

Soy Additives

Gain Popularity in Food

By Bonnie Coblentz

Marco Nicovich

It wasn't long ago that spotting the word "soy" on a food label meant a shopper had drifted into the health food section of the grocery store, but the ingredient shows up in mainstream products throughout those same stores today.

The humble soybean is grown mostly for its protein and oil. Mississippi producers plant more than 1.5 million acres of farmland to soybeans each year, and the crop is used in everything from catfish feed to biodiesel and ham.

Several Mississippi State University departments are involved in various research projects involving soybeans. Researchers in the Food Science, Nutrition and Health Promotion Department are among those paving the way for the food products consumers will eat in the future.

"We are building concept foods, foods that are novel to the marketplace and which do not have a standard of identity," said Patti Coggins, director of MSU's Sensory Evaluation Laboratory. "We are creating brand-new food products for where we think the food industry might be in the future."

Concept foods, like concept cars, rarely make it to the marketplace, but they are a necessary part of the development of new products.

Coggins said she and other researchers are working with beverages such as energy or weight-loss drinks, dairy foods and frozen foods. They are studying American dietary and health trends and projecting where these trends might lead 20 years from now. They develop and troubleshoot products they think will be in demand or of use in the future.

"We're developing foods that contain soy, whether in the form of a protein concentrate or an isolate," Coggins said. "The health food market is being merged into what we now call the market, and Americans are much more accepting of the foods that are out there."

When soy was first used in foods, it was mostly added as an economical protein source that cost less than meat or dairy protein. Now it is used primarily for its health benefits, as research

has shown it can promote health. Others like its taste or eat it in place of another item.

"Many people cannot consume dairy products, and they look to soy or other alternatives," Coggins said. "Americans read nutrition labels on food more than ever before, and they have a growing acceptance of soy in their diets."

Wes Schilling is another food science researcher in MSU's Food Science, Nutrition and Health Promotion Department. He and others are working to produce a shelf-stable deli ham.

"We add soy protein to the formulation to help bind more water," Schilling said. "The more water you bind, the juicier the product."

The soy protein is added to processed ham packaged in a plastic pouch that can be kept safely on the shelf until opened. Schilling said soy protein also is being applied to other new products, enhancing their ability to bind water or fat in processed meat products such as deli hams and frankfurters.

Soybeans are widely used in a variety of common products, and MSU is involved in other areas of research looking to improve these products and develop new ones. Much of this research is supported by contributions from the Mississippi Soybean Promotion Board.

"Research and promotion is vital to the long-term success of the soybean industry," said Morgan Beckham, chairman of the Mississippi Soybean Promotion Board. "Through research, we develop more cost-efficient production systems, higher yielding varieties, and find solutions to disease, insect, and weed problems.

"Most of this research is done with Mississippi Agricultural and Forestry Experiment Station personnel, as well as some U.S. Department of Agriculture - Agricultural Research Service personnel. Through market development, we grow new markets for our products both domestically and internationally. Our overall goal is to increase farmer profitability. That is the bottom line," he said.