

## STARS Representatives,

The Pittsburg State University Kansas Polymer Research Center (KPRC) qualifies for the STARS Innovation Credit. KPRC is one of the world's leading centers specializing in vegetable oil based polymer research and development to reduce the use of petroleum. KPRC scientists work with industrial partners, state and federal agencies, and producer associations on developing and commercializing alternatives to petroleum.

KPRC was previously submitted as an innovation credit. The KPRC has made additional advancements in vegetable oil based polymer research over the last three years which are still considered innovative.

Since the previous STARS Rating KPRC has contributed several innovations related to sustainability. The largest is perhaps our efforts to replace isocyanates in polyurethane foams. Isocyanates are a toxic, but necessary component, for flexible and rigid foam manufacturing, and we have created several technologies to bypass isocyanates. We recently received a patent (Foam, Composition, and Method, USPAT No. 9,487,654) and were funded by, and licensed this technology to a construction materials corporation. Additional research in sustainability included work to find new valued-added applications for distillers dried grains with solubles (DDGS), by finding ways to transform DDGS components into new polymeric products. One element of this technology is described in our patent (Production Of Polyols Using Distillers Grains And Proteins And Lignin Extracted From Distillers Grains, USPAT No. 9,238,618). KPRC also has a steady level of research around green chemistry and bio-based feedstocks to replace petroleum-based products.

The KPRC Research Associates' research projects are not counted in any other STARS credit because KPRC is not part of an academic department.

Feel free to contact me if you have any questions.

Sincerely,

Pawan Kahol

Pawan Kahol

Dean of Research / Dean of Graduate and Continuing Studies