

CSIP Research Priorities and Call for Concepts.

The Center for Sorghum Improvement is housed at K-State and manages the Collaborative Sorghum Investment Program (CSIP). CSIP is a collaborative platform tackling sorghum challenges and opportunities. The Center and CSIP program partner for improvement of sorghum yield, demand, and value.

CSIP request proposal concepts for,

- i. **Sorghum System Data and Modeling**. Harness historical sorghum production data to quantify sorghum's production potential and ecosystem benefits.
- ii. **Trait Discovery**. Trait discovery leveraging sorghum's diversity for new molecular sorghum trait technologies.
- Deadline: June 16, 2023
- Eligibility: Public and private institutions with capacity to conduct sorghum research and development.
- Contact: Sarah Sexton-Bowser, Managing Director 785-477-6018, <u>sarahann@ksu.edu</u>

CSIP requests concept notes for projects in two priority areas.

Sorghum System Data and Modeling. Long-term and historical research data can enable new knowledge and characterization of the sorghum-based crop system. Disaggregation precludes leverage of these data as validation data sets or use in empirical analysis. CSIP requests development of a database with historical sorghum-based crop system data. Priority is for data sets with characterization of production practices and ecosystem outcomes (soil testing) and projects that aggregate historical data from multi-sites. Suggested milestones and outcomes for concepts are — metadata summation of available data sets, development of a database, and a paper with application of the data resource to characterize a sustainability (resiliency under water stress, soil interaction, etc.) dynamic of the sorghum based-crop system.

<u>Trait Discovery</u>. Trait technologies are a strategy to improve the value and yield of sorghum seed technology. Proposed traits shall be substantiated by potential to improve sorghum for significant planting area and/or added value. Concepts are requested for discovery that establishes proof of concept, protocols, and foundational outcomes for development of a new trait technology. Suggested milestones and outcomes of concepts are – validation of sorghum diversity for the trait, development of repeatable, scalable phenotyping protocols (protocols for screening of diverse germplasm and for future use in phenotyping genetic mapping and breeding populations), identification of trait donor lines, and testing of hypotheses for heritability of the trait. Outcomes shall align with future collaborations and projects that generate trait technology packages including molecular markers, and introgression of the trait in commercially relevant transfer lines.

A. Available Funding. Proposed budget requests shall not exceed \$75,000 per year for project periods up to three years. All budget requests shall be commensurate with outcomes and relative potential improvement for the sorghum industry.

*Indirect costs are not allowed. CSIP is a program of the Sorghum Checkoff, Kansas Grain Sorghum Commission, and State of Kansas.

B. Application and Submission for Proposal Concepts. Submit proposal concepts via email in a PDF file to Sarah Sexton-Bowser sarahann@ksu.edu by 5:00 CST on June 16, 2023.

Proposal Concepts shall include:

- 1. Cover Sheet, template provided.
- 2. Concept Narrative. The project concept shall not exceed two pages, supporting figures and tables do not count in the page limit. Concept narrative shall include.
 - a. Executive summary of the concept.
 - b. Statement of concept goals and specific objectives.
 - c. Statement of supporting evidence and potential impact.

C. Review of Concepts

The CSIP Board and supporting technical advisors will review concepts and request full proposals.



CSIP Concept Cover Sheet

| Concept Title | |
|--|----------------------|
| Estimated Budget and Duration | years \$ |
| Concept Category | Data, Modeling Trait |
| Lead Investigator Name, Institution, Unit, Email and Phone | |
| Collaborating Investigators Name, Institution, Unit, Email and Phone | |

