Fishery Basics – Seafood Markets

Types of Fishery Products

Fish products are highly traded and valuable commodities around the world. Seafood products are high in unsaturated fats and contain many proteins and other compounds that enhance good health. **Fisheries** products can be sold as live, fresh, **frozen**, preserved, or **processed**. There are a variety of **methods to preserve** fishery products, such as fermenting (e.g., fish pastes), drying, smoking (e.g., smoked Salmon), salting, or pickling (e.g., pickled Herring) to name a few. Fish for human consumption can be sold in its entirety or in parts, like filets found in grocery stores.

The vast majority of fishery products produced in the world are intended for human consumption. During 2008, 115 million t (253 billion lbs) of the world fish production was marketed and sold for human consumption. The remaining 27 million t (59 billion lbs) of fishery production from 2008 was utilized for non-food purposes. For example, 20.8 million t (45 billion lbs) was used for reduction purposes, creating **fishmeal and fish oil** to feed livestock or to be used as feed in **aquaculture** operations. The remainder was used for ornamental and cultural purposes as well as live bait and pharmaceutical uses.

Similar to the advancement of fishing gear and navigation technology (See **Fishing Gear**), there have been many advances in the seafood-processing sector over the years. Prior to these developments, most seafood was only available in areas close to coastal towns. The **modern canning process** originated in France in the early 1800s. Cold storage and freezing plants, to store excess harvests of seafood, were created as early as 1892. In the 1920s, efficient mass-production filleting and packaging techniques were developed. However, it was two important advancements in the 1950s and 1960s that revolutionized seafood processing. First, Clarence Birdseye invented a way to quickly freeze (**flash freezing**) skinned and filleted fish. Second, Bob Gruber developed a process to freeze 9.1 kg (20 lbs) blocks of fish, which could then be used to make fish sticks.

Today we have a variety of options when purchasing seafood, which has lead to the debate over whether to buy **fresh or frozen** fish. Fresh fish may have been caught, delivered, and marketed in a single day or it may have been caught, stored on ice while the vessel continued to fish for a few more days, and then delivered and marketed a day later. Flash freezing is the process in which a product is quickly frozen by subjecting the fish to temperatures well below the freezing point of water (0°_{C}, 32°_{F}). This technique prevents the development of large ice crystals within the tissues of the fish. If this process is completed soon after a fish is caught and the resulting product, when thawed properly, is **considered** to be as good as fresh fish.

Some things to think about when **purchasing fish for consumption**, regardless of whether it is fresh or frozen include: fresh fish should smell fresh and mild, the flesh should be firm and

shiny, and the flesh should spring back when pressed. Fish that is not stored properly or has been in the sun for too long may begin to deteriorate and develop toxins that can lead to illness if consumed. When selecting frozen fish, inspect the packaging for tears or other damages. Also if the packaging is transparent avoid products that have ice crystals or frost on the meat or packaging, as this indicates the product may have thawed and refrozen.

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