



6pm: suburbia. All is quiet at the dinner table. Until Kayla sees her plate. “What is this dumb goop?” she asks. “You know I don’t like goop, Mom.” “It isn’t goop,” says Kayla’s Mom. “It’s tuna casserole. You like tuna casserole.” “More like tuna cat-sa-role,” says Kayla. “Because it’s made out of cats! I’m not eating cats, Mom. Why are you feeding me cats?” “Is it really made of cats?” asks Kayla’s little sister. “No,” says Kayla’s Mom. “It’s tuna.” “Cats and rats and bats!” says Kayla. “Cat-sa-role!” says Kayla’s little sister. “Bat-sa-role!”

Nobody above elementary school believes that tuna fish is made of cats. However, manufacturers of canned tuna are well aware that the fishing industry has come under increasing public scrutiny in recent years. Since Oceana published its’ widely remarked on global study on the prevalence of mislabeled fish¹ in the United States and across the world, consumers have been on the lookout for something fishy in their tuna cans.



Canned tuna is the third most eaten seafood product in the U.S. Image Credit: Flickr User Mark Doliner ([CC BY 2.0](#))

Canned Tuna is Specifically Regulated by the FDA

The vast majority of fish bought and sold in the U.S. by importers, wholesalers, and retailers are subject to few if any regulatory guidelines, and less enforcement. That isn't true for canned tuna. The FDA explicitly defines² what can and cannot be canned as tuna fish. These regulations specify, among other things, the proper species of fish, packing media, and even color standards.

Tuna is separated into four categories based on the Munsell scale, and objective color measurement tool. Most cans are classified as light, dark, or blend, and a special category, white, exists for albacore. Tuna producers who are selling their products under the FDA's jurisdiction must follow the strict process for color quality control the agency has put in place. As North America has the greatest tuna demand in the world, most companies fall under the onus of these guidelines. Failure to properly separate tuna will risk financial penalties.

As a result, tuna companies operating in the North American market have established color quality control procedures. The FDA guidelines call for observers to rate the fish against a printed Munsell color swatches. Tuna lighter than the swatch is light tuna; tuna darker than the swatch is dark tuna.

While human observers are capable of performing this task, human eyesight and color perception is subjective and when employed on a large scale will produce inaccuracies.

These inaccuracies can be eliminated by the implementation of spectrophotometric color assessment. A spectrophotometer objectively observes color with a higher degree of accuracy and repeatability than is possible for a human observer.



Consumers are valuing quality tuna more than ever as they eat less and pay more. Image Credit: Flickr User Laurel F. ([CC BY 2.0](#))

U.S. Consumers Price Quality in Seafood Selection

The difference between human and instrumental perception is unlikely to generate regulatory concerns serious enough to pose a threat to a large tuna processing company. However as consumers become more conscious of where and how their food products are sourced, tuna and other fish, are facing more and more scrutiny.

While tuna is still among the top three seafood items³ Americans consume, U.S. customers are purchasing less tuna than ever. Overall consumption is down 30%⁴ per capita over the last two

decades. At the same time, customers are willing to pay a higher price for tuna than ever before. This demonstrates a desire among customers for a higher quality product.

Tuna Brands Differentiate Themselves Based on Supply Chain Quality

Brands are already responding to this demand by introducing supply chain transparency and sustainable fishing practices as selling points for consumers. Whole Foods, for instance, now only sells tuna caught one at a time, eliminating bycatch entirely.

The tuna market is crowded, and dominated by a few big players: Bumblebee, Starkist, and Chicken of the Sea. Smaller brands trying to increase their name recognition must work hard to distinguish themselves. Improving their quality control practices is an effective strategy to help distinguish themselves in the tuna market. Consumers will be attracted to purchase from smaller businesses if the product is high quality.

The effect of improved quality control is magnified by third party rankings, such as this tuna guide produced by Greenpeace⁵. The high membership and wide visibility of such organizations place their rankings as potent tools for consumer choice. The more rigorous and objective a company's processes, the more likely they are to place highly on such lists, and therefore be first in the mind of the readership of these organizations. The potential loss of customers as a result of poor ranking would be far more onerous than any minor sanction from the FDA.

Tuna companies wishing to improve their reputation for quality control can easily integrate spectrophotometric color assay into their process. A minor capital expense in new equipment returns a selling point helpful in differentiating their brand from others on a major selling point for U.S. consumers. We at HunterLab recommend spectrophotometers from our EZ series to suit your needs. Models are available for both [benchtop](#) and [handheld](#) measurements. With over 60 years of industry experience, we can help you find the proper instrument to eliminate subjectivity from your quality control system. To learn more about which instrument best fits the needs of your production process, [contact us here](#).

1. "Catfished by a Catfish: 1 in 5 Seafood Samples Is Fake, Report Finds," 2016, <https://www.nytimes.com/2016/09/08/science/seafood-samples-mislabelling.html>
2. "CFR – Code of Federal Regulations Title 21," 2016, <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/cfrsearch.cfm?fr=161.19>

3. "Love Canned Tuna? More Grocers Want To Make Sure It Was Caught Responsibly," 2017, <http://www.npr.org/sections/thesalt/2017/03/22/520566711/love-canned-tuna-more-grocers-want-to-make-sure-it-was-caught-responsibly>
4. "The World's Biggest Canned Tuna Company Is About To Get a Lot Bigger," 2014, https://www.washingtonpost.com/news/wonk/wp/2014/12/19/the-worlds-biggest-canned-tuna-company-is-about-to-get-a-lot-bigger/?utm_term=.8306698af526
5. "Tuna Shopping Guide," <http://www.greenpeace.org/usa/oceans/tuna-guide/>