



CICEP

INNOVATION AND ECONOMIC PROSPERITY UNIVERSITIES
AWARDS PROGRAM

CASE
STUDY
2013

Beyond Meat

What came first, the chicken or the soy-bean? Fu-Hung Hsieh, a MU professor of biological engineering and food science in the [College of Agriculture, Food and Natural Resources](#) and the [College of Engineering](#), is leading a project



to create a low-cost soy substitute for chicken. His research, funded by the U.S. Department of Agriculture and the Illinois-Missouri Biotechnology Alliance, has led to a process that does more than just add color and flavor to soy. Hsieh has spent 20 years researching and developing the project and he, along with Harold Huff, a senior research associate, developed the process that makes the soy product simulate the fibrous qualities of a chicken breast.

(Fake Chicken: Turning Powder into Poultry)—Time Video http://www.time.com/time/video/player/0,32068,89629092001_1993980,00.html

Hsieh created the soy chicken using soy protein extracted from soy flour, pea powder, carrot fiber and gluten-free flour. The protein mixture then goes through an extrusion cooking process that uses water, heat and pressure before it is extruded into strips. The strips contain no saturated or trans-fat, no cholesterol and no gluten.

(Turning Soybeans into Chicken at Mizzou) http://www.youtube.com/watch?v=VVn60VJovME&feature=player_embedded

US sales of all soy foods were more than \$4.17 billion in 2008. Meat alternative sales were approximately \$620 million, an increase of 8.3 percent over 2007, according to [Soyfoods: The U.S. Market 2009](#). From 2000 to 2007, American food manufacturers introduced more than 2,700 new foods with soy as an ingredient, including 161 new products introduced in 2007 alone. Once a cottage industry, soy products are being marketed by industry giants Cargill, Archer Daniels Midland and Kraft.

That is why when officials from the City of Columbia and REDI Inc. announced that Savage River Inc. was going to open a 16,000 square-foot food production facility for its Beyond Meat & Trade brand in Columbia last fall, everyone was excited. The facility utilizes this technology licensed from the MU in 2009. The company expects to invest \$2 million in the plant this first year and employ more than 60 people within five years.

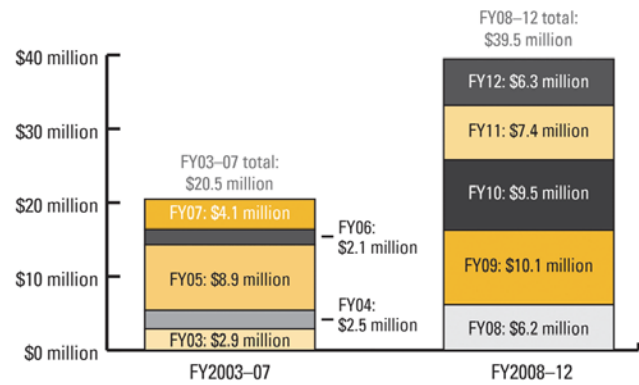
Founded by CEO Ethan Brown in 2010, Savage River launched the Beyond Meat & Trade brand in 2012. Brown collaborated with researchers at MU and the University of Maryland for several years before starting the company. The company has financial backing from The Obvious Corporation (including Twitter co-founders), as well as venture capitalist firm Kleiner Perkins Caufield & Byers.



“As the state’s land-grant and major research university in one, MU’s mission is to make discoveries in the laboratory that change people’s lives and improve the state’s and community’s economies,” said Rob Duncan, vice chancellor for research at MU. “The success of Dr. Hsieh’s and Harold Huff’s product, which was developed in the laboratory, has now come full circle with the announcement that Beyond Meat will be opening a plant right here in our community. It is anticipated that more than 60 jobs will be created and millions of dollars will be pumped into Columbia’s and the state’s economy. We are very proud to be able to contribute to the community to which we owe so much!”

“Beyond Meat demonstrates how intellectual property generated in a lab can be commercialized and with support from the community can result in a positive job announcement,” said Mike Brooks, President of REDI.

MU licensing income from commercialization of new technologies



Source: MU Office of Technology Management and Industry Relations

