

SorghumBase

Spring Newsletter • April 2026

Quarterly Community Update | January – March 2026

Welcome to the Spring 2026 edition of the SorghumBase newsletter! This quarter has been packed with new data releases, impactful publications, and community engagement. Here's everything you need to know.

Q1 2026 AT A GLANCE

51

Research Highlights

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New Genomes (Release 10)

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News Items Published

41

Events Listed

PLATFORM UPDATES

NEW RELEASE: In February 2026, SorghumBase reached its 10th major release.

- 31 new genomes added from the JGI SorghumPan project
- All genomes processed through standardized analysis pipelines
- Comprehensive comparative analysis of protein-coding gene trees
- Expanded pan-genome resources for trait discovery and breeding

Full details: sorghumbase.org/relnotes

UPDATED INTERFACE: The [publications page](#) has been updated to address performance issues and to make over 1700 papers easier to search, filter and export.

MOBILE COMPATIBILITY: The sorghumbase website has been updated for easier browsing on mobile devices.

WORK IN PROGRESS

100K SORGHUM GENOTYPE PANEL: Major progress was made on a high-density 100K genotype panel for large-scale germplasm characterization and breeding. The design integrates gene-space, regulatory, and pan-genome variation with community-sourced trait markers, GWAS signals, and functional markers. Initial genotyping is targeting ~2,900 accessions.

DATA EXPORTER ^{BETA}: There is a new tool in development that lets you export gene search results. Search for [some genes](#) and select from a wide variety of gene annotations.

Feedback is welcome: [contact us](#).

AI POWERED TOOLS: The team is developing prototypes for biocuration, natural language search and knowledge extraction.

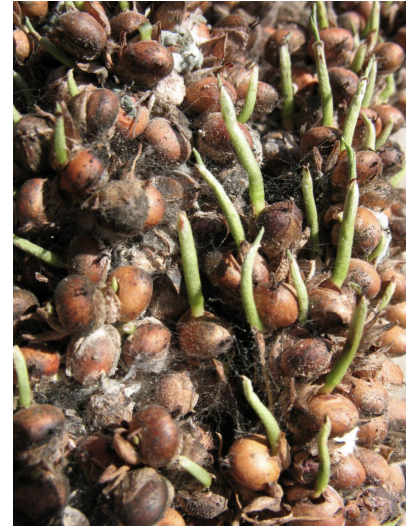
COMMUNITY HIGHLIGHTS

The SorghumBase team delivered a highly productive quarter, expanding communications and outreach across social media platforms

- [BlueSky](#)
- [X \(Twitter\)](#)
- [LinkedIn](#)

51 research highlights were published on [the website](#), including features on drought tolerance, stress adaptation, protein and starch biosynthesis and digestibility, seed dormancy and nitrogen use efficiency.

Outreach included a seminar for the **Center for Sorghum Improvement** on “SorghumBase: A Central KnowledgeBase for Sorghum Stakeholders” and strong representation at **PAG 33** in San Diego.



Detail of a sprouted panicle from a sprouting susceptible parent line “Redlan”, showing elongated coleoptiles and fungi proliferation. [From research highlight on Rodriguez et al., 2025](#)

RESEARCH SPOTLIGHT

SPOTLIGHT EPICON Project Advances Drought Tolerance Insights

A newly published study from the EPICON (Epigenetic Control of Drought Response in Sorghum) project, led by DOE JGI and UC Berkeley, reveals key molecular mechanisms underlying sorghum drought resilience.

The study, “[Multi-season analysis reveals hundreds of drought responsive genes in sorghum](#),” analyzed ~1,500 transcriptome profiles collected over three years of field experiments. In root and leaf tissue from two contrasting genotypes (BTx642 and RTx430), the team identified **726 consistently drought-responsive genes** across seasons — providing valuable targets for improving crop performance under water-limited conditions.

This dataset was previously leveraged by the SorghumBase team as a use case for transcriptomics and plant metabolic modeling on KBase. See: [KBase Case Study on Genome-Wide Transcriptomics \(2021\)](#)

PLATFORM PUBLICATIONS THIS QUARTER

- [SorghumBase: A Knowledgebase for Sorghum Genomics, Phenomics, and Stakeholder Engagement](#) — Gladman et al., *Genetics* 2026

This flagship paper describes SorghumBase as a comprehensive, FAIR-compliant knowledgebase centralizing genomic, phenomic, and community resources. The platform integrates large-scale multi-omics data with visualization and outreach tools to accelerate discovery and translational breeding for climate-resilient sorghum improvement.

- [Gramene 2025: expanded comparative genomics resources](#) — Olson et al. 2025
- [Expression Atlas in 2026: Enabling FAIR and Open Expression Data](#) — Madrigal et al., *Nucleic Acids Research* 2026
- [The PanOryza pangene catalog of Asian cultivated rice](#) — Contreras-Moreira B et al. 2026

CONFERENCE RECAP: PAG 33

The **Plant and Animal Genome Conference 33** (January 9–14, San Diego) brought together over 3,000 researchers for a vibrant exchange of advances in plant and animal genomics.

- **Dr. Sunita Kumari** presented on the Gramene–Expression Atlas collaboration, emphasizing reproducibility, interoperability, and community-driven biocuration. She also co-organized an AgBioData workshop on FAIR data challenges and responsible AI.
- **Dr. Nick Gladman** highlighted sorghum pan-genomic resources for trait discovery and organized the USDA Databases session featuring updates from major agricultural data platforms.

The conference showcased significant advances in sorghum and millet genomics, including pangenome development, improved genomic selection strategies, and AI-driven bioinformatics for QTL analysis and GWAS.

UPCOMING MEETINGS & EVENTS

EVENT	DATE & LOCATION	SORGHUMBASE PRESENCE
AgBioData Community Workshop	Apr 20-22, 2026 Kansas State University	Community-wide workshop on FAIR data and bioinformatics infrastructure, focus on Single cell Curation, NLP curation, AI readiness and international collaborations. SorghumBase team members Dr. Sunita Kumari, Dr. Doreen Ware, Sharon Wei and Dr. Nick Gladman.
National Association of Plant Breeders (NAPB)	Jun 14–18, 2026 College Station, TX	Dr. Nick Gladman representing SorghumBase. Focus: AI-driven phenotyping & heat/drought-adapted crops.
ASPB Plant Biology 2026	Jul 18–22, 2026 Ottawa, Canada	Dr. Sunita Kumari & Dr. Doreen Ware representing Gramene and SorghumBase. Dr. Kumari co-organizing AgBioData workshop and coordinating the AgBioData booth.
Global Sorghum Conference	Sep 14–18, 2026 Lubbock, TX	★ MAJOR EVENT — SorghumBase team organizing workshop, research talks, and posters. A premier gathering of global experts at Texas Tech University.

A Global Community



Top left: Penn State researchers at the 2019 Food Resilience in the Face of Catastrophic Global Events workshop.

Top center: Zhaosheng Kong's Research Team, Dongyang Experimental Base, Shanxi Agricultural University.

Top right: Shanxi Houji Laboratory, Dongyang Experimental Base, Shanxi Agricultural University.

Bottom left: Millet Research Team, College of Agronomy, Northwest A&F University.

Bottom center: University of Queensland members of the Hy-Gain team at the UQ trial facility in Gatton, Queensland.

Bottom right: SorghumBase team at Cold Spring Harbor Laboratory in New York.

GET INVOLVED

Nominate GRIN accessions for 100K marker genotyping

Submit your work for a SorghumBase Research Highlight

Connect with us at NAPB, ASPB and GSC

Contact us to add gene functions, expression or genetic variation data

QUICK LINKS

- [SorghumBase Home](#)
- [Release Notes \(V10\)](#)
- [Research Highlights](#)
- [Publications Page](#)
- [Contact SorghumBase](#)