

Distinctive Features of Misaki Maguro

Misaki Fishing Port: a destination for *maguro* professionals

Misaki Fishing Port is located on the Misaki peninsula in Kanagawa Prefecture. It is one of Japan's leading tuna fishing ports, and the term "Misaki *maguro*" is used to refer to all the tuna (*maguro* in Japanese) handled at Misaki Fishing Port.

Brokers representing more than 100 companies gather at Misaki Fishing Port to bid for *maguro* through an auction system. Under this system, *maguro* is sold to the highest-bidding broker, so each broker carefully evaluates each of the high-quality fish on offer, in an assessment process called "mekiki" (expert of *Maguro* with long time history in this area). They will then place a bid according to what they feel is an appropriate price.

Each of the wild-caught *maguro* available at Misaki Fishing Port will have lived a distinct life at sea, eating a unique diet. The brokers must therefore be meticulous in their assessment of the *maguro*, so that the *maguro* professionals they represent might offer their customers consistency in the quality and taste of their *maguro* products.

Throughout the history of Misaki Fishing Port, *maguro* professionals have conducted comprehensive research on how best to handle super-frozen *maguro*. This research has led to the development of the assessment style used today, wherein the tail is sliced and thawed, thereby enabling brokers to check the quality of the flesh and the layering of the fat.

Misaki Fishing Port is a place of friendly competition among many *maguro* professionals, and, as such, also a market which attracts fishing professionals from around the world, all of whom are determined to get a good price for their high quality *maguro*. The refined assessment technique adopted here is the pride of Misaki.



Brokers carefully assessing *maguro* frozen at ultra-low temperatures lined up at the old market

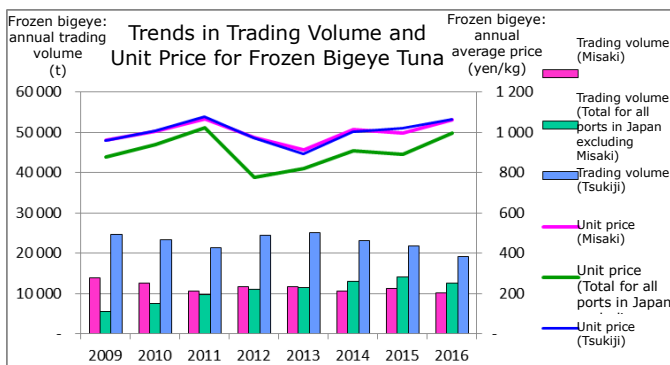
Biggest trading volume in Japan for frozen bigeye tuna

Misaki Wholesale Seafood Market, the fish market at Misaki Fishing Port, trades in various types of *maguro*, including bluefin, yellowfin, and albacore (*bincho*). In particular, it handles high volumes of bigeye *maguro*; indeed, bigeye *maguro* accounts for 80-90% of the trading volume and value of the entire fish market.

Frozen bigeye tuna is characterized by its high price, and the price of frozen bigeye tuna at Misaki Fishing Port is among the highest across all ports in Japan – equal to those prices obtained at Tsukiji, the world's largest fish market. As such, Misaki Fishing Port attracts a large volume of frozen bigeye tuna.



A slice from a *maguro* tail, used in the "mekiki" process at Misaki's *Maguro* auctions.



Source: *Landings Volumes by Production Area and Wholesale Prices*, Survey on the Distribution of Fisheries Product. Market Statistics, Metropolitan Central Wholesale Market.

About bigeye tuna

This type of tuna is distributed widely across warm water zones throughout the world. As its name suggests, it has large eyes and a short, stocky head. It is of middling size, growing to around 2m in length and weighing 150kg on average.

In Japan, as a product it is distributed mostly throughout the Kanto region; much of the tuna sashimi available in supermarkets and conveyor-belt sushi restaurants, and from home delivery services, is made from bigeye tuna. In contrast to bluefin tuna and southern bluefin tuna, it has comparatively little fat and a clean, fresh taste. As such, in addition to sashimi, it is well suited to a range of dishes and styles, including carpaccio, marinades, *kamayaki*-style grilling, and *medama-ni* (stewed eyeballs).

Maguro frozen at ultra-low temperature (“super-frozen maguro”)

“Super-frozen *maguro*” refers to longline-caught tuna which are killed immediately and then rapidly frozen to an ultra-low temperature (-60°C) on the fishing vessel. This ensures that the tuna retain their just-caught freshness. Since they are frozen pre-rigor, their freshness is second-to-none.

Due to the large size of tuna, if stored at an ultra-low temperature, of below -60°C, it is possible to keep the entire fish at a uniformly low temperature. This enables the prevention of any enzymatic degradation, oxidation of fat, or growth of microorganisms. The result is that the beautiful red flesh and succulent taste of fresh tuna can be retained unspoiled.

Even after being quick-frozen, the way in which tuna is stored is crucial to maintaining its freshness.

At Misaki Fishing Port, *maguro* (the tuna) is stored in an super freezer warehouse of -60°C right up until market trading begins. This is why *maguro* on offer at the port is of such superlative quality.

Ultra-low temperature is key to always-delicious maguro

Rapid freezing means making sure that *maguro* passes through the temperature zone at which water content freezes extremely quickly; this prevents the growth of ice crystals, and since the ice crystals which do form are extremely small, *maguro* can be frozen without any cell destruction occurring.

As a result, the freshness, texture, and flavor of the *maguro* can be preserved, and when *maguro* is thawed, the delicious taste and high quality of just-caught *maguro* can be replicated.

Super-frozen *maguro* is the answer to being able to eat super-fresh tuna whenever you want to – simply thaw the quantity you want when you want it, and you can enjoy delicious tuna at will.

What’s more, since fishing vessels catch tuna from fishing areas around the world, whenever those tuna are at their best, super-frozen *maguro* can be supplied year-round, without being impacted by season.

Super-frozen *maguro* is extremely fresh and extremely high quality and can be stored easily. Since it can be used as and when required, there is a low loss rate, making it a great ingredient for use in restaurants and other catering businesses.



Unloading super-frozen *maguro*



Using a crane to unload super-frozen *maguro*



Umami and Optimal Timing in Tuna

The foundation of tuna’s umami is a substance called adenosine triphosphate (ATP). After death, as the tuna’s flesh begins to age the ATP starts to break down into an umami-imparting substance called inosinate, which intensifies the umami taste of the tuna flesh. Once ATP has broken down completely, inosinate is at its highest level, and the umami is at its most intense. Professional chefs seek to determine “optimal timing” for tuna – in other words, the moment when this umami is at its most intense. Being able to determine exactly when this moment occurs is something which is extremely difficult for amateurs. In particular, raw tuna enters into market circulation immediately after being caught, from where it is sold onto retailers. The tuna continues to age as it passes along this distribution channel, making it increasingly difficult to determine when it is at its best.

With frozen *Maguro*, however, rapid freezing technology means that the ATP is retained in the flesh without loss. It is only when *maguro* is thawed that the flesh begins to age, enabling whoever has bought *maguro* to have control over when best to eat it. Compared to raw tuna, therefore, there is less need to worry about when best to eat the tuna – for it will retain its deliciousness, to be enjoyed at the purchaser’s leisure.