Ramasamy Perumal
Professor (Sorghum and Millet Breeding)
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https://www.hays.k-state.edu/programs/sorghum/index.html
https://www.hays.k-state.edu/programs/millet/index.html

Education and Training

Institution	Major/Area	Degree and year
Tamil Nadu Agricultural University, India	Plant Breeding and Genetics	PhD 1993
Tamil Nadu Agricultural University, India	Plant Breeding and Genetics	MS 1984
Tamil Nadu Agricultural University, India	Agriculture	BS 1982

Research and Professional Experience

Professor (Since June 2022); Associate Professor (June 2017 to May 2022); Assistant Professor (June 2012 to May 2017); Research Assistant Professor (May 2010 to May 2012): Kansas State University, Agricultural Research Center, Hays, Kansas.
Research Focus: Sorghum and pearl millet breeding research program for the semi-arid regions of Kansas to increase the yield potential through the development of elite parental lines and hybrids with chilling, heat and drought tolerance (pre-flowering and post-flowering resistance), non-lodging and diseases resistance (*Fusarium* stalk rot, charcoal rot and grain mold - sorghum), and herbicide tolerance in pearl millet. The program also evaluates exotic germplasm to find new genetic sources for use in the development of improved lines. Other research focuses are: i) develop sorghum and millet hybrids for direct commercialization in partnership with private industries ii) develop breeding specialty sorghums with adapted traits background and high anti-oxidant properties for drug discovery against colon-cancer treatment in sorghum iii) develop high yielding grain and forage pearl millet parental lines and hybrids for improved grain micronutrient (iron and zinc) contents and forage quality traits. Collaborative research efforts are being continued with crop physiology, plant pathology, research chemist and genomics scientists from national (K-State, Texas A&M University, USDA, Manhattan, Kansas and Lubbock, Texas) and international (SRM University, Tamil Nadu Agricultural University and ICRISAT, India) institutes. The program integrates classical, molecular marker and predictive breeding approaches to achieve the targeted goals.

Associate Research Scientist (**2006 - 2010)**, Department of Plant Pathology and Microbiology, Texas A&M University, College Station, Texas.
Research focus: USDA research projects i) Sorghum anthracnose virulence study and molecular characterization using AFLP-ABI genotyping facilities. ii) Identify unique sources of resistance for anthracnose, grain mold, sorghum downy mildew (SDM) and head smut diseases within the

exotic minicore-germplasm (ICRISAT, India) collection followed by microsatellites based genotyping studies using a high throughput ABI Prism 3100 DNA sequencing system iii) Standardization of inoculation method, virulence pattern and genetic structure analyses of sorghum head smut (*Sporisorium Reilianum*) isolates iv) Amplified fragment length polymorphism (AFLP) and simple sequence repeat (SSR) based diversity analysis in sorghum [*Sorghum bicolor* (L.) Moench] diversified germplasm accessions v) Develop molecular diagnostic probes using real-time PCR analysis for sorghum fungal diseases.

Assistant Research Scientist (**2003 - 2005)**, Department of Plant Pathology and Microbiology, Texas A&M University, College Station, Texas.
Research focus: i) Identify differentially expressed sequences using suppressive subtractive hybridization followed by designing sequence specific probes for sorghum downy mildew (SDM) disease and screening sorghum cultivars/elite lines using real-time (RT)-PCR ii) Molecular characterization, genetic structure and phylogenetic analyses of diversified isolates of SDM, head smut and anthracnose diseases. iii) Antifungal protein expression using RT-PCR technique with sequence specific probes and defense primers for sorghum grain mold disease and iv) Molecular marker(s) development for head smut and anthracnose disease resistance in sorghum.

Associate Professor (**2000-2002)**, Tamil Nadu Agricultural University, India.
Research focus: Sesame [S*esamum indicum* (L.)] crop breeding and germplasm maintenance to develop high yielding non-shattering varieties for dryland cultivation.

Post-Doctoral Research Associate (**1998-2000**), Department of Plant Pathology and Microbiology, Texas A&M University, College Station, Texas.
Research focus: i) Develop mapping population and identify closely linked AFLP markers for sorghum head smut (*Sporisorium reilianum*) resistance gene(s) ii) Develop co-dominant sequence tagged sites (STS) followed by SNP (Single Nucleotide Polymorphism) through cleaved amplified polymorphic sequences (CAPS)/derived cleaved amplified polymorphic sequence (dCAPS) markers.

Assistant Professor (1984 -1998), Tamil Nadu Agricultural University, India.
Research focus: i) Sorghum [*Sorghum bicolor* (L.) Moench] breeding and maintenance of germplasm (1994 - 1998); ii) Finger millet [*Eleusine coracana* (L.) Gaertn] breeding (1989-93); Soybean [*Glycine max*], *Lablab purpureus* var. *typicus* and *Lablab purpureus* var. *lignosus* (L.) Sweet. respectively hyacinth bean*/garden bean and* field bean and horse gram [*Macrotyloma uniflorum* (L.) Verdec] crops breeding and maintenance of germplasm (1984-88) for germplasm maintenance and cultivar development.

Parental lines and mapping population release from Kansas State University, USA

- Released chilling tolerant seed and pollinator parent lines (KS148A&B, KS149A&B, KS152R and KS153R) in 2021. These unique lines are tannin free, with good adaptable agronomic traits and are recommended to develop hybrids for early (end of April to first week of May) planting for the central great plains under chilling stress.
- Released drought tolerant seed and pollinator parent lines (KS150A&B, KS151A&B, KS154R, KS155R, KS156R and KS157R) in 2021and are recommended to develop hybrids for planting under dryland conditions.

- Released sorghum nested association mapping (NAM) population with 2121 recombinant inbred lines (RILs) on 2020. This release brings national recognition to K-State's sorghum breeding program and provides the sorghum community (national and international) with a population capturing the wide genetic variation in sorghum that can serve as a unique resource to identify molecular markers/genes for complex traits.
- Released six drought-tolerant grain sorghum male parents (pollinators) and 17 herbicide-resistant [Acetolactate Synthase (ALS) inhibitor] resistant sorghum pollinators in 2017. Multiple seed companies are using these lines for the development of new high-yielding drought-tolerant hybrids.
- Released nine seed parent lines (KS133A/B to KS141A/B) in 2014. These lines are short in height, panicle with complete exsertion, good combining ability and standability with excellent potential to develop high-yielding hybrids under drought stress conditions.
- Associated for the release of twelve sorghum pollinator lines tolerant to greenbug feeding damage (year of release 2007 and published in 2012)

Variety release from Tamil Nadu Agricultural University, India

- Released a high yielding sorghum cultivar Co28 in 2002 for dryland cultivation.
- Released three high yielding hyacinth bean/garden bean (common name: Avarai) (*Lablab purpureus* var. *typicus* (L.) Sweet) cultivars Co11, Co12 and Co13 respectively in 1990, 1993 and 1997, suitable both for vegetable and grain purposes.
- Released a short duration soybean Co2 cultivar in 1995 suitable for Tamil Nadu, India.
- Released a high yielding hyacinth bean/field bean (common name: Mochai) (*Lablab purpureus* var. *lignosus* (L.) Sweet) cultivar Co2 in 1989 suitable for grain purpose and dryland cultivation.

Honors/awards

- Fulbright Specialty Award for 2025
- The Rockefeller foundation post-doctoral research fellowship, New Yo**r**k, USA for Sorghum Biotechnology (1998-2000).
- Senior Research Fellowship awarded by The Indian Council of Agricultural Research, Government of India, New Delhi, India (1988-1990).
- Adjunct faculty in 4 Universities: Texas A&M University, College Station, Texas, Tamil Nadu Agricultural University, TN and SRM University, TN, SKUAST-Kashmir, India.

Synergistic Activities

i) *Leadership*

- Lead role in the development and commercialization of K-State sorghum hybrids in partnership with public (TAMU, USDA, Lubbock, TX) and private (S&W Seeds Co.) breeding programs.
- Established a strong partnership and collaborative network with international public and private institutions [The Indian Institute of Millet Research (IIMR), ICRISAT, SRM University and TNAU, India and University of Thies, Senegal] for the exchange of breeding materials and capacity building.

- Established MoU between KSU and SRM University, India and strengthened Indo-US collaboration for research and capacity building (graduate students' study, visiting scholars exchange visitors' program).
- Served as Board member and successfully organized two Sorghum Improvement Conference of North America (SICNA) Dallas-Fort Worth, Texas from March 28-30, 2022; Oklahoma City, OK, USA - April 2-4, 2024).

ii) Editorial board and research paper review

- Crop Science - Associate Editor (since 2020); Crop Science – Technical Editor (Special issue on Millets 2023); PLOS ONE - Academic editor (since 2018); Crop Breeding, Genetics and Genomics - Associate Editor (since 2019); International Journal of Plant Breeding and Genetics - Technical editor (2011 to 2015).
- Served as the Chief Editor for the monograph on Pearl Millet 2023, Wiley Publishers, ACSESS DL Book, ASA and CSSA, Madison, WI
- Serving as the Editor for the monograph on The World Millets: Crops for Food, Nutrition and Sustainability, Wiley Publishers, ACSESS DL Book, ASA and CSSA, Madison, WI
- Served as the Managing editor *In* Ciampitti, I. and Prasad, P.V.V. (Eds.), Sorghum: A state of the art and future perspectives, Agron. Monogr. 58. ASA and CSSA, Madison, WI.
- Serving as member in the Advisory Committee for the compendium of sorghum diseases (section: Sorghum breeding and diseases, 3rd Edition, American Phyto-pathological Society's publication).
- Published **124** research articles, **20** book chapters, **73** abstracts/posters and **6** extension publications.
- Serving as a potential reviewer for **21 journals and reviewed more than 200 research manuscripts**: Journal of Plant Registrations, Crop Science, Field Crops Research, Plant Breeding, Euphytica, Molecular Breeding, Agronomy Journal, 3Biotech, BMC Genomics, Plant Disease, PLOS ONE, G3: Genes|Genomes|Genetics, Physiology and Molecular Plant Pathology, Canadian Jounal of Plant Science, Plant Genome, Frontiers in Plant Science, Scientific Reports, Transgenic Research, Crop Protection, Physiology and Molecular Biology of Plants, Journal of Sustainable Bioenergy Systems.

iii) National and international conference

- **Perumal, R. 2024.** Pearl millet: Vision for Global Importance at the ICAR-Central Arid Zone Research Institute (CAZRI), Jodhpur, Rajasthan 342 003 (India) (Feb 14, 2024) (**Invited talk**)
- **Perumal, R. 2024.** Accelerating Pearl Millet Crop Improvement By Integrating Classical And Molecular Breeding Approaches at the International Crops Research Institute for the Semi-arid Tropics (ICRISAT), India (March 06, 2024) (**Invited talk**)
- **Perumal, R. 2023.** Principles and current advances in plant breeding using genomic selection and makers to accelerate classical plant breeding efforts at the Regional Center of Excellence on Dry Cereals and Associated Cultures (CERAAS), Senegalese Agricultural Research Institute (ISRA), Thies, Senegal West Africa on Dec 04, 2023 (**Invited tal**k)

- **Perumal, R. 2023.** Organized a Special Session--ASA-CSSA-SSSA Publications, Manuscript Writing and Publishing. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO. Oct 31, 2023
- **Perumal, R.** 2023. Event presentation on Pearl Millet Book. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO. Oct 31, 2023 (**Invited tal**k) https://scisoc.confex.com/scisoc/2023am/meetingapp.cgi/Paper/155676
- **Perumal, R**., Serba, D. D. and Govindaraj, M. 2023. Pearl Millet: A Climate-Resilient Crop to Improve Global Food and Nutritional Security. Symposium presentation - Millets As Climate-Resilient Crops to Improve Global Food and Nutrition Security ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO. Oct 31, 2023 (**Invited tal**k) https://scisoc.confex.com/scisoc/2023am/meetingapp.cgi/Paper/151452
- Siliveru, K., Tiffany Mendoza, P. and **Perumal, R.** 2023. Grain Composition, Nutritional Value and Importance of Pearl Millet for Gluten Free Diet [Symposium presentation]. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO. Oct 31, 2023 (**Invited tal**k) https://scisoc.confex.com/scisoc/2023am/meetingapp.cgi/Paper/148462
- Served as marker assisted breeding session chair, International Plant Genetics and Genomics 2020 conference on Jan 23-24, 2020 at SRM Institute of Science and Technology, Chennai, India.
- Served as scientific program committee member to review and selected the abstracts/posters with Dr. David Jordan, The University of Queensland, Australia for Sorghum in the 21st Century - Global conference on Food, Feed and Fuel in a Rapidly Changing World, Cape Town, South Africa (April 9-12, 2018).
- Technical program chair: Applied Breeding - I session. Sorghum in the 21st Century - Global conference on Food, Feed and Fuel in a Rapidly Changing World, Cape Town, South Africa (April 9, 2018).
- **Perumal, R.** and Bashir, E. 2018. Analysis of heterosis and combining ability over environments for cold tolerance in sorghum. Sorghum in the 21st Century - Global conference on Food, Feed and Fuel in a Rapidly Changing World, Cape Town, South Africa (April 10). (**Invited talk**)
- **Perumal, R.** 2018. Sorghum performance under high temperature stress and stalk-rot disease pressure. Sorghum in the 21st Century - Global conference on Food, Feed and Fuel in a Rapidly Changing World, Cape Town, South Africa (April 120). (**Invited talk**)
- Serving as Sorghum Breeding chair (2012, 2013, 2018 and 2020) in the sorghum improvement conference of North America (SICNA).

Invited seminars for students (National and International)

- **Perumal, R. 2024.** Cereal Crops Research: Current Status and Future, Annamalai University, Chidambaram, TN, India (Sep 27, 2024)
- **Perumal, R. 2024.** Pearl millet: A climate resilient dry land cereal for future, ADAC&RI, Tamil Nadu Agricultural University, Trichy, TN, India (Sep 26, 2024
- **Perumal, R.** 2019. Marker-assisted selection to accelerate crop breeding, SRM Univ., TN, India (Sep 18).
- **Perumal, R.** 2018. Classical and molecular breeding in sorghum, Department of plant breeding and genetics, TNAU, Coimbatore, TN, India (April 26).

- **Perumal, R.** 2018. Marker Assisted Selection and Sorghum Breeding, Department of Center for plant molecular biology and biotechnology, TNAU, Coimbatore, TN, India (April 25).
- **Perumal, R.** 2018. Study abroad challenges and prospects and sorghum breeding, TNAU, Agricultural College and Research Institute, Tirunelveli, TN, India (April 19).
- **Perumal, R.** 2018. Study abroad challenges and prospects and sorghum breeding, TNAU, Agricultural College and Research Institute, Madurai, TN, India (April 16).
- **Perumal, R**. 2018. Marker-assisted selection, SRM Univ., TN, India (April 15).
- **Perumal, R**. 2017. Basic principles of plant breeding, Department of biology, West Virginia State University, Institute, WV, USA (June 28).

v) Projects review

- Served as external reviewer for Dr. Richard Boyles for the Promotion to Associate Professor with Tenure in the Department of Plant and Environmental Sciences, Pee Dee Research and Education Center, Clemson University, Clemson, South Carolina.
- Reviewed Dr. Louis K. Prom's USDA- ARS National Program 303 project on Sorghum diseases.
- Reviewed Dr. William Rooney's sorghum Breeding (Texas A&M University) CRIS project on Genetic improvement of sorghum for improved productivity, adaptability and quality.
- Reviewed the variety release proposal to release Tx3364 to Tx33407 sorghum germplasm, Texas A&M University, Texas.

vi) KSU Service activity

ARC, Hays KS

- Committee chair, Research Assistant Professor (Millet breeding)
- Search Committee Chair, Agricultural Technician (Sorghum breeding)
- Search Committee Member for the Ag. Technician (Wheat Breeding)
- Mentoring Committee Chair for Dr. Desalegn Serba (Millet breeding)
- Mentoring Committee Member for Dr. Augustine Obour (Soil science) and Dr. Vipan Kumar (Weed science)

Agronomy & College of Agriculture

- Organizing the center for sorghum improvement monthly seminar since 2011(approximately 150 seminars organized)
- Search committee member, Assistant Professor (sorghum genetics)
- Search committee member, Variety performance testing advisory

Teaching

Kansas State University, Manhattan, Kansas

- Offered/offering guest lectures:
    - AGRON 630: Crop Improvement and Biotechnology
    - AGRON 860 – Applied Plant Breeding
- Organized Molecular Plant Breeding: Functional genomics, phenomics, and association genetics workshop in collaboration with Drs. Nimmakayala and Reddy, Department of Biology, West Virginia State University, Institute, WV. Arranged travel grants for three

graduate students (Kinde Nouh Ketema, Yemane Belayneh and Diriba Chere, Department of Agronomy, KSU, Manhattan) (June 28 to 30, 2017). (*NIFA-USDA funded project*)

- Offered a summer short course hands on training for three weeks on principles of plant breeding and genetics to undergraduate students to strengthen Indo-US collaboration and capacity building through institutional Development Program (IDP) (World Bank funded project)
    - Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST): 12students (June, 2022)
    - Andhra Pradesh Agricultural University, India: 11students (June, 2019)

Texas A&M University, College Station, Texas

- PLPA 616 (guest lectures): Methods in molecular biology of plant-microbe interactions (2008 and 2009) Topics covered - Molecular markers, genetic mapping, QTL analysis, map-based cloning and marker assisted selection.
- PLPA 623 (guest lectures): Diseases of field crops (2009) - Topics covered: Sorghum diseases, inoculation methods and molecular disease diagnostics.

Tamil Nadu Agricultural University, India

- Undergraduate courses (1987-1993): Systematic Botany and Crop Ecology (AGB 101), Economic Botany (AGB 201), Genetics (AGB202), Cytogenetics (AGB 300), Principles & methods of plant breeding (AGB 302) & Methods of plant breeding for pulses, cereals & oilseeds (AGB 401).
- Graduate courses (1994-1997): Quantitative and biometrical genetics (PBG605) and Advances in quantitative and biometrical genetics (PBG803).

Mentoring

Kansas State University, Kansas

Student	Degree	Advisor/Co-Advisor/Committee Member	Time frame
Shamugam, N	PhD	Co-Advisor (Advisor: Muthurajan, R., TNAU)	F2023 – F2027
Arinarayanasamy, T	PhD	Co-Advisor (Advisor: Muthurajan, R., TNAU)	F2023 – F2027
Sapkota, P	PhD	Co-Advisor (Advisor: Rooney, W., TAMU)	F2022 – F2025
Ramalingam, A.P.	PhD	Advisor (KSU)	S2022 - Sp2026
Ketema, K.N.	PhD	Co-Advisor (Advisor: Tesso, T., KSU)	F2017 - S2023
Fonseca, J.O.	PhD	Co-Advisor (Advisor: Rooney, W., TAMU)	F2017 - S2021
Ostmeyer, T.	MS	Advisor (KSU)	S2018 - S2020
Elana R. Arazi	MS	Advisor (KSU)	F2024 - S2026
Sabreena Ayoub	MS	Advisor (KSU)	S2023 - Sp2025
Midhat Tugoo	MS	Advisor (KSU)	S2023 - Sp2025
Matt Davis	MS	Co-Advisor (KSU)	S2022 - S2024
Sandeep Tomar	MS	Advisor (KSU)	S2011 - S2013
Nathan Smith	MS	Member (Advisor: Chris Little KSU)	F2022 - F2024
Belayneh, Y.	Ph.D.	Member (Advisor: Tesso, T., KSU)	F2017 - F2021
Olatoye, M.	Ph.D.	Member (Advisor: Morris, G., KSU)	F2017 - F2021

Maina, F.	Ph.D.	Member (Advisor: Morris, G., KSU)	F2017 - F2021
Faye, J.	Ph.D.	Member (Advisor: Morris, G., KSU)	F2017 - F2021
Chiluwal, A.	Ph.D.	Member (Advisor: Jagadish, S.V.K., KSU)	S2016 - F2018

Post-doctoral research associate (3): Uday Jha (July 01 2023 to June 30 2024 with collaborative support from Dr. Vara Prasad, Director, SILL, KSU, Manhattan, Mukhtar, E. (2016 to 2018), Kapanigowda, M.H. (2011 to 2013); Full-time Technicians (2); part-time student workers (3).

- Visiting scholar (10)
  - Mohanavel, W., Tamil Nadu Agricultural University, India (March 01-June 30, 2024)
  - Shamugam, N., Tamil Nadu Agricultural University, India (March 01-Aug 31, 30, 2024)
  - Arinarayanasamy, T., Tamil Nadu Agricultural University, India (May 01-Aug 31, 30, 2024)
  - Sadiah Shafi - 9 months (July 01, 2023 to March 31, 2024) with collaborative support from Dr. Vara Prasad, Director, SILL, KSU, Manhattan
  - Abdullah Bin Umar, University of Agriculture, Faisalabad, Pakistan for nine months (Sep 2022 to May 2023)
  - Akilan Rathinagiri, undergraduate visiting scholar from SRM, University, Chennai, India for one year (October 2021 – September 2022).
  - Dhanush Srikanthan, undergraduate visiting scholar from SRM, University, Chennai, India for six months (03 Jan to 25 June 2019).
  - Ahmed Abdelwahab from Egypt for 12 months starting Feb 2018.
  - Bassirou Mbacke - Visiting Scientist (University of Thies, Thies, Senegal, West Africa) USDA - 2014 Norman E. Borlaug International Agricultural Science and Technology Fellowship Program (Sep 12 to Nov 2014).
  - Sanjana Pulluru – Visiting Scientist (National Agricultural Innovation Project (NAIP) fellowship, Indian Council of Agricultural Research (ICAR) New Delhi, India to undergo training in the area of sorghum molecular breeding at KSU; (Aug 12 to Nov 09, 2013).

Texas A&M University, College Station, Texas

- Trained Dr. Magill's two graduate students for advanced molecular lab techniques and helped for their thesis completion on the following sorghum projects:
  i) Expression of defense genes in sorghum grain mold and tagging and mapping a sorghum anthracnose resistance gene (*Molecular Plant Pathology* 2010, 11(1):93–103).
  ii) Resistance Gene Analogs (RGAs) Isolation and their Characterization in Sorghum [*Sorghum bicolor* (L.) Moench].
- Trained two lab technicians, three visiting scientists in Dr. Magill's lab for molecular techniques and hands on training.
- Conducted summer hands-on training on molecular fingerprinting to high school students (2008 and 2009).

Tamil Nadu Agricultural University, India

- Advisor: Iyanar, K. (MS program), Tamil Nadu Agricultural University, India. Research title: Characterization of diverse cytosteriles of sorghum through fertility restoration studies (*Crop Res* 2005**,** 29(1):114-117).

Grants

- **Kansas State University (since 2010):** Secured a total funding of $ 11 million (since 2010) with all collaborators and with a share of $3 million to the breeding program from different funding agencies (Kansas grain sorghum commission, United sorghum checkoff program, NIFA-USDA, USDA-ARIS/Specific co-operative agreement, USDA-ARS-Germplasm resource information network and in-kind industry support).

- **Texas A&M University (2009-2010):** Global Crop Diversity**:** Evaluation of mini-core sorghum germplasm for resistance against multiple diseases (30K)

Memberships in professional societies

- National Association of Plant Breeders
- American Society of Agronomy
- Crop Science Society of America
- American Phytopathological Society
- Sorghum Improvement Conference of North America (National Sorghum Producers; Lubbock, TX)
- Society for Millets Research, Hyderabad, India
- Indian Society of Genetics and Plant Breeding, New Delhi, India.
- Madras Agricultural Students' Union (The Madras Agricultural Journal)
- Indian Society of Plant Breeders (ISPB)

Training

- Attended James R. Coffman Leadership Institute (The Rock Springs 4-H Center, Junction City, KS; August 6-8, 2014).
- Genotyping-by-sequencing (GBS) workshop (Cornell University, Ithaca, New York; Jan 28-29, 2014).
- QTL and association mapping software (TASSEL) training at Department of Biology, West Virginia State University, Charleston, WV, USA (July14-15, 2009).
- Microarray workshop at Department of Biology, West Virginia State University, Charleston, WV, USA (April 2-5, 2008).
- Eco-TILLING training by LICOR Company at Texas A&M University, College Station, Texas, USA (Feb.24-25, 2008).
- Bacterial artificial chromosome (BAC) library construction hands-on training at Norman Borlaug Centre, Texas A&M University, College Station, Texas, USA (June 8-18, 2000).

Publications

i) Book (Chief Editor)

Perumal, R, Prasad, P. V. V., Satyavathi, C. T., Govindaraj, M. and Tenkouano, A. (Eds.) 2024. Pearl Millet: A Resilient Crop for Food, Nutrition and Climate Security, Monograph Wiley Publishers, Alliance of Crop, Soil and Environmental Science Societies (ACSESS), ASA-CSSA-SSSA, Madison, Wisconsin, USA. https://doi.org/10.1002/9780891184034

ii) Research articles (124)

1. Mohanavel, W., Ramalingam, A.P., Ayyenar, B., Rajagopalan, V., Mohanavel, V., Subburaj, S., Manickam, S., Rajasekaran, R., Chellappan, G., Swaminathan, M., **Perumal, R**., Muthurajan, R. and Prasad, P.V.V. 2025. Mining of candidate novel alleles using GWAS and haplotype identification for rice blast resistance. Plant Pathology 0:1-11. https://doi.org/10.1111/ppa.14059

2. Ramalingam, A. P., Rathinagiri, A., Serba, D. D., Madasamy, P., Muthurajan, R., Prasad, P. V., and **Perumal, R**. 2024. Drought tolerance and grain yield performance of genetically diverse pearl millet [*Pennisetum glaucum* (L.) R. Br.] seed and restorer parental lines. Crop Science 64(5):2552-2568. https://doi.org/10.1002/csc2.21271

3. Winans, N.D., Fonseca, J.M.O., **Perumal, R**., Klein, P.E., Klein, R.R. and Rooney, W.L. 2024. Envirotyping can increase genomic prediction accuracy of new environments in grain sorghum trials depending on mega-environment. Crop Science 64(5):2519-2533. https://doi.org/10.1002/csc2.21213

4. Djanaguiraman, M., Vimala, K., Sofi, P. A., **Perumal, R**. and Prasad, P. V. V. 2024. Genetic variation for grain iron and zinc concentration in the US sorghum [*Sorghum bicolor* (L.) Moench] association panel. Crop Science 64(5):2652-2665. https://doi.org/10.1002/csc2.21299

5. Carcedo, A., Maddonni, G., Ramalingam, A. P., Parray, S.A., Tugoo, M.Z., Pereira, T.A., **Perumal, R**., Prasad, P. V. V. and Ciampitti, I. 2024. Pearl millet phenology assessment: An integration of field, a review, and in silico approach. Crop Science 64(6):3028-3042. https://doi.org/10.1002/csc2.21352

6. Mendoza, Q. A., Armstrong, P., Siliveru, K., Pulivarthi, M. K., Ramalingam, A.P., Prasad, P. V., and **Perumal, R.** 2024. Non-destructive characterization of pearl millet [*Pennisetum glaucum* (L.) R. Br.] composition using single-kernel NIR spectroscopy. Crop Science 64(6):3043-3051. https://doi.org/10.1002/csc2.21375

7. Prom, L.K., Ahn, E.J S., **Perumal, R**., Isakeit, Odvody, G.N. and Magill, C.W. 2024. Genetic and pathogenic variability among isolates of *Sporisorium reilianum* causing sorghum head smut. Journal of Fungi 10(1):62. https://doi.org/10.3390/jof10010062

8. Winans, N.D., Fonseca, J.M.O., **Perumal, R**., Klein, P.E., Klein, R.R. and Rooney, W.L. 2024. Envirotyping can increase genomic prediction accuracy of new environments in grain sorghum trials depending on mega-environment. Crop Science 64(5):2519-2533. https://doi.org/10.1002/csc2.21213

9. Patil1, N.Y., Hoffmann Jr, L., Winans, N., **Perumal, R**., Hayes, C., Y. Emendack, Boyles, R.E., Dahlberg, J., Klein, R.R., Klein, P.E. and Rooney W.L.2024. Registration of sorghum backcross-nested association mapping (BC-NAM) families in a BTx623 or RTx436 background. Journal of Plant Registrations 18: 204-219 https://doi.org/10.1002/plr2.20286

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iii) Book Chapters (20)

1. Yadav, O.P., Gupta, S.K., Mahala, R.S., Ramalingam, A.P., Parray, S.A. and **Perumal, R.** 2024. Pearl millet hybrid development and seed production. In Pearl Millet: A Resilient Crop for Food, Nutrition and Climate Security, Monograph (Eds. Perumal, R, Prasad, P. V. V., Satyavathi, C. T., Govindaraj, M. and Tenkouano, A.), Wiley Publishers, Alliance of Crop, Soil and Environmental Science Societies (ACSESS), ASA-CSSA-SSSA, Madison, Wisconsin, USA https://doi.org/10.1002/9780891184034.ch6

2. Gangashetty, P.I., Inoussa, D., Kanfany, G., Rakshith. P., Riyazaddin, M., Diack, O., Serba, D.D. and **Perumal, R**. 2024. Challenges and Opportunities of Pearl Millet Hybrid Development and Seed Production in West Africa. In Pearl Millet: A Resilient Crop for Food, Nutrition and Climate Security, Monograph (Eds. Perumal, R, Prasad, P. V. V., Satyavathi, C. T., Govindaraj, M. and Tenkouano, A.), Wiley Publishers, Alliance of Crop, Soil and Environmental Science Societies (ACSESS), ASA-CSSA-SSSA, Madison, Wisconsin, USA https://doi.org/10.1002/9780891184034.ch7

3. Djanaguiraman, M., Priyanka, A.S., Vaishnavi, S.J., **Perumal, R**., Ciampitti, I.A. and Prasad, P.V.V. 2024. Impact of drought and high-temperature stresses on selected crop growth and development stages, physiological, reproductive, and yield traits of pearl millet. In Pearl Millet: A Resilient Crop for Food, Nutrition and Climate Security, Monograph (Eds. Perumal, R, Prasad, P. V. V., Satyavathi, C. T., Govindaraj, M. and Tenkouano, A.), Wiley Publishers, Alliance of Crop, Soil and Environmental Science Societies (ACSESS), ASA-CSSA-SSSA, Madison, Wisconsin, USA https://doi.org/10.1002/9780891184034.ch9

4. Djanaguiraman, M., P. A. Sofi., Shanker, A. K., Ciampitti, I. A., **Perumal, R**. and Prasad, P. V. V. 2024. Growth, Development, and Physiology of Pearl Millet. In Pearl Millet: A Resilient Crop for Food, Nutrition and Climate Security, Monograph (Eds. Perumal, R, Prasad, P. V. V., Satyavathi, C. T., Govindaraj, M. and Tenkouano, A.), Wiley Publishers, Alliance of Crop, Soil and Environmental Science Societies (ACSESS), ASA-CSSA-SSSA, Madison, Wisconsin, USA https://doi.org/10.1002/9780891184034.ch8

5. Little, C.R., **Perumal, R**. and Todd, T.C.2024. Diseases of Pearl millet (*Pennisetum glaucum* L.). In Pearl Millet: A Resilient Crop for Food, Nutrition and Climate Security,

Monograph (Eds. Perumal, R, Prasad, P. V. V., Satyavathi, C. T., Govindaraj, M. and Tenkouano, A.), Wiley Publishers, Alliance of Crop, Soil and Environmental Science Societies (ACSESS), ASA-CSSA-SSSA, Madison, Wisconsin, USA https://doi.org/10.1002/9780891184034.ch11

6. Faye, A., Lo, T., Diaw, M.T., Dieng, A., Min, D., Obour, A., **Perumal, R.** and Prasad, P.V.V. 2024. Pearl Millet Biomass for Fodder in West Africa Region. In Pearl Millet: A Resilient Crop for Food, Nutrition and Climate Security, Monograph (Eds. Perumal, R, Prasad, P. V. V., Satyavathi, C. T., Govindaraj, M. and Tenkouano, A.), Wiley Publishers, Alliance of Crop, Soil and Environmental Science Societies (ACSESS), ASA-CSSA-SSSA, Madison, Wisconsin, USA https://doi.org/10.1002/9780891184034.ch13

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19. Nimmakayala., P, **Perumal R**., Mulpuri, S. and U. K. Reddy. 2011. Sesamum. *In* Kole C. (ed.), Wild Crop Relatives - Genomic and Breeding Resources, Oilseeds Springer-Verlag Berlin Heidelberg. p. 261-273. https://doi.org/10.1007/978-3-642-14871-2_16

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iv) Abstract/poster (93)

1. Parray, S.A., Prasad, P.V. and **Perumal, R**. 2024. Unravelling drought tolerance in Pearl Millet using GWAS. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, USA. Nov.10-13. (Poster).

2. Parray, S.A., Prasad, P.V. and **Perumal, R**. 2024. Evaluation of Pearl Millet germplasms for drought tolerance., ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, USA. Nov.10-13. (Poster and Oral).

3. Pereira, T.A., Carcedo, A., Maddonni, G., Ramalingam, A. P., Parray, S.A., Tugoo, M.Z., **Perumal, R**., Prasad, P. V. V. and Ciampitti, I. 2024. Phenology in Pearl millet: Exploring Genotypic responses to temperature and photoperiod. ASA, CSSA & SSSA International Annual meeting, San Antonio, USA. Nov.10-13. (Poster).

4. **Perumal, R**., Mohanavel, W., Ramalingam, A. P., Muthurajan, R. and Prasad, P. V. V. 2024. Mining Novel Alleles Using GWAS and Haplotype Identification for Rice Blast (*Pyricularia oryzae*) Resistance ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, USA. Nov.10-13. (Abstract).

5. **Perumal, R**., Umar, A. B., Ramalingam, A. P., Sadia, B. and Prasad, P. V. V. 2024. Genetic Diversity and Genome-Wide Association Mapping in Sweet Sorghum [*Sorghum bicolor* (L.) Moench] Panel. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, USA. Nov.10-13. (Abstract).

6. Ramalingam, A. P., Prasad, P.V.V. and **Perumal, R.** 2024. Drought tolerance and grain yield performance of genetically diverse pearl millet [*Pennisetum glaucum* (L.) R. Br.] seed and restorer parental lines. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, USA. Nov.10-13. (Poster and oral).

7. Ramalingam, A. P., Prasad, P.V.V. and **Perumal, R**. 2024. Pilot-scale genome-wide association mapping in diverse sorghum germplasm at ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, USA. Nov.10-13. (poster).

8. Shanmugam, N., Muthurajan, R., Prasad, P. V. V. and **Perumal, R.** 2024. Genetic Variation and Candidate Genes for Antioxidant Compounds in Pearl Millet grain through GWAS Approach. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, USA. Nov.10-13. (Abstract).

9. Shanmugam, N., Prasad, P. V. V., Muthurajan, R., and **Perumal, R.** 2024. Metabolome Genome-Wide Association Studies (mGWAS) for Essential Fatty Acids and Phytosterols in Pearl Millet [*Pennisetum Glaucum* (L.) R. Br.]. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, USA. Nov.10-13. (Abstract).

10. Tugoo, M.Z., Kumar, V., Prasad, P.V.V. and **Perumal, R.** 2024. Differential Sensitivity of Pearl Millet [*Pennisetum glaucum* (L.) R. Br.] Parental Lines to Clethodim, Quizalofop, Imazamox, and Nicosulfuron. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, USA. Nov.10-13 (Poster)

11. Tugoo, M.Z., Kumar, V., Prasad, P.V.V. and **Perumal, R.** 2024. Pearl Millet [*Pennisetum glaucum* (L.) R. Br.] Tolerance and Weed Control with Various Preemergence Herbicides. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, USA. Nov.10-13 (Oral)

12. Winans, N. D., Burks, P., **Perumal, R.**, Hayes, C., and Rooney, W. L. 2024. Temporal NDVI Can Improve Quantitative Enviromic Data for Genomic Prediction. ASA, CSSA, SSSA International Annual Meeting, San Antonio, TX, USA. Nov.10-13 (Abstract)

13. Parray, S.A., Prasad, P.V. and **Perumal, R**. 2024. Pearl millet for the future: Identifying drought tolerant forage lines. Research and the State, KSU, Manhattan, KS, USA. Oct 31. (Poster).

14. Ramalingam, A. P., Prasad, P.V.V. and **Perumal, R.** 2024. Drought tolerance and grain yield performance of genetically diverse pearl millet [*Pennisetum glaucum* (L.) R. Br.] seed and restorer parental lines" at NAPB annual meeting, St. Louis, USA. July 21-25 (poster).

15. Parray, S.A., Prasad, P.V. and **Perumal**, R. 2024. Evaluation of drought tolerant forage germplasms. K-GRAD Forum, KSU, Manhattan, KS, USA. April 4. (Poster).

16. Chere, D., **Perumal, R**., Little, C.R., Liu, s. and Tesso, T. 2024. Genome-wide association study of sorghum anthracnose disease (*Colletotrichum sublineolum*): Unraveling genetic variations and disease associations. Sorghum Improvement Conference of North America. April 2-4. Oklahoma City, OK, USA (Poster).

17. Tugoo, M.Z., Kumar, V., Prasad, P.V.V. and **Perumal, R.** 2024. Pre-Breeding Evaluation of Pearl Millet [*Pennisetum glaucum* (L.) R. Br.] Parental Lines to Clethodim, Quizalofop, Imazamox, and Nicosulfuron. K-GRAD Forum, April 4. (Oral)

18. Davis, M., Bean, S., **Perumal, R**., Hayes, C. and Felderhoff, T. 2024. Grain quality of large seeded sorghum. Sorghum Improvement Conference of North America. April 2-4. Oklahoma City, OK, USA (Poster).

19. Tugoo, M.Z., Kumar, V., Prasad, P.V.V. and **Perumal, R.** 2024. Sensitivity of Pearl Millet [*Pennisetum glaucum* (L.) R. Br.] Parental Lines to Clethodim, Quizalofop, Imazamox, and Nicosulfuron. Three Minute Thesis, KSU, Manhattan, KS, USA. March 20. (Oral)

20. Parray, S.A., Prasad, P.V. and **Perumal, R**. 2024. Genotypic architecture for drought tolerance and grain compositions in pearl millet. Three Minute Thesis, KSU, Manhattan, KS, USA. March 20. (Oral).

21. Tugoo, M.Z., Kumar, V., Prasad, P.V.V. and **Perumal, R.** 2024. Sensitivity of Pearl Millet [*Pennisetum glaucum* (L.) R. Br.] Parental Lines to Clethodim, Quizalofop,

Imazamox, and Nicosulfuron. Weed Science Society of America/Southern Weed Science Society Annual Conference held in San Antonio, Texas. Jan. 22-25 (Poster)

22. Beechinor, K. A., Winans, N. D., Rooney, W. L., Hayes, C., **Perumal, R.** and Burks, P. 2023. Assessing Stay Green Via UAS in Advanced Stage Testing of Sorghum Hybrids [oral and poster presentation]. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO. (Oct 29-Nov 01) https://scisoc.confex.com/scisoc/2023am/meetingapp.cgi/Paper/151695

23. Ramalingam, A. P., Muthurajan, R., Prasad, P. V. V., and **Perumal, R**. 2023. Pilot-Scale Genome-Wide Association Mapping in Diverse Sorghum Germplasm [Oral Presentation]. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO. (Oct 29-Nov 01) https://scisoc.confex.com/scisoc/2023am/meetingapp.cgi/Paper/150546

24. Ramalingam, A. P., Serba, D. D., Prasad, P. V. V., and **Perumal, R.** 2023. Drought Tolerance in Diversified Pearl Millet Parental Lines [Poster presentation]. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO. (Oct 29-Nov 01) https://scisoc.confex.com/scisoc/2023am/meetingapp.cgi/Paper/150504

25. Sapkota, P., Fonseca, J., **Perumal, R**., Crossa, J. and Rooney, W. L. 2023. Predicting Sorghum Hybrid Performance Using Genomic and Phenomic Data [Five minutes oral and poster presentation]. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO. (Oct 29-Nov 01) https://scisoc.confex.com/scisoc/2023am/meetingapp.cgi/Paper/152772

26. Winans, N. D., Burks, P., Hayes, C., **Perumal, R**. and Rooney, W. L. 2023. Quantitative Enviromics Can Explain Differences in Grain Sorghum Mean Performance [Five minutes oral and poster presentation]. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO. (Oct 29-Nov 01). https://scisoc.confex.com/scisoc/2023am/meetingapp.cgi/Paper/152200

27. Winans, N.D., Fonseca, J.M.O., **Perumal, R.**, Klein, P.E., Klein, R.R., and Rooney, W.L. 2021. Envirotyping in plant breeding can characterize targeted environments and demonstrates potential to improve genomic prediction accuracy. Poster presentation, ASA-CSSA-SSSA International Annual Meetings, Nov. 7-10, Salt Lake City, UT, USA.

28. Kumar, V., Liu, R., Aquilina, N., Lambert, T., **Perumal, R**., Ostmeyer, T. and Tucker A. 2020. Integration of Cultural Practices and Herbicides for Weed Control in Grain Sorghum and Soybean. Weed Science Society of America (WSSA) Annual meeting, Lahaina, Hawaii, USA (March 2-5).

29. Jagadish, S.V.K. and **Perumal, R.** 2020. Adapting grain sorghum to extreme temperatures. Plant Genetics and Genomics Conference, SRM IST, Kattankulathur, TN, India (Jan 23). (Invited)

30. Ostmeyer, T., **Perumal, R**., Bheemanahalli, R. and Jagadish. S.V.K. 2020. Agronomic performance of new grain sorghum hybrids for enhanced early-stage chilling tolerance. Sorghum Improvement Conference of North America (SICNA). Dallas, TX, (Oct 28-30).

31. Bheemanahalli, R., Ostmeyer, T., **Perumal R.** and Krishna Jagadish. S.V. 2019. Chilling tolerance during early seedling stage in grain sorghum. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, USA (Nov10-13).

32. Fonseca, J., **Perumal, R.** and Rooney, W.L. 2019. Agronomic evaluation of elite hybrid combinations between US public sorghum breeding programs. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, USA (Nov 10-13).

33. Ostmeyer, T., Jagadish. S.V.K. Little, C.R. and **Perumal, R**. 2019. Heterosis and combining ability of traits inducing early season chilling tolerance in grain sorghum. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, USA (Nov 10-13).

34. Ostmeyer, T., **Perumal, R**., Little, C.R. and Jagadish. S.V.K. 2019. Developing high yielding sorghum hybrids with early season chilling tolerance. ASA-CSSA-SSSA International Annual Meetings, San Antonio, TX, USA (Nov 10-13).

35. Ostmeyer, T., **Perumal, R**., Little, C.R. and Jagadish. S.V.K. 2019. Chilling tolerance related seedling traits in sorghum: Heterosis and combining ability. National Association of Plant Breeders Annual Meeting. Pine Mountain, GA, USA (Aug 25-29).

36. Bheemanahalli, R., Bashir, E., Pokharel, M., Chiluwal, A., Moghimi, N., Ostmeyer, T., **Perumal, R.** and Jagadish. S.V.K. 2018. Physiology and genetic control of stomata and above-ground biomass in sorghum. ASA-CSSA-SSSA International Annual Meetings, Baltimore, MD, USA (Nov 4-7).

37. Chiluwal, A., **Perumal, R.,** Pokharel, M., Bheemanahalli, R., Sebela, D., Hu, Z., G.P. Morris and S.V.K. Jagadish. Morris, G.P. and Jagadish. S.V.K. 2018. Genetic association of source, sink and transport in sorghum. ASA-CSSA-SSSA International Annual Meetings, Baltimore, MD, USA (Nov 4-7).

38. Chiluwal, A., Bheemanahalli, R., **Perumal, R.** and Jagadish. S.V.K. 2018. Unraveling physiological mechanisms inducing heat stress resilience in sorghum during flowering. Oral Presentation. ASA-CSSA-SSSA International Annual Meetings, Baltimore, MD, USA (Nov 4-7).

39. Ostmeyer, T., Jagadish. S.V.K. Little, C.R. and **Perumal, R.** 2018. Heterosis and combining ability of traits inducing early season chilling tolerance in grain sorghum. Poster Presentation. ASA-CSSA-SSSA International Annual Meetings, Baltimore, MD, USA (Nov. 4-7).

40. Ostmeyer, T., **Perumal, R.,** Little, C.R. and Jagadish. S.V.K. 2018. Developing high yielding sorghum hybrids with early season chilling and root-rot resilience. ASA-CSSA-SSSA International Annual Meetings, Baltimore, MD, USA (Nov 4-7).

41. **Perumal, R**. and Bashir, E. 2018. Analysis of heterosis and combining ability over environments for cold tolerance in sorghum. Sorghum in the 21st Century - Global conference on food, feed and fuel in a rapidly changing world, Cape Town, South Africa (April 10).

42. Chiluwal, A., **Perumal, R.,** Bheemanahalli, R., Sebela, D., Hu, Z., Morris, G.P. and Jagadish. S.V.K. 2018. Genetic association of source and sink relationships in sorghum. Sorghum in the 21st Century Global Conference, Cape Town, South Africa (April 9-13).

43. Marla, S. R., Burow, G., Chopra, R., Olatoye, M.O., Felderhoff, T., Z. Hu, Perumal, R. and Morris, G.P. 2018. Dissecting genetic architecture of early-season chilling tolerance in sorghum with a multi-parent population. Plant & Animal Genome XXVI, Town & Country Hotel, San Diego, CA, USA (Jan 13-17).

44. Chiluwal, A., Bheemanahalli, R., Asebedo, A.R., Shetty, N., **Perumal, R**., Prasad, P.V. V. and Krishna Jagadish, S. V. 2017. Cold stress resilience at early seedling in sorghum determined by integrating aerial imagery and destructive phenotyping. ASA-CSSA-SSSA International Annual Meetings, Tampa, FL, USA (Oct 22-25).

45. Chiluwal, A., Vinutha Kanaganahalli, K.S., **Perumal, R**., Prasad, P.V. V. and Jagadish, S.V.K. 2017. Unraveling mechanisms inducing heat stress resilience in sorghum during flowering. ASA-CSSA-SSSA International Annual Meetings, Tampa, FL, USA (Oct 22-25).

46. Moghimi, N., Bheemanahalli, R., **Perumal, R**. and Krishna Jagadish, S. V. 2017. Physiological and genetic characterization of sorghum association panel for chilling tolerance during germination and seedling vigor. ASA-CSSA-SSSA International Annual Meetings, Tampa, FL, USA (Oct 22-25).

47. Tomar, S.S., Little, C.R., Tesso, T., Morris, G.P., Rooney, W.L., Hoffmann, L. Jr., Bean, S.R. and **Perumal, R**. 2017. Genome-wide association study for grain mold resistance in sorghum. ASA-CSSA-SSSA International Annual Meetings, Tampa, FL, USA (Oct. 22-25).

48. Weerasooria, D., Bandara, A., **Perumal, R.** and Tesso, T. 2017. Introgression of resistance genes from feral relatives has no impact on yield traits of ALS and ACCase inhibitor herbicide resistant sorghum. ASA-CSSA-SSSA International Annual Meetings, Tampa, FL, USA (Oct 22-25).

49. Sunoj, J.V.S., Somayanda, I.M., Chiluwal, A., **Perumal, R**, Prasad, P.V.V. and Jagadish, S.V. K. 2016. Pollen germination and post flowering response in parents of sorghum mapping populations exposed to heat stress under field condition. ASA-CSSA-SSSA International Annual Meetings, Phoenix, AZ, USA (Nov 6-9).

50. Olatoye, M., Bouchet, S., **Perumal, R**., Tesso, T. and Morris, G.P. 2016. Genomic dissection of panicle architecture in sorghum using nested association mapping. National Association of Plant Breeders (NAPB) Annual Meet, Raleigh Marriott City Center, Raleigh, NC, USA (Aug 15-18).

51. Tomar, S.S., **Perumal, R**, Morris, G.P., Tesso, T.and Little, C.R. 2015. Evaluation of sorghum diversity panel for grain mold pathogen *Fusarium thapsinum* and its impact on seed quality traits. ASA-CSSA-SSSA, Minneapolis, MN, USA (Nov 15-18).

52. Bandara, Y.M.A.Y., Weerasooriya, D.K., Liu, S., **Perumal, R**. and Little C.R. 2015. RNA-Seq elucidates the molecular basis of charcoal rot resistance in grain sorghum. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Sep 01-03).

53. Bouchet, S., Olatoye, M., Marla. S., Wempe, B., **Perumal, R**., Tesso, T., Tuinstra, M., Yu, J. and Morris, G.P. 2015. Power and resolution of QTL mapping in sorghum using a nested association mapping population and diversity panels. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Sep 01-03).

54. Hughes, A., Aiken, R., Prasad, P.V.V., Price, K., Merwe, D., Tesso, T. and **Perumal, R.** 2015. Remote sensing screening tools for sorghum breeding programs. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Sep 01-03).

55. Maulana, F., Morris, G.P., Poland, J., Kirkham. B., **Perumal, R.** and Tesso, T. 2015. Genome-wide analysis of genetic structure and linkage disequilibrium in sorghum [*Sorghum bicolor* (L.) Moench] public inbred lines. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Sep 01-03).

56. Obeng, E., Obour, A.K. and **Perumal, R.** 2015. Evaluating the effectiveness of iron chelates in managing iron-deficiency chlorosis in grain sorghum. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Sep 01-03).

57. Tomar, S.S., **Perumal, R**., Tesso, T., Morris, G.P., Bean, S.R. and Little C.R. 2015. Evaluation of diversified sorghum lines for grain mold complex and its impact on physical and quality kernel traits. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Sep 01-03).

58. Wempe, B., Bouchet, S., **Perumal, R**., Tesso, T. and Morris, G.P. 2015. Genome-wide mapping of flavonoid pigmentation in sorghum seedlings. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Sep 01-03).

59. Olatoye, M., Bouchet, S., **Perumal, R**., Tesso, T. and Morris, G.P. 2015. Genomic dissection of leaf and panicle architecture traits in sorghum using nested association

mapping. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Sep 01-03).

60. Bouchet, S., Olatoye, M.O., Marla, S., Wempe, B., **Perumal, R**., Tesso, T., Tuinstra, M., Yu, J. and Morris, G.P. 2015. Genomic analysis of a sorghum NAM population: High resolution mapping of flowering time and plant height. Plant and Animal Genome XXIII Conference, San Diego, CA, USA (Jan 10-14).

61. Olatoye, M., Bouchet, S., **Perumal, R**., Tesso, T. and Morris, G.P. 2015. Nested association mapping of agro-climatic traits in sorghum. Plant and Animal Genome XXIII Conference, San Diego, CA, USA (Jan 10-14).

62. Tomar, S.S., **Perumal, R**., Peterson, G.C., Rooney, W.L., Bean, S.R., Tesso, T. and Little, C.R. 2014. Evaluation of sorghum lines for resistance to grain mold fungi and quality traits. Sorghum Improvement Conference of North America, Texas A&M Agrilife Research and Extension Center, Corpus Christi, TX, USA (June 25-27).

63. Bandara, A., **Perumal, R**., and Little, C.R. 2014. Screening for stalk rot and drought tolerance: towards enhanced sorghum productivity. K-State Research Forum, Manhattan, KS, USA (March 26).

64. **Perumal, R**, Tomar, S.S., Bandara, Y.M.A.Y., Maduraimuthu, J., Prasad, P.V.V., Tesso, T. and C.R. Little 2014. Evaluation of selected sorghum genotypes for drought and stalk rots tolerance over three years. Sorghum Improvement Conference of North America, June 25-27, 2014, Texas A&M Agrilife Research and Extension Center, Corpus Christi, TX, USA (Jan 26). (**Invited**)

65. Bandara, Y.M.A.Y., **Perumal, R**., Kapanigowda, M.H. and Little, C.R. 2013. Evaluation of exotic sorghum germplasm for stalk rot and drought tolerance. Sorghum Improvement Conference of North America, Texas Tech University, Lubbock, TX, USA (Aug 28-30).

66. Bandara, Y.M.A.Y., **Perumal, R**., Kapanigowda, M.H. and Little, C.R. 2013. Screening sorghum germplasm for biotic and abiotic stress tolerance and potential use of selected physiological traits as disease severity predictors. Annual Meeting of the American Phytopathological Society, Austin, TX, USA. Phytopathology 103 (Suppl. 2):S2.11 http://dx.doi.org/10.1094/PHYTO-103-6-S2.11. (Aug 10-14).

67. Bandara, Y.M.A.Y., **Perumal, R**. and Little, C.R. 2013. An effective approach to minimize the yield loss of sorghum (*Sorghum bicolor* (L.) Moench) due to stalk rot fungi. 59th Conference on Soilborne plant pathogens, Oregon State University, Corvallis, OR, USA (March 27).

68. **Perumal, R**. 2013. Breeding for drought and cold tolerance in sorghum. K-State Center for Sorghum Improvement seminar, Dept. of Agronomy, KSU, Manhattan, KS, USA (Jan 28). (**Invited**)

69. Bandara, Y.M.A.Y., **Perumal, R**. and Little, C.R. 2013. A tolerance-based index for effective screening of sorghum accessions against stalk rot diseases. North Central Division Meeting of the American Phytopathological Society, KSU, Manhattan, KS, USA (June 13).

70. Kapanigowda, M., **Perumal, R**., Aiken, R., Bean, S., Herald T. and Little, C.R. 2012. Field and controlled environments studies in sorghum [*Sorghum bicolor* (L.) Moench] lines and hybrids for cold tolerance. ASA-CSSA-SSSA International Annual Meetings, Cincinnati, OH, USA, (Oct 21-24).

71. Kapanigowda, M., **Perumal, R**., Aiken, R., Tesfaye, T. and Little, C.R. 2012. Studies on sorghum [*Sorghum bicolor* (L.) Moench] minicore germplasm and breeding lines to identify potential sources for abiotic and biotic stressors. ASA-CSSA-SSSA International Annual Meetings, Cincinnati, OH, USA (Oct 21-24).

72. Bandara, A., **Perumal, R**., Halderson, M., Noll, L.W. and Little, C.R. 2012. Screening of selected drought-tolerant sorghum B lines against the stalk rot pathogens, *Macrophomina phaseolina* and *Fusarium thapsinum*. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Aug 28-30).

73. Halderson, M., **Perumal, R**., Noll, L.W. and Little, C.R. 2012. Yield and seed viability after stalk inoculation of 36 sorghum B lines with *Fusarium thapsinum* and *Macrophomina phaseolina* after anthesis. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Aug 28-30).

74. Kapanigowda, M., **Perumal, R**. and Aiken, R. 2012. Combining ability analysis for cold tolerance in sorghum [*Sorghum bicolor* (L.) Moench]. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Aug 28-30).

75. Kapanigowda, M., **Perumal, R**., Aiken, R., Herald T., Bean, S. and Little, C.R. 2012. Identify potential sources for cold tolerance in sorghum [*Sorghum bicolor* (L.) Moench] minicore germplasm. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Aug 28-30).

76. Little, C.R., Erattaimuthu, S.R., Tesso, T. and **Perumal**, R. 2012 - Impact of stalk rot and charcoal rot upon caryopsis formation and viability in sorghum. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Aug 28-30).

77. Little, C.R., **Perumal, R.**, Noll, L.W., Erattaimuthu, S. and Kapanidowda, M.H. 2012. Impacts of cold temperature stress upon Pythium seedling disease in sorghum. Sorghum Improvement Conference of North America (SICNA), KSU, Manhattan, KS, USA (Aug 28-30).

78. **Perumal, R.** 2011. Research challenges and current status of sorghum breeding in western Kansas. Great Plains Sorghum Conference and 28th Biennial Sorghum Research

and Utilization Conference, Oklahoma State University, Stillwater, OK, USA (Sep 14) (**Invited**)

79. **Perumal, R**., Michaud, J.P. and C.R. Little. 2011. Identifying new sources of resistance to greenbug in exotic sorghum germplasm lines. Great Plains Sorghum Conference & 28th Biennial Sorghum Research and Utilization Conference, Oklahoma State University, Stillwater, OK, USA (Sep 12). (**Invited**)

80. Kapanigowda M., **Perumal, R.**, Aiken, R. and Little, C.R. 2011. Evaluation of advanced breeding lines and new sources for cold tolerance in sorghum. Great Plains Sorghum Conference and 28th Biennial Sorghum Research and Utilization Conference, Oklahoma State University, Stillwater, OK, USA (Sep 12-14).

81. **Perumal, R.**, Little, C.R., Erraittaimuthu, S.R., Prom, L.K. and Magill, C.W. 2011. Virulence and molecular genotyping studies of *Sporisorium relianum* isolates in sorghum. Abstract 101: p.140. American Phytopathological Society Annual meeting, Honolulu, Hawaii, USA (Aug 6-10)

82. **Perumal, R**., Little, C.R., Erraitaimuthu, S.R., Prom, L.K. and Magill, C.W. 2011. Genetic diversity and pathotype determination of *Colletotrichum sublineolum* isolates causing anthracnose disease in sorghum. Abstract 101: p.141. American Phytopathological Society Annual meeting, Honolulu, Hawaii, USA (Aug. 6-10).

83. **Perumal, R.** 2011. Research focus and current research status of sorghum breeding in western Kansas. Sorghum Research and Extension Symposium, Texas Tech University, Lubbock, TX, USA (July 21) (**Invited**)

84. **Perumal, R**., Tesso, T., Aiken, R. and Little, C.R. 2011. Cold and drought tolerance in Kansas sorghum breeding – An Overview. National Association of Plant Breeders Annual Meeting, Texas A&M University, College Station, TX, USA (May 24), (**Invited**)

85. Radwan, G.L., **Perumal, R**., Little, C.R., Prom, L.K., Isakeit, T. and Magill, C.W. 2010. Screening of exotic and national sorghum accessions against new virulent race - P6 of *Peronosclerospora sorghi* causing downy mildew disease. Sorghum Improvement Conference of North America and Great Plains Sorghum Conference, Agricultural Research and Development Center, Mead, Nebraska, NE, USA (Aug 11-12).

(with first name)

86. **Ramasamy, P.**, Menz, M., Isakeit, T., Katile, S., No, E.G. and Magill, C.W. 2005. Characterization and Genetic Distance analysis of sorghum downy mildew isolates using AFLP finger printing. 24th Biennial Grain Sorghum Research and Utilization Conference Reno, Nevada, USA (Feb 19). (**Invited**)

87. Ramasamy, P. 2005. Renganayaki, K., Menz, M.A., Katile, S., Magill, C.W. and Rooney, W.L. 2005. Phylogenetic Analysis Using AFLPs and SSRs in Sorghum Exotic

Genotypes. 24th Biennial Grain Sorghum Research and Utilization Conference Reno, Nevada, USA (Feb 20). (**Invited**)

88. **Ramasamy, P**. 1997. Cluster analysis and its application in crop improvement. National training on approaches for the improvement of quantitative trait loci in crop improvement conducted at Tamil Nadu Agricultural University, Coimbatore, India (Jan 24).

89. **Ramasamy, P**. 1997. Methods to assess GxE interaction. National training on approaches for the improvement of quantitative trait loci in crop improvement conducted at Tamil Nadu Agricultural University, Coimbatore, India (Jan 25). (**Invited**)

90. **Ramasamy, P.** 1996. Quality traits in sorghum and their improvement. The National Training on Breeding for quality produces in crops, Tamil Nadu Agricultural University, Coimbatore, India (Nov 8). (**Invited**)

91. **Ramasamy, P**. 1996. Procedure for developing male steriles, back cross breeding, identification of maintainers and restorers and diversification of cytosteriles in sorghum. National Training on Hybrid Technologies in Rice, Millets, Pulses, Oilseeds, Cotton and Forage crops, Tamil Nadu Agricultural University, Coimbatore, India (Feb 9). (**Invited**)

92. **Ramasamy, P.** 1996. Crop plants diversity - Evolution and variation. The Summer Institute on Genetic Conservation, Utilization, Gene Patenting and Varietal Registration, Tamil Nadu Agricultural University, Coimbatore, India (May 22). (**Invited**)

93. **Ramasamy, P.** 1984. Varieties of Lablab and Soybean for summer. Summer Moong Production Technology Training cum Seminar, Tamil Nadu Agricultural University, Coimbatore, India. (Feb 22) (**Invited**)

Extension publication (6)

1. Kumar V, Liu R, **Perumal R**, Lambert T (2021) Confirmation and control of imazamox-resistant shattercane. Oral presentation. *Proceedings of North Central Weed Science Society Abstracts*, Dec 13–16, Grand Rapids, MI.

2. Liu, R., Kumar, V., **Perumal, R**. and Ostmeyer, T. 2019. Influence of cultural practices and herbicide programs for managing glyphosate-resistant palmer amaranth in cold-tolerant sorghum. KAES Res. Reports 5(6).
3. **Perumal**, R. and Graff, G. 2012. Sorghum research could extend water resources. Annual K-State Research and Extension report to the Kansas Legislature.

4. **Perumal, R.** 2012. Search for drought, cold tolerance goes global. High Plains Journal. Sorghum Issue. March 26: 1&3A.

5. **Perumal, R.** 2011. Sorghum Breeding in Western Kansas: Challenges and Status. Field Research 2011. p. 1-6.

6. **Perumal, R.** 2010. Developing Sorghum Varieties. K-State College of Agriculture. Fall Ag. Report, p. 13.