Crawfish pasteurization study will be expanded

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LAFAYETTE — Two researchers here already have placed their order for the first catch of the upcoming crawfish season.

Drs. Nellie Derise and Robert Druilhet of the University of Southwestern Louisiana want about 500 pounds of meat from crawfish tails, but not just to eat it.

Rather, they can't wait to add bacteria to it, microwave it, refrigerate and freeze it, steam it, break down its nutritional composition and sanitize it.

And their plan for the native mudbug is the No. 1-ranked study funded by the Louisiana Education Quality Support Fund for 1987 in applied research.

Derise and Druilhet are hoping to open doors for the crawfish industry throughout the U.S. and abroad by determining just how long they can get a package of crawfish tail meat to keep its quality after being microwaved.

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The longer the meat can survive after 17 days, and the frozen meat was still good after five months.

This pasteurization was a first for crawfish meat, killing most of the bacteria common in the fat and is now being "washed" from the meat before being shipped for retail sale.

The refrigerated meat was unspoiled after 17 days, and the frozen meat was still good after five months.

This year, the researchers plan to stock up enough meat to refrigerate for six months and freeze for 18-24 months.

Although the study calls only for 18 months of freezing, Derise said she would save extra packages and "shoot for more" if the meat keeps its quality for 18 months.

"The foreign market wants a two-year shelf life," she said.

They are hoping the meat will remain in good condition for the length of the study, but Druilhet said they have "no idea (that it will) because this has never been done."

This study also will be used to meet federal Food and Drug Administration criteria for bacteria levels, according to Druilhet, who said the FDA wants the bacteria level to be reduced to zero in order to approve the microwaving method.

Druilhet said FDA officials require that the researchers add one million units of the meat's most heat-resistant bacteria for each gram of meat that will be microwaved and then wipe out all of the bacteria.

Although tail meat naturally contains about 3,000 units of the bacteria per gram, FDA approval requires passing a test of the most extreme case, Druilhet said.

If Derise and Druilhet pass the pasteurization test, the Louisiana crawfish industry will have a whole new market and a better product at that.

The longer the meat can survive along with the flavorful fat, the more orders crawfish handlers can write up.

Derise said the industry can't market tail meat very well presently "because it doesn't taste as good up North" without the fat.

Stacy Cornay of the Louisiana Crawfish Farmers Association here said that outside markets want the meat year-round and that the biggest drawbacks in crawfish farming are the crop's seasonality and unpredictability.

Thus a longer shelf life will "definitely help," she said.

Dexter Guillory, owner of a Eunice processing plant, said tail meat with fat could be sold a dollar cheaper than the washed meat, which loses about 12 percent of its total weight and requires additional labor.

Guillory, who is also the chairman of the Louisiana Crawfish Promotion and Research Board, added that a lot of chefs prefer the fat on the product because it adds natural flavor to dishes.

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The nutritional value of "non-washed" meat also is important to marketing, Derise said.

The Omega-3 fatty acid, which is of great nutritional value and often is found in fish, was found at high levels in crawfish meat by LSU researchers, according to Derise.

In addition to the pasteurization study, Derise will be composing low-fat and low-sodium recipes with tail meat, using traditional recipes, but just not adding "all that butter."

"There's got to be a way of doing it without four pounds of butter and all that salt," Derise said.

She also will identify the nutritional composition of tail meat (vitamins, fat, sodium, protein, etc.) for the industry's use along with the recipes.

Derise said this part of the study is intended to promote greater and more frequent use of crawfish by offering nutritional information and new ways of cooking it.

Druilhet said he has his own plans as well. He will be studying the sanitation levels of crawfish from the ponds to the processing plant.

At each handling point, from cultivating to peeling, he will measure the bacteria levels of the meat and determine what bacteria the meat is picking up at each point.

This study should assist farmers in harvesting a better, cleaner crop, Druilhet said, and maybe get them to "clean up their ponds."

But FDA regulations may do just that anyway.

Druilhet said that the administration is about to regulate the fishing industry like it has done with the meat industry and that his study will help farmers meet FDA guidelines without losing a year's crop.

He also will study the seasonal changes crawfish crops have and look into why the year's harvest tapers off in quality during the latter months of the season.

Derise also will select a tasting panel to review the quality of each batch of crawfish she pulls out of the refrigerator or freezer.

She said that she used a panel during the five-month study and that its reviews were consistent throughout the period.

"Except towards the end," she said.

Was the meat spoiling?

"No, the meat was getting better grades," she replied. "It was just because the season was over."