

Salting and Freezing of Fish-A Case Study of Successful Practice

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Abstract

The objective of the current paper is to identify a sustainable process of preserving and moving fish across distant countries, which unless demonstrated otherwise, does not negatively impact the nutrition and taste of fish, a famously perishable food. It is suggested that fishermen worldwide strive to salt and freeze their medium and large fishes after filleting, while still at sea (especially when they stay out at sea overnight or longer), and then sell them on returning home for superlative prices.

Keywords: Preservation; Fishing; Japanese; Sushi; food

Introduction

There have been many publications about modern processing of foods [1,2]. The WHO made the pronouncement in 2015 about the avoidance of processed meats. As stated in the refereed journal publication [3], this should be followed faithfully if synthetic preservatives are used. Otherwise, preserved foods may be safe to eat, and may be the only kind of food available. Food preservation has been practiced for ages since the frigid and temperate regions of the world necessitated that ability for human beings to live and thrive. In addition, the formation of cities required foods to be brought into the cities from elsewhere, as cities were not built to allow large tracts of land for agriculture or animal husbandry.

Case Study of Japanese Fish Producer Naoki Maeda

Japanese fish producer Naoki Maeda was featured by Newsroom Tokyo on Thanksgiving Day, 2016 [4,5]. In the feature, his custom-method of preserving and transporting fish overseas by air, is presented as the main point of success for his sushi products. Naoki Maeda is shown filleting his fresh fish (tuna, as an example) and salt his fish with sea salt, then placed in an inclined wooden plane to 'dry' indoors (in the absence of sun) in an air-conditioned space. The quantity of salt is not measured out precisely, but liberally applied all over the flesh surface of the fish (not the skin side). It is not stated how long the fish is 'dried' in that position, except that the fish is then frozen (at an unspecified temperature) and shipped out on the same day as the filleting process. When the salted but uncooked fish arrives

in Chicago, United States of America (USA), it becomes the basis of much of the fish sushi dishes. That Naoki sushi is popular and much acclaimed is founded on the freshness and taste of the fish.

This freshness and taste test, though without any scientific precedence, is as imperious a test as the 'white bed-sheet test' performed by mothers-in-law (of old) on their new daughters-in-law on wedding night to obtain physical proof of their virginity. The purpose of the current communication is to encourage this simple and seemingly effective method of short-term preservation of fish in all of the fish industry worldwide. No synthetic preservatives are used, so the fish is nutritionally safe. Since the time allowed for the fish to 'dry' in an air-conditioned space is nominal, the loss of water and nutrients (more importantly) cannot be too much. From the popularity of Chef Naoki Maeda sushi products, the taste of the fish by this method of preservation and transportation could be concluded as being superior. These are all points that contribute positively to promote this type of fish processing.

Since most commercial fishermen in developed countries do not go out to fish and return on the same day, the process described here may be adopted for the betterment of the fish industry. That the fish is first filleted by Naoki Maeda before freezing, tells the author that the fish head, bones and inner organs of the fish need to be removed before the freezing of the fish. From biological considerations, this makes sense. The muscle meat of the fish has the least micro-organisms present (as compared to the stomach,

say), and thus will deteriorate much more slowly. Salting and freezing is limited to only the muscle meat of the fish, so the optimum process is achieved automatically, while minimizing the amount of electricity consumed in the process. Packaging and air transportation costs are also reduced by the fact that bulk and weight of the commodity has been reduced. There is no use to package the bones and inner organs of the fish, since no end-consumer wants these parts of the fish either.

Discussion and Conclusion

The current article has been written from the facts presented about Naoki Maeda, a phenomenal success story of the Japanese fish industry. The success of his method of preserving the fish using only salt and freezing, and the popularity of his product worldwide, provided the motivation to write this article. The purpose is to recognize this sustainable method of preserving and transporting fish across continents, which unless proven otherwise, does not affect adversely the nutritional and taste value of this perishable food commodity.

It is recommended that fishermen everywhere strive to salt and freeze their fishing catch while still at sea (especially when

they stay out at sea for more than 1 day), and then sell them on returning to shore for the best prices. If the fisherman is not already practicing this method of salting and freezing, and benefitting from the better prices, it is recommended that he/she adopts the method. It is predicted that their fish product would fetch the best prices because of the superiority of the preservation method described. Obviously, other factors come into consideration. One worth noting is that the fish should be large enough to be filleted. Industry standards should be followed with respect to factors like that mentioned.

References

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