

USDA Foreign Agricultural Service

GAIN Report

Global Agricultural Information Network

THIS REPORT CONTAINS ASSESSMENTS OF COMMODITY AND TRADE ISSUES MADE BY
USDA STAFF AND NOT NECESSARILY STATEMENTS OF OFFICIAL U.S. GOVERNMENT
POLICY

Voluntary Public

Date: 12/10/2012

GAIN Report Number:

China - Peoples Republic of

Post: Beijing ATO

Sea Cucumber Market Brief

Report Categories:

Exporter Guide

Product Brief

Fishery Products

Approved By:

Ralph Bean

Prepared By:

Mianna Chen

Report Highlights:

Sea cucumbers, rarely used in Western dishes, have been considered a delicacy in China since the Ming Dynasty as they are seen to have medical and health benefits to those who eat them. The U.S. is one of the chief exporters of sea cucumbers to China, particularly the Red Alaskan variety, and although volumes are relatively low, prices have risen continuously in recent years.

General Information:

Sea cucumbers, also known as beche de mer, are a traditional part of Chinese cuisine, and among the oldest traded food products between the United States and China, along with Wisconsin ginseng. Separate trade statistics for sea cucumbers are only available for the first ten months of 2012, but these indicate that exports to mainland China and Hong Kong combined hit nearly \$21 million. Exports, however, could be greater, as the inherent value of U.S. sea cucumbers as a wild-caught and natural product are not currently reflected in their pricing in Chinese markets. Efforts to improve processing in the U.S., and to make buyers aware of the value of wild-caught sea cucumbers could add significantly to their value.

A Brief Primer on Sea Cucumbers

Sea cucumbers are echinoderms, in the same family of creatures as starfish. They have long bodies with many protruding points, hereafter referred to as needles, and a life expectancy of 9-10 years. Of the 100,000 plus species available worldwide, only about 40 of these are consumed by humans; the major regions of the world in which consumable sea cucumbers may be found are China, South East Asia, Northwest United States, Mexico, and Europe.

Since the Ming Dynasty ([FAO](#)), the Chinese have harvested and eaten sea cucumbers, with the earliest recorded trade of sea cucumbers beginning in the 16th century. The Chinese believe sea cucumbers to have many health benefits, including having high protein and low fat, believed aphrodisiac qualities, and the ability to ease joint pain. As a result, buyers are willing to pay up to \$100/lb or more for quality product. Sea cucumbers are considered a delicacy in Chinese cuisine because of the believed health benefits and unique texture. While flavorless, they do soak up the flavor of sauces and seasonings used when cooking dishes.

Different species of wild and cultivated sea cucumbers exist all over the world. In the United States, the most harvested are the Alaskan Red sea cucumber and the Boston tigerskin, while in Asia, the most common species are the sandfish, the black teatfish, and the white teatfish. However, after centuries of harvesting and dramatic increases in price and demand, most sea cucumbers in China are now the products of aquaculture farms. These farms are primarily Liaoning and Shandong provinces and generally focus on a few species. Cultivated sea cucumbers typically grow for two years before being harvested. Due to high demand, China also imports sea cucumbers from around the world- particularly from the United States, Europe, and Mexico. China imports wild Alaskan Red sea cucumbers from the U.S., as well as a much smaller volume of Boston tigerskin. Wild sea cucumbers grow in about 100-300 meters of water, for about 6 to 10 years. Their



Salted, half-dried sea cucumbers

cultivated brethren, on the other hand, grown in only 10 meters of water and are harvested quickly, typically in two years.

The species, quality, taste, and appearance of the sea cucumbers vary by place of origin. For example, trade sources advise that sea cucumbers in Europe and Mexico tend to have a sandier and more bitter taste than those from China. However, the taste and meat of the U.S. wild red Alaskan sea cucumber is very similar to that of the Chinese, making it ideally suited to the Chinese market.

Contrary to other seafood categories in China, where wild caught products command a premium, Chinese consumers tend to prefer Chinese cultivated sea cucumbers due to the greater size, uniformity in size, higher grade, larger number of needles on the body, and uniform small cut. Much of this is a reflection of the cultivated origin of the Chinese product, and the consumer's tendency to judge quality based on appearance. The number of needles on the body is of particular importance, as this is associated in consumers' minds with greater nutritional/nutraceutical value (there are no studies to support this). However, this attitude may be open to change, as wild caught seafood commands a substantial premium in other categories, being seen as more natural and healthier. There are also regional preferences for sea cucumbers. For example, coastal regions tend to eat more sea cucumbers than inland regions; furthermore, the north tends to consume more than the south.

Harvesting & Exporting Sea Cucumbers

Sea cucumbers are extremely perishable; they need to be picked, eviscerated, boiled, and processed within hours of harvesting. The removal of the intestines immediately after harvesting is particularly important as the sea cucumber will disintegrate otherwise. According to Chinese standards, the cut should be done uniformly in one place and should be as small as possible. However, in the United States, this practice is not standardized, lowering the market value of the U.S. product in Chinese markets.

After the harvest and removal of intestines, sea cucumbers are boiled, salted, and frozen before being shipped to China, where they are reprocessed. After boiling, only about 30% of the sea cucumbers are in condition to move onto the next processing stage. Some cucumbers may not be salted in the United States as the processing cost is higher in the U.S. than in China. In this case, the product is just boiled and frozen in the USA, then salted in China when they are reprocessed. Whether in the United States or in China, sea cucumbers have to be salted before being reprocessed.

Because fresh sea cucumbers may only be stored for about 8 hours, most importers ship salted, half dried sea cucumbers to China in frozen containers. Some, however, import completely dried sea cucumbers. Once in China, the half dried, salted sea cucumbers are kept in cold storage (-20° C) and have a two year shelf life. Exporters may only harvest sea cucumbers in a very limited time frame; the harvest season in the Alaska and Seattle regions is from September to November. After the harvest season is over, importers store sea cucumbers in cold storage plants to be sold throughout the year.

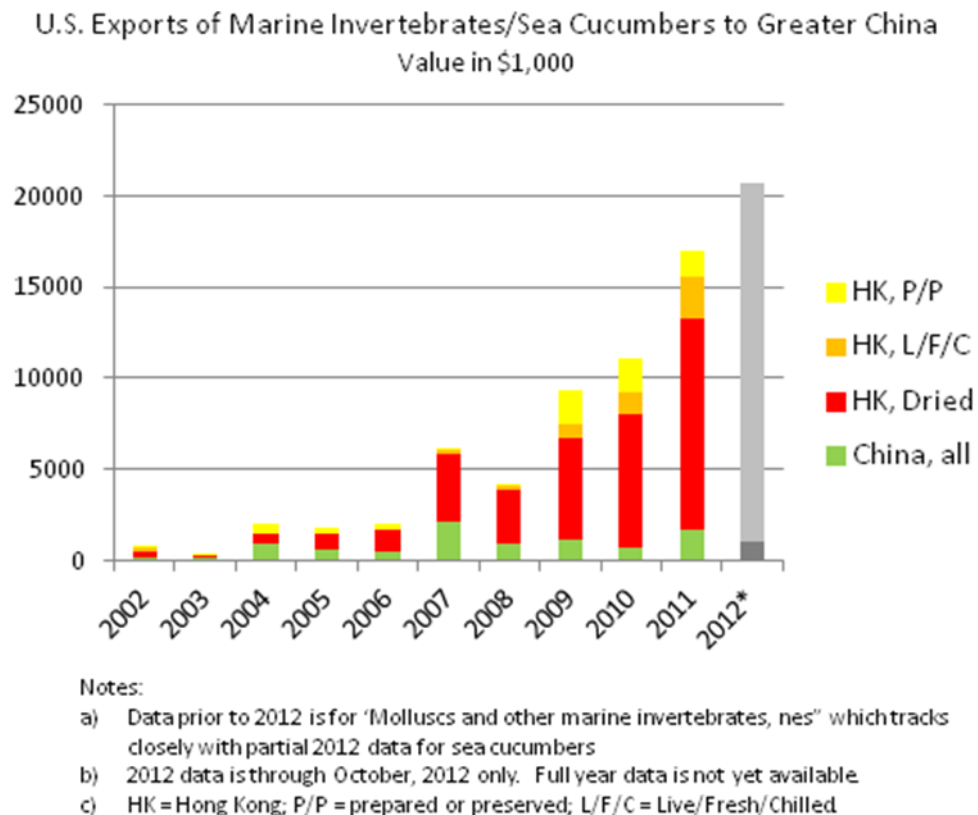
Sea Cucumber Trade & Entry into the Market:

Precise trade numbers for sea cucumbers are difficult to calculate, as much of the trade moves through Hong Kong. In addition, until 2012, sea cucumbers were included in several categories of “other” aquatic invertebrates. However, comparison the initial data for sea cucumbers with three categories of ‘other marine invertebrates’ indicates that most of this category was likely comprised of sea cucumbers. (Note that the comparison holds for total trade only, however, as the categories have been changed. The bulk of trade was in salted, half-dried products, leaving confusion as to whether these were “prepared and preserved” or “dried” in the old classification system).

According to those interviewed for this report, importers typically import fresh or frozen, half dried, salted sea cucumbers into China. Completely dry sea cucumbers are not popular to export to China for several reasons.

First, the skin is ugly; second, these sea cucumbers are more troublesome to use for restaurants and hotels as they need to soak in water for an extremely long time before being prepared; and third, consumers cannot see the size difference, as dried sea cucumbers have a pretty uniform size. Half dried sea cucumbers, on the other hand, are much easier to use.

Some importers prefer to import fresh frozen sea cucumbers (i.e. not salted) because, according to them, they are more convenient for the Chinese to grade. China grades sea cucumbers based on their size, cut, and length; thus, this fares better for Chinese cultivated sea cucumbers than U.S. wild ones because of the non-uniform cutting habits, and uneven length and size of wild grown seafood.



Currently the U.S. sea cucumber market share in China is very low, but the potential is extremely high. Experts interviewed for this report estimate annual imports of sea cucumbers from the U.S. to China (including Hong

Kong) to be 1000 tons. The price of U.S. sea cucumbers has greatly increased from 2008 until now, with an annual growth rate of about 10%-15%. In fact, in 2008, the price was around \$10-12 USD per pound (pound of salted, half dried sea cucumbers), while in December 2011, the price was \$38 USD/ lb. Furthermore, since the 2011 China International Seafood Show, the price of U.S. imported sea cucumbers has grown by 30%; however, this is not the best situation for importers, as the total volume sold decreased due to the high price. One of the importers interviewed, however, stated that their total sales volume of sea cucumbers increased from last year; they sold 40 metric tons of sea cucumbers last year, whereas this year, they will be selling 80-100 metric tons.

The price has recently begun to level off because some consumers opt to either not eat sea cucumbers or choose to eat sea cucumbers imported from other countries. For example, many consumers opted to eat Mexican imported sea cucumbers, which, although of a different species that is generally viewed as lower in quality, can still substitute for red Alaskan sea cucumbers. Thus, sea cucumbers are proving to be more price elastic than previously believed. For most consumers, using substitutes is generally not a problem because after cooking the sea cucumber, while there is a difference in taste, there is not much of a difference in appearance.

In general, the market for sea cucumbers is segmented into a high and low end market. The high end market targets five star hotels, restaurants, etc. Sea cucumber dishes in this market are typically served as individual portions and are priced in the range of 500 RMB per person per portion. In these dishes, the consumer can see the length and size of the whole sea cucumber. Sea cucumbers used in this market face strong competition from sea cucumbers imported from Japan and Chinese cultivated sea cucumbers. These are usually of a larger, more uniform size and length and also have more needles than their American counterparts. The low end market, on the



Serving Suggestion

other hand, uses larger dishes which feature chopped-up sea cucumbers mixed in with other ingredients. The consumer cannot see the size of the individual sea cucumber. Thus, U.S. wild Red Alaskan sea cucumbers are often used for these dishes, but Chinese cultivated sea cucumbers may also be used. Restaurants will choose whether to use Chinese cultivated sea cucumbers or U.S. imported ones based on the dish they are serving.

Entry into the sea cucumber market is extremely difficult and takes a lot of work; to get started, importers typically bring samples to trade shows to promote their products to potential buyers. While difficult to get started, the sea cucumber market may nonetheless be a fruitful market in which to partake as there is not that much competition between domestic sea cucumbers and the imported U.S. sea cucumber market. This is because the volume/ market share of imported sea cucumbers is very small. Moreover, there is not much competition from sea cucumbers from South Asia as such sea cucumbers are very cheap and have a very limited market in China.

Shipment

U.S. conservation programs limit the harvest and shipment of sea cucumbers. Sea cucumber imports typically enter China in one of three ways: directly into mainland China- usually to the port of Qingdao; second, via transit through Hong Kong; or third, via transit through Vietnam. Direct shipment to mainland China or transiting through Hong Kong (which connects to ports in Shenzhen or Guangzhou) has around a 10% import duty with a 13% Value Added Tax (VAT), totaling to about 24.5% tax. Some importers have found that transiting through Vietnam can decrease the percentage of taxes paid due to a Chinese-Vietnamese trade agreement.

While import tax rates for all species of sea cucumbers are the same, the value amount that importers pay is based on the import tax rate and the declared value, which differs between different species of sea cucumbers. China Customs offices are becoming more alert to these differences, and double-checking with other entry ports to make sure that the declared value of the sea cucumber matches its actual value.

Processing

Once in China, sea cucumbers need to be re-processed before being able to be sold to other wholesalers or consumers. Processing technology and marketing are the keys to making the sea cucumber business profitable, as the value and quality of the sea cucumber is based on a combination of the raw material quality and the processing technology. For example, Japanese sea cucumbers, due to Japan's higher processing technology, have a greater value than their U.S. counterparts. These Japanese sea cucumbers are very small after being processed; however, when the chef uses them for cooking, they can expand to 6 or 7 times their original size, whereas the Alaskan sea cucumber can only expand to 1 to 2 times its original size. Moreover, they are able to be unsalted because of their more innovative processing technology.

Market Development

Knowledge of U.S. sea cucumbers among Chinese buyers is extremely limited, requiring a considerable investment in education in order to market them effectively. The limited marketing that takes place for U.S. sea cucumbers is concentrated on high-end hotels and malls; nonetheless, there is still a lack of promotion for U.S. sea cucumbers- especially of the facts that U.S. sea cucumbers are wild caught and grow for a longer period of time than do Chinese cultivated sea cucumbers. Focusing on these two points could add to the value of the U.S. product, due to Chinese consumers' natural predilection for wild product – at present, the U.S. product tends to be regarded as lower quality due to the lack of uniformity, and gets little credit for being wild-caught.

There is a movement towards standardizing the cutting and removal of intestines of sea cucumbers in the United States. This will increase the value of the sea cucumber: marketing promotion and education exercises to highlight this would help to increase demand for U.S. sea cucumbers and improve the overall perceptions of product quality. There still is a gap between domestic sea cucumber sales and those of the U.S. because Chinese consumers prefer and trust domestic (cultivated) sea cucumbers to those imported from the United States. While education and market promotion are quickly changing this perception, importers still need to

spend time marketing and educating their consumers about the merits of U.S. imported sea cucumbers.