

Md Ali Babar

Associate Professor, World Food Crops Breeding and Genetics
Agronomy department, University of Florida
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Education:

Oklahoma State University, USA	Crop Science	Ph.D.
Bangladesh Agriculture University	Genet and plant breeding	M.S.
Bangladesh Agriculture University	Agriculture	B.Sc.

Professional Interests and Responsibilities:

Food crops (small grains, such as, Wheat and oat) breeding and genetics, develop wheat and oat germplasm for South-Eastern USA and for hot and humid environments, disease resistance, abiotic stress tolerance, heat tolerance. An ancillary portion of the program is dedicated to exploring alternative crops for Florida to provide economic sustainability in cropping systems. This area of my program is dedicated to evaluating alternative food crops to those currently produced in Florida, including such crops as edamame (vegetable soybean), peas, and chickpea, to support growers' livelihoods and the statewide food market.

Professional Experience:

Associate professor: July 2020- Present, World Food crops Breeding and Genetics,
Agronomy, University of Florida, Gainesville
Assistant professor: July 2013- June 2020, World Food crops Breeding and Genetics,
Agronomy, University of Florida, Gainesville
Associate Scientist: Oct 2010 to July 2013, Corn Breeder, DOW Agro, Sidney, IL
Senior Biologist: Oct 2008 to Oct 2010, Corn Breeder, DOW Agro, Sidney, IL
Post-doc Research Associate: Aug 2005 to Aug 2008, Wheat Breeding, KSU, Manhattan

Professional Service

- National Small Grain Variety Review Board, Liaison member, Jan 1, 2018-Dec 31, 2019
- National Small Grain Variety Review Board, Alternate member, Jan 1, 2016-Dec 31, 2017
- American Oat Workers Executive Committee member, 2014-Present
- Quaker International Nursery Program Executive Committee member, 2014-2019
- Co-Chair, International Nursery Program, 2021-present
- Member of Expert Working Group on Wheat
- Co-PI AgMIP wheat
- Associated Editor and Editor: Agronomy Journal and Nature-Scientific Reports
- Florida SARE Advisory Council Members, 2017- present.
- Graduate student poster judge, 2018 Southern ASA conference, February 4-5, 2018, Jacksonville, FL.
- Judge in the virtual poster C7 division competition, 2019, Crop Science Society of America International Conference, San Antonio, Tx.
- Grant proposal reviewer, Natural Sciences and Engineering Research Council of Canada (NSERC); Israeli Ministry of Agriculture & Rural Development; Sustainable Agriculture Research and Education (SARE)

Services to University of Florida, College of Agriculture and Life Sciences, and Department of Agronomy:

- Faculty Advisor, Pakistan Student Association, 2021-Present
- Mentor in the University Minority Mentor Program (UMMP), Fall, 2018-present.
- Poster judge- Graduate Student Research Day 2014, 2017.
- Faculty advisor-Cupcakes for a Cure UF; fall, 2016 to summer, 2017.
- Member, College of Agriculture and Life Sciences Undergraduate Student Awards and Scholarship Committee. Jan 2020-Dec 2022
- Member, Advisory council of operation, Plant Science research and Education Unit, Aug 2019-Dec 2021
- Chair, Advisory council of operation, Plant Science research and Education Unit, July 2022-June 2023
- IFAS Plant Breeding Innovation Award committee member, 2020-Present
- Plant Breeding PhD degree admission committee member, 2021-2023
- Plant Breeding PhD degree Curriculum Committee Member, 2019-Present
- Commencement Marshal for CALS, fall 2013; spring, 2014; fall, 2017
- Co-Chair, Search and Screen Committee, Assistant Professor, Data Science and AI Modeling in Genomics, Agronomy Dept, 2020-21
- Member, Search and Screen committee, Assistant Professor, Plant Ecophysiology, Agronomy Dept, 2020-21.
- Co-Chair Agronomy Honors & Awards Committee member, 2021-2022
- Agronomy Honors & Awards Committee member, 2019 to 2022
- Peer evaluation committee member of Jianping Wang, Summer, 2021
- PI of new Agronomy Tissue Culture service lab, July 2021- Present
- Agronomy strategic initiative “Endowment funds for student scholarships” sub-committee, 2020
- Peer evaluation committee member of Marcelo Resende, fall, 2019
- Peer evaluation committee member of Patricio Munoz, fall, 2019
- Peer evaluation committee member of Esteban Rios, fall, 2019
- Agronomy Department task force for diversity and inclusion, since 2019.
- Agronomy Department seminar coordinator, fall, 2016-summer 2018.
- Agronomy graduate student symposium judge, spring 2018.
- Member, AGR honors and awards committee since 2018.
- Co-Chair, AGR honors and awards committee since 2021.
- Chair, AGR honors and awards committee since 2021.
- Agronomy graduate student symposium coordinate, spring 2017.
- Agronomy Department collaboration strategic team committee member, 2014
- FFS Station manager search committee member, 2014.

Professional Membership:

Crop Science Society of America;
Agronomy Society of America
American Society of Plant Biologists;
National Association of Plant Breeder

Variety release: Total 20

- Oats as Major Developer:
 - Horizon 720
 - Sweet Carolina
 - Juggernaut
 - Impacta
 - RAM Forage Oats

- PlotSpike Forage Oats
- Oats as Co-developer:
 - LA01044
 - Legend567
- 11 wheat varieties as co-developer.
- FL01143 Triticale as co-developer.

Funding (Extra and Intramural):

- Total \$4,018,282
- As PI \$2,493,616
- As co-PI 1,524,666

Peer Reviewer:

- Crop Science, Euphytica, Plant Breeding, Australian Journal of Agriculture Research, Field Crops Research, PLOS One, Molecular Breeding, Journal of Plant Registration, Plant Cell and Environment, Journal of Experimental Botany, Theoretical and Applied Genetics

Patents:

- PV # 202100484 'Juggernaut' Oat
- Oat variety 'FFLA11019S-8' PV Number 202200301
- Portable spectrograph for high-speed phenotyping and plant health assessment (US20200264045A1)
- Babar et al. 2016. FL-720 oat. PVP Certificate #201600313;
- Oat variety FL0720 (9961852)
- Babar et al. 2016. FL-720 oat. PVP Certificate #201600313.
- Babar et al. OAT VARIETY FL0720. June 6, 2016. United States Patent application number 15/174,528.
- A.R. Blount, R.D. Barnett, S.A. Harrison, C.L. Mackowiak, M.A. Babar, and J.C. Jones. PVP awarded 2016. Plant Variety Protection (PVP) received on FL0567 (Legend 567) oat (2016).
- A.R. Blount, R.D. Barnett, Md. A. Babar, C.L. Mackowiak and J. Jones. PVP pending. Plant Variety Protection (PVP) applied for FL01143 Awnless triticale (2016).

Presentation:

- Invited 32 (4 internationals; 3 nationals; 2 regionals; 17 states; 3 local); Volunteered 4 (international)

Courses Offer:

- Genetic Improvement of Plants (AGR 5321) and Plant Breeding (AGR 4320)
 - This is a required course for Agronomy and Plant Science (genetics) undergraduate students, and graduate students with plant breeding emphases. These courses describe the genetic basis for crop improvement including adaptability, disease/insect resistance, and yield. The purpose of this class is to improve student knowledge of the basic principles of genetics and plant breeding, and how to apply that knowledge for the genetic improvement of plants.

- Genetics (AGR 3303)
 - Genetics is a very important course across different majors. Every fall semester, between 225-250 students enroll in the course. It is a required course for Agronomy and Plant Science undergraduate students. In addition, a large number of students from the colleges of CLAS (botany, biology, anthropology, and chemistry), CALS (biology, nutritional science, animal science, and horticultural sciences), Health and Human Performance, and Public Health and Health Professions enroll in the class. The course represents a comprehensive coverage of the principles, theories, and applications of genetics. Students learn basic genetic mechanisms, the chemical nature and structure of genetic material, gene expression and regulation, structure variation, principles of inheritance, and basic concepts in population and quantitative genetics.

Graduate students

➤ ***Major Advisor (11):***

Jordan McBreen (Ph.D.) (Spring, 2021-Fall, 2024)
 Janam Achrya (Ph.D.) (Fall, 2021-summer 2025)
 Sudip Kunwar (Ph.D.) (Fall, 2021-summer 2025)
 Samuel Adewale (PhD) (Fall, 2022 to summer 2026)
 Sai teja papishetti (MS) (Fall, 2022 to December 2024)
 Sumit Pradhan Shrestha (Ph.D.) (completed on summer, 2019)
 Jahangir Khan (Ph.D.) (Completed on Summer, 2020)
 Dipendra Shahi (Ph.D.) (Completed on Summer, 2021)
 Mohammad Maksud Hossain (MS) (completed on Spring 2017)
 Muhsin AVCI (MS) (completed on Summer 2018)
 Jordan McBreen (MS) (Completed on Fall, 2020)

➤ ***Committee member:*** 11 students (8 Ph.D. and 3 MS)

➤ ***Post-Doc:*** 1; Jia Guo (April 2017-July 2020)

Visiting scholars:

- Essam Adel ElShamey (January-July 2016)
- Kang Zhi-yu (September 2016 to August 2017)
- Sadia Latif (June 2016 to present)
- Naeem Khan (May 2015 to Nov 2015)
- Marco OVANDO BALDELOM

Peer-reviewed publications (Career Total 56, total citations:2287, citation index:23):

56. Shahi D[§], Guo J, Pradhan S, Khan J, AVCI M, Khan N, McBreen J, Bai G, Reynolds M, Foulkes J, **Babar MA**. 2021. Multi-Trait Genomic Prediction Using In-season Physiological parameters Increases Prediction Accuracy of Complex Traits in US Wheat. BMC Genomics (Accepted). ([§]graduate student).
55. Costa L*[&], McBreen J*[§], **Ampatzidis Y**, Guo J, Gahrooei MR, **Babar MA**. 2021. Predicting grain yield and related traits in wheat under heat-related stress environments using UAV-based hyperspectral imaging and functional regression. Precision Agriculture. 23:622–642 (*Co-first author; [§]graduate student). <https://doi.org/10.1007/s11119-021-09852-5> (IF = 5.385)
54. Ghimire B, Mergoum M, Martinez-Espinoza AD, Sapkota S, Pradhan S, **Babar MA**, Dong Y, and Buck JW. 2021. Genome-Wide Association Study for Fusarium Head Blight Resistance in Soft Red Winter Wheat. Plant Genome (Accepted).

53. Shahi D^g, Guo J, Pradhan S, Khan J, AVCI M, Khan N, McBreen J, Rayamajhi S, Bai G, St Amand P, Bernardo A, Reynolds M, Molero G, Sukumaran S, Foulkes J, **Babar MA**. 2021. Dissecting the genetic basis of fruiting efficiency for genetic enhancement of harvest index, grain number, and yield in wheat. *Journal of Experimental Botany* (Under review). (^ggraduate student).
52. Mergoum M, Johnson J, Buck J, Buntin G, Sutton S, Lopez B, Mailhot D, Chen Z, Bland D, Harrison S, Murphy JP, Mason E, Sutton R, **Babar MA**, Brown-Guedira Gina, Ibrahim A, Boyles R, Baik B, Marshall D, Griffey C, Cambron SE, Chen X, Cowger C. 2021. A New Soft Red Winter Wheat Cultivar ‘GA 08535-15LE29’ Adapted to Georgia and the USA Southeast Region. *Journal of Plant Registration* (Accepted on April 1, 2022).
51. Sierra-Gonzalez A, Molero G, Rivera-Amado C, **Babar MA**, Reynolds M, Foulkes J. 2021. Exploring genetic diversity for grain partitioning traits to enhance yield in a high biomass spring wheat panel. *Field Crops Research*. 260. 107979. <https://doi.org/10.1016/j.fcr.2020.107979>. (IF = 5.224)
50. Ibrahim AMH, Sutton R, Johnson JW, Mergoum M, Simoneaux B, Harrison SA, Murphy JP, Mason RE, **Babar MA**, Neely C, Opeña G, Jin Y, Kolmer J, Boyles R, Cambron SE, Baik B, Brown-Guedira GL, Marshall D, and Fountain MO. 2021. Registration of ‘GA06343-13E2 (TX-EL2)’ Soft Red Winter Wheat. *Journal of Plant Registration*. 15 (1):107–112. <https://doi.org/10.1002/plr2.20031>. (IF = 0.395)
49. Mergoum M, Johnson JW, Buck JW, Sutton S, Lopez B, Bland D, Chen Z, Buntin GD, Mailhot DJ, **Babar MA**, Mason RE, Harrison SA, Murphy JP, Ibrahim AMH, Sutton RL, Simoneaux BE, Bockelman HE, Baik B, Marshall D, Cowger C, Brown-Guedira GL, Kolmer JA, Jin Y, Chen X, Cambron SE. 2021. Soft Red Winter Wheat, ‘GA 051207-14E53’: Adapted Cultivar to Georgia and the USA Southeast Region. 2021. *Journal of Plant Registration*. 15(1):132–139. <https://doi.org/10.1002/plr2.20102>. (IF = 0.395)
48. Mergoum M, Johnson JW, Buck JW, Sutton S, Lopez B, Bland D, Chen Z, Buntin GD, Mailhot DJ, **Babar MA**, Mason RE, Harrison SA, Murphy JP, Ibrahim AMH, Sutton RL, Simoneaux BE, Brown-Guedira GL, Griffey C, Baik B, Bockelman HE, Marshall D, Cowger C, Kolmer JA, Jin Y, Chen X, Cambron SE. 2021. A New Soft Red Winter Wheat Cultivar, ‘GA 07353-14E19’, Adapted to Georgia and the US South East Environments. *Journal of Plant Registration*. 15 (2): 337-344. <https://doi.org/10.1002/plr2.20113>. (IF = 0.395)
47. Mergoum M, Johnson JW, Buck JW, Sutton S, Lopez B, Bland D, Chen Z, Buntin GD, Mailhot DJ, **Babar MA**, Mason RE, Harrison SA, Murphy JP, Ibrahim AMH, Sutton RL, Simoneaux BE, Bockelman HE, Baik B, Marshall D, Cowger C, Brown-Guedira GL, Kolmer JA, Jin Y, Chen X, and Cambron SE. 2021. GA JT141-14E45’: A New Soft Red Winter Wheat Cultivar Adapted to Georgia and the Southeast US region. *Journal of Plant Registration*. 15(3): 471-478. <https://doi.org/10.1002/plr2.20070>. (IF = 0.395)
46. Guo J*^P, Khan J*^g, Pradhan S, Shahi D, Khan N, AVCI M, McBreen J, Harrison S, Brown-Guedira G, Murphy JP, Johnson J, Mergoum M, Mason RE, Ibrahim A, Sutton R, Griffey C, and **Babar MA**. 2020. Multi-trait genomic prediction of yield-related traits in US soft wheat under variable water regimes. *Genes*. 11(11):1270. (IF=4.096) <https://doi.org/10.3390/genes11111270>. (* Co-first author; ^PPost-Doc; ^ggraduate student).
45. Pradhan S^g, **Babar MA**, Bai G, Khan J, Shahi D, AVCI M, Guo J, McBreen J, Asseng S, Gezan S, Baik B, Blount A, Harrison S. 2020. Genetic Dissection of Heat-responsive Physiological Traits to Improve Adaptation and Increase Yield Potential in Soft Winter Wheat. *BMC Genomics*. BMC Genomics. 21:315. <https://doi.org/10.1186/s12864-020-6717-7>. (^ggraduate student). (IF=3.969)

44. Guo J^{P*}, Rahman A, Mulvaney MJ*, Hossain MM, Basso K, Fethiere R, **Babar MA***. **2020**. Evaluation of Edamame (*Glycine max* (L.) Merr.) Genotypes Suitable for Growing in Florida. *Agronomy Journal*. (^PPost-doc; *Equal contribution) (IF=1.985)
<https://doi.org/10.1002/agj2.20136>
43. Guo J^{P*}, Pradhan S^{g*}, Shahi D, Khan J, Mcbreen J, Bai G, Murphy JP, and **Babar MA**. **2020**. Increased Prediction Accuracy Using Combined Genomic Information and Physiological Traits in A Soft Wheat Panel Evaluated in Multi-Environments. *Scientific Reports-Nature*. 10(1):1-12. (* co-first author; ^Ppost-doc; ^ggraduate student) (IF=4.120)
42. Latif S^g, Wang L, Khan J, Ali Z, Sehgal SK, **Babar MA**, Wang J, and Quraishi UM. **2020**. Deciphering the role of Stay Green Trait to mitigate terminal heat stress in Bread Wheat. *Agronomy*. 10(7):1001.
<https://doi.org/10.3390/agronomy10071001>. (IF=2.603). (&visiting PhD student)
41. Khan N, Bano A and **Babar MA**. **2020**. Crosstalk amongst phytohormones from planta and PGPR under biotic and abiotic stresses. *Plant Growth Regulation*. 90 (2):189-203. <https://doi.org/10.1007/s10725-020-00571-x>. (&Biological Scientist). (IF=2.672).
40. Khan N^g, Banu A, **Babar MA**. **2020**. Impacts of Plant Growth Promoters and Plant Growth Regulators on Rainfed Agriculture. *PLOS ONE*. E15(4): e0231426.
<https://doi.org/10.1371/journal.pone.0231426>. (IF=2.870). (&Biological Scientist)
39. Shrestha SP^g, **Babar MA**, Robbins K, Guo J, Bai G, Mason RE, Khan J, Shahi D, Avci M, Guo J, Mergoum M, Hossain MK, Bhatta M, Mergoum M, Asseng S, St Amand P, Gazen S, Baik B, Blount A, and Bernardo A. **2019**. Understanding the Genetic Basis of Spike Fertility to Improve Grain Number, Harvest Index, and Grain Yield in Wheat Under High Temperature Stress Environments. *Frontiers in Plant Science*. 10:1481. <https://doi.org/10.3389/fpls.2019.01481>. (^ggraduate student) (Accepted) (IF=4.402)
38. Khan N^g, Ali S, Zandi P, Mehmood A, Ismail MI, Shahid MA and **Babar MA**. **2019**. Role of sugars, amino acids and organic acids in improving plant abiotic stress tolerance. *Pak. J. Bot.*, 52(2), DOI: [http://dx.doi.org/10.30848/PJB2020-2\(24\)](http://dx.doi.org/10.30848/PJB2020-2(24)) (&visiting PhD student).
37. Khan N^g, Bano A, Rahman M, Rathinasabapathi B and **Babar MA**. **2019**. UPLC-HRMS-based untargeted metabolic profiling reveals changes in chickpea (*Cicer arietinum*) metabolome following long-term drought stress. *Plant, Cell, Environment*, 42(1):115-132. <https://doi.org/10.1111/pce.13195> (&visiting PhD student) (citation-32) (IF=6.362).
36. Kang Z^{g*}, **Babar MA***, Khan N, Guo J, Khan J, Islam S, Shrestha S and Shahi, D. **2019**. Comparative metabolomic profiling in the roots and leaves in contrasting genotypes reveals complex mechanisms involved in post-anthesis drought tolerance in wheat. *PLOS ONE*. 1-25. <https://doi.org/10.1371/journal.pone.0213502>. (&visiting post-doc scientist; *equal contribution) (Citations-4) (IF=2.776).
35. Khan N^g, Bano A, Rahman A, Gou J, Kang Z and **Babar, MA**. **2019**. Comparative physiological and metabolic analysis reveals a complex mechanism involved in drought tolerance in chickpea (*Cicer arietinum* L.) induced by PGPR and PGRs. *Scientific Reports-Nature*. 9:2097. <https://doi.org/10.1038/s41598-019-38702-8>. (&visiting PhD student) (IF=4.512).
34. Hernandez-Ochoa I^g, Pequeno D, Reynolds R, **Babar MA**, Sonder K, Milan AM, Hoogenboom G, Robertson R, Gerber S, Rowland D and Fraisse C. **2019**. Adapting irrigated and rainfed wheat to climate change in semi-arid environments: Management, breeding options and land use change. *European Journal of*

- Agronomy. 109: 125915. (<https://doi.org/10.1016/j.eja.2019.125915>) (^ggraduate student) (IF=3.384).
33. Khan N[&], Bano A and **Babar MA**. 2019. Metabolic and physiological changes induced by plant growth regulators and plant growth promoting Rhizobacteria and its impact on drought tolerance in chickpeas. PLOS ONE. <https://doi.org/10.1371/journal.pone.0213040> ([&]visiting PhD student) (citation-2). (IF=2.776)
 32. Khan N[&], Bano A and **Babar MA**. 2019. The stimulatory effects of plant growth promoting rhizobacteria and plant growth regulators on wheat physiology grown in sandy soil. Archives of Microbiology. 201(6): 769-785. <https://doi.org/10.1007/s00203-019-01644-w> ([&]visiting PhD student). (IF=1.642)
 31. Martin-Sarinelli J, Murphy JP, Tyagi P, Holland J, Johnson JW, Mergoum M, Mason RE, **Babar MA**, Harrison S, Sutton R, Griffey C and Brown-Guedira G. 2019. Training population selection and use of fixed covariates to optimize genomic predictions in a historical USA winter wheat panel. Theoretical and Applied Genetics. 132 (4): 1247-1261. DOI: [10.1007/s00122-019-03276-6](https://doi.org/10.1007/s00122-019-03276-6). (citation-2). (IF=3.926).
 30. Thomason K^{g*}, **Babar MA***, Erickson JE*, Mulvaney M, Beecher C and MacDonald G. 2018. Comparative physiological and metabolomics analysis of wheat (*Triticum aestivum* L.) following post-anthesis at stress. PLOS ONE 13(6):e0197919. <https://doi.org/10.1371/journal.pone.0197919> (^ggraduate student; *equal contribution). (citation-7). (IF=2.776)
 29. Asseng S, Martre P, Maiorano A, Rötter RP, O'Leary G, Fitzgerald G, Girousse C, Motzo R, Giunta F, **Babar MA et al**. 2018. Climate change impact and adaptation for wheat protein. Global Change Biology. 1-19. DOI:[10.1111/gcb.14481](https://doi.org/10.1111/gcb.14481) (citation-32). (IF=8.997)
 28. Mason RE, Addison CK, **Babar MA**, Acuna A, Lozada DN, Subramanian N, Arguello MN, Miller RG, Brown-Guedira G, Guedira M and Johnson JW. 2018. Diagnostic markers for vernalization and photoperiod loci improve genomic selection for grain yield and spectral reflectance in wheat. Crop Science. 58:242–252. <https://doi.org/10.2135/cropsci2017.06.0348>. (citation-2). (IF=1.635)
 27. Hernandez-Ochoa I^g. Asseng M, Kassie S, Xiong BT, Robertson W, Pequeno R, Sonder K, Reynolds MP, **Babar MA**, Molero-Milan AI and Hoogenboom G. 2018. Climate change impact on Mexico wheat production. Agricultural and Forest Meteorology. 263:373-387. <https://doi.org/10.1016/j.agrformet.2018.09.008>. (^ggraduate student) (citation-8). (IF=4.189)
 26. Khan N[&], Bano A, Shahid MA, Nasim W and **Babar MA**. 2018. Interaction between PGPR and PGR for water conservation and plant growth attributes under drought condition. Biologia. 74:1-16. ([&]visiting PhD student).) (citation-4). (IF=0.728).
 25. Ibrahim AHM, Herrington R, Sutton R, Simoneaux B, Harrison SA, Blount AR, Murphy PJ, Barnett RD, Mason ER, **Babar MA**, Duncan RW, Rudd J, Opeña G, Nelson LR, West DR, Carson ML, Baker J, Hays DB, Johnson JW, Mergoum M and Fountain MO. 2018. Registration of 'TAMO 411' oat. Journal of Plant Registration. 12:186-189. (IF=0.800).
 24. Mason RE, Johnson JW, Mergoum M, Miller RG, Moon DE, Harrison SA, **Babar MA**, Murphy PJ, Ibrahim AMH, Sutton R and Blount AR. 2018. AR11LE24 is a soft red winter wheat adapted to the mid-south region of the United States. Journal of Plant Registration. 12:357-36. (IF=0.800).
 23. Johnson J, Buck B, Buntin G, **Babar MA**, Mason RE, Harrison S, Murphy PJ, Ibrahim A, Sutton R, Simoneaux B, Bockelman H, Baik B, Marshall D, Cowger C, Brown-guedira G, Kolmer J, Jin Y, Chen X, Cambron Sand Mergoum M. 2018. Savoy: an adapted soft red winter wheat cultivar for Georgia and the South East regions of the USA. Journal of Plant Registration. 12:85–89. (IF=0.800).

22. Rahman M[&], Akond M, **Babar MA**, Beecher C, Erickson J, Thomason K, De Jong F and Mason R. 2017. LC-HRMS based non-targeted metabolomic profiling of wheat (*Triticum aestivum* L.) under post-anthesis drought stress. *American Journal of Plant Sciences*. 8:3024-3061 (&Biological Scientist). (citation-9). (IF=1.41)
21. Lozada DN, Mason RE, **Babar MA**, Carver BF, Guedira G, Merrill K, Arguello MN, Acuna A, Vieira L, Holder A, Addison C, Moon DE, Miller RG and Dreisigacker S. 2017. Association mapping reveals loci associated with multiple traits that affect grain yield and adaptation in soft winter wheat. *Euphytica*. 213:222. (citation-16). (IF=1.527).
20. Johnson JW, Chen Z, Buck JW, Buntin GD, **Babar MA**, Mason RE, Harrison SA, Murphy JP, Ibrahim AMH, Sutton RL, Simoneaux BE, Bockelman HE, Marshall D, Cowger C, Brown-Guedira GL, Kolmer JA, Jin Y, Chen X, Cambron SE and Mergoum M. 2017. GA 03564-12E6: a high yielding soft red winter wheat cultivar adapted to Georgia and the South East Regions of the USA. *Journal of Plant Registration*. 11:159-164. (IF=0.800).
19. Harrison SA, **Babar MA**, Barnett RD, Blount AR, Johnson JW, Mergoum M, Mason RE, Murphy JP and Ibrahim AMH. 2017. LA05006: a dual-purpose oat for Louisiana and other southeastern regions of the USA. *Journal of Plant Registration*. 11:89-94. (IF=0.800).
18. **Babar MA**, Blount AR, Barnett RD, Mackowiak C, Akond M, Harrison SA, Johnson JW, Mergoum M, Mason RE, Murphy P, Ibrahim AMH, Sutton R and Simoneaux B. 2017. Registration of 'FL720' oat. *Journal of Plant Registrations*. 11:15-19. (IF=0.800).
17. Khan N[&], Bano A and **Babar MA**. 2016. The root growth of wheat plants, the water conservation and fertility status of sandy soils influenced by plant growth promoting rhizobacteria. *Symbiosis*. 72:195-205. (&visiting PhD student). (citation-18). (IF=2.009).
16. Talukder SK, Prasad PVV, Todd T, **Babar MA**, Poland JA, Bowden RL and Fritz AK. 2015. Effect of cytoplasmic diversity on post anthesis heat tolerance in wheat. *Euphytica*. 204:383-394. (citation-13). (IF=1.527).
15. **Talukder SK***, **Babar MA***, Vijayalakshmi K, Poland JA, Vara Prasad PV, Bowden RL and Fritz AK. 2014. Mapping QTL for the traits associated with heat tolerance in wheat. *BMC Genetics*. 15:97-109. (*Co-first author) (citation-76). (IF=2.777)
14. Zheng P, **Babar MA**, Parthasarathy S, Gibson R, Parliament K, Flook J, Patterson T, Friedemann P, Kumpatla S and Thomson S. 2014. A truncated FatB resulting from a single nucleotide insertion is responsible for reducing saturated fatty acids in maize seed oil. *Theoretical and Applied Genetics*. 127:1537-1547. (citation-5). (IF=3.926).
13. Prasad B, **Babar MA**, Bai G, Xu X and Klatt AR. 2009. Genetic diversity in the US hard red winter wheat cultivars as revealed by microsatellite markers. *Australian Journal of Agricultural Research*. 60:16-24. (citation-26). (IF=1.330).
12. Prasad B, **Babar MA**, Carver BF, M.L. ML, Raun WR and Klatt AR. 2009. Association of biomass production and canopy spectral reflectance indices in winter wheat. *Canadian Journal of Plant Sciences*. 89:485-496. (citation-10). (IF=0.986).
11. **Babar MA**, Van Ginkel M, Reynolds MP, Prasad B and Klatt AR. 2007. Heritability correlated response and indirect selection involving spectral reflectance indices and grain yield in wheat. *Australian Journal of Agricultural Research*. 58:432-442. (citation-21). (IF=1.330).
10. Prasad B, Carver BF, Stone ML, **Babar MA**, Raun WR and Klatt AR. 2007. Potential use of spectral reflectance indices as a selection tool for grain yield in winter wheat under Great Plains conditions. *Crop Science*. 47:1426-1440. (citation-

- 111). (IF=1.635).
9. Prasad B., Carver BF, Stone ML, **Babar MA**, Raun WR and Klatt AR. 2007. Genetic analysis of indirect selection for winter wheat grain yield using spectral reflectance indices. *Crop Science*. 47: 1416-1425. (citation-67). (IF=1.635).
 8. **Babar MA**, Reynolds MP, Van Ginkel M, Klatt AR, Raun WR and Stone ML. 2006. Spectral reflectance indices as a potential indirect selection criterion for wheat yield under irrigation. *Crop Science*. 46:578-588. (citation-159). (IF=1.635).
 7. **Babar MA**, Reynolds MP, Van Ginkel M, Klatt AR, Raun WR and Stone ML. 2006. Spectral reflectance to estimate genetic variation for in-season biomass, leaf chlorophyll and canopy temperature in wheat. *Crop Science*. 46:1046-1057. (citation-206). (IF=1.635).
 6. **Babar MA**, Van Ginkel M, Klatt AR, Prasad B and Reynolds MP. 2006. The potential of using spectral reflectance indices to estimate yield in wheat grown under reduced irrigation. *Euphytica*. 150:155-172. (citation-86). (IF=1.527).
 5. **Babar MA**, Newaz MA and Jahan MAHS. 2002. Identification of selection parameters for yield improvement in French bean (*Phaseolus vulgaris* L.). *Bangladesh Journal of Agricultural Sciences*. 29:85-89. (citation-13)
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15. Wallau W, Blount AR, Campos-Krauer JM, Lashley MA, Rios E, Vendramini JMB, Dubeux JCM, **Babar MA**, Mackowiak CL, and Quesenberry KH. 2021. A Walk on the Wild Side: 2021 Cool-Season Forage Recommendations for Wildlife Food Plots in North Florida. EDIS. SS-AGR-28. doi.org/10.32473/edis-ag139-2021
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55. Ghimire B, Mergoum M, Sapkota S, Youmans J, Pradhan S, Babar MA, Martinez-Espinoza AD and Buck JW, 2020. A preliminary genome-wide association study of Fusarium head blight resistance in soft winter wheat in the southeast United States. The American Phytopathological Society Annual Meeting, August 8 – 12, Denver, Colorado.
54. Khan J^g, Shrestha SP, Avci MI, Guo J, McBreen J and **Babar MA**. 2019. Spike Fertility, a Potential Traits for Wheat Grain Yield Improvement Under Post Anthesis Drought Stress Conditions. ASA-CSSA-SSSA International Annual Meeting; Nov. 10-13; San Antonio, Texas. (^ggraduate student)
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51. Love B^g, Sierra Gonzalez AS, Rivera Amado CR, Munnes-Bosch S, **Babar MA**, Molero G, Reynolds M and J Foulkes. 2019. Raising yield potential through improved harvest index and fruiting efficiency associated with plant hormone signaling in high biomass CIMMYT spring wheat genotypes. 1st International Wheat Congress, July 21-26, Saskatoon, Saskatchewan, Canada. (^ggraduate student)
50. Shahi D^G, Khan J, Avci M, Shrestha SP, Guo J, Hossain MM, Islam AFMS, Bai G, Reynolds M, Molero G, Sukumaran S, Foulkes J, Mason E and **Babar MA**. 2019. Identifying novel alleles contributing increased spike partitioning index and fruiting efficiency at anthesis plus 7 days in US soft wheat through genome wide association study. Plant and Animal Genomics Conference XXVII, January12-16, San Diego, CA. (^Ggraduate student)
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40. Khan N[&], Bano A, Rahman A, Gou J, Kang Z and **Babar MA**. 2018. UPLC-HRMS Based Non-Targeted Metabolomic Profiling in Chickpea Reveals Complex Mechanisms Involved in Drought Tolerance Induced By PGR and PGPR. Southern ASA Conference, Feb 4-6, Jacksonville, FL (&visiting doctoral student)
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38. Shrestha SP^g, Khan J, Avci M, Shahi D, Guo J, Rahman A and **Babar MA**. 2017. Identifying Potential Avenues for Increasing Grain Number under Post Anthesis HEAT Stress Condition. ASA, CSSA, SSSA International Conference International Conference, Oct 22-25, 2017, Tampa, FL. (^Ggraduate student)
37. Khan J^g, Shrestha SP, Avci M, Shahi D, Hossain MM, Rahman MA and **Babar MA**. 2017. Genetic Variability and Association Analysis in US Soft Wheat Panel for Fruiting Efficiency Under Post Anthesis Drought and Supplemental Irrigated Conditions. ASA, CSSA, SSSA International Conference International Conference, Oct 22-25, 2017, Tampa, FL. (^Ggraduate student)
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35. Sarinelli JM, Murphy JP, Holland J, Tyagi P, Johnson J, Mason RE, Harrison SA, Griffey CA, Sutton RL, Mergoum M, **Babar MA** and Brown-Guedira G. 2017. Training Population Selection and Use of Fixed Covariates to Optimize Genomic Predictions in a Historical Southeastern USA Winter Wheat Panel. ASA, CSSA, SSSA International Conference International Conference, Oct 22-25, 2017, Tampa, FL.
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 31. Blount A, **Babar MA**, Barnett RD, Mackowiak C, Rogers T, Smith B, Harrison AS, Johnson J, Murphy P, Mason E, Ibrahim A, Sutton R and Simoneaux B. 2017. Triticale for the Southeastern U.S. for grazing and silage. Easter wheat and southern small grain workers conference, May 1-3, 2017, Purdue University, West Lafayette, Indiana.
 30. Guedira M, Sarinelli MJ, Marshall D, Murphy PJ, Johnson JW, Mason RE, **Babar MA**, Harrison SA, Sutton R, Griffery C, Mergoum M and Gina Brown-Guedira. 2017. Effect of Major Developmental Genes *Vernalization-1* and *Photoperiod-1* on Heading Date and Grain Yield of Winter Wheat in the Southern USA. Easter wheat and southern small grain workers conference, May 1-3, 2017, Purdue University, West Lafayette, Indiana.
 29. Shrestha S^g, Battiste A, El Shamey E, **Babar MA** and Boroujerdi A. 2016. Drought-Tolerant Wheat Lines Exhibit Fewer Stress Related Metabolic Changes Compared to their Drought-Sensitive Counterparts. Annual Biomedical Research Conference for Minority Students, November 9-12, 2016, Tampa, Florida. (^Ggraduate student)
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 25. Shrestha SP^g, Khan J, Avci M, Hossain M, Akond M and **Babar MA**. 2016. Genetic variations in post-anthesis heat stress tolerance in US soft wheat germplasm. National Association of Plant Breeders International Conference. Aug 15-18, 2016, Raleigh, NC. (^Ggraduate student)
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23. Blount A, Mackowiak C, Dubeux J, **Babar MA**, Harrison S, Johnson J, Mergoum M, Mason E, Murphy P, Ibrahim A, Sutton R and Simoneaux B. 2016. Cool-season forage breeding for livestock and wildlife enterprises in the south-eastern U.S. Proceedings 70th Southern Pastures and Forage Crop Improvement Conference. Page 4. May 2-4, Monroe, LA.
22. Dong F, Beecher C, Akond M, Erickson J and **Babar MA**. 2015. Metabolic effect of drought stress during the grain filling growth stage in wheat measured by Isotopic Ratio Outlier Analysis (IROA). 63rd ASMS Conference on Mass Spectrometry, May 31-June 4, 2015, America's Center, St. Louis, Missouri, USA.
21. Akond M[&], **Babar MA**, Khatri K, Erickson J and Mason E. 2015. Genetic variations for terminal heat tolerance in Southeastern Soft wheat germplasm. Crop Science Society of America, 2015 International Conference, Nov 15-18, Minneapolis, MN. Abstract number 417-26.
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15. Harrison S and **Babar MA**. 2014. The changing climate for oats: an international perspective. Proceeding of American Oat Workers Conference. Page 8. July 13-16. Ottawa, Canada.
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2. Prasad B, Klatt AR, Carver BF, Raun WR, Stone ML and **Babar MA**. Potential use of canopy spectral reflectance as an indirect selection tool for yield improvement in winter wheat. Proceedings of 50th Annual Meeting of Crop Science Society of America, *In Annual Meetings Abstracts*. ASA, CSSA, SSSA, Madison, WI.
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