

Kansas Soybean Commission
Request for Proposals
Fiscal Years 2022 and 2023

The Kansas Soybean Commission is soliciting research and education proposals for FY 2022-2023. Proposals are due to the Commission by the close of business on Thursday, September 30, 2021. An individual may be listed as a principal investigator on only one proposal. Do not include funding for Commissioner travel in your budget. **Please note that items listed in bold are of particular importance and interest to the Commission, and proposals addressing bolded topics are more likely to receive funding.** Proposals will be accepted in the following areas:

1. Breeding/Production/Environmental Programs

Proposals should address cropping systems for the Kansas soybean industry for the year 2022 and beyond and should focus on the most economical/efficient cropping systems with minimal impact on the environment. Proposals should preferably include principal investigators from at least two disciplines and must include an economic impact analysis. Proposals should address any of the following topics:

- A. **Best Management Practices (BMPs)** for soybean production in Kansas to minimize the impact of nutrient elements and pesticides on the environment; compare new BMPs to current ones with verification of the on-site benefits to water quality (including monitoring run-off samples for specific nutrients/pesticides); preferences will be given to multidisciplinary research/extension team projects.
- B. Crop protection/pest management; replacement of existing controls/seed treatments.
- C. Develop uniform, repeatable, high-throughput, laboratory, greenhouse and/or field methods to screen commercial soybean varieties for resistance against all diseases **and pests**. The intent of the research would be to develop accurate unified methods that can be used by private companies and public breeding programs to accurately screen soybean varieties.
- D. On-farm/farm-scale research or validation of small-scale trials.

Other Specific Priorities/Suggested proposals include, but are not limited to:

- Production and Protection –
 - *Diseases and disease management* ~ **Sudden Death Syndrome (SDS), charcoal rot, efficacy of seed treatment active ingredients, mustard cover crop for Soybean Cyst Nematode (SCN);**

- *Insect pests and management* ~ insect management thresholds/decision support, spider mites, stink bugs, stem borer, Japanese beetles, gall midge; sulfur, efficacy of seed treatment active ingredients;
- *Weeds and weed management* ~ herbicide-resistance and herbicide resistant weeds;
- *Production* ~ gypsum, sulfur, efficacy of foliar feeding with micronutrients and biologicals, planting dates for the different regions of the state.
- Breeding - drought resistance, heat tolerance, high yielding high-oleic beans, protein and oil testing data from research test plots, what processors want (oil, protein, etc.);
- New Technology - advanced technology with robotics, drones, etc. for crop spraying, electrostatic spraying, advanced application methods for fungicides and insecticides, development of artificial intelligence;
- Environmental - soil health, carbon sequestration (measurement, valuation, improved practices, influence of soil type/texture, theoretical maximum capture), field scale/producer collaborative studies, the effects of herbicide drift and herbicide volatilization;
- Technology transfer/diffusion of innovation.

Suggested participants include, but are not limited to: Departments of Economics, Agricultural Engineering, Agronomy, Animal Sciences and Industry, Entomology, and Plant Pathology; Branch Experiment Stations; Research-Extension Centers; Area Extension Offices; and cooperative interstate research centers. Cooperation with other institutions inside and outside of Kansas is encouraged. **Researchers are encouraged to include graduate and/or undergraduate students on the research team.**

2. Livestock, aquaculture, and pet nutrition.

Proposals should address livestock and aquaculture nutritional needs that will increase the utilization of soybeans in the United States/Kansas. The proposals should preferably include principal investigators from at least two disciplines and must focus on one of the following topics:

- A. New and innovative uses of soybeans as vital components in livestock, aquaculture, and pet nutrition.

Suggested/Prioritized proposals should include: cooperative work with other livestock (beef, pork, poultry, small animal, etc.), aquaculture, and pet organizations; research into Kansas aquaculture; research into high-protein concentrate.

3. Human Nutrition/Food Safety Studies

Proposals should address human nutritional needs that will increase the utilization of soybeans in the United States/Kansas. The proposals should preferably include principal investigators from at least two disciplines and must focus on one of the following topics:

- A. Methods for detection/quantification/elimination of anti-nutritional and allergenic components.
- B. Scientific response to crop and food safety concerns **and ways to improve the consumer's perception of soybeans and soybean products.**
- C. New and innovative uses of soybeans as vital components in human nutrition.

Suggested participants include, but are not limited to: Departments of Agricultural Economics, Agricultural Engineering, Animal Sciences and Industry, Grain Science and Industry, and Foods and Nutrition; Branch Experiment Stations; and Research Extension Centers. **Researchers are encouraged to include graduate and/or undergraduate students on the research team.**

4. Value-Added Projects

The proposal program should be commercially significant and have the potential to utilize large quantities of soybeans. Developing and commercializing competitive industrial uses for soybeans includes two key aspects: **commercialization** and **competitiveness**. If they are not competitive, they cannot be commercialized. If they are not commercialized and sell additional soybeans, we cannot meet our goals of improving profitability for Kansas soybean farmers. The proposal should preferably include principal investigators from at least two disciplines **plus private entity cooperation**. The research should build on the strengths at an institution and must address at least one of the following topics:

- A. Opportunities for identity preserved grain marketing/processing technology; transportation and infrastructure needs; on farm storage practicality; incentive discovery.
- B. Identify additional value-added uses of the chemicals/components of the soybean plant.
- C. **Alternative uses of soybeans and related by-products.**

Suggested/Prioritized proposals include, but are not limited to: alternative fuels, soy-biodiesel in electrical generation, bio-based materials, commercialization of technologies in the materials industry, adhesives in the auto industry, soy-based

plastics, binders in pressed-wood products, weather-proofing products, and dust suppressants.

Suggested participants include, but are not limited to: Departments of Agricultural Economics, Agricultural Engineering, Foods and Nutrition, Grain Science and Industry, Chemistry, and Fuel Engineering; and the Kansas Department of Agriculture. **Researchers are encouraged to include graduate and/or undergraduate students on the research team.**

5. Marketing Extension Program and Transportation

The proposed program should include extensive educational training of soybean pricing, crop disappearance/market share, crop insurance options, yield protection, farm program considerations, and options in marketing available to Kansas soybean producers. Programming should be conducted in conjunction with private sector industry representatives to further explore opportunities in the marketplace for pricing and/or value-added options.

- A. Research and education programs to provide producers a means of developing comprehensive, farm-level risk management programs.
- B. Research and education programs to estimate the value of grain characteristics and determine the effect of changes in supply and demand on grain markets.
- C. International market development with focus on utilizing Kansas soybeans.

Suggested participants include, but are not limited to: Extension Agronomy, Ag Communications and Journalism, Ag Economics, Ag Education, Rural Sociology, Grain Science and Industry. Researchers are encouraged to include graduate and/or undergraduate students on the research team.

For more information contact:

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