AFDF
Alaska Fisheries Development Foundation, Inc.

September 5, 1986
Issue 1

SURIMI AND THE USDA: A REGULATORY UPDATE

The use of surimi in meat protein systems presents a tremendous opportunity to the food industry today. The Alaska Fisheries Development Foundation (AFDF) is leading the effort to open the regulatory environment to the opportunities presented by the industry's newest protein.

This newsbrief will keep you informed monthly of the progress AFDF is making toward USDA allowance of surimi in processed meats.

In July, 1986, AFDF started a task force to investigate regulatory issues which now prohibit the use of Alaska pollock surimi in poultry, beef and pork products. The group hopes to obtain USDA approval for at least one poultry, beef or pork product using surimi, and to open the door for future industry efforts in this area. The AFDF/USDA task force includes: Patricia Manning, former research scientist at Armour Foods, now studying surimi as part of her Ph.D. program at the University of Arizona; Barbara Batson, a Seattle marketing consultant; John Morrison, president and COO of Noble Marketing Group, Inc.; and Michael Broili, AFDF marketing director.

SURIMI OFFERS BROAD OPPORTUNITIES TO POULTRY AND RED MEAT INDUSTRIES IN VALUE-ADDED APPLICATIONS

Alaska pollock surimi is an intermediate, marine-derived protein. Colorless, odorless and neutral in taste, surimi can assume the flavor, texture and form of nearly any manufacturer's specifications. Surimi forms gels which are twice as cohesive and four times stronger than other protein gels, and are nearly 100% functional. Like pork, poultry and beef, Alaska pollock surimi offers today's health-conscious consumer a premium source of protein.

Biochemical research reveals that surimi has an amino acid pattern which is equal to--and in some cases superior to--that of established high-quality proteins. Surimi is one of nature's most digestible proteins.

USDA RECEPTIVE TO SURIMI/MEAT MIXES BUT CITES MICROBIOLOGICAL AND CHEMICAL CONCERNS

The Food Safety and Inspection Service (FSIS) is receptive to surimi/red meat and surimi/poultry mixes, and is aware of the economic advantages a surimi-meat system would present to the fish, red meat and poultry industries. However, FSIS says its main concerns are safety related. Fish introduces a new set of potential organism and chemical problems which are not currently addressed in USDA inspected products. If used in a product which does not contain curing agents (salts and nitrites), the growth of type E botulinum and vibrios are potential problem areas. If used in a product which does contain curing agents, then the potential formation of nitrosamine is a concern. Dr. John Spinelli, Director of Utilization Research at National Marine Fisheries Service (NMFS) Seattle lab, has documented the levels of trimethylamine (TMA--a precursor to nitrosamine) in Alaska pollock surimi. Spinelli says that, due to the nature of

the surimi process, it's unlikely that nitrosamine would form even in the presence of nitrites.

ANOTHER CONCERN AT FSIS: Surimi plants do not have USDA-recognized inspection programs.

THE AFDF/USDA TASK FORCE APPROACH:

1. Present to USDA prototypes of nugget-type products in the chicken, beef and pork categories for review, feedback and suggestions.

Three nugget-type products--beef, chicken and pork--will be developed using surimi as a component. Nuggets and accompanying label requests will be taken to FSIS for review in late October. The team will conduct an educational seminar at USDA on Alaska pollock surimi, and present the nuggets and label requests for agency review. The products do not have curing agents, so the presentation will address the microbiological concerns by outlining the microbiological profile of surimi from harvest to frozen surimi, and describing a proposed quality control (line sample and testing) and inspection protocol for surimi.

2. Initiate the production of a surimi/hot dog product to address nitrosamine concerns.

NMFS is producing a minced fish hot dog for resubmittal to USDA; their first approach to USDA for approval was unsuccessful due to nitrosamine levels in the product. The AFDF task force now hopes to get an Alaskan pollock surimi hot dog included in NMFS's mince/hot dog project so concerns over nitrosamine levels in both products can be addressed simultaneously.

Agricultural Research Service (ARS), the laboratory/technical arm of FSIS, is developing an official methodology for detecting nitrosamine in hot dog-type products. Since surimi hot dogs are still novel, there currently is no testing protocol. But ARS officials agree that the wash stages in surimi processing may eliminate any nitrosamine dangers by washing out precursors to nitrosamine (trimethylamine and dimethylamine). This hypothesis is yet undocumented; results will not be available until the ARS methodology is developed.

3. Develop quality control protocol for USDA-approved surimi.

The AFDF task force has launched a cooperative effort to develop a USDA-approved quality control inspection program and QC guidelines for the surimi industry which would be as economic and painless as possible for the industry. The Canadian mandatory inspection program and the NMFS voluntary inspection program are being used as references.

Development of a voluntary QC inspection program will require comments and guidelines from surimi producers and meat processors interested in using surimi. Anyone interested in participating in this portion of the project should contact AFDF.

The results of the AFDF/USDA dialogue on surimi in meats will affect the future of the meat and surimi industries. If you are interested in participating in this process or want more information, please contact the Alaska Fisheries Development Foundation, Inc.

This AFDF/USDA newsbrief is published monthly by AFDF.
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