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Researchers hustle as crisis threatens imitation crab

Shortage of pollock and other fish has led Oregon State University to search for a fish replacement

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A shortage of Alaskan pollock and other white-fleshed fish from around the globe has created a supply crisis among manufacturers of surimi, the processed fish protein used to make imitation crab and other shellfish-flavored products.

Jae Park, a professor at Oregon State University's Seafood Laboratory in Astoria, is working with fellow researchers to find a solution.

Surimi prices have more than doubled in the last two years, according to Park, surimi researcher and consultant to the surimi products industry.

Alex Pajunas — The Daily Astorian

Because of a shortage of white-fleshed fish, researchers at Oregon State University's Seafood Laboratory in Astoria are working to find a substitute for the surimi used in crab and lobster.

"Fish landings around the world are down, and some seafood processors also are choosing to produce more pollock fillets - especially for the European market - instead of supplying raw material for the manufacture of surimi," Park said. "This crisis is not going to go away soon. Even if the U.S. pollock situation gets better next year, fish landings of warm-water species in Southeast Asia are down almost 40 percent from five years ago."

Pollock harvests are strictly monitored, and the allowable catch this year is just over 1 million tons, down from 1.4 million tons in 2007. In Oregon and Washington, hake fish, also known as whiting, has been used to make surimi, but Park said that fishery can only provide a fraction of the volume pollock supplies the industry. And, like pollock, more whiting has been sold to other markets whole or in fillets in recent years.

The surimi market is ripe for alternatives. Park and other researchers in the field have been exploring new ways of making the fish protein isolate from other species, and they're on the verge of commercializing a new technique to use fish with colored flesh, including Pacific mackerel and sardine. The breakthrough would open the door to new supply markets for surimi-based seafood and put a lid on rising surimi prices.



ALEX PAJUNAS — The Daily Astorian

Jae Park, a professor at Oregon State University's Seafood Laboratory in Astoria, is working with fellow researchers to find a solution to rising surimi prices.

"To be eligible for a surimi resource, a particular species must be abundant, currently under-utilized, and be economically viable," Park said. "We've already been trying looking at other white-fleshed fish for surimi, including the arrowtooth flounder from the Gulf of Alaska and the North Pacific, and the freshwater carp."

But expanding arrowtooth flounder harvests could create a halibut bycatch issue and carp is known to be contaminated with heavy metals in some locations.

"That's why we're so excited about the potential breakthrough in using fish with colored flesh," Park said. "It would open many new doors for surimi processors."

Mackerel in particular is an abundant and virtually untapped resource, said Park.

"It's the second-largest biologically available fishery on the West Coast, but no one catches it," he said. "If we can show evidence of value, fishermen can look into it."

Park has a \$40,000 grant through the OSU Food Innovation Center to study the value of Pacific mackerel as a potential source of surimi protein isolate.

Surimi has become a major international commodity with its annual production of more than 500,000 tons and a value of \$2.2 billion. When converted to finished products, Park said, the market value for surimi-based seafood exceeds \$10 billion.

In 1993, Oregon State University established the "OSU Surimi School" at its Seafood Laboratory in Astoria, where Park and his colleagues share the latest in surimi research and demonstrate new processing techniques to food scientists, technicians and surimi manufacturers. The school has gained international recognition, and Park takes his program on the road each year, alternating between sites in Europe and Asia.

Seven years ago, Park launched the Surimi Industry Forum, which annually draws more than 120 participants from around the globe to discuss issues ranging from international policies, management, marketing and economics and their effects on surimi and surimi seafood. The global shortage of fish was the primary topic of conservation at this year's meeting, held in May.

"One thing that became apparent is that surimi seafood manufacturers cannot continue to do business as usual," Park said. "To stay competitive in this tough situation, they will have to consolidate their operations and make products that provide reasonable (economic) margins. Any products that are on the edge, either in terms of quality or profit margin, will have to be discontinued."

Opening up new supply markets using arrowtooth flounder, carp or non-whitefish species may help turn the surimi crisis around.

Park also hopes the development of new products in Europe and Asia will catch on in the United States, and he and his OSU colleagues are doing their part to help.

"American consumers enjoy fried foods, from fish-and-chips to French fries, so why not fried surimi?" Park said.

"It is extremely popular in Japan and Korea. On the other hand, in Spain, the best-selling item is seafood pasta. American consumers also love pasta, so there are opportunities there, too."

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