

AMBIKA CHANDRA

Associate Professor of Turfgrass Breeding and Genetics
Texas A&M AgriLife Research and Extension Center, Dallas, Texas

Education/Training

2007 PhD Agronomy, The Pennsylvania State University, USA
2003 MS Plant Breeding and Genetics, Punjab Agricultural University, India
2001 BS Agriculture, Punjab Agricultural University, India

Positions and Employment

2013-present Associate Professor, Texas A&M AgriLife Research
2007- 2013 Assistant Professor, Texas A&M AgriLife Research
2003-2007 Graduate Teaching Assistant, The Pennsylvania State University, USA
2001-2003 Graduate Research Assistant, Punjab Agricultural University, India

Program Overview

My primary responsibility and research interest is breeding (applied and molecular) and cultivar development of warm- and cool-season turfgrass species for use in home lawns, athletic fields and golf courses. This involves adopting holistic systems approach towards cultivar development, marketing and commercialization through industry collaborations; working interactively in the interdisciplinary areas of turfgrass science including turfgrass genomics, physiology, entomology, pathology, soils and socio-economics; developing high-throughput greenhouse/growth chamber phenotyping procedures to efficiently evaluate large breeding (and mapping) populations for important traits of interest including a wide range of biotic and abiotic stress tolerances. My interests also include graduate student education and training of tomorrow's plant breeders and turfgrass professionals capable of leading a successful career in academia and/or the turfgrass industry.

Significant 5 Year Accomplishments

Research: Acquired \$10,246,037 of which \$3,075,228 went to my research program. Generated 111 publications including one plant patent, 26 peer reviewed research articles, 47 professional society/conference abstracts, and 14 popular articles in the areas of plant breeding, molecular biology, plant pathology, plant physiology, entomology and management. Served as the primary breeder for 'TamStar' St. Augustinegrass and 'DALBG 1201' hybrid bluegrass plant varieties, and co-authored the release of 'Chisholm' zoysiagrass and 'Renner' St. Augustinegrass plant varieties. Provide leadership in developing and managing a five state and transdisciplinary project for the USDA-NIFA Specialty Crop Research Initiative program (2010-2015) to improve drought and salinity tolerance in major turfgrass species for the southern US. Frequently solicited to make presentations at national and regional turfgrass industry professional events. Supervised/mentored Ph.D. students, post-docs and research scientists/associates in my program.

Publications

Ten most recent peer-reviewed publications (26 total)

1. Meeks, M., **A. Chandra** and B. Wherley. 2015. Developmental Responses of Hybrid Bluegrass and Tall Fescue as Influenced by Light Intensity and Trinexapac-ethyl. *HortScience*. 50 (8):1241-1247.
2. Meeks, M. and **A. Chandra**. 2015. The application of flow cytometry and a thioredoxin-like nuclear gene for breeding *Poa arachnifera* x *Poa pratensis* hybrids. *Plant Breeding*. doi: 10.1111/pbr.12299.

3. Wang, F., R. Singh, A. D. Genovesi, C. M Wai, X. Huang, **A. Chandra** and Q. Yu. 2015. Sequence-tagged high-density genetic maps of *Zoysia japonica* provide insights into Chloridoideae genome evolution. *The Plant Journal*. 82: 744–757.
4. Meeks, M., **A. Chandra**, S. Metz, A.D. Genovesi, J. C. Read, R. White, G. Miller, E. Guertal, W. Philley and J. Sorochan. 2015. Registration of ‘DALBG 1201’ hybrid bluegrass. *J. Plant Reg.* 9:138-143.
5. **Chandra, A.**, A. D. Genovesi, B. G. Wherley, S. P. Metz, J. A. Reinert, Y-Z. Wu, P. Skulkaew, M.C. Engelke, D. Hargey, L. R. Nelson, B. M. Schwartz, P. L. Raymer, Y. Q. Wu, D. L. Martin, S. R. Milla-Lewis, G. Miller, K. E. Kenworthy and P. Munoz. 2015. Registration of ‘DALSA 0605’ St. Augustinegrass. *J. Plant Reg.* 9:27-34
6. **Chandra, A.**, J. D. Fry, M. C. Engelke, A. D. Genovesi, B. G. Wherley, J. A. Reinert, S. P. Metz, Q. Zhang and D. Okeyo. 2014. Registration of ‘Chisholm’ Zoysiagrass. *J. Plant Reg.* 9:21-26.
7. **Chandra, A.** and D. R. Huff. 2014. Pistil smut infection increases ovary production, seed yield components, and pseudosexual reproductive allocation in buffalograss. *Plants*. 3(4): 594-612. This article is part of the Special Issue Plant Reproductive Transition and Flower Development.
8. Harris-Shultz, K. R., S. Milla-Lewis, A. J. Patton, K. Kenworthy, **A. Chandra**, F. C. Waltz, G. L. Hodnett, and D. M. Stelly. 2014. Detection of DNA and Ploidy Variation within Vegetatively Propagated Zoysiagrass Cultivars. *J. Amer. Soc. Hort. Sci.* 139: 547-552
9. Wherley, B., J. Heitholt, **A. Chandra**, and P. Skulkaew. 2014. Supplemental Irrigation Requirements of Zoysiagrass and Bermudagrass Cultivars. *Crop Science*. 54:1823-1831
10. Wherley, B., **A. Chandra**, A. Genovesi, M. Kearns, T. Pepper, and J. Thomas. 2013. Developmental response of St. Augustinegrass cultivars and experimental lines to moderate and heavy shade. *HortScience*. 48:1047-1051.

Professional Service

Appointed Positions

1. Appointed as a member of the C458 Fred V. Grau Turfgrass Science Award Committee. Term: 2016-2017.
2. Appointed as Associate Editor for *Crop Science*. Terms: 2013-2015 and 2016-2018.
3. Appointed as a member of the CSSA - C711.10 Calvin Sperling Memorial Biodiversity Lectureship Committee. Term: 2015 to 2018.
4. Appointed as the members of the Texas A&M AgriLife Plant Review Committee. Term: 2014 to present.

Elected Positions

5. Elected as a representative of the Council of Principal Investigators for Texas A&M AgriLife Research. Term: 2014 to 2017.
6. Elected as a board member of the Turfgrass Breeders’ Association. Term: 2009-2012.

Service to the C-5 Division (Turfgrass Science), CSSA, Annual Meetings.

7. Served as the presiding officer for the C5 session on ‘Turfgrass Breeding and Genetics, Stress Tolerance’ for the Graduate Student Oral Competition at the ASA-CSSA-SSSA meeting in Minneapolis, MN. 2015.
8. Served as a judge for the Crop Science Society of America C5 Graduate Student Poster Competition, Long Beach, CA. 2014.
9. Served as the presiding officer for the C5 session on ‘Genetics, Tolerance to Stresses, and Evaluation of Turfgrasses’ at the ASA-CSSA-SSSA meeting in Cincinnati, OH. 2012.
10. Served as the presiding officer for the C5 session on ‘Genetics, Tolerance to Stresses, and Evaluation of Turfgrasses’ at the ASA-CSSA-SSSA meeting in San Antonio, TX. 2011.
11. Served as a judge for the Crop Science Society of America C5 Graduate Student Oral Competition, New Orleans, LA. 2007.