaf growth in perennial grass species. J. Proteome Research. (in press).
2. Zhuang, L. Z. Yang, N. Fan, J. Yu, and B. Huang. 2019. Metabolomic changes associated with elevated CO2-regulation of salt tolerance in Kentucky bluegrass. Env. Exp. Bot. 165:129-138.
3. Zhuang, L., Y. Ge, J. Wang, J. Yu, Z. Yang, and B. Huang. 2019. Gibberellic acid inhibition of tillering in tall fescue involving crosstalks with cytokinins and transcriptional regulation of genes controlling axillary bud outgrowth. Plant Science 287:110168.
4. Liu, T., L. Zhuang, and B. Huang. 2019. Metabolic adjustment and gene expression for root sodium transport and calcium signaling contribute to salt tolerance in Agrostis grass species. Plant and Soil. https://doi.org/10.1007/s11104-019-04140-8.

5. Hu, Q., S. Zhang, and B. Huang. 2019. Strigolactones promoted leaf elongation in association with up-regulation of cell cycle genes and down-regulation of auxin transport genes in tall fescue. Int J. Mol. Sci. 20(8), 1836; https://doi.org/10.3390/ijms20081836.
6. Zhang, X., X. Wang, L. Zhuang, Y. Gao, and B. Huang. 2019. Abscisic acid mediation of drought priming-enhanced heat tolerance in tall fescue (Festuca arundinacea) and Arabidopsis. Physiologia Plantarum. https://doi.org/10.1111/ppl.12975.
7. Wang, J., B. Yuan, and B. Huang. 2019. Differential heat-induced changes in phenolic acids associated with genotypic variations in heat tolerance for hard fescue. Crop Sci. 59:667-674.
8. Wang, J., L. Zhuang, J. Zhang, J. Yu, Z. Yang, and B. Huang. 2019. Identification and characterization of novel homeodomain leucine zipper (HD-Zip) transcription factors associated with heat tolerance in perennial ryegrass. Env. Exp. Bot. 160:1-11. https://doi.org/10.1016/j.envexpbot.2018.12.023
9. Burgess, P., C. Chapman, X. Zhang, and B. Huang. 2019. Stimulation of Growth and Alteration of Hormones by Elevated Carbon Dioxide for Creeping Bentgrass Exposed to Drought. Crop Sci. 59:1672-1680.
10. Zhang, X., and B. Huang. 2019. Lipidomic reprogramming associated with drought stress priming-enhanced heat tolerance in tall fescue (Festuca arundinacea). Plant Cell Environ.42:947–958. https://doi.org/10.1111/pce.13405

2018 (17)

11. Xu, B. J. Zhang, and B. Huang. 2018. Knockdown of STAYGREEN in perennial ryegrass (Lolium perenne L.) leads to transcriptomic alterations related to suppressed leaf senescence and improved forage quality. Plant Cell Physiology. 203, https://doi.org/10.1093/pcp/pcy203
12. Lv, A., L. SU, X. Liu, Q. Xing, B. Huang., Y. An, and P. Zhou. 2018. Characterization of dehydrin protein, CdDHN4-L and CdDHN4-S, and their differential protective roles against abiotic stress in vitro. BMC Plant Biology. 18:299. https://doi.org/10.1186/s12870-018-1511-2.
13. Xu, Y. and B. Huang. 2018. Comparative transcriptomic analysis reveals common molecular factors responsive to heat and drought stress in Agrostis stolonifera. Scientific Reports. 8:15181 | DOI:10.1038/s41598-018-33597-3.
14. Zhuang, L., W. Cao, J. Wang, J. Yu, Z. Yang, and B. Huang. 2018. Characterization and functional analysis of FaHsfC1b from Festuca arundinacea conferring heat tolerance in Arabidopsis. Int. J. Mol. Sci. 19, 2702; doi:10.3390/ijms19092702.
15. Jespersen, D., X. Ma, S. A. Bonos, F.C. Belanger, P. Raymer, and B. Huang. 2018. Association of SSR and candidate-gene markers with genetic variations in summer heat and drought performance for creeping bentgrass. Crop Sci. 58:1–13.
16. Xu, Q., N. Fan, L. Zhuang, J. Yu, and B. Huang. 2018. Enhanced stolon growth and metabolic adjustment in creeping bentgrass with elevated CO2 concentration. Env. Exp. Bot. 155:87-97.

17. Li, Z., Y. Peng, and B. Huang. 2018. Alteration of transcripts of stress-protective genes and transcriptional factors by γ -aminobutyric acid (GABA) associated with improved heat and drought tolerance in creeping bentgrass (Agrostis stolonifera). International Journal of Molecular Science. Jun; 19(6): 1623.

18. Shi, Y., J. Zhang, H. Li, M. Li, and B. Huang. 2018. Butanediol-enhanced heat tolerance in Agrostis stolonifera in association with alteration in stress-related gene expression and metabolic profiles. Environ. Exp. Bot. 153:209-217.

19. Sun, J., Y. Liu, X. Li, and B. Huang. 2018. Proteins Involved in Energy Metabolism and Oxidative Regulation Associated with Genotypic Variations in Drought Tolerance for Tall Fescue. J. Am. Hort Sci. 143:207-212.

20. Hu, Q., S. Zhang, and B. Huang. 2018. Strigolactones and interaction with auxin regulating root elongation in tall fescue under different temperature regimes. Plant Science 271:34-39

21. Xu, B., H. Li, Y. Li, G. Yu, J. Zhang, and B. Huang. 2018. Characterization and transcriptional regulation of chlorophyll b reductase gene NON-YELLOW COLORING 1 associated with leaf senescence in perennial ryegrass (Lolium perenne L.). Environ. Exp. Bot. 149:43-50. doi.org/10.1016/j.envexpbot.2018.01.017

22. Xu, Y., and B. Huang. 2018. Transcriptomic analysis reveals unique molecular factors for lipid hydrolysis, secondary cell-walls and oxidative protection associated with thermotolerance in perennial grass. BMC Genomics 19:70-96.

23. Zheng, Y., F. Li, L. Hao, A. Shedayi, L. Guo, C. Ma, B. Huang, and M. Xu. 2018. The optimal CO2 concentrations for the growth of three perennial grass species. BMC Plant Biology. 18:27. DOI 10.1186/s12870-018-1243-3.

24. Wen, W., Z. Xie, L. Huang, G. Yu, B. Xu, and B. Huang. 2018. Switchgrass PvDREB1C plays opposite roles in plant cold and salt tolerance in transgenic tobacco. Hereditas. 155:15-26.

25. Wang, J., B. Yuan, Y. Xu, and B. Huang. 2018. Differential Responses of Amino Acids and Soluble Proteins to Heat Stress Associated with Genetic Variations in Heat Tolerance for Hard Fescue (Festuca Trachyphylla). J. Am. Soc. Hort. Sci. 143(1):45–55.

26. Xu, Y., J. Wang, S. Bonos. W. Meyer, and B. Huang. 2018. Candidate genes and molecular markers associated with heat tolerance in fine fescue. Int. J. Mol. Sci. , 19, 116; doi:10.3390/ijms19010116

27. Ma, X., P. Burgess, J. Zhang, S. Rossi, and B. Huang. 2018. Interactive effects of melatonin and cytokinin on alleviating drought-induced leaf senescence in creeping bentgrass (Agrostis stolonifera). Environ. Exp. Bot. 145:1-11.

2017 (18)

28. Xu, Y., and B. Huang. 2017. Transcriptional factors for stress signaling, oxidative protection, and protein modification in ipt-transgenic creeping bentgrass exposed to drought stress. Environmental and Experimental Botany 144:49-60.

29. Wang, X., L. Zhuang, Y. Shi, and B. Huang. 2017. Up-regulation of HsfA2c and HSPs by ABA contributing to improved heat tolerance in tall fescue and Arabidopsis. Int. J. Mol. Sci. 2017, 18, 1981; doi:10.3390/ijms18091981.

30. Shi, Y., K. Niu, B. Huang, W. Liu, H. Ma. 2017. Transcriptional responses of creeping bentgrass to 2, 3-butanediol, a bacterial volatile compound (BVC) analogue. Molecules. 22(8). pii: E1318. doi: 10.3390/molecules22081318.

31. Yu, J., R. Li, N. Fan, Z. Yang, and B. Huang. 2017. Metabolic pathways involved in carbon dioxide enhanced heat tolerance in bermudagrass. Frontier in Plant Science 19 September 2017 | https://doi.org/10.3389/fpls.2017.01506.

32. Liu, Y., J. Liu, L. Xu, H. Lai, Y. Chen, Z. Yang, and B. Huang. 2017. Identification and Validation of Reference Genes for Seashore Paspalum Response to Abiotic Stresses. Int. J. Mol. Sci. 18(6), 1322; doi:10.3390/ijms18061322.

33. Zheng, Y., R. Li, L. Hao, D. Cheng, H. Wu, F. Li, L. Guo, B. Huang, and M. Xu. 2017. Growth, physiological, and biochemical responses of three grass species to elevated carbon dioxide concentrations. Pak. J. Bot. 49:2169-2180.

34. Zhuang, L., J. Wang, and B. Huang. 2017. Drought inhibition of tillering in Festuca arundinacea associated with axillary bud development and strigolactone signaling. Environ. Exp. Bot. 142:15-23. https://doi.org/10.1016/j.envexpbot.2017.07.017.

35. Yu G, Cheng Q, Xie Z, Xu B, Huang B (2017) An efficient protocol for perennial ryegrass mesophyll protoplast isolation and transformation, and its application on interaction study between LpNOL and LpNYC1. Plant Methods 13(1):46.

36. Jespersen, D., J. Yu, and B. Huang. 2017. Metabolic effects of acibenzolar-S-methyl for improving heat and drought stress in creeping bentgrass. Front Plant Sci. 2017; 8: 1224.doi: 10.3389/fpls.2017.01224.

37. Wang, J. H. Rodolfo, D. Jespersen., and B. Huang. 2017. Differential Profiles of Membrane Proteins, Fatty Acids, and Sterols Associated with Genetic Variations in Heat Tolerance for a Perennial Grass Species, Hard Fescue (Festuca Trachyphylla). Environ. Expt. Bot. 140:65-75.

38. Xu, Y., P. Burgess, and B. Huang. 2017. Transcriptional regulation of hormone‐synthesis and signaling pathways by overexpressing cytokinin‐synthesis contributes to improved drought tolerance in creeping bentgrass. Physiologia Plantarum. 161:235-256.

39. Wang, J., P. Burgess, S. Bonos, W. Meyer, and B. Huang. 2017. Differential Physiological Responses and Genetic Variations in Fine Fescue Species for Heat and Drought Stress. J. Am. Hort Sci. 142:367-375.

40. Zhang, J., Y. Shi, X. Zhang, H. Du, and B. Huang. 2017. Melatonin suppression of heat-induced leaf senescence involves changes in abscisic acid and cytokinin biosynthesis and signaling pathways in perennial ryegrass (Lolium perenne L.). Environ. Exp. Bot. 138:36–45.

41. Jespersen, D., F. Belanger, and B. Huang. 2017. Candidate Genes and Molecular Markers Associated with Heat Tolerance in Colonial Bentgrass. PLOS ONE https://doi.org/10.1371/journal.pone.0171183.

42. Rossi, S., P. Burgess, D. Jespersen, and B. Huang. 2017. Heat-Induced Leaf Senescence Associated with Chlorophyll Metabolism in Bentgrass Lines Differing in Heat Tolerance. Crop Sci. 0. doi:10.2135/cropsci2016.06.0542.

43. Wang, X. and B. Huang .2017. Lipid and calcium-signaling regulation of HsfA2c-mediated heat tolerance in tall fescue. Environmental and Experimental Botany. 136:59–67.

44. Jespersen, D. and B. Huang. 2017. Effects of Trinexapac-Ethyl and Daconil Action (Acibenzolar-S-Methyl and Chlorothalonil) on Heat and Drought Tolerance of Creeping Bentgrass. Crop Science 57:1–9.

45. Liu, N., S. Lin, and B. Huang. 2017. Differential Effects of Glycine Betaine and Spermidine on Osmotic Adjustment and Antioxidant Defense Contributing to Improved Drought Tolerance in Creeping Bentgrass. J. AM. Soc. Hort. Sci. 142:20-26.

2016 – (21)

46. Zhou P, X. Gao, A. Lv, S. Wang, B. Huang and Y. An. 2016. Gene Expression Analysis of Alfalfa Seedlings Response to Acid-Aluminum," International Journal of Genomics, vol. 2016, Article ID 2095195, 13 pages, 2016. doi:10.1155/2016/2095195.

47. Merewitz, E., Y. Xu, and B. Huang. 2016. Differentially Expressed Genes Associated with Improved Drought Tolerance in Creeping Bentgrass Overexpressing a Gene for Cytokinin Biosynthesis. PLOS ONE. http://dx.doi.org/10.1371/journal.pone.0166676.

48. Zhang, J., H. Li, B. Xu, J. Li, and B. Huang. 2016. Exogenous Melatonin Suppresses Dark-Induced Leaf Senescence by Activating the Superoxide Dismutase-Catalase Antioxidant Pathway and Down-Regulating Chlorophyll Degradation in Excised Leaves of Perennial Ryegrass (Lolium perenne L.). Front Plant Sci. 7:1500.

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Patents

Huang, B. and N. Zhang. 2016. RU Docket #2014-078; "BACTERIA WITH 1-AMINOCYCLOPROPANE-1-CARBOXYLIC ACID (ACC) DEAMINASE PROMOTING TURFGRASS GROWTH"

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Teaching and Advising Activities

Current courses

1. China's Agricultural, Ecological and Environmental Challenges and Global Impacts (3 credits, two instructors), 2011-present, undergraduate course, Rutgers
2. Advanced Plant Physiology (3 credits), 2005 – present, Graduate course, Rutgers
3. Plant Physiology (3 credits), 2001- present, Undergraduate course, Rutgers
4. Turfgrass stress physiology and management, 2001- present, Rutgers Professional Golf Turf Management School, two-year certificate program
5. Turfgrass stress management, 2001 – present, Rutgers Professional Golf Turf Management School, three-week certificate program
6. Advanced Management Strategies for Cool-season Turfgrass (8-hour lecture). 1998 – Present, Golf Course Superintendent Association of America Annual Conference.

Courses taught

7. Seminar in Plant Biology (2 credits), 2002-2003, Graduate course, Rutgers
8. Turfgrass Science (3 credits), 1996-2000, Graduate and undergraduate course, Kansas State University.
9. Biology (3 credits), 1994-1995, Undergraduate course, Mercer University, GA\
10. Environmental Science (3 credits), 1995, Undergraduate course, Mercer University, GA
11. Crop Physiology (4 credits), 1987-1988, Undergraduate course, Shandong Agric. Univ., China.

Advising

Graduate students and post-doctoral research: 5 Ph. D in progress, total of over 30
Visiting scientists: 8 in progress, total of over 50
Undergraduates: 4 in progress, total of over 20