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Plant-Based Fish Is Rattling the Multibillion-Dollar Seafood Industry

Beyond and Impossible showed the potential for plant-based proteins. Now tomatoes are coming for tuna

By
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Mimic Seafood's Tunato nigiri. SOURCE: MIMIC SEAFOOD

When a tuna marketing executive took a bite of the dehydrated tomato seasoned with olive oil, algae extract, spices, and soy sauce early last year, he was shook. “This is going to be a problem for us,” he said. At least that’s how Ida Speyer, co-founder and chief executive officer of Mimic Seafood, recalls it, designating it the highest praise she

could've imagined for the delicate slice of tuna that—despite what the marketing executive's taste buds indicated—contained no tuna at all.

The Madrid-based startup's Tunato product, fabricated from a specialty tomato variety grown in southern Spain that resembles sliced sushi-grade tuna in shape and size, is part of a growing class of food innovations fighting for the last empty shelf in the booming plant-based protein market: seafood.

Faux fish, which Speyer concedes “maybe 5 or 10 years ago would have seemed too far out, too different, or only something for vegans,” is just a tiny fraction of the alternative protein market, dwarfed by the more mature faux meat and alt-dairy sectors. U.S. sales of plant-based seafood grew 23%, to \$12 million, in 2020, compared with a traditional seafood market worth tens of billions of dollars, according to the [Good Food Institute](#), an international nonprofit pushing for more sustainable proteins. But the sector is evolving quickly.

Investment in U.S. plant-based seafood hit \$70 million in the first half of 2021, as much as in the past two years combined.

It's still a minnow compared with the country's plant-based meat market, which has ballooned to about \$1.4 billion in 2020 sales as companies roll out alternative chicken nuggets and pork sausages to join the faux ground beef and burgers already in household fridges. Concerns about red-meat consumption, antibiotics in livestock, and climate change have enticed more global shoppers to go meatless, at least once a week, but fish, with its heart-healthy reputation, doesn't have the bad rap. Still, fears of overfishing, heavy-metal consumption, and microplastics, fueled by documentaries such as Netflix's controversial *Seaspiracy*, are priming the switch. The potential market could be huge: Beyond vegans and flexitarians, faux fish might also be a welcome addition to, say, a pregnant woman avoiding high-mercury swordfish or a consumer with a shellfish allergy. And big corporations have taken notice.

Meat giant [Tyson Foods Inc.](#)'s venture arm bought a minority stake in New Wave Foods, a maker of plant-based shrimp, in 2019, almost two years before Tyson released its first vegan hamburger. In Thailand in March, [Thai Union Group PCL](#), which owns the Chicken of the Sea brand, [introduced its plant-based line OMG Meat](#), including crab cakes and fish burgers, with plans for a vegan shrimp later this year. [Nestle SA's nonfish tuna](#) is available in parts of Europe, while Swedish retailer Ikea sells vegan caviar, derived from kelp seaweed.



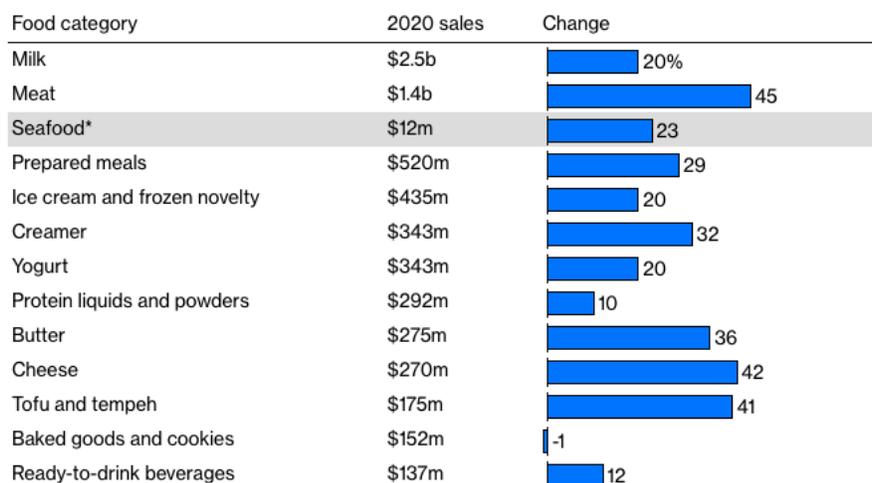
Fingerino tomatoes used to make Mimit Seafood's meatless tuna. SOURCE: MIMIC SEAFOOD

Thai Union, whose familiar tinned fish brands also include John West and King Oscar, began mulling plant-based products about three years ago to get ahead of concerns around sustainability. It rolled out its first vegan product—a flaked faux tuna made of soy, wheat, and pea protein that can be used in a traditional mayonnaise-based salad—in 2020. “We have the customers in our hands,” says Tunyawat Kasemsuwan, director of the company’s global innovation center, referring to the name recognition its brands already have. Thai Union is mainly targeting flexitarians, whose share in the population has been growing, and young consumers. “Gen Z will be the first movers, but there will be a ripple effect” on traditional seafood consumers, who tend to be older primarily because seafood is a premium-priced product, he says.

Most of the companies entering the nascent sector don't have Thai Union's global research and development, manufacturing, and distribution might, but the cottage industry is awash with experimentation. Breaded and fried products have had some of the quickest uptake. They include the Good Catch faux fish fillets and crab cakes recently added to the menu at five Long John Silver's locations in California and Georgia. Gathered Foods, maker of Good Catch, says it's too soon to comment on the trial, but "if you create that availability," says co-founder Chris Kerr, "consumers will show up."

Breaded products are also proliferating in the faux meat market, with Impossible Foods Inc. and Beyond Meat Inc. introducing plant-based chicken products this year. It's simpler to mimic ground and spiced meats like patties and sausages instead of whole-muscle cuts, including chicken breast and filet mignon. The faux fish industry is discovering the same. "It's much easier to re-create a dense, juicy beef burger than a flaky, delicate fillet of fish," says Jen Lamy, Boston-based senior manager of the Good Food Institute's Sustainable Seafood Initiative.

Plant-Based Alternatives



*Subcategory of plant-based meat.
Data: Good Food Institute, Spins

French foodmaker Odontella SAS sells a plant-based smoked salmon made from algae and pea protein in specialty supermarkets across Europe. The product is a long way from its origins as a 2007 experiment in co-founder Alain Guillou's kitchen. It tastes very close to the real thing, though the price is heftier.

The key to price parity will be scaling up production and tapping more markets. "When that happens, you know the mega tipping point is here," says David Yeung, founder and CEO of OmniFoods, a Hong Kong-based foodtech known for its vegan pork that's been expanding into seafood. "I truly believe this is a matter of two to three years."

Because seafood is rich in vitamins and minerals, which already makes it a healthy protein alternative to meat, vegan startups have to ensure the same nutrients end up in their plant-based replicas. Algae like those in Odontella’s fake salmon also contain the omega-3 fatty acids in conventional fish. OmniFoods uses a high-quality canola oil in its new seafood line for the same reason. Faux-fish makers also risk pushback from traditional fishing trade groups who don’t want vegan products labeled as “tuna” or “salmon,” mirroring the debate about whether faux animal products can be labeled meat across the U.S.



Beef for sale alongside Impossible Burger’s plant-based meat at a Los Angeles grocery store in 2019.
PHOTOGRAPHER: PATRICK T. FALLON/BLOOMBERG

If plant-based seafood maintains its growth rate, it can catch up with fake meat’s share of the conventional market within the next decade, the Good Food Institute’s Lamy says. The technology is “not quite there yet,” she says, but the sector’s making progress. “If you look even at just photos of products from now vs. three years ago, it’s totally a different game.”

Spain’s Mimic is banking on that. Although it halted distribution of its tomato-based tuna when Covid-19 lockdowns hit, it plans to resume sales in several Spanish cities by the end of the year, eventually expanding into Denmark. The startup has visions of becoming “the Oatly of seafood,” giving the traditional protein market a run for its money as nut and oat milks did for cow’s milk.

“I think if the dairy industry had known 10 to 15 years ago what was coming, they would have prepared differently. The seafood industry can actually in a way benefit from what we have seen with dairy and beef, because the change will come,” Speyer says of her expectation that more consumers will move away from traditional seafood. “It’s going to be a party for the rest of us. But for some companies, this could be a real crisis.”

BOTTOM LINE - The plant-based fish market is a drop in the bucket compared with that of faux meat, but it’s growing fast as consumers try to minimize their impact on the oceans.

<https://www.bloomberg.com/news/articles/2021-08-04/plant-based-sushi-faux-fish-rattle-the-multibillion-dollar-seafood-market>

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