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Grand-slam inventions

Kansas State University Research Foundation helps researchers run the bases

By Sarah Caldwell Hancock

Baseball and invention share a surprising similarity: Generate a hit three times out of 10, and you're succeeding at a world-class level.

The Kansas State University Research Foundation — one of the first technology transfer offices in the country — has been helping K-State researchers bat .300 for 75 years.

The foundation transfers research from the minds and labs of investigators into the hands of consumers by helping researchers formally disclose inventions, assess

originality and market potential, and pursue appropriate protection through patents, copyrights, trademarks or plant variety protection certificates. After protections are in place, the research foundation helps market innovations to companies for commercial applications.

The research foundation logged its first base hit with an invention disclosure from Harold W. Batchelor in 1942 for making stoppers for bottles and test tubes. The first patent application, for a plastic container used with food stored in freezer lockers, came in 1944.

Since then, the research foundation has helped K-State innovators secure more than 250 U.S. patents, license more than 300 technologies and generate more than $37 million in licensing revenue.

K-State inventions come from many different fields.

"Researchers at our institution are especially adept at producing innovations that enhance animal health and food and crop production — we have deep expertise in global food systems. We also see innovations in energy storage and nanotechnology that will support clean energy and health applications," said Chris Brandt, Kansas State University Research Foundation president and CEO.

One of the most prolific inventors in K-State history is Paul A. Seib, professor emeritus of grain science and industry. Seib was named a National Academy of Inventors fellow in December 2017. His expertise in carbohydrate chemistry helped him develop ingredients for animal and human food such as shelf-stable vitamin C and nondigestible starch. The nondigestible starch helps maintain desirable texture and taste in food products without converting into sugars, meaning they help people who are managing diabetes or following low-carb diets.

Two other examples of successful technology transfer are a vaccine to prevent diarrhea in neonatal calves and a web-based reporting system to manage and measure the

impact of the Supplemental Nutrition Assistance Program Education, or SNAP-Ed, and statewide cooperative extension efforts. The vaccine, patented in 1999, was licensed to Schering Corp., which was later acquired by Merck Animal Health and marketed as Guardian; the product has been commercially available for more than 14 years. The Program Evaluation And Reporting System, or PEARS, software is copyrighted and is currently licensed to 20 states, with more states interested in adopting the product.

Revenue from licensing of K-State innovations — about $3 million in each of the last several years — is reinvested in K-State research. Inventors receive 25 to 35 percent, some supports the research foundation and central research administration, and some is returned to the researcher's department.

The research foundation is always looking for the next home run. Efforts to educate faculty are spurring more invention disclosures. A few years ago, the foundation processed 30 to 40 disclosures a year, but 2017 brought 73, plus 59 researchers participating in the process for the first time. Brandt said he will keep encouraging researchers.

"As researchers are developing new and interesting things, they should be thinking about an end user: How is this useful, and how can we put this in the hands of consumers?" Brandt said. *k*