USL researchers extend shelf-life of crawfish tails

By KATY SMITH
Staff Writer

Crawfish etoufée lovers will be able to indulge in their culinary passion year-round if research by three USL professors is successful.

So far, the researchers have been able to extend the shelf-life of frozen crawfish tails with fat to five months and expect to extend it to a year. That would ensure a ready supply of crawfish meat all year, instead of just during crawfish season, said Dr. Nellie Derise.

The process closely resembles pasteurization of milk, explained Derise, a home economics professor.

Bags of crawfish tails with fat intact are heated rapidly in a microwave oven and then rapidly cooled or frozen. The heat kills most of the bacteria which cause the meat to spoil, she explained.

By using the process, the three researchers have kept crawfish tails in a refrigerator for 17 days without it spoiling. Frozen meat is still in excellent condition after five months, Derise said.

“The texture was maintained and the color was maintained,” she said, adding that crawfish connoisseurs probably won’t be able to distinguish it from fresh crawfish.

Derise, Rachel Fournet and Dr. Balbina Plotkin unveiled the process they have been developing for about a year with the help of local crawfish processors.

Once a week, they pull some frozen crawfish out of a freezer, put a few in a blender and make liquid resembling a crawfish milk shake.

The mixture, however, isn’t for drinking. Plotkin explained during a demonstration Monday. She dipped a sterilized glass rod into the crawfish puree and spread it on a culture dish.

Several days later, they will check the cultures for unusual or dangerous bacteria growth, continued Plotkin, an assistant professor of microbiology.

The meat naturally contains some bacteria, which are the agents of decomposition but are harmless to humans, she said. A few of those will survive the heating and freezing process and any change in the number or types will signal a change in the crawfish.

Researchers also watch closely for 14 food-bound pathogens such as botulism, staphylococci and salmonella.

Some people can freeze crawfish for relatively long periods but they must first wash off the fat, which contains the highest number of bacteria and spores first, said Fournet, who teaches nutrition and dietetics.

By eliminating that step, processors will be able to increase the amount of crawfish they handle, Derise said. Washing crawfish meat also causes it to lose 8-12 percent of its weight.

Researchers came up with the idea last fall when USL faculty members were asked to find practical applications for microwave equipment donated to the university.

USL engineers are currently designing microwave equipment for processing plants, Derise said. Once the designs are complete, they can be the second phase of their research – extensive field tests to meet Federal Drug Administration requirements.

Plotkin estimates the second phase will take about a year, with the first microwaved crawfish reaching store shelves in a minimum of two years.

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