

The Taiwan Dried Fish Market

Saltonsall-Kennedy Grant

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submitted by

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PREFACE

This study is funded by the Saltonstall-Kennedy Grant titled "Dried Fish Asian Market Investigation and Analysis and an Industry Demonstration Project to Produce Dried Fishery Products from Underutilized Salmon and By-catch Species". The contracting group managing the Taiwanese portion of this survey is the Alaska Food Group, a Native Alaskan woman-owned business located in Juneau, Alaska.

The author of this section is a professor in the Department of Management Science at the National Chiao Tung University and also serves as a consultant to the AIT Commercial Section. He has derived information from multiple sources. The data collected include measures of consumer preference, unstructured consumer dialogues, industry visit notes, historical and academic research reports, product illustrations, producer and distributor addresses, and a comprehensive price list.

The study is divided into two parts. Part One, "MARKET REPORT", satisfies the reporting requirements put forth by the Alaska Food Group. Part Two, "APPENDICES", provides additional background and source information.

The study surveys the current status of the dried seafood market in Taiwan, provides detailed information about the history of the industry, lists available products, and describes consumer behavior.

Taiwan is undergoing dramatic and fast-moving changes, particularly in the modernization of the retail infrastructure. As a result, consumer behavior is changing as well. The opportunities for the Alaska Food Group in the Taiwan market are outstanding.

SUMMARY

This report describes what the reader needs to know about the Taiwan dried seafood market. There are significant opportunities in this market that require the immediate attention of the Alaska Food Group. The reader is asked to evaluate the data and explore the opportunities. There are three sections to this report:

- S.1 Background and Motivation
- S.2 Overview of Findings and Implications
- S.3 Market Strategies for the Alaska Food Group

S.1 Background and Motivation

The Alaska Food Group requested assistance in surveying the Taiwan dried fish market as part of a Saltonstall-Kennedy Grant to

- (1) research selected Asian dried fish products and their markets
- (2) develop and produce dried fish prototypes
- (3) introduce product prototypes in Asia.

Objective of the Research

The major objective of this project is to research and conduct investigative analysis of dried, dried and salted, dried seasoned, and dried smoked fish products in Taiwan. The research questions covered by this report include the following topics:

- * Historical Development of the Dried Fish Industry
- * Overview of the Dried Fish Manufacturing Processes
- * Market Analysis in General
- * Specific Product Analysis for Types and Forms
- * Consumer Preferences, Consumption Habits, and Expenditures
- * Traditional Uses and Recipes
- * Consumer Willingness to Try New Products
- * Consumer Willingness to Try Imported Products from America
- * Trade Margins and Pricing Information
- * Key Producers, Distributors and Traders
- * Packaging Sizes and Formats

The answers to these questions provide the investigators with enough information to begin designing products that can be produced from underutilized Alaska salmon and trawl caught by-catch species.

S.2 Overview of Findings and Implications

Historical Development of the Dried Fish Industry

The industry has moved through three periods in its history:

- * colonization
- * industrialization
- * "consumerization"

During the initial period of colonization, the population of Taiwan acquired a taste for Japanese style fish products that still persists to this day. During the period of industrialization, the island's manufacturing industries developed some very interesting food technologies and are currently significant exporters of fish processing machinery. Finally, the age of the consumer has arrived. People have money, they are "busy as bees" working, and they cherish snacks and their leisure time.

Overview of the Dried Fish Manufacturing Processes

Research reports available from the Taiwan Food Industry Research and Development Institute (FIRDI) provides one source of information about the processes used in the dried seafood industry. A surprising amount of information is also available over the internet. For example, the following site provides a diagram of a surimi processing line:

<http://www.tsunghsing.com.tw/p03.htm>

Taiwan is a good place for factory visits and attendance at the next machinery trade show is encouraged. The on-line source for trade show information is located at:

<http://wwtr.industry.net.tw/>

Market Analysis in General

The Taiwan authorities are not collecting statistics for specific dried fish products, thus reducing the opportunity for market researchers to complete market analyses and provide estimates. However, the Taiwan market appears to have excellent potential - people have money and love snacks. Since there are numerous brands and types of dried fish products

available, and since the consumer is willing to try new products, this is an Asian market to focus on. The total amount of dried fish (by species and by preparation) that is consumed by the Taiwan consumer is unknown.

Because of the high level of competition in the market, retailers are reluctant to provide data. Students collected price data by visiting stores and recording prices (see Appendix 4). However, the consumer survey in Section 3 provides insight concerning market size and potential. As noted in this section, a rough high-end estimate is that 35 million individual servings per month are consumed in Taiwan. The low-end estimate may be half this amount or approximately 17 million individual servings per month. The total sales volume, using an estimated price of one US dollar per serving, exceeds 120 million dollars a year.

Specific Product Analysis for Types and Forms

Product types and forms are discussed in Sections 2.2, 3.1, and 3.2. In general, dry fish and related seafood items are sold as a wide range of packaged and bulk (open bin) products in several different retail locations. The two most common types of dried seafood products are shredded cuttlefish and strips of processed fish surimi. Dried minnows, sugar glazed fish, octopus tendrils, smoked salmon, and dried shrimp are among the least favored product types. The most favored types include squid strips, squid sheets, minnows with peanuts, fish ball candy, powdered fish, and surimi strips. Minnows with almonds fall in the middle range of product types.

The least favored product forms include items such as fish with nuts, powdered fish, fish candy, and whole dried fish. Consumers prefer shredded dry fish, processed surimi strips

or strings, and pressed sheets. Finally, the Bay Hai dry surimi threads (Figure A3.12, Appendix 3) represents the current best selling dry fish product in Taiwan.

Consumer Preferences, Consumption Habits, and Expenditures

Section 3 describes the consumer preferences, habits, and expenditures in detail. An important issue in this section is that there are significant differences between age groups and sex. For example, males have a stronger preference for powdered fish than females, whereas females have a stronger preference for processed dried surimi strips. Young and old differ in their preferences for dried fish snacks. Older consumers most likely have a strong preference for whole minnows with almonds or peanuts. This product continues to be a traditional Taiwanese dry seafood snack. Likewise, older consumers typically like Japanese foods and tastes such as sugar glazed fish. Finally, younger consumers appear to be more tolerant of snacks that do not look anything at all like fish. Older consumers, on the other hand, appear to be more accepting of snacks that look like this source of protein.

Traditional Uses and Recipes

Appendix 6 illustrates traditional uses and recipes. For example, the consumer dialogues illustrate numerous uses and recipes, as can be seen in the following example:

Sandy owns and operates a Mexican food restaurant with her husband. Like many other local pubs and restaurants, Sandy reported that their restaurant offers dried fish, mainly dried cuttlefish and small dried fish, as a snack dish to be eaten with beverages such as beer. Sandy admits that she does not know the brand name of the dried fish products they serve since her husband does the ordering (he was not available at the time) and that the bulk packages only designate that they are a product of Taiwan. Sandy does mention, however, that

many customers prefer the small dried fish to cuttlefish. She personally likes the cuttlefish more, since its taste is mild and it has a chewy consistency. She believes that customers enjoy the small dried fish because of the way they are prepared - they are fried in sesame oil along with chopped green onion, garlic, red pepper, and peanuts. She feels that this recipe compliments cold beverages very well and is, therefore, more popular. She believes this is proven by the increased demand for this snack in the evening - a time when people are more apt to drink beer with their meal.

Consumer Willingness to Try New Products

Consumers in Taiwan are very willing to try new products - particularly products of Japanese origin. Looking at the question in a different manner, in Section 3 it is reported consumer willingness to try new products is just as strong as the preference for local products, but not as strong as preferences for Japanese products. In other words, the consumers are willing to try new products if:

- (1) it is a local product and
- (2) even more so if it a Japanese import

Companies in Taiwan recognize this and are buying bulk from Japan and are repackaging locally (see Figures A3.2, A3.15c, Appendix 3). Additional investigation is required to determine if companies are misleading consumers - using Japanese labels and local products to double or triple their mark-ups.

Consumer Willingness to Try Imported Products from America

There should be no problem with an American import if local tastes and preferences are respected. There are some problems such as this one reported in a consumer dialogue:

Mimi does not particularly favor any country's product over another. As far as she is concerned, American products are rather "strange" and often a little too sweet. She feels that American snacks focus more on quantity and less on quality. She does admit that Japanese fish products are more appealing to the Taiwanese because they are often so visually attractive and consistently taste good.

However, Green Mountain (Figure A3.14, Appendix 3) uses American products and is rated as one of the most popular brands (Table 3.4, Section 3)

Trade Margins and Pricing Information

Channel mark-ups are not easily determined and rely upon field interviews and rough estimates. During a visit to PriceCostco in Kaoshiung, the manager said:

Well, it varies - our maximum mark-up is 15% and our minimum is zero. We sell nothing below cost. I want to qualify that if we are getting out of a product line, moving out old stock, we will mark it down below cost. We try to average around 7-8% markup. We do not achieve this in food. Fresh is certainly lower than 7% and it is even lower in fish. It is over 7% in the bakery. Our bakery and meat departments have separate P & L's - so the mark-up that we take there is larger.

Likewise, individuals at Wellcome Supermarkets in Taipei say that their mark-up is higher than PriceCostco. However, PriceCostco has a lower mark-up than Carrefour and Makro. PriceCostco probably has the lowest mark-up on the island and is representative

of the average wholesale mark-up. The average retail mark-up can range from 15% to 40% for local products. Japanese brand products reach the highest levels of mark-up, exceeding 100%.

By retail format for local dry seafood, manufacturers are receiving mark-ups in the range of 10-15%, wholesalers are receiving 15-20%, and retailers are receiving 15-40%. The mark-ups are particularly hard to follow because of increasing vertical integration in the channels. For example, Hsin Tung Yang (Figure A3.6) manufactures, distributes, and retails through its wholly owned market channel. Close ties between manufacturers and other integrated distribution channels tends to decrease the transparency of pricing.

Key Producers, Distributors, and Traders

The key producers and distributors are listed in Appendix 5. The largest producers appear to be Shin Ho Sing Ocean Enterprise and Yeou Fon Food, but there are no industrial production statistics to support this. All of the manufacturers listed in the Appendix were called and asked for a copy of their annual report. Only Shin Ho Sing responded. Also, Hsin Ho Sing is the only company with a web site:

<http://www.victor.com.tw/shs/Emain.htm>

Packaging Sizes and Formats

Package weights are given in Appendix 4. Typical package sizes are shown in Appendix 3 and are further described in Section 2. A complete product family can be found at the following website:

http://www.victor.com.tw/shs/elist.htm#dried2_list

S.3 Market Strategies for the Alaska Food Group

Firms entering the Taiwan retail market will compete against companies currently reacting to critical shifts in the marketplace. The major shifts are:

* Shopping as Work -> Shopping as Leisure

Modern families have different perceptions of the opportunity cost of time and tend to integrate their leisure activities with shopping activities. For Taiwanese, when there is leisure, there is food.

* High Price -> Value Price

Many of the downward changes in price are related to changes in the channels of distribution (fewer layers), increasing competition, and brand awareness. Price competition will be a major issue to consider when introducing new products.

* Burgers and Pizza -> Noodles and Sushi

As local franchise operators learn to apply modern retail techniques and adapt traditional foods to the fast food format, more Asian style and Chinese food chains are emerging. Asian tastes and preferences will remain.

* Department Stores -> Malls

Modern malls that lease space at reasonable rates and allow fair competition are set to revolutionize the current state of retailing in Taiwan. Malls provide excellent locations to promote brands directly to the consumer.

* Local Snacks --> International Snacks

Taiwan's dried seafood manufacturers and other food manufacturers are gearing up for the international market. Companies like President Enterprises are vertically integrating operations and are expanding in China and the U.S. More and more dried fish products from Taiwan will be sold abroad.

Since there is limited data about the marketplace, new entrants to the Taiwan market have to take a pioneering role in data collection and analysis. An effective market entry strategy includes establishing means for collecting data, transforming data into knowledge, and applying this knowledge to operations.

PART ONE: MARKET REPORT

1. HISTORICAL DEVELOPMENT OF THE INDUSTRY —

Section 1 describes the historical development of the dried fishery industry in Taiwan, provides an overview of dried seafood processes, and evaluates the market potential for the importation of related products. The subsections covered are:

- 1.1 Product Evolution
- 1.2 Dried Fishery Processes
- 1.3 Market Analysis

1.1 Product Evolution —

The historical development of Taiwan's dry seafood products market is directly related to retail growth and development (Table 1.1). The early history of the island (pre-1600's) represents a period during which fish products consumed were the same or very similar to those found along the coast of Mainland China. Except for certain aboriginal influences (such as the catching and cooking of mountain trout), the diet followed Chinese recipes. During the 1700's, Chinese settlers began moving to Taiwan and coastal seaports opened as labor supply centers and export centers for the abundant natural resources.

Taiwan's internationalization began in 1858 when the Treaty of Tientsin allowed foreigners freer and more direct access to the camphor markets. The treaty accelerated the growth of the emerging port cities and forced the aborigines further into the mountains. As the Chinese settlers moved inland, Taiwan's agricultural economy grew along the fertile eastern coasts and riverbanks. When the Ching government signed the Treaty of Shimonoseki in 1896, Taiwan became a Japanese colony. During the period of

colonization, Japan influenced all aspects of the society, introducing the Japanese language as well as Japanese style foods, architecture, and clothing.

Commercialization continued but mostly under the control of Japanese companies that emphasized agricultural development and trade with Japanese seaports. The colonial emphasis on civic planning and transportation led to the development of a network of farmers' associations and farmers' markets designed to improve the efficiency and profitability of Taiwan. The farmers' associations are still in existence today and form the basis of the island's food distribution network. The Taiwan provincial authorities currently administer 62 fruit and vegetable wholesale markets, 23 meat products wholesale markets, and 59 fish wholesale markets.

Taiwan was returned to China in 1944. After the communists overthrew the nationalist government of China, the remaining forces fled to Taiwan and severed all trade, communication, and contact with the mainland. Land reform implemented by President Chiang Kai Shek increased the industrialization of the economy and transformed Taiwan's agrarian based economy to an industrialized one. Industrial growth in Taiwan has been extraordinary over the last thirty years as a result of policies focusing on export promotion and the development of strategic industrial sectors. The machine tool industry is one such sector. Over the years, Taiwan has become a major manufacturer of food processing equipment. In particular, Taiwan manufactures a variety of machines for processing seafood into dried fish products (see Appendix 5, Appendix 8).

During the period of industrialization, the wealth of the consumers continued to increase. Japanese department stores opened in the major cities and introduced new modern processed foods and snacks to the upwardly mobile consumers. As people purchased motorcycles and cars, out-shopping increased. Consumers, in their quest for new

products, learned to recognize local and international brands. The Shin Ho Sung Company (Jane Jane brand), opened its first modern squid-processing factory during this time (Appendix 7).

At the apex of this successful industrialization movement (1980's), Taiwan moved from a single party, authoritarian political system to a more democratic system. Convenience stores, fast food stores, and chain stores began to compete with the older channel members such as government-run grocery stores and provincial wholesale markets. Toward the end of the 1980's, the first dry surimi threads and dried fish snacks were introduced in convenience stores. The opening of convenience stores marked the beginning of the Taiwan snack food age. Advertising, rack-jobbers, and the growth of product varieties began to increase rapidly.

During the 1990's, the first consumer laws were passed and initiatives such as the Good Manufacturing Process (GMP) and the China Agricultural Standard (CAS) were adopted. The GMP and CAS marks play an important role in boosting consumer confidence and reinforcing consumer preferences for favorite brands. The future for dried fish products will certainly become more competitive over the next ten years. The market continues to liberalize and internationalize. As this process occurs and when Taiwan gains entry to the World Trade Organization, Japanese brands, packaging, and flavors will increase market share.

Table 1.1 -- The historic development of Taiwan's dry seafood product market

| Year | Retail Structure | Retail Trend | Product Type |
|--------|--|--|--|
| 1600's | Temples, early markets, first seaports | Barter, trade in commodities | Traditional Chinese dried and salted fish dominate market |
| 1900's | Farmer's markets, farmer's associations, first railroads | Early distribution networks built | COLONIZATION Japan influences types, production and preservation of dried fish products |
| 1950's | Industrialization, Government stores | Mass production of consumer goods | INDUSTRIALIZATION Mass production of fish products |
| 1960's | Growth of department stores and basement supermarkets | Introduction of international brands | Introduction of imported Japanese dried fish products |
| 1970's | Highways, local transportation planning and development | Out-shopping gains popularity, emergence of dried fish brand names | Shin Ho Sing builds first modern "shredded squid" processing plant in Kaohsiung |
| 1980's | Convenience stores, fast food stores, chain clothing stores | More choice, retail competition, snack product proliferation | Popular surimi products introduced, end-of-isle display, use of rack-jobbers |
| 1990's | Supermarkets, hypermarkets, direct marketing | First consumer laws, individual preferences, product standards | CONSUMERIZATION Use of Good Manufacturing Process "GMP," and China Agricultural Standard "CAS" |
| 2000's | Malls, new retail formats, urban renewal, shopping streets, tourism, entertainment centers | Focus on brand image, international market growth | Value pricing, greater influx of imports with entry into WTO |

1.2 Dried Fishery Processes –

The Taiwan Food Industry Research and Development Institute (FIRDI) maintains a collection of literature related to dried fishery processes. For example, the following articles reflect the nature of research undertaken in Taiwan:

- 1 “The improvement of the dried cuttlefish process,” a research report from the Ping Dong Agricultural College, Food Engineering Department.
- 2 “Safety research for the dried fish floss processes,” a research report from the Fu Jen Catholic University, Food and Nutrition Department.
- 3 “The quality improvement of dried fish floss,” a research report from the Kaoshiung Ocean University.

A Master of Science student from the National Chiao Tung University, Management of Technology Department, abstracted the above reports as well as several books in the FIRDI library to provide an overview of the Taiwan dried fishery processes (see Reference Documents for report copies and process illustrations). The overview describes drying processes and categories for seafood, the minnow drying process, the shrimp drying process, the cuttlefish drying process, the bonito drying process, and the manufacturing of dried fish powder. Machinery used in the processes are shown in Appendix 8.

Drying Processes for Seafood

Natural drying and artificial drying are commonly used in Taiwan.

Natural Drying

Direct sunshine is frequently used for the drying of seafood. The use of wind is less common for seafood, but common for drying noodles.

Artificial Drying

Hot air drying, smoke drying, cold air drying, vacuum drying, and freeze drying are the common artificial food drying methods used in Taiwan. Vacuum dehydration is used for shrimp placed in some popular instant noodle packs. Hot air drying is common but smoke drying is seldom used except for making bonito products.

Dried Product Categories

The common categories for dried products include pure dried products, salted dried products, boiled dried products, roast dried products, smoke dried products, and freeze-dried products.

The Minnow Drying Process

Dried minnows usually include the species Clupeidae, Engraulidae, and Chirocentridae. Roughly 15,000 tons are harvested each year from fish farms in Southern Taiwan. The process begins by soaking the minnows in a 20% salt-water solution. After soaking, the minnows are placed on bamboo plates. The plates are inserted into steam roasters under two psi for 10-15 minutes. After removal, the minnows are placed in the sun for drying. The first drying process typically takes two days. Then, the fish are again placed on

bamboo plates and the steam roasting process is repeated. The fish are dried under direct sunlight for another two days or until the moisture ratio has reached about 30% to 40%. Once the drying is completed, the minnows are packed into 12-kilogram sacks for delivery.

The Shrimp Drying Process

Overall, the harvesting and drying of shrimp has decreased in Taiwan. The process begins by cleaning the shrimp and, in particular, removing sand. The next step is polishing. The shrimp are sprayed with salt water and artificial color and are then blanched with steam and salt water. After blanching, the shrimp are placed under direct sunlight until the moisture content is reduced. The shrimp are laid on black colored nets placed directly on top of concrete slabs. Direct sunlight drying is followed by machine drying for 1 hour. Shell removal follows and a combination of vibration and high-pressure air is used. The final dried and de-shelled product is sorted and packed. On occasion, the dried shrimp is ground to powder for use as flavoring for instant noodles and other food products. For example, dried shrimp powder is used as a primary ingredient in the manufacture of Malay and Indonesian style shrimp chips.

The Cuttlefish Drying Process

Cuttlefish is frequently imported as a frozen product. Thus, the process begins with thawing, by exposing the cuttlefish to air and spraying with water. When thawed, the product is cut and cleaned with salt water. Special A-frame racks are used to hang the cuttlefish tentacles downward under direct sunlight. After sun drying, the cuttlefish are placed on wheel mounted racks. Each layer of the wheel rack holds about 60 fish and each rack has three layers (about 180 to 200 cuttlefish per wheel rack). The racks are

wheeled into an air dryer with a maintained temperature between 24 degrees Celsius to 27 degrees Celsius. Cold air-drying takes about two days or until the moisture ratio reaches 20% to 22%. Each fish is flattened with a machine roller. If the moisture content exceeds 22%, the cuttlefish is sun dried again.

The Bonito Drying Process

The bonito is stored in ice and water before being moved to the material treatment area. In the treatment area, the bonito are cut and cleaned. The process is somewhat involved, requiring that the head and internal organs be removed as well as the fins, skin, and large bones. The bonito meat is then boiled (80 degrees to 90 degrees Celsius) for 30 minutes. Then, the fine bones are removed. The meat is cut into pieces for mildew development. After the mildew develops, the pieces are placed in sunshine, then are brought back into storage for more mildew development. The mildew process, sunshine process, and smoke drying process continue until the moisture content falls below 20%. Finally, the bonito is packaged and sent to market in 20kg bundles.

The Manufacturing of Dried Fish Powder

The seasoning and materials include fish meat (swordfish), sugar, gourmet powder, soy sauce, salt, ginger, and water. First, the swordfish is cut into 1-inch length pieces. The fish is placed in oil, quick fried and soy sauce, salt, ginger, and gourmet powder are stirred in. Water is added, enough to boil the mixture for 3 to 4 hours. When the mixture is reduced to threads, it is removed and baked in a rotary drier. The resulting fish powder is then packaged. Sometimes, the rotary drier is displayed in the food section of

department stores or in supermarkets and fresh dried fish powder is sold directly to the consumer.

1.3 Market Analysis –

According to Taiwan’s Council of Agriculture Statistics for 1997, the largest provider of fish to Taiwan is Chile. Chile provides over 386 million kilograms of “other fish” to Taiwan and this total is approximately 57% of all seafood imports. The next largest providers of fish are Iceland (over 2%) and Norway (over 1%). Iceland is a major supplier of halibut, smelt fish, and sweet fish whereas Norway is a primary source of salmon (11.8 million kilograms). The total amount of imported dried fish is increasing every year (Table 1.2):

Table 1.2 – Total Taiwan seafood imports in kilograms

| Year | Total | Dried Fish Imports |
|------|-------------|--------------------|
| 1989 | 494,736,425 | 1,121,537 |
| 1990 | 530,073,906 | 1,096,792 |
| 1991 | 499,238,539 | 1,024,818 |
| 1992 | 484,984,012 | 1,300,689 |
| 1993 | 592,569,216 | 1,359,760 |
| 1994 | 581,720,371 | 1,316,732 |
| 1995 | 553,919,753 | 1,453,613 |
| 1996 | 508,043,923 | 1,414,483 |

The total amount of dried fish (by species and by preparation) that is consumed by the Taiwan consumer is unknown. The Directorate General of Customs does not record

imports, by quantity, by value, by country of origin, or by preparation for the different species imported. In fact, the preparations are frequently co-mingled like “dried, salted, or in brine, but not smoked” reducing the usefulness of the data. There are also no records available from the provincial market authorities, industrial associations, or other public access information sources.

Because of the high levels of competition in the market, no retailer was willing to provide product sales data. Students collecting data in the field were asked to leave almost every store they entered (Appendix 4). However, the consumer survey in Section 3 provides insight to the market size and potential. As noted in the section, a rough high-end estimate is that 35 million individual servings of dried seafood items per month are consumed in Taiwan. The low-end estimate may be half this amount or approximately 17 million individual servings per month. The total sales volume then, using one US dollar per serving, exceeds at least 120 million dollars a year.

2. PRODUCT ANALYSIS OF TYPES AND FORMS --

Section 2 describes the types and forms of dried seafood products offered for sale in Taiwan. In addition to a description of one company's types and form, this section summarizes the products illustrated in Appendix 3. The subsections are:

- 2.1 Types and Forms by Place Sold
- 2.2 Examples of Types and Forms
- 2.3 Summary of Illustrations, Appendix 3

The data contained in Appendix 4 represents the prevalent types and forms of dried fish sold to consumers. Two undergraduate students in the Department of Management Science, National Chiao Tung University, surveyed stores and markets in the Hsinchu area. A graduate student from the Department of Industrial Engineering, National Tsing Hua University, verified the accuracy of the data three weeks later. The distribution of products in Appendix 4 fairly represents the Hsinchu City and adequately approximates the product distribution across the island.

2.1 Types and Forms by Place Sold --

Dry fish and related dried seafoods are sold as a wide range of packaged and bulk (open bin) products in several different retail locations. The two most common types of snack products are the shredded cuttlefish and strips of processed fish surimi. Each retail format offers a different variety of products. The most diverse variety can be found in the traditional markets where products are sold in open bin format by weight. Packaged dry fish products are also sold but the ratio between packaged and bulk is roughly 80%

bulk and 20% packaged. The types of dry fish products and the differences in types offered at different retail formats are shown below:

Traditional Markets

Traditional markets carry more bulk goods than processed and packaged goods. Most traditional markets, particularly the city government approved markets and provincial government wholesale markets, carry a significant collection of dried shrimp (white and yellow), whole dried squid, dried shark fin, dried minnows (different grades and sizes) and dried octopus.

Table 2.1 -- Typical dry fish varieties offered in traditional markets

| Bulk Dry Goods | Packaged (Sealed) Dry Goods |
|--------------------------------|-----------------------------|
| Whole dried fish (multi-types) | Fried fish powder |
| Shrimp (yellow, white) | Shredded cuttlefish |
| Squid, Octopus (multi-size) | Pressed fish sheets |
| Shark fin | Processed strips |
| Minnows (multi-size, types) | |
| Tuna ball candies | |

Hypermarkets and Supermarkets

Hypermarkets, warehouse stores, and supermarkets carry large inventories of processed canned fish powder. The most common type of fish powder is made from fried swordfish. Specialty Japanese grocery stores carry large selections of packaged glazed

fish, glazed crabs, and dried fish on skewers. The Japanese snacks frequently have puffed rice and peanuts included as well as very attractive packaging.

Table 2.2 -- Typical dry fish varieties offered in hypermarkets and supermarkets

| Bulk Dry Goods | Packaged (Sealed) Dry Goods |
|--------------------------------|-----------------------------|
| Squid (multi-size, whole) | Fried fish powder |
| Shrimp (yellow, white) | Shredded cuttlefish |
| Fried fish powder (floor show) | Packaged minnows (variety) |
| | Processed surimi strips |
| | Packaged Shark fin |
| | Fish and shrimp chips |
| | Tuna ball candy |
| | Japanese imports |

Convenience Stores

Convenience stores frequently feature dried fish snacks using end-of-aisle displays. The snacks are frequently purchased along with purchases of sodas and beer throughout the day.

Table 2.3 -- Typical dry fish varieties offered in convenience stores

| Bulk Dry Goods | Packaged (Sealed) Dry Goods |
|----------------|---------------------------------|
| none | Fried fish powder |
| | Shredded cuttlefish |
| | Packaged minnows (refrigerated) |
| | Processed strips |
| | Fish and shrimp chips |
| | Popular snack bags |
| | Japanese imports |

Transportation Centers

Transportation centers sell drinks, newspapers, snacks, and lunch boxes for commuters and distance travelers. Travelers prefer to buy smaller packages that can be conveniently consumed as they travel. Thus, there is greater demand for easier to handle snacks that are available in the form of strips or small whole fish with peanuts.

Table 2.4 -- Typical dry fish varieties offered in transportation centers

| Bulk Dry Goods | Packaged (Sealed) Dry Goods |
|----------------|-----------------------------|
| none | Shredded cuttlefish |
| | Minnows with almonds |
| | Processed surimi strips |

Recreation Areas

Remote recreation areas sell packages that can be easily carried and packed into purses or backpacks. Due to the remote locations, snacks in bags sealed with desiccants are most popular since the mountain sites are frequently very moist and damp throughout the year.

Table 2.5 -- Typical dry fish varieties offered in remote recreation areas

| Bulk Dry Goods | Packaged (Sealed) Dry Goods |
|----------------|-----------------------------|
| none | Shredded cuttlefish |
| | Processed surimi strips |

2.2 Examples of Types and Forms - Jane Jane Brand Varieties

The web-site provided by the Shin Ho Sing Company (Appendix 7) provides a good example of the popular product types and forms offered for sale in Taiwan. The homepage of the company is located at:

<http://www.shs.com.tw/>

The description of their dried seafood is located at:

<http://www.shs.com.tw/Edriedp1.htm>

Their popular and leading brand Jane Jane includes shredded squid, rolled squid, squid tentacles, and tuna ball candies.

The company's product list is located at:

http://www.shs.com.tw/elist.htm#dried2_list

Jane Jane Brand Prepared and Rolled Cuttlefish

Appendix 3 shows a picture of the prepared and rolled cuttlefish offered by Shin Ho Sung's competitor, Hsin Dong Yang (Figure A3.6). Shin Ho Sung distributes the Jane Jane brand cuttlefish sheet through convenience stores at half the price (Appendix 4).

Jane Jane's cuttlefish is cured and flavored with honey, giving it a bitter, sweet taste. Although it is not sticky, it is very hard to chew. As you chew, the bitter taste becomes more apparent. The aftertaste has metallic overtones, particularly if you drink beer while eating it.

The cuttlefish is sold enclosed in an airtight bag with a desiccant (Figure A3.15a) to prevent mold. Unless you are very hungry, it would be difficult to eat all 45 grams of the pressed cuttlefish in one sitting. Chewing the product is very hard on the teeth and gums. The package contains two to three pressed sheets that are serrated so you can easily pull off strips.

The Chinese name "Jen Jen Yo I Se" has a similar sound to the Chinese expression meaning "really interesting". Commercials shown during the Chinese New Year make use of the similarity of sounds between different Chinese characters to cue the consumer's memory. Since people are frequently heard saying "how interesting" in daily

conversation, it is easy for consumers to make a memory link to Shin Ho Sung’s well-known brand.

2.3 Summary of Illustrations, Appendix 3

Types of Dried Fish

The consumer preference survey (Appendix 1 and Appendix 2) used the following classification (Table 2.6) for types of dried fish:

Table 2.6 -- Product types and illustrations

| Product Type | Product Illustration (Appendix 3) |
|--------------------------|-------------------------------------|
| Dried cuttlefish (squid) | (A3.6, A3.7, A3.13) |
| Dried octopus | Seen in wet markets |
| Dried minnows | (A3.4, A3.14) |
| Packaged smoked salmon | Seen in wet markets, hypermarkets |
| Processed surimi | (A3.5,A3.8,A3.9,A3.12) |
| Dried shrimp | Similar to Louisiana dried shrimp |
| Sugar glazed fish | (A3.1, A3.2, A3.4) |
| Malay style fish chips | Made with fish powder (A3.3, A3.11) |

The most favored types of snacks are squid strips, squid sheets, minnows with peanuts, fish ball candy, powdered fish, and surimi strips. In terms of market position, the cuttlefish and codfish surimi products hold the largest share, followed by dry minnows, dry shrimp, whole dry fish and fried powder.

Forms of Dried Fish

The consumer preference survey (Appendix 1 and Appendix 2) identifies seven common forms of dry fish products. Consumers frequently buy whole dry fish, dried fish with nuts, powdered fish, candied fish, shredded fish, processed surimi strips, and pressed sheets (Table 2.7).

Table 2.7 -- Product forms and illustrations

| Product Form | Product Illustration (Appendix 3) |
|-------------------------|-----------------------------------|
| whole dry fish | (A3.1, A3.2, A3.4, A3.10, A3.14) |
| dried fish with nuts | (A3.14) |
| powdered fish | (A3.11) |
| candied fish | (A3.1, A3.2, A3.3, A3.4) |
| shredded fish | (A3.7, A3.13) |
| processed surimi strips | (A3.5, A3.8, A3.9, A3.12) |
| pressed sheets | (A3.6) |

Consumers prefer shredded dry fish, processed surimi strips or strings, and pressed sheets. In terms of market share, the shredded form, the processed strip form, and the sheet forms are more common than the whole fish form.

3. CONSUMER PREFERENCES AND HABITS --

This section describes the results of a consumer survey distributed to a representative sample of Taiwan consumers. The survey consists of ten topics. The topics include:

- 3.1 Dried Fish Product Type Preferences
- 3.2 Dried Fish Product Form Preferences
- 3.3 Country of Origin Preferences
- 3.4 Place of Purchase
- 3.5 Ranking of Popular Brands
- 3.6 Willingness to Try New Products
- 3.7 Social Behavior of Consumption
- 3.8 Place of Consumption
- 3.9 Overall Satisfaction with Dried Fish Products
- 3.10 Demographics and Consumption Frequency

Survey Design and Sample Description

MBA students studying International Marketing at the National Chiao Tung University designed an English language survey to explore consumer preferences, habits, and expenditures (Appendix 1). A senior student in Applied Psychology, Fu Jen Catholic University, translated the English version of the survey into Chinese (Appendix 2). A professor of Industrial Engineering at the National Tsing Ha University back-translated the survey into English and checked it for accuracy. After back-translation, the Psychology student targeted two areas for survey distribution. The Hsinchuang City (Taipei County) and Hsinchu City areas provide sufficient consumer diversity to support

the claim that the survey fairly represents the Taiwan consumer. First, each area has a university with young consumers from across the island. Second, each area is a center of industrial production that attracts a wide variety of age groups with a wide diversity of career backgrounds. The sample collected consists of 104 adults with 55 males and 49 females. The sample average age is 28, but respondent ages range from 17 to 71. The median age of 24 forms the basis of a split sample of 53 younger consumers and 51 older consumers.

3.1 Dried Fish Product Type Preferences –

Section 3.1 measures consumer preferences for twelve common types of packaged snack products. Visits to different retail outlets indicate that consumers frequently buy dried cuttlefish (squid), dried octopus, dried minnows, smoked salmon, processed dried fish (surimi), dried shrimp, and sugar glazed fish.

Most and Least Favored Snack Types

The consumer's preferences for types of dried seafood snacks falls into two groups - most favored and least favored (Figure 3.1). Figure 3.1 is a "box and whisker" plot. Each box consists of a bottom hinge (25th percentile), a top hinge (75th percentile), a line between the hinges (the sample median), and whiskers. If the plot has whiskers, then the sample contains extreme values that fall within 1.5 interquartiles of the hinges. When the deviations of the sample are small, then the box is squat. The consumers show positive preferences for all types of dried fish snacks (all medians are below 6, the favorable preference break point). The preferences fall into one group with a median preference value of 4 (most favored) and another with a median preference value of 6 (least favored).

Dried minnows, sugar glazed fish, octopus tendrils, smoked salmon, and dried shrimp are the least favored snacks. The most favored snacks are squid strips, squid sheets, minnows with peanuts, fish ball candy, powdered fish, and surimi strips. Minnows with almonds fall in the middle range between the least and most favored product types.

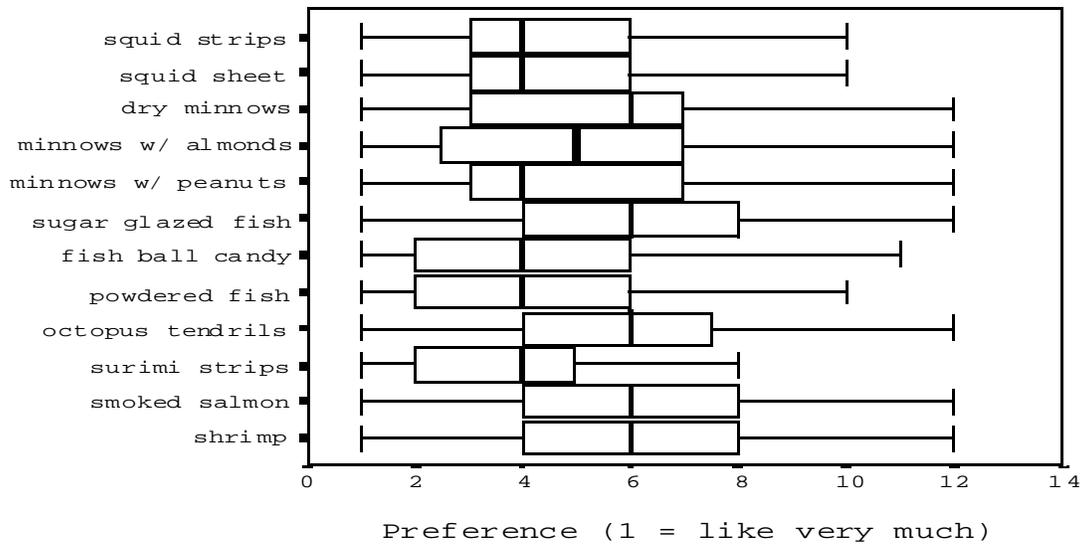


Figure 3.1 -- The consumer's preference for different types of dry fish snack products

Differences Between Sex by Snack Type

Males and females differ in their preferences for the various types of dried seafood snacks (Table 3.1). There are significant differences in male and female preferences for powdered fish and processed surimi strips. Males have a stronger preference for powdered fish than females, whereas females have a stronger preference for processed dried surimi strips.

Differences Between Young and Old by Snack Type

Young and old differ in their preferences for dried fish snacks (Table 3.2). Older consumers most likely have a strong preference for whole minnows with almonds or

peanuts perhaps because this is a traditional Taiwan dried seafood snack. Likewise, older consumers typically like Japanese foods and tastes such as sugar glazed fish.

Younger consumers appear to be more tolerant of snacks that do not look anything at all like fish. Older consumers, on the other hand, appear to be more accepting of snacks that look like the source of protein.

Table 3.1 -- Preferences for dry fish products ranked by male from the most favorite type to the least favorite type

| Dry Fish Preference | Male | Female | F Value | P Value |
|----------------------------------|-------------|-------------|--------------|--------------|
| powdered fish¹ | 4.05 | 4.22 | 7.697 | 0.007 |
| surimi strips | 4.27 | 3.36 | 7.348 | 0.008 |
| squid sheet | 4.65 | 4.59 | 0.753 | 0.388 |
| minnows with peanuts | 4.89 | 5.48 | 0.000 | 0.986 |
| fish ball candy | 4.94 | 4.67 | 2.304 | 0.132 |
| minnows and almonds | 5.03 | 5.32 | 1.064 | 0.305 |
| squid strips | 5.21 | 4.59 | 0.516 | 0.474 |
| octopus tendrils | 5.72 | 6.36 | 0.192 | 0.662 |
| dry minnows | 5.77 | 4.91 | 0.299 | 0.586 |
| smoked salmon | 6.20 | 5.48 | 0.067 | 0.796 |
| sugar glazed fish | 6.25 | 5.75 | 0.046 | 0.831 |
| shrimp | 6.45 | 6.00 | 0.761 | 0.385 |

¹ Preferences in bold represent significant differences

Table 3.2 -- Preferences for dry fish products ranked by Young from the most favorite type to the least favorite type

| Dry Fish Preference | Young | Old | F Value | P Value |
|--|-------------|-------------|--------------|--------------|
| surimi strips | 3.30 | 4.66 | 0.135 | 0.715 |
| powdered fish | 4.43 | 3.82 | 0.177 | 0.674 |
| fish ball candy | 4.49 | 5.15 | 0.531 | 0.468 |
| squid strips | 4.58 | 5.27 | 0.005 | 0.942 |
| squid sheet | 4.84 | 4.39 | 1.183 | 0.279 |
| smoked salmon | 5.71 | 6.01 | 0.016 | 0.898 |
| octopus tendrils | 6.11 | 5.94 | 0.039 | 0.843 |
| shrimp | 6.15 | 6.33 | 0.766 | 0.384 |
| dry minnows | 6.22 | 4.46 | 1.203 | 0.275 |
| minnows with almonds ¹ | 6.24 | 4.05 | 5.872 | 0.017 |
| sugar glazed fish | 6.24 | 5.78 | 4.396 | 0.038 |
| minnows with peanuts | 6.26 | 4.03 | 6.187 | 0.014 |

¹ Preferences in bold represent significant differences

3.2 Dried Fish Product Form Preferences

This section measures consumer preferences for seven common forms of packaged snack products. Evaluation of popular packaged snacks indicates that consumers frequently buy whole dry fish, dried fish with nuts, powdered fish, candied fish, shredded fish, processed surimi strips, and pressed sheets.

Most and Least Favored Snack Forms

Consumer preferences for forms of dry fish snack products fall into two groups (Figure 5.2). The least favored product forms are fish with nuts, powdered fish, fish candy, and whole dried fish. Consumers prefer shredded dry fish, processed surimi strips or strings, and pressed sheets.

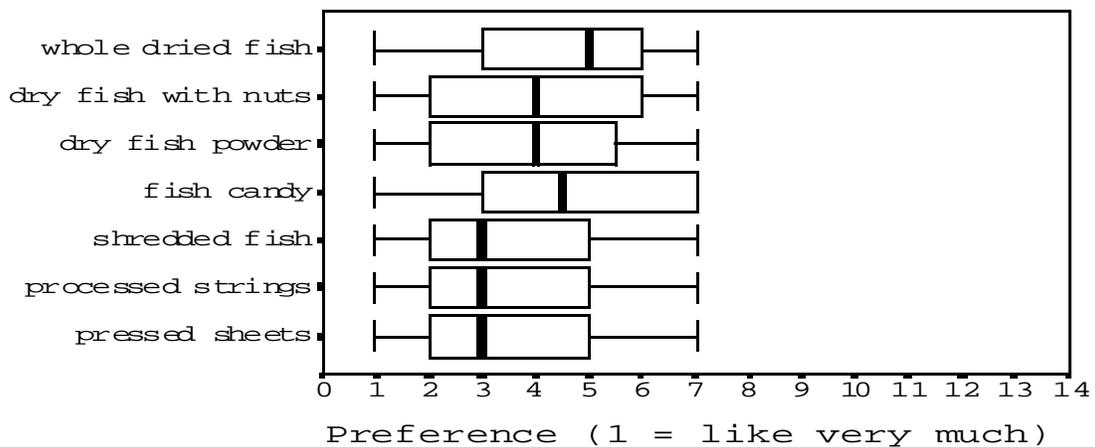


Figure 3.2 -- The consumer's preference for different forms of dry fish snack products

Differences Between Sex by Snack Form

There are no significant differences between male and female for different forms of dried fish snacks.

Differences Between Young and Old by Snack Form

Younger consumers have a stronger preference for shredded forms than that of older consumers (young mean preference = 3.18, older preference = 4.03, $F = 4.101$, $P = 0.045$). This is reasonable, since younger consumers have stronger teeth, they can tolerate the tougher, shredded forms.

3.3 Dried Fish Product Places of Origin Preferences —

This section measures consumer preferences for six places of origin for packaged snack products. There is no source of data for dried fish products by preparation, by country of origin, and by general species. Thus, students recorded common places of product origin. Evaluation of store shelves and market bins indicate that consumers occasionally buy products from Japan, but seldom from any other country. Local manufacturers are the largest source of dried fish snack products, providing at least 95% or more of the retail products.

Most and Least Favored Places of Origin

Consumer preferences for the origin of dry fish snack products provide useful information (Figure 5.3). First, the most favored place of origin is Japan, but there are few Japanese dried snack products available in the stores. Second, there is no regional

preference (North versus South) for domestic dried snack products. Third, the preference for Alaskan products is the same as that for U.S. products. Finally, China, as a place of origin, has a low preference rating. The implications are that Japanese processing techniques, product tastes, and product package designs and labeling may offer significant sales advantages.

Differences Between Sex by Place of Origin

Males and females do not have different place of origin preferences for dried fish snacks.

Differences Between Young and Old by Place of Origin

Young and old do not have different place of origin preferences for dried fish snacks.

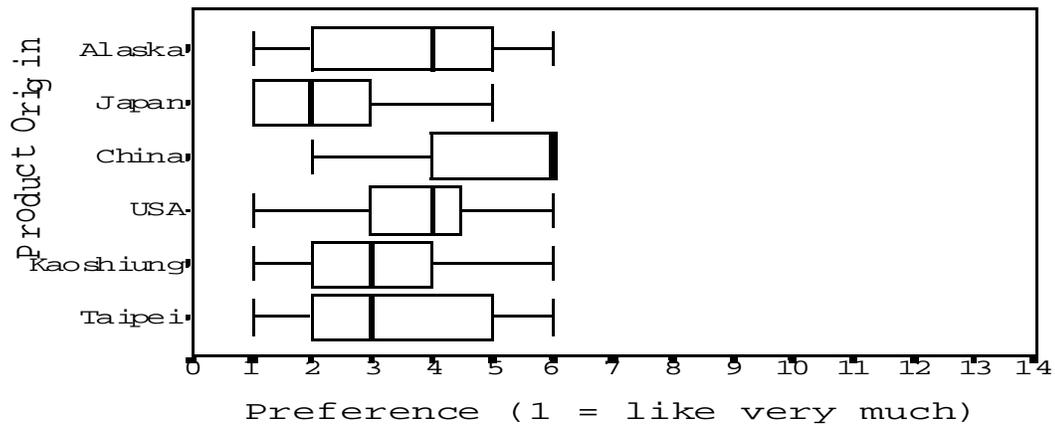


Figure 3.3 -- The consumer's place of origin preferences for dry fish products

3.4 Place of Purchase —

Section 3.4 measures the likelihood that the consumer will purchase a snack at one of twelve different retail formats. The retail formats include convenience stores, supermarkets, movie theaters, KTV/MTV's (Karaoke bars), wet markets, parks, transportation stations, hypermarkets, bowling alleys, mountain parks, night markets, and street vendor stalls.

Most and Least Likely Places of Purchase

Consumers are most likely to buy dried fish snacks at convenience stores, supermarkets, and hypermarkets (Table 3.3). Parks, bowling alleys, and street stalls represent the least likely locations to purchase dry fish snacks.

Differences Between Sex by Likely Place of Purchase

The sample size for likelihood is too small for accurate statistical comparisons between sexes.

Differences Between Young and Old by Place of Origin

The sample size for likelihood is too small for accurate statistical comparisons between age groups. However, interviews with retail managers support the following conclusion: young people are the primary buyers of dry seafood snacks from convenience stores. Older consumers buy a wider variety of dried seafood products and purchase products from supermarkets, hypermarkets, and traditional markets.

Table 3.3 -- Most and Least Likely Places of Purchase ranked by greatest likelihood

| Location | Likely | Unlikely | No Response |
|---------------------------------------|-----------|----------|-------------|
| Convenience Store ¹ | 45 | 0 | 59 |
| Supermarket | 25 | 0 | 79 |
| Hypermarket | 18 | 1 | 85 |
| KTV/MTV | 6 | 10 | 88 |
| Mountain | 5 | 11 | 88 |
| Night Market | 5 | 10 | 89 |
| Station | 5 | 9 | 90 |
| Movie Theater | 4 | 5 | 95 |
| Wet Market | 3 | 13 | 88 |
| Bowling | 1 | 16 | 87 |
| Park | 1 | 17 | 86 |
| Street | 0 | 15 | 89 |

¹ Responses in bold represent most likely places of purchase

3.5 Ranking of Popular Brands --

Section 3.5 measures the likelihood that the consumer will purchase one of nine different popular snacks. Consumers observed products on display and recorded the likelihood of purchase.

Most and Least Likely Brand Purchase

Consumers are most likely to buy the Green Mountain, the Bay High, or the Tai Shin brand if given a similar choice (Table 3.4). The Green Mountain package uses English extensively and promotes the use of American almonds. The Bay High brand is the most popular dry, processed fish surimi snack in the marketplace. Finally, the Tai Shin powdered fish, sold in an elegant and attractive can, uses PriceCostco in Kaoshiung, Taiwan as a major distributor. Tai Shin is the best selling dried seafood product offered in the PriceCostco warehouse stores.

Table 3.4 -- Most and least likely brand purchases ranked by greatest likelihood

| Brand/Product | Likely | Unlikely | No Response |
|--|-----------|-----------|-------------|
| Green Mountain/Minnows & Almonds ¹ | 25 | 16 | 63 |
| Bay High/Surimi Strips | 24 | 3 | 77 |
| Tai Shin/Fish Powder | 17 | 4 | 83 |
| Hsin Dong Yang/Squid Strips | 14 | 15 | 75 |
| Jen Her/Squid Strips | 10 | 3 | 91 |
| Ju Her/Squid Strips | 8 | 11 | 85 |
| Jen Jen/Fish Powder Candy | 8 | 15 | 81 |
| Nan High/Surimi Strips | 3 | 14 | 87 |
| Wei I/Fish Powder | 3 | 31 | 70 |

¹ Responses in bold represent most likely brand purchases

Differences Between Sex by Likely Brands Purchase

The sample size for likelihood is too small for accurate statistical comparisons between sexes.

Differences Between Young and Old by Likely Brands Purchase

The sample size for likelihood is too small for accurate statistical comparisons between age groups.

3.6 Willingness to Try New Products _

Three is the median value for the consumers' "willingness to try" new products (Figure 3.4). The median value compares similarly to consumer preference for regionally produced products. Even though willingness to try new products outperforms the preference values for different product types, the willingness value is not as strong as preferences for products of Japanese origin.

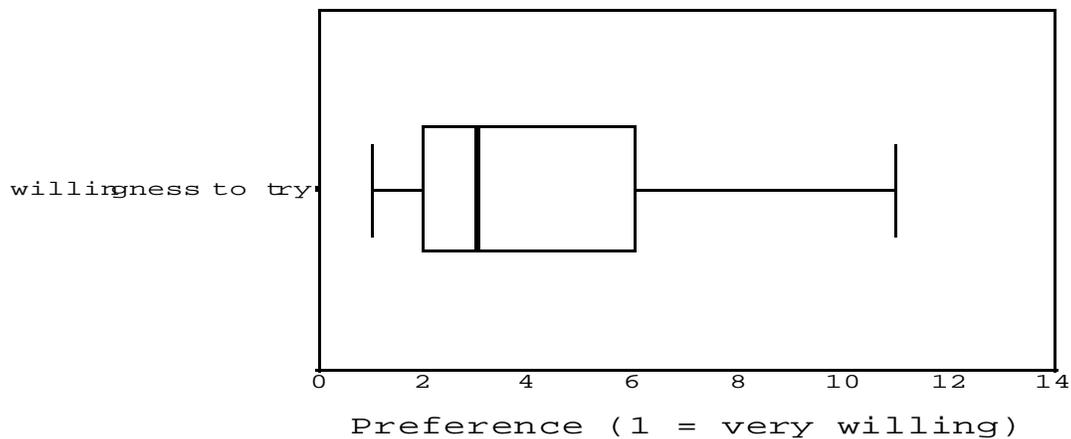


Figure 3.4 -- The consumer's willingness to try dry fish products

Differences Between Sex by Willingness to Try New Products

There are no significant differences between males and females and their willingness to try new dried fish snacks.

Differences Between Age by Willingness to Try New Products

Younger consumers are more willing to try new products than older consumers are (younger mean willingness = 3.54, older mean willingness = 4.78, $F = 4.643$, $P = 0.034$).

3.7 Social Behavior of Consumption —

Section 3.7 describes the social behavior associated with the consumption of dried seafood products. The social desirability bias to eat with others and follow traditions plays an important role in the patterns of social behavior.

Most and Least Likely Consumption Behavior Partners

Table 3.5 shows that consumers are most likely to eat snacks with close friends and intimates in non-work settings. Consumers seldom eat convenience store snacks in the office (with colleagues), with parents, or with guests. Taiwan parents frequently rebuke children for not eating proper meals. Thus, it is not unreasonable that young respondents say they avoid eating snacks with their parents. Taiwan's culture of hospitality dictates that guests receive the best food and never inexpensive snacks. Guests treated in this manner feel slighted and the host loses face. Finally, people simply do not miss meals in

Taiwan. Lunch is an important part of the day and it is unheard of to either work through lunch or to skip breakfast. Given the fact that an important part of office culture is the noonday meal, it is not surprising that consumers seldom eat pre-packaged snacks with colleagues. However, consumers do frequently eat small appetizers in the restaurant before a meal. A popular appetizer consists of whole dry fish (minnows) stir fried with peanuts, garlic, salt, and red peppers.

Table 3.5 -- Most and least likely consumption partners ranked by greatest likelihood

| Consumption Partner | Likely | Unlikely | No Response |
|-------------------------------|-----------|-----------|-------------|
| Classmates¹ | 32 | 5 | 67 |
| Lovers | 17 | 3 | 84 |
| Husband and Wife | 17 | 11 | 76 |
| Alone | 13 | 22 | 69 |
| Siblings | 12 | 2 | 90 |
| Guests | 7 | 18 | 79 |
| Parents | 5 | 18 | 81 |
| Colleagues | 2 | 24 | 78 |

¹ Responses in bold represent most likely partners in snack consumption

Differences Between Sex by Likely Consumption Behavior

The sample size for likelihood is too small for accurate statistical comparisons between sexes.

Differences Between Age by Likely Consumption Behavior

The sample size for likelihood is too small for accurate statistical comparisons between age groups. However, the sample of classmates consists solely of younger consumers.

3.8 Place of Consumption

Section 3.8 describes the likely places where dried seafood products are consumed. What appears to be happening is that young people are eating snacks at home, in their rooms or living rooms, and with friends while they do homework, chat, or watch TV. Their snack consumption is not occurring under the watchful eyes of parents. Parents, in the same manner, are not likely to eat snacks in front of or with their children. Dry seafood snacks do not appear to be a family food, but a food shared among similar age groups.

Most and Least Likely Places of Consumption

Table 3.6 shows that consumers are most likely to eat snacks at home, at friend's homes, or at karaoke bars (KTV/MTV's). Consumers are least likely to eat snacks at temple areas, at meetings, or on buses, trains, or airplanes.

Interestingly, numerous small noodle stands and snack shops surround most temples. Likewise, most airports, train stations, and bus stations have counters selling dry seafood snacks. First, it appears the consumer will eat a small bowl of noodles before a dry snack. Second, preserved fruits and other types of Buddhist and vegetarian foods sell the best in this area. Third, the selection of snacks offered at transportation centers is radically different from the selection offered at a 7-Eleven convenience store. The snack

concessions, controlled by the Taiwan transportation authority, offer limited selections and some unpopular brands.

Table 3.6 -- Most and least likely places of consumption ranked by greatest likelihood

| Place of Consumption | Likely | Unlikely | No Response |
|--------------------------|-----------|----------|-------------|
| Home ¹ | 52 | 1 | 51 |
| Friend's Home | 14 | 0 | 90 |
| KTV/MTV | 11 | 3 | 90 |
| Movie Theater | 9 | 0 | 95 |
| Mountain Hike | 6 | 3 | 95 |
| Party | 6 | 5 | 93 |
| Meeting | 2 | 19 | 83 |
| Night Market | 2 | 4 | 98 |
| School | 1 | 3 | 100 |
| Park | 0 | 1 | 103 |
| Bowling | 0 | 7 | 97 |
| Train, bus, airplane | 0 | 11 | 93 |
| Temple area | 0 | 34 | 70 |

¹ Responses in bold represent most likely places of snack consumption

Differences Between Sex by Likely Brands Purchase

The sample size for likelihood is too small for accurate statistical comparisons between sexes.

Differences Between Young and Old by Likely Brands Purchase

The sample size for likelihood is too small for accurate statistical comparisons between age groups. However, younger consumers frequently go to movie theaters and visit each other's homes. Older consumers frequent KTV's and MTV's and hold meetings at their places of occupation.

3.9 Overall Satisfaction with Dried Fish Products

The consumer's overall satisfaction with dry fish products offers room for improvement (Figure 3.5). The sample shows that consumers have a high level of satisfaction with existing products, but the rating falls below several other measures. For example, the consumer is more likely to be willing to try new products than to be satisfied with existing products. The strong preference for Japanese products, coupled with the obvious lack of such products in the marketplace, indicates an opportunity for sales.

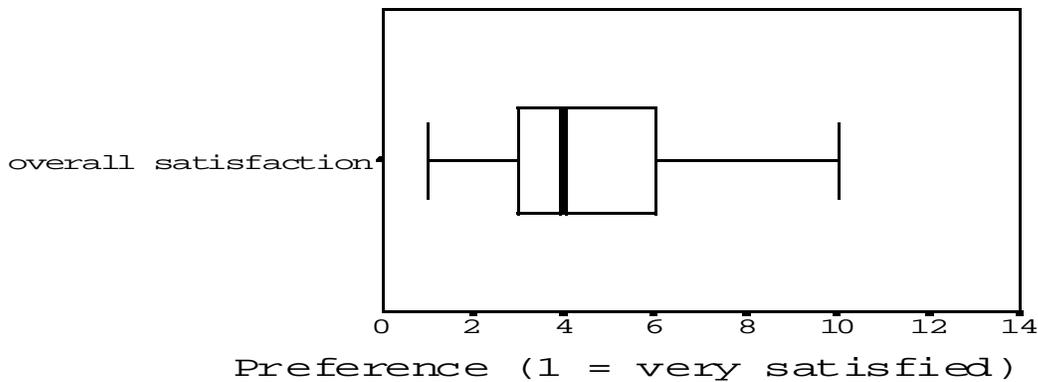


Figure 3.5 -- The consumer's overall satisfaction with dry fish products

Differences Between Sex by Overall Satisfaction

There are no significant differences between males and females for overall satisfaction with dry seafood products.

Differences Between Young and Old by Overall Satisfaction

There are no significant differences between age groups for overall satisfaction with dry seafood products.

3.10 Demographics and Consumption Frequency

The sample collected is roughly split between working class adults and school age young people (Table 3.7). Roughly 50% of the respondents say that they eat dry fish snacks at least once weekly. The other half say that they eat dry fish snacks at least once monthly. According to the Council of Economic Planning and Development statistics (1997), there are approximately ten million older, working class adults (ages 25 through 65) and roughly five million younger, high school and college age individuals (ages 15 to 24). Since there are no significant differences in the consumption frequency of dry seafood snacks by age or sex, then the total potential market exceeds 15 million individuals. Of these 15 million individuals, at least 7 million are eating dry seafood snacks once a week. Another 7 million eat dry seafood snacks at least one a month.

Given these data, a rough potential market size estimate is derived. At most, 35 million individual servings per month are consumed in Taiwan. The lower limit may be half this amount, or approximately 17 million individual servings per month.

Table 3.7 -- Stem and leaf count for respondent occupations

| Occupation | Count | Stem | Leaf |
|---------------|-------|------|--------------------------|
| Student | 52.00 | 1 * | 000000000000000000000000 |
| Teacher | 16.00 | 2 * | 00000000 |
| Military | 2.00 | 3 * | 0 |
| Public work | 4.00 | 4 * | 00 |
| Labor | 2.00 | 5 * | 0 |
| Service | 10.00 | 6 * | 00000 |
| Self employed | 2.00 | 7 * | 0 |
| Housewife | 3.00 | 8 * | 0 |
| Other | 7.00 | 9 * | 000 |
| Business | 6.00 | 10 * | 000 |

APPENDIX 1. ENGLISH SURVEY

Appendix 1 contains the English version of the survey used to measure consumer preferences, consumption, and expenditures for dry seafood products.

1.1 Fish Type Taste Preferences

How do you rate the following types of dried fish products? Please check your preferences for the taste of different types of dried fish products. Think about each carefully and check the level of satisfaction that you usually feel when you eat this type of product. Even if you have never tasted the product, give it a rating based on what you think it will taste like.

a. strips of dried squid

|_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_|

Very Tasty Not Delicious

b. sweet, rolled and pressed squid

|_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_|

Very Tasty Not Delicious

c. small crispy dried fish (minnows)

|_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_|

Very Tasty Not Delicious

d. salted dried fish with almonds

|_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_|

Very Tasty

Not Delicious

e. salted dried fish with peanuts

|_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_|

Very Tasty

Not Delicious

f. small glazed flat fish from Japan

|_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_|

Very Tasty

Not Delicious

g. fish candy ball

|_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_|

Very Tasty

Not Delicious

h. fried and powdered sword fish

|_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_|

Very Tasty

Not Delicious

i. dried octopus tentacles

|_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_|

Very Tasty

Not Delicious

j. processed fish (surimi) strips

|_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_| |_|

Very Tasty

Not Delicious

1.3 Place of Origin Preferences

For the following question, rank your favorite place of origin for dried fish snack, even though you may never have eaten a product from this place. For your most favorite place use “1,” for the second favorite, use “2,” for the third favorite use “3” and so on through the number “6” which represents your least favorite place for processed fish.

_____ Alaska

_____ USA

_____ Japan

_____ Kaoshiung

_____ China

_____ Taipei

1.4 Place of Purchase

For the following question, place a check () next to place where you are MOST LIKELY to buy a dried fish snack. Place an “X” where you are LEAST LIKELY to buy a dried fish snack.

_____ Convenience Store

_____ Transport Center

_____ Supermarket

_____ Hypermarket

_____ Movie theater

_____ Bowling Alley

_____ KTV/MTV

_____ Mountain resort

_____ Wet market

_____ Night market

_____ Park

_____ Street vendor

1.7 With whom do you eat dried fish snacks?

For the following question, place a check () next to people with whom you are MOST LIKELY to eat a dried fish snack. Place an “X” next to the people you are LEAST LIKELY to eat a dried fish snack.

| | |
|---------------------|----------------------|
| _____ Guests | _____ brother/sister |
| _____ Classmates | _____ alone |
| _____ lover | _____ husband/wife |
| _____ father/mother | _____ colleagues |

1.8 Where do you eat dried fish snacks?

For the following question, place a check () next to the place where you are MOST LIKELY to eat a dried fish snack. Place an “X” next to the place where you are LEAST LIKELY to eat a dried fish snack.

| | |
|---------------------|--------------------------|
| _____ School | _____ Train/Bus/Airplane |
| _____ Movie theater | _____ Bowling Alley |
| _____ KTV/ MTV | _____ Mountain resort |
| _____ Temple Market | _____ Night market |
| _____ Park | _____ Street |
| _____ Home | _____ Friend’s Home |
| _____ Party | _____ Meeting |

APPENDIX 2. CHINESE SURVEY

Appendix 2 contains the Chinese version of the survey used to measure consumer preferences, consumption, and expenditures for dry seafood products. For further information, please contact the author.

APPENDIX 4. PRODUCT PRICE DATA

Appendix 4 contains price data for popular dried fish products. The prices are expressed in New Taiwan dollars (NT\$). The exchange rate at the time of this report is 1 US\$ to 33 NT\$.

| Retail Store | Company Name | Chinese | Product Type | Brand Name | Chinese Name | Size(g) | Price |
|--------------|-----------------|---------|----------------------|-----------------|--------------|---------|-------|
| 7-Eleven | Yio Fong | 有豐 | Fish Strips | Yio Fong | 鱈魚香絲 | 88 | 50 |
| 7-Eleven | Hi Taste Food | 海之味 | Fish Strips | Hi Taste | 鱈魚香絲 | 90 | 50 |
| 7-Eleven | Shin Ho Sing | 新和興 | Squid Sheet | Jane Jane | 魷魚片 | 45 | 48 |
| 7-Eleven | Shin Ho Sing | 新和興 | Squid Strips | Jane Jane | 魷魚絲 | 45 | 48 |
| 7-Eleven | Shin Ho Sing | 新和興 | Dried Squid Head | Jane Jane | 魷魚頭 | 80 | 48 |
| 7-Eleven | Kuo Fong | 果豐 | Fish Strips | Sophisca | 鱈魚香絲 | 65 | 48 |
| 7-Eleven | Kuo Fong | 果豐 | Squid Sheet | Sophisca | 魷魚片 | 30 | 48 |
| 7-Eleven | Japan Imported | | Shrimp Chips | | 炸蝦片 | 70 | 20 |
| 7-Eleven | Yu Zong | | Shrimp Chips | Yu Zong | 炸蝦片 | 102 | 20 |
| 7-Eleven | Yu Zong | | Shrimp Chips | Yu Zong | 炸蝦片 | 50 | 10 |
| 7-Eleven | President Co. | 統一 | Fish Powder | President | 魚鬆 | 200 | 130 |
| Ta Shua Tsen | Hsiao Tien Tien | 小田甜 | Honey Fish Roll | Hsiao Tien Tien | 蜜汁香魚卷 | 70 | 20 |
| Ta Shua Tsen | Hwa Yuan | | Honey Fish Roll | Hwa Yuan | 蜜汁香魚卷 | 80 | 20 |
| Ta Shua Tsen | Hwa Yuan | | Squid Strips | Hwa Yuan | 魷魚絲 | 45 | 20 |
| Ta Shua Tsen | Hwa Yuan | | Roasted Squid Strips | Hwa Yuan | 炭烤魷魚絲 | 45 | 20 |
| Ta Shua Tsen | Chung Jane | | Honey Fish Roll | Chung Jane | 蜜汁香魚卷 | 100 | 35 |
| Ta Shua Tsen | Yio Fong | 有豐 | Fish Strips | Yio Fong | 鱈魚香絲 | 88 | 50 |
| Ta Shua Tsen | Yio Fong | 有豐 | Fish Strips | Yio Fong | 鱈魚香絲 | 32 | 20 |
| Ta Shua Tsen | Yu Zong | | Shrimp Chips | Yu Zong | 炸蝦片 | 102 | 20 |
| Ta Shua Tsen | Brilliant Prawn | | Shrimp Chips | Brilliant Prawn | 炸蝦片 | 90 | 45 |
| Lucky-7 | Yio Fong | 有豐 | Fish Strips | Yio Fong | 鱈魚香絲 | 88 | 50 |
| Lucky-7 | Yio Fong | 有豐 | Fish Strips | YioFong | 鱈魚香絲 | 32 | 20 |
| Lucky-7 | Hai Jyi | 海集 | Roasted Squid Strips | South Ocean | 炭烤魷魚絲 | 50 | 50 |
| Lucky-7 | Hai Jyi | 海集 | Squid Strips | South Ocean | 魷魚絲 | 50 | 50 |

| Retail Store | Company Name | Chinese | Product Type | Brand Name | Chinese Name | Size (g) | Price |
|--------------|-----------------|---------|----------------------|-----------------|--------------|----------|-------|
| Lucky-7 | Yu Zong | | Shrimp Chips | Yu Zong | 炸蝦片 | 102 | 20 |
| Lucky-7 | Yu Zong | | Shrimp Chips | Yu Zong | 炸蝦片 | 50 | 10 |
| Lucky-7 | Hwa Yuan | | Shrimp Chips | Hwa Yuan | 炸蝦片 | 45 | 10 |
| Lucky-7 | Hwa Yuan | | Shrimp Chips | Hwa Yuan | 炸蝦片 | 95 | 20 |
| Fu Yi (富益) | Yio Fong | 有豐 | Fish Strips | Yio Fong | 鱈魚香絲 | 88 | 43 |
| Fu Yi | Hsiao Tien Tien | 小田甜 | Roasted Squid Sheet | Hsiao Tien Tien | 炭烤魷魚片 | 40 | 18 |
| Fu Yi | Hsiao Tien Tien | 小田甜 | Honey Fish Roll | Hsiao Tien Tien | 蜜汁香魚卷 | 70 | 18 |
| Fu Yi | Hsiao Tien Tien | 小田甜 | Sesame Roast Fish | Hsiao Tien Tien | 芝麻鐵板燒 | 70 | 18 |
| Fu Yi | Hsiao Tien Tien | 小田甜 | Roast Meat with Jam | Hsiao Tien Tien | 蜜沙茶烘肉乾 | 70 | 16 |
| Fu Yi | Gi Sheng | 吉祥 | Fish Strips | Gi Sheng | 鱈魚香絲 | 45 | 18 |
| Fu Yi | Gi Sheng | 吉祥 | Hot Fish Roll | Gi Sheng | 麻辣香 Q 卷 | 50 | 18 |
| Fu Yi | Gi Sheng | 吉祥 | Smoked Shredded Cod | Gi Sheng | 煙烤鱈魚條 | 45 | 18 |
| Fu Yi | Chang Tai | | Fish Strips | Chang Tai | 鱈魚香絲 | 100 | 25 |
| Fu Yi | Chang Tai | | Shrimp Chips | Chang Tai | 炸蝦片 | 40 | 15 |
| Fu Yi | Shang Hao | 上豪 | Squid Strips | Shang Hao | 魷魚絲 | 100 | 83 |
| Fu Yi | Hi Taste Food | 海之味 | Fish Strips | Hi Taste | 鱈魚香絲 | 35 | 18 |
| Fu Yi | Chang Song | | Dried Fish | Chang Song | 小魚干 | 100 | 28 |
| Fu Yi | Shin Ho Sing | 新和興 | Roasted Squid Strips | Jane Jane | 炭烤魷魚絲 | 80 | 78 |
| Fu Yi | Hai Jyi | 海集 | Squid Strips | South Ocean | 魷魚絲 | 100 | 85 |
| Fu Yi | Hai Jyi | 海集 | Roasted Squid Strips | South Ocean | 炭烤魷魚絲 | 100 | 85 |
| Fu Yi | Hai Jyi | 海集 | Squid Strips | South Ocean | 魷魚絲 | 200 | 145 |
| Fu Yi | Hai Jyi | 海集 | Squid Sheet | South Ocean | 魷魚片 | 50 | 42 |
| Fu Yi | Hai Jyi | 海集 | Roasted Squid Sheet | South Ocean | 炭烤魷魚片 | 50 | 42 |
| Fu Yi | Hai Jyi | 海集 | Almond Fish | South Ocean | 杏仁魚干 | 100 | 77 |

| Retail Store | Company Name | Chinese | Product Type | Brand Name | Chinese Name | Size(g) | Price |
|--------------|-----------------|---------|----------------------|-----------------|--------------|---------|-------|
| Fu Yi | Brilliant Prawn | | Shrimp Chips | Brilliant Prawn | 炸蝦片 | 75 | 25 |
| Fu Yi | Brilliant Prawn | | Dried Shrimp | Brilliant Prawn | 蝦干 | 80 | 53 |
| Fu Yi | Chin Chi Shun | 金吉順 | Fish Strips | Chin Chi Shun | 鱈魚香絲 | 98 | 45 |
| Fu Yi | Sung Yi | 順益 | Squid Strips | Sung Yi | 魷魚絲 | 90 | 69 |
| Fu Yi | Sung Yi | 順益 | Roasted Squid Strips | Sung Yi | 炭烤魷魚絲 | 90 | 69 |
| Fu Yi | Sung Yi | 順益 | Squid sheet | Sung Yi | 魷魚片 | 90 | 69 |
| Fu Yi | Sung Yi | 順益 | Roasted Squid Sheet | Sung Yi | 炭烤魷魚片 | 100 | 69 |
| Fu Yi | Sung Yi | 順益 | Roasted Fish Sheet | Sung Yi | 炭烤鱈魚片 | 80 | 18 |
| Fu Yi | Sung Yi | 順益 | Fish Strips | Sung Yi | 鱈魚香絲 | 45 | 18 |
| Fu Yi | Sung Yi | 順益 | Almond Fish | Sung Yi | 杏仁魚干 | 100 | 69 |
| Fu Yi | Sung Yi | 順益 | Almond Fish | Sung Yi | 杏仁魚干 | 200 | 125 |
| Fu Yi | Sunlight | | Dried Bonito Slice | Sunlight | 柴魚片 | 5 | 10 |
| Fu Yi | Bonito Assoc. | 柴魚協會 | Dried Bonito Slice | | 柴魚片 | 35 | 25 |
| Fu Yi | Chang Fong | | Shrimp Chips | Chang Fong | 炸蝦片 | 100 | 24 |
| Fu Yi | Kuang Gin | | Shrimp Chips | Kuang Gin | 炸蝦片 | 80 | 42 |
| Fu Yi | Vender | | Minnow(white) | | 小魚干 | 100 | 42 |
| Fu Yi | Vender | | Dried Shrimp | | 蝦干 | 100 | 45 |
| Family Mart | Shin Ho Sing | 新和興 | Squid Strips | Jane Jane | 魷魚絲 | 80 | 78 |
| Family Mart | Shin Ho Sing | 新和興 | Roasted Squid Strips | Jane Jane | 炭烤魷魚絲 | 80 | 75 |
| Family Mart | Shin Ho Sing | 新和興 | Roasted Squid Strips | Jane Jane | 炭烤魷魚絲 | 45 | 48 |
| Family Mart | Shin Ho Sing | 新和興 | Dried Squid Head | Jane Jane | 炭烤魷魚頭 | 80 | 23 |
| Family Mart | Hai Yyi | 海集 | Tuna Ball Candy | South Ocean | 鮪魚球 | 60 | 45 |
| Family Mart | Yio Fong | 有豐 | Fish Strips | Yio Fong | 鱈魚香絲 | 32 | 20 |
| Family Mart | Tyan Guoo Jen | 甜果珍 | Fish Strips | Tyan Guoo Jen | 鱈魚香絲 | 85 | 50 |

| Retail Store | Company Name | Chinese | Product Type | Brand Name | Chinese | Size(g) | Price |
|--------------|-----------------|---------|----------------------|-----------------|---------|---------|-------|
| Family Mart | Tyan Guoo Jen | 甜果珍 | Roasted Fish Sheet | Tyan Guoo Jen | 炭烤鱈魚片 | 50 | 18 |
| Family Mart | Lian Hwa | 聯華 | Almond Fish | Lian Hwa | 杏仁魚干 | 125 | 115 |
| Family Mart | Sunlight | | Dried Bonito Slice | Sunlight | 柴魚片 | 15 | 22 |
| Yi Kah Lai | Sunlight | | Dried Bonito Slice | Sunlight | 柴魚片 | 15 | 18 |
| Yi Kah Lai | Gia Huay | | Tuna Ball Candy | Gia Huay | 鮪魚球 | 55 | 75 |
| Yi Kah Lai | Japan Imported | | Almond Fish | | 杏仁魚干 | 160 | 119 |
| Yi Kah Lai | Japan Imported | | Roasted Fish Sheet | | 炭烤鱈魚片 | 110 | 90 |
| Yi Kah Lai | Japan Imported | | Dried Squid Head | | 炭烤魷魚頭 | 200 | 119 |
| Yi Kah Lai | Chung Lan | | Roasted Fish Sheet | Chung Lan | 炭烤鱈魚片 | 100 | 110 |
| Yi Kah Lai | Chung Lan | | Honey Fish Roll | Chung Lan | 蜜汁香魚卷 | 150 | 58 |
| Yi Kah Lai | Brilliant Prawn | | Shrimp Chips | Brilliant Prawn | 炸蝦片 | 75 | 25 |
| Yi Kah Lai | Yio Fong | 有豐 | Fish Strips | Yio Fong | 鱈魚香絲 | 190 | 90 |
| Yi Kah Lai | Yio Fong | 有豐 | Fish Strips | Yio Fong | 鱈魚香絲 | 88 | 43 |
| Yi Kah Lai | Yio Fong | 有豐 | Fish Strips | Yio Fong | 鱈魚香絲 | 32 | 20 |
| Yi Kah Lai | Shin Ho Sing | 新和興 | Squid Sheet | Jane Jane | 魷魚片 | 175 | 119 |
| Yi Kah Lai | Shin Ho Sing | 新和興 | Squid Strips | Jane Jane | 魷魚絲 | 175 | 119 |
| Yi Kah Lai | Shin Ho Sing | 新和興 | Tuna Ball Candy | Jane Jane | 鮪魚球 | 175 | 119 |
| Yi Kah Lai | Yi Feng | | Shrimp Chips | Yi Feng | 炸蝦片 | 150 | 23 |
| Yi Kah Lai | Wei Li | 唯力 | Fish Strips | Wei Li | 鱈魚香絲 | 90 | 28 |
| Yi Kah Lai | Wei Li | 唯力 | Squid Strips | Wei Li | 魷魚絲 | 100 | 85 |
| Yi Kah Lai | Wei Li | 唯力 | Roasted Squid Strips | Wei Li | 炭烤魷魚絲 | 100 | 85 |
| Yi Kah Lai | Wei Li | 唯力 | Squid Sheet | Wei Li | 魷魚片 | 100 | 85 |
| Yi Kah Lai | Wei Li | 唯力 | Roasted Squid Sheet | Wei Li | 炭烤魷魚片 | 100 | 85 |
| Yi Kah Lai | Hai Jyi | 海集 | Squid Sheet | South Ocean | 魷魚片 | 50 | 50 |

| Retail Store | Company Name | Chinese | Product Type | Brand Name | Chinese Name | Size (g) | Price |
|--------------|-----------------|---------|----------------------|-----------------|--------------|----------|-------|
| Yi Kah Lai | Hai Jyi | 海集 | Roasted Squid Strips | South Ocean | 炭烤魷魚絲 | 50 | 50 |
| Yi Kah Lai | Chin Chi Shun | 金吉順 | Squid Strips | Chin Chi Shun | 魷魚絲 | 50 | 50 |
| Yi Kah Lai | Gi Sheng | 吉祥 | Roasted Squid sheet | Gu Sheng | 炭烤魷魚片 | 45 | 18 |
| Yi Kah Lai | Dah Ten | | Roasted Squid Sheet | Dah Ten | 炭烤魷魚片 | 40 | 18 |
| Yi Kah Lai | Dah Ten | | Honey Fish Roll | Dah Ten | 蜜汁香魚卷 | 70 | 18 |
| Yi Kah Lai | Dah Ten | | Dried Fish | Dah Ten | 小魚干 | 50 | 18 |
| Yi Kah Lai | Hsiao Tien Tien | 小甜甜 | Honey Fish Roll | Hsiao Tien Tien | 蜜汁香魚卷 | 70 | 18 |
| Yi Kah Lai | Hsiao Tien Tien | 小甜甜 | Sesame Roast Fish | Hsiao Tien Tien | 芝麻鐵板燒 | 70 | 18 |
| Yi Kah Lai | Hsiao Tien Tien | 小甜甜 | Roast Meat with Jam | Hsiao Tien Tien | 蜜沙茶烘肉乾 | 70 | 18 |
| Yi Kah Lai | Chang Fong | | Shrimp Chips | Chang Fong | 炸蝦片 | 110 | 24 |
| Yi Kah Lai | Wei Chuang | 味全 | Fish Powder | Wei Chuang | 魚鬆 | 300 | 125 |
| Yi Kah Lai | Tai Shu | | Fish Powder | Tai Shu | 魚鬆 | 350 | 160 |
| Yi Kah Lai | Black Bridge | 黑橋 | Fish Powder | Black Bridge | 魚鬆 | 200 | 200 |
| Yi Kah Lai | Kuang Da Shuang | | Fish Powder | Kuang Da Shuang | 魚鬆 | 150 | 79 |
| Hi Life | Yu Zong | | Shrimp Chips | Yu Zong | 炸蝦片 | 102 | 20 |
| Hi Life | Lian Hwa | 聯華 | Almond Fish | Lian Hwa | 杏仁小魚干 | 100 | 90 |
| Hi Life | Lian Hwa | 聯華 | Almond Fish | Lian Hwa | 杏仁小魚干 | 125 | 115 |
| Hi Life | Shin Ho Sing | 新和興 | Roasted Fish Sheet | Jane Jane | 炭烤魷魚片 | 80 | 79 |
| Hi Life | Hai Jyi | 海集 | Squid Strips | South Ocean | 魷魚絲 | 100 | 79 |
| Hi Life | Hai Jyi | 海集 | Roasted Squid Strips | South Ocean | 炭烤魷魚絲 | 100 | 79 |
| Hi Life | Hai Jyi | 海集 | Tuna Ball Candy | South Ocean | 鮪魚球 | 60 | 45 |
| Hi Life | Chin Chi Shun | 金吉順 | Roasted Squid strips | Chin Chi Shun | 炭烤魷魚絲 | 100 | 79 |
| Hi Life | Aou Men | 澳門 | Squid Sheet | Aou Men | 魷魚片 | 60 | 56 |
| Hi Life | Aou Men | 澳門 | Squid Strips | Aou Men | 魷魚絲 | 60 | 56 |

APPENDIX 5. ADDRESS LIST

Appendix 5 contains the English addresses of the Taiwan's largest dried fish products manufacturers and distributors.

Yeou Fon Food Co., Ltd

20-1, Juang Tzy Lin, Dan Shoei Town,

Taipei County

Tel: 02-2591-6128

Type: Fish Flour Surimi Strips

Brand: Bay Hai

Shin Ho Sing Ocean Enterprise Co., Ltd.

31, Fishing Harbor South First Road, Chien Chen

District, Kaohsiung

Tel: 07-831-6101-6

Type: Strips Of Dried Squid

Brand: Jane Jane

Lian Hwa Food Co.

18, Din Hwu First Street, Da Gan Village,

Guei San Country, Taoyuan County

Tel: 08-031-1023

Type: Almond Fish Brand: Wan Swei

In Mou Trade Co.

199, Fo Dou Road, Chien Chen District, Kaoshiung

City

Tel: 07-822-1695-6

Type: Sweet, Rolled and Pressed Squid

Brand: Bei Hai Dau

Chian Bou Food Industry Co.

20, Alley 25, Lane 154, Min Chuang Road,

Lu Jou Country, Taipei County

Tel: 02-2288-2237, 02-2281-5873

Fax: 02-2283-6263

Type: Small Glazed Flat Fish

Brand: Tei Ban Sau

Hsin Tung Yang Co., Ltd.

289, Sec. 4, Chung Hsiao E. Road, Taipei City

Tel: 02-2772-6222

Type: Fried Fish Powder

Brand: Hsin Tung Yang

Hai Jyi Food Co., Ltd.

236, Fon Ren Road, Fon San City,

Kaohsiung County

Tel: 07-742-0119

37, Sec. 3, Chen Der Road, Taipei City

Tel: 02-2585-8088

Fax: 02-2591-1257

Type: Fish Candy Ball, Almond Fish

Brand: Ging Pai,

Ching San (Green Mountain),

Hai Nan

Jong Lian Food Co.

7, Jong Jyue Li, Shi Hu Town,

Jong Hauh County

Type: Small Glazed Flat Fish

Brand: Small Glazed Flat Fish

Yong Wan Trade Co.

106, Lane 191, Sec. 3, Min Chuang E. Road,

Taipei City

Tel: 02-2716-5358-9

Type: Small Crispy Dried Fish (Minnows)

Brand: Small Minnows

Tyan Guoo Jen Confection Ltd.

8, Sheng Shin Tsuen, Be Lii, Taipei

Tel: 02-2618-3406

Fax: 02-2618-1508

Produced Factory: Jia Jen Food Co.

6, 125 Lane, Ren Ai Street, San Chung City, Taipei

County

Type: Fish Chips Brand: Fish Chips

You Pin Enterprise Co.

7F, 6, Alley 7, Lane 205, Sec. 4, Chung Hsiao E.

Road, Taipei City

Tel: 02-2721-1477

Type: Shellfish, Fishbone with Calcium

Brand: Shellfish, Fishbone with Calcium

Shing Lan Trading Co.

7F, 396, Min Sheng W. Road, Taipei City

Tel: 02-2291-9292

Type: Multiple Dried Seafood

Brand: Multiple Dried Seafood

Tyan Guoo Jen Confection Ltd.

8, Sheng Shin Tsuen, Be Lii Town,
Taipei County

Tel: 02-2618-3406

Fax: 02-2618-1508

Factory: Ta Fa Food Manufacturing Co., Ltd.

Ku Chin City, Sarawak State, E. Malaysia

Imported Co.: Chin Wan Enterprise Co., Ltd.

6F, No. 15, Lane 60, Sec. 3,

Min Chuang E. Road, Taipei City

Tel: 02-2506-3118

Type: Shredded Codfish

Brand: Shredded Codfish

Guo-Fong Foods Industrial Co., Ltd.

Fl. 8, 40, Sec. 2, Duen-Hua S. Rd., Taipei City

Tel: 02-2705-6778, 02-2703-7037

Type: Grilled Seafoods Brand: Sophisca

Pin Yong Food Enterprise Co., Ltd.

32-36, San Li, Ma Gon City, Peng Hu County

Tel: 06-995-1665

Fax: 06-995-0010

2F, 133, Sec. 1, Chuang Ching S. Road, Taipei City

Tel: 02-2388-0803

Fax: 02-2388-0804

Type: Dried Octopus Tentacles

Brand: Dried Octopus Tentacles

Merry Time Co., Ltd.

104, Wu Fu 2nd Road, Kaohsiung City

Cai, Li- Ning

Tel: 07-215-0561

Fax: 07-215-0191

Type: Dried Eel Brand: Merry Time

Sea Rich Refrigeration Enterprise Inc.

22, Fish Harbor N. 3rd Road, Kaohsiung City

Cai, Zhen- Yi

Tel: 07-821-7635

Fax: 07-821-2182

Type: Dried Eel Brand: Sea Rich

Woo Hei Trading Co., Ltd.

19, Lane 120, Li-Der Rd., Bei-Tou Area,
Taipei City

Type: Flat Dried Fish Brand: Flat Fish

Hitaste Foods Industrial Co., Ltd.

28, Chung Cheng S. Rd., Mil-Tuo Country,
Kaohsiung County

Tel: 07-619-1855

Type: Surimi Thread Brand: Hi Taste

Tze-Chern Trading Co., Ltd.

3, Lane 46, An-Chu St., Da-An District,
Taipei City

Type: Small Glazed Dry Minnows

Brand: Small Minnows

Wei-I Foods Co., Ltd.

95, Lane 211, Nei-Wei Rd., Chien-Kuo Li, Ku San
District, Kaohsiung City

Tel: 07-551-0770, 02-2725-2264

Fax: 07-561-8378, 02-2725-2306

Type: Fried Fish Powder Brand: Wei-I

Ju-Her Co., Ltd.

10, Lane 40, Nin-Bou W. St., Taipei City

Tel: 02-2395-1352, 02-2392-0700

Type: Dried Cuttle Fish Thread

Brand: Ju-Her, Jien-Her

Kinn Shang Hoo Iron Works

95, Lane 211, Nei Wei Rd., Ku San Dist., Kaohsiung
City

Tel: 07-551-0770, 07-521-6552

Fax: 07-561-8378

Taipei Branch: 3C-9, World Trade Center, 5, Sec. 5,
Sing-Yee Rd., Taipei City

Tel: 02-2725-2264

Fax: 02-2725-2306

**Taiwan Food Industry Research and
Development Institute**

331, Ser-Ping Rd., Hsinchu City

Tel: 03-522-3191

Fax: 03-521-4016

**Taiwan Food Science Technology
Association**

59, Lane 144, Sec. 4, Chee-Long Rd., Taipei City

Tel: 02-2363-9584

Sheng-Yih Food Machinery Co., Ltd.

249, Fu-Ying Rd., Shing-Chuang, Taipei County

Tel: 02-2209-5287

Fax: 02-2209-5289

APPENDIX 6. CONSUMER DIALOGUES --

Appendix 6 contains consumer dialogues collected by Eric Heagly. Eric holds a Master of Science in Anthropology from Purdue University. Individuals and families in Taoyuan City, Taoyuan County, Taipei City, and Taipei County provided in-depth interviews detailing dried fish consumption behavior. The sample of dialogues has two purposes. First, it is used to validate the sample collected by Jui-jin Chang, the psychology student who surveyed specific consumer preferences for dried fish products (Section 3, Appendix 2). Second, the dialogues provides a database for content analysis.

6.1 Lucy, 37 years old, business administrator

Lucy is married with two children. Though her children are now out of the house, she remains busy with her administrative position at a research facility in Longtan. Her husband is a colonel in the Taiwanese Army. When she is not working or attending English classes, Lucy enjoys cooking gourmet Chinese food that she occasionally caters for small special occasions. Lucy does not eat dried fish that often, but when she does it is often shredded cuttlefish. Lucy says her husband enjoys the same varieties. They have both tried various flavors: sweet, sweet/salty, salty, spicy. They especially like the salty kind and prefer that it is packaged in its natural color. She does not care for a smoke-flavored product.

Lucy claims she rarely eats these snacks at work or while driving (she believes driving in Taiwan is hard enough without juggling a bag of cuttlefish while at the steering wheel.) Most often she and her husband eat the product while relaxing at home - especially when they watch television. They also eat these snacks when watching movies. She used to prepare small white fish when her sons were at home, but her husband does not care for

the taste or texture so she does not bother. When asked if she would travel to a special location to buy either variety of dried cuttlefish, she says she does not think that it is necessary because she is satisfied with the product selection in the supermarkets. She usually buys Taiwanese brands.

6.2 Dan, 26 year old, sales engineer

Dan is an exceedingly busy sales engineer for a company that designs and manufactures tool and die equipment. Dan's work leaves him little time to eat three square meals each day, so in between coffee breaks he snacks on dried meat products. Besides dried beef, he also likes dried cuttlefish, especially product from Japan. He first purchased this product when on a business trip to Japan and later found the same brand in Taiwan. He says some Taiwanese brands are probably as good, but he will stick with what he knows. He often takes dried shredded cuttlefish on the airplane with him when he makes frequent trips to Japan and Indonesia for business.

When Dan is lucky enough to have leisure time, he may eat a small package of shredded cuttlefish while watching television. He never has time to watch movies so he cannot comment about the dried fish snack selection at this venue. He also points out that since he is not married he has very little time to prepare other dried fish varieties which are more tedious to cook.

6.3 Mimi, 27 years old, junior high-school teacher

Mimi has taught Chinese at the local junior high in Taoyuan County for three years. Although she is single, she still lives with her family. "I am currently seeking a new apartment of my own," she informs me. Mimi likes to eat many kinds of snack foods,

including dried meats and fruits. She points out that they are convenient to eat during her short breaks between classes. She enjoys eating dried cuttlefish and dried cuttlefish heads (yo yu tou) at school because they are filling but not too fattening. She likes shredded dried fish products more than other snack items partly because they are very chewy and healthy. She also likes long, flat dried fish strips (could not find the name) since she can tear away the amount she wants to eat. She prefers flavored product that is salty and/or sweet, and she also likes smoke-flavored products even though they are harder to find. She does not buy dried fish products that are round or chunky because they appear more artificial. Natural color is better than artificial colors as well. She likes to recognize what she is eating.

She also eats these snack items quite often with her friends while at the movies, on picnics, or while traveling on the train, bus, and her car. Sometimes her friends buy these products for her, but usually she picks them up herself from a convenience store or a special preserved foods store. If she happens to visit a place in Taiwan which specializes in dried fish products, she may buy them but she will not make a deliberate trip just for the local specialty. She does point out, however, that doing so is a favorite Chinese tradition for many others. Mimi does not particularly favor any country's product over another's. As far as she is concerned, American products are rather "strange" and often a little too sweet. She feels American snacks focus more on quantity and less on quality. She does admit that Japanese fish products are more appealing to the Taiwanese because they are often so visually attractive and consistently taste good.

6.4 William, 38 years old, computer programmer

William is a married professional with three children. William explains that dried fish was labeled a "poor peoples" food because it could be stored for long periods of time. Only with the introduction of dried fish as a snack item, says William, are Taiwanese consumers willing to pay a higher price for dried fish products. William points out that his favorite kind of dried fish is small dried white fish (Taiwanese: bu la hei) and has been since he was a child. William likes this variety because the texture is chewy - taking longer to eat - and the flavor is very salty. William does not care for any varieties that are crunchy. He often eats the dried white fish with a meal or after a meal. Sometimes while relaxing his wife will fix them for him. He never eats them in the morning. His wife prepares the small dried white fish by steaming them and serves them most often with steamed rice or just by themselves.

Although his wife purchases this variety at a traditional market, he goes to market occasionally to buy them and bring them home for his wife to prepare. This seems to be a fun thing for him to do. William claims that he has traveled to Keelung to purchase this variety because they specialize in its preparation.

6.5 John, 55 years old, retired

John is a retired policeman who came to Taiwan from Mainland China. John believes shredded cuttlefish is most popular in Taiwan and it is the variety that he prefers. He enjoys this type because it is chewy and takes longer to eat. Therefore he can enjoy the taste. He does not like the dried fish varieties that are crunchy. He thinks the taste of dried cuttlefish is sweet and slightly salty. He also feels that since the dried cuttlefish is

cut into strips, it is more convenient to eat. When asked why other shapes or texture were difficult to eat, he responds that these varieties are hard to chew.

When asked about softer varieties, he claims that he does not like the texture and that these products are more suitable for younger people. John remarks that young people (40 and under!) prefer dried fish just as a snack while traveling or socializing. He says he likes this too, but also considers it an important part of a meal. He often eats fried shredded fish (yu song) with his rice (steamed or as porridge) when he grows tired of dried shredded pork (zhu song). He buys these items himself and also for his grandchildren who like to eat dried cuttlefish as a snack.

6.6 John II, 66 years old, retired

John II (the “II” is used only to distinguish him from the previous interviewee) enjoys the retired life and living with his eldest son’s family. John II also comes from Mainland China but he does not mention why he came to Taiwan or how long ago. John II enjoys eating fresh and dried fish. Actually, John admits that dried fish “snacks” (cuttlefish and dried cod strips) are not his favorite food items, but he still buys them for his grandchildren. John II buys small dried fish (shou yu gan) and shredded fish (yu song) for himself. His wife also buys these products from the supermarket or traditional markets (tsai shi chang) or fish market (yu shi chang) and prepares them at home for breakfast or dinner. His wife serves small dried fish when friends visit. John enjoys the salty taste of many of the small dried fish varieties and especially finds the smoked shredded fish (yu song) delicious.

John II believes that it is better to buy the naturally colored brands because he thinks these taste better yet he says little about how additives might affect his health although he

seems to imply it. John claims his wife often buys Japanese brands mainly because they are familiar with the product and its quality has always remained consistent. John believes many Taiwanese brands are probably as good, but only that their quality has recently improved.

6.7 Charity, 26 years old, art studio manager

Charity points out that her preference for dried fish covers a narrow spectrum: mainly shredded cuttlefish and, occasionally, shredded fish (yu song). Charity likes cuttlefish because of its mild sweet flavor. She also prefers its chewiness over other snack items which are either crispy or salty in flavor. She remarks that she eats shredded fish only when the rest of her family eats it during breakfast (with rice porridge). Charity currently lives with her mother and father. Although Charity has only a limited preference for dried fish varieties, her mother and father (both over the age of 50) enjoy eating more varieties. They prefer small dried white fish (bu la hei), small dried fish (shoa yu gan), stripped dried codfish (xue yu si), and natural fish fillets from the traditional market.

Charity eats her dried cuttlefish as a snack while she is on the go between her family's art studio in Taipei (her family produces wildlife prints) and her second job in Taoyuan City (teaching English). Her family eats dried fish products at home for breakfast. Most often shredded fish is served with rice porridge or on toast with mayonnaise. Dried products are also served as a snack while watching television. Her mother always buys these dried fish products for the household.

She either will purchase these food items from the supermarket, traditional open markets, or, more likely, from a store specializing in dried meat goods. Charity claims this is the best place to buy shredded fish. Charity mentions that she thinks her mother frequently

buys Japanese-brand dried fish products from the supermarket because the packaging and preparation looks more attractive. Charity admits that most Taiwanese worry more about flavor and appearance and not about how healthy their food is.

6.8 Hans, 42 years old, executive manager

Hans (a name chosen while studying at a German college) is an articulate business manager for the Liz Claiborne fashion company. He has worked their Taipei branch office for nearly 7 years and enjoys the job a great deal. Hans remarks that his job has allowed him to travel to many places in the world and has given him and his family the chance to soon immigrate to New Zealand. Hans does not usually eat dried fish products, but when he does it is often when he commutes between his business office near Taipei (Tienmu) and his home in Taoyuan City - a 30 to 40 minute drive. Mostly, he buys these products from a local convenience store or at the supermarket when he is doing his grocery shopping. He says his wife used to buy dried fish products, especially if she visited the traditional market, but she rarely does so now.

Dried cuttlefish and dried shredded crab are his favorite types. From time to time he may eat these as a snack with beer, however, he prefers wine and thinks that dried fish does not accompany wine very well. Hans also likes dried fish products with a smoky flavor. He says, this flavor is hard to find in local shops and supermarkets. Hans claims to think about artificial additives and if they might be harmful to his health in anyway, yet he admits that this concern does not usually determine his product selection. Hans has no preference for Taiwanese or Japanese products, price is his biggest concern. He does comment that Japanese products are more attractive because of their processing and packaging style.

6.9 Sandy, 30 years old, restaurant owner

Sandy owns and operates a Mexican food restaurant with her husband. Like many other local pubs and restaurants, Sandy explains that their restaurant offers dried fish - mainly dried cuttlefish and small dried fish - as a snack dish, to be eaten with beverages such as beer. Sandy admits that she does not know the brand name of the dried fish products they serve since her husband does the ordering (he was not available at the time) and the bulk packages only designate that they are a product of Taiwan. Sandy does mention, however, that many customers prefer the small dried fish over the cuttlefish. She personally likes the cuttlefish more, since its taste is mild and it has a chewy consistency. She believes that customers enjoy the small dried fish because of the way they are prepared - they are fried in sesame oil along with chopped green onion, garlic, red pepper, and peanuts. She feels that this recipe compliments cold beverages very well and is therefore more popular. She believes this is proven by the increased demand for this snack in the evening, a time when people are more apt to drink beer with their meal.

Sandy especially mentions that dried fish products are a popular food item during the Chinese New Year. When asked why, she claims they are the perfect snacks to serve guests when they arrive at a host's home. Also, because they are more expensive than other snack items they carry a certain degree of prestige. Sandy says she offers dried cuttlefish and dried small fish at her home for Chinese New Year. She never serves any naturally dried fish products from local vendors because she feels the taste is too strong. When told that other interviews prefer the natural processing for health reasons she claims that some preservatives are necessary just to improve the flavor and further remarks that masking strong flavors in meat is part of Chinese style cooking. Sandy points out that dried fish covered with sweet syrup and sprinkled with sesame seeds is one of her favorite styles of preparation.

6.10 Kay, 40 years old, company owner

Kay admits that she has little knowledge about brands of dried fish since her maid does most of the of the grocery shopping. She does, however, prefer dried fish that has few preservatives. Interestingly, Kay believes buying the local dried fish products from the open market means that she is buying a more natural product. Kay feels that the large Japanese and Taiwanese processors and packaging of dried fish add too many chemicals to their product which may improve shelf life and appearance but, she believes, may carry negative health consequences. When asked if she had any evidence or example of such detrimental effects, she claims to know of no specific cases but says everyone in Taiwan is becoming more concerned with what is in their food. When asked if package information helps, she says that she would buy a product that lists ingredients advertised with no- or low-preservative content, and that looked natural.

6.11 Sherry, 28 years old, teacher

Sherry is a busy kindergarten teacher in Taoyuan City and she finds dried fish to be a convenient snack at work. She likes to eat dried cuttlefish and dried codfish strips, but buys other varieties like dried shredded fish and small dried white fish for her husband. She does not eat these last few varieties herself, but prepares them for her husband, most often for dinner. Her husband enjoys eating the dried shredded fish with steamed rice or rice porridge. He often eats the small dried white fish with steamed rice and as a separate snack with beverages such as juice and beer. They seldom go out for meals or entertainment so Sherry doesn't know much about the availability of these varieties at public entertainment venues. When I mention that the small dried white fish are sometimes good with beer and occasionally served in pubs she points out that she never visits pubs nor is her husband allowed to!

Sherry claims she only buys these products at the supermarket and never visits the open market or any other market locations for dried fish. When asked if she knows any special place for the processing and/or sale of dried fish varieties she remarks that Keelung and Penghu Island are familiar to her as places which specialize in this kind of food. Sherry enjoys the taste and tough, chewy quality of the shredded cuttlefish most. She says that cuttlefish has a strong fish smell and taste when compared to dried codfish strips and she finds this to be pleasant. Her husband likes small white dried fish (bu la hei) because it is very salty. Sherry occasionally uses dried fish as a temple offering. She does not have any favorite brands nor does she take notice if the product is domestic or imported.

6.12 Carrie, 32 years old, trade consultant

Carrie works for a Board of Trade consultant firm. Her work keeps her busy well into the night and she often eats dried fish as a snack. She claims it is a better alternative to smoking like her co-workers. When Carrie is eating at work or in front of the television (her second most favorite time for snacking) she usually eats dried cuttlefish. She claims she prefers cuttlefish over many other dried fish products because it is often more natural in appearance and taste. Carrie mentions that dried codfish strips (xue yu si) is an example of a very artificial type - that the uniform cut strips are an example - and, for this reason, she never buys the product. Carrie buys dried cuttlefish when and wherever convenient, but mostly at the supermarket when she is buying the rest of her groceries. Since she is single and very busy with work, she avoids purchasing those varieties which require a great deal of cooking preparation (i.e. soaking in water, additional cleaning, additional flavoring).

Carrie also talks about her mother's preference for dried fish. Carrie remembers her mother traveling to the open market not only to buy cuttlefish in bulk but other varieties,

such as fried small white fish and fried shredded fish. These have always been her father's favorites. Interestingly, Carrie claims another major reason for her mother, and many other adult women, to visit the dried fish market or stores specializing in dried food products is to purchase quantities for temple offerings.

6.13 Ruby, 39 years old, marketing officer, single

Ruby is currently immigrating to Toronto, Canada. She is a native of Taiwan, but has frequently traveled to other parts of the world, especially to Europe. She prefers dried shredded cuttlefish (yo u gan) for snack and eats it at work. She buys shredded fish (u-song) and small dried white fish to eat at home. She enjoys shredded cuttlefish with a salty flavor, claiming that Taiwanese brands are often more salty than Japanese brands. She favors the cuttlefish varieties, which are very chewy. She thinks it is healthy for her teeth! She also eats small dried white fish for its intense salty taste, but strangely enough, she finds u-song to be pleasantly sweet. When asked why she prefers the difference she remarks that the sweet taste combines well with the bland rice porridge.

Ruby is often too busy to visit the wet market to purchase the small dried white fish so she usually relies on her mother to buy this variety. Ruby still lives with her parents, the only sibling of four to still do so. Ruby picks up her cuttlefish snacks from convenience stores, but will stock-up occasionally when she visits the supermarket - she purchases u-song at her local supermarket.

Ruby claims she has too little time for entertainment, but says she will buy dried shredded cuttlefish at the movie theater. She mentions that there are many more varieties of yo-u-si and yo-u-gan to choose from in public entertainment centers than she

remembers as a child. Sometimes she buys yo-u-si as a treat for her nieces and nephews and claims that many people in Taiwan consider this variety as primarily a child's snack.

6.14 Phoebe, 16 years old, student, single

Phoebe, a young student in Zhonly-li, admits that she does not eat dried fish products that often. Yet, when she does she prefers dried cuttlefish strips. Because she eats even this variety infrequently, she takes no particular notice of specific brand names. But points out that she buys Taiwanese products exclusively. She does know that she prefers the dried cuttlefish for its sweet taste and likes the brands that offer a softer texture (although, again, she can not recall any brand names). She only buys natural colored varieties. She fails to mention for what reason - Phoebe is a reluctant interviewee.

Never the less, Phoebe continues to claim that her favorite place to snack on dried cuttlefish is at the movie theater. She says that this is also true of her classmates. She especially enjoys drinking canned beverages with dried cuttlefish (e.g. barley tea, cola, and red apple tea). Occasionally, she shares a bag with her friends at school.

Besides buying dried cuttlefish at the movie theater, she purchases from various convenience stores from time-to-time (she mentioned 7-11, Tomato, and Hi-Life). Although her mother also buys dried fish products for household consumption (i.e. shredded fish (u-song) for rice porridge). She clearly does not like this style of dried fish, stating that only her father and mother prefer this kind. When asked if her younger brother (only sibling) prefers the same kinds of dried fish as she. She explains that her brother is a general nuisance and only wants to eat dried cuttlefish when she is the one who buys it!

6.15 Ken, 36 years old, sales manager, married

Ken prefers to eat small dried fish (bu-la-hai) and dried cubed fish. Ken has always eaten these styles since he was a child, but mentions that the variety of dried fish products has proliferated since then and now he samples newer varieties from time-to-time (e.g. stripped fish, shredded fish). Ken's bias toward Japanese brands makes him unique from other interviewees. He makes it a point to buy Taiwanese brands (this is at least true among those who are concerned with where the product originates). He believes however, that Japanese brands equal higher quality, an idea he admits he has adopted from his parents. Ken likes these styles especially for their salty taste and prefers the small dried white fish to be fried because he enjoys their crispy texture. Ken claims he only chooses dried fish products with a natural color, figuring these products have less artificial additives.

It is important for Ken to have snack items to eat throughout his busy daily schedule. He thinks that the cubed varieties are good for this purpose. He often eats them in his car as he travels. He also enjoys eating them with beer when he is out with friends in the evening. He says he sees the cubed and dried strip (yo-u-su) varieties in the bars and KTV's with his friends.

Ken eats the small dried white fish at home mainly because his wife will prepare it for him. Ken mentions his young son (his only child) also enjoys eating this variety. Ken lets his wife purchase this variety claiming she is more familiar with its different levels of quality and the surroundings of the wet market where she buys it.

Ken admits that he would not necessarily travel far to a special location (e.g. a town that specializes in dried fish product) to purchase any of his favorite varieties. However, Ken

says this question is not so relevant since, in his view, the market has grown with convenience stores and supermarkets supplying more varieties than 5 or 6 years ago.

APPENDIX 7. SHIN HO ENTERPRISES WEB-SITE



The following un-edited notes are from the Shin Ho Enterprises home page and web-site. The web-site is located at <http://www.shs.com.tw/>.

Figure A7.1 -- The founder of Shin Ho Enterprises, Tsun Hsien Wu

Company Data

Company Name: SHIN HO SING OCEAN ENTERPRISE CO.,LTD.

Contact Person: Jong Bao Ho

Title: General Manager

Telephone: 886-7-8316101

Fax: 886-7-8114695

Address: No. 31, Fishing Harbour s. 1St Rd,
Chien Chen Dist., Kaohsiung, Taiwan, R.O.C.

E-mail: shs@shs.com.tw

Nature of Business: Export, Import, Manufacture

Capital: USD 7,383,275.-

Number of Workforce: 300 Persons

Target Export Market: Europe

Percentage Export: 30%

Minimum Order: Container Base

Payment Terms: By Irrevocable L/C at Sight

FOB Port: Kaohsiung, Taiwan

Delivery Lead Time: Within 30 Days Upon Receipt of L/C

Products: PREPARED SHREDDED (ROLLED) SQUID, TASTY TUNA TIDBIT, PREPARED SEAWEED, FROZEN SQUID STEAK, SQUID TUBE, SIMULATED CRAB MEAT, SQUID NUGGET, CUTTLEFISH BALL, SHRIMP BALL, POLLOCK FISH BALL, MILKFISH BALL, SIMULATED ABALONE, PREFRIED SQUID RING, PREFRIED SQUID CROQUETTE, PREFRIED SEAFOOD NUGGET.

Table A7.1 -- Shin Ho Enterprises facilities

| Shin Ho Facilities | Address | Phone Number |
|--------------------------------|--|--------------------|
| Taipei Head Office: | 9F, No. 560, Chung Hsiao E Road, Section 4, Taipei, Taiwan | Tel: 886-2-7582662 |
| Wu Ku Forwarding Warehouse: | No. 27, Wu Chyuan 2 nd Road, Wu Ku Industrial District, Taipei County, Taiwan | Tel: 886-2-2982886 |
| Taichung Office: | No. 7, Lane 122, Chang An Road, Sec. 2, Taichung City, Taiwan | Tel: 886-4-2956733 |
| Tainan Liaison Contact Office: | No. 207, Shin Shiaw Road, Tainan, Taiwan | Tel: 886-6-2922607 |
| Kaohsiung Factory: | No. 31, Fishing Harbour South 1 st Road, Kaohsiung, Taiwan | Tel: 886-7-8316101 |

Shin Ho Enterprises History

The company originally named "SHIN HO SING HANG", running the wholesale and retail business on cloths, was built in early 1934. Then it converted investment to textile, garment, knitting, cement, electricity, automobile, newspaper, bank, construction.....etc. In April 1966 the president, Mr. Wu Tzun Hsien, built the present company to run for ocean fishery and set up the first modern "SHREDDDED SQUID" processing plant in Kaohsiung in 1979 by utilizing "JANE JANE" as the trade mark. A serial "JANE JANE" products win the most sanitary award since appearing in the market and also become the leading brand in the world. We continuously develop new products and expand the production line to meet the economic development and social needs. "JANE JANE" dried prepared foods, frozen prepared foods, frozen marine products, vegetarian foods are well known to the world. Our plant is verified by United States, Japan, and European countries as the model operation of "GMP", and the excellent food of "CAS", "JAS", and "HACCP."



Figure A7.2 — Shin Ho's products meet the local quality standards called the China Agricultural Standards (CAS)



Figure A7.3 -- The Shin Ho Enterprises factory has been awarded the Good Manufacturing Practices (GMP) label

The JANE JANE Brand

We own the most-advanced production facility, good management and diligent staff. Since "JANE JANE" products come on the scene, they have already become the most favoured food of all customers in the world. The domestic and foreign food administrative authorities assure us "GMP", "CAS", "JAS" and "HACCP". Meanwhile our imported foods, such as mullet roe, sea cucumber meat, and conch meat are also welcomed by the domestic consumers.



Figure A7.4 -- The Shin Ho Enterprises brand mark



Figure A7.5 -- The Shin Ho Enterprises surimi products, great for the Chinese “hot pot”

Dedication to Quality

Quality is the first life of products and also the best salesman. Our company conducts quality control completely and provides the first class inspection facilities & professionals to improve the quality all the time. In order to supply the most healthy, nutritious and delicious food to customers, "JANE JANE" products win consumers' trust with its best quality.

Dry Seafood

Dried prepared seafoods, including shredded squid, rolled squid, squid tentacles, shredded squid and rolled squid with natural flavour, tasty tuna tidbit, and vegetarian seaweed, have the guarantee as the most sanitary food. The company is also verified by the government as the No.1 dried prepared seafood plant in Taiwan.



Figure A7.6 -- Quality control inspection at Shin Ho Enterprises



Figure A7.7 -- The Chinese "hot pot," a favored winter-time meal



Figure A7.8 -- The popular Chinese snack food; dried, shredded cuttlefish



Figure A7.9 -- Dried surimi, rolled cuttlefish, tuna-ball candies and a cool glass of beer



Figure A7.10 -- Hard at work on the production line

APPENDIX 8. TSUNG HSING FOOD PROCESSING

MACHINERY

The following un-edited notes are from the Tsung Hsing Food Processing Machinery Enterprises home page and web-site. The web-site is located at <http://www.victor.com.tw/victor/twtrade.htm> and <http://www.tsunghsing.com.tw/>.



Figure A8.1 – The popular dried surimi product

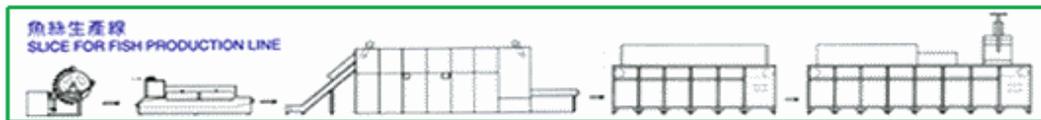


Figure A8.2 -- Dried surimi processing line



Figure A8.3 -- Gas rotary oven

Table A8.1 -- Gas rotary oven specifications

| | | | |
|---------------|---|-----|------|
| Specification | 750 | 900 | 1000 |
| Capacity | 250 | 320 | 450 |
| Size | R-900 L900xW350H860m/m | | |
| Function | Suitable use for boiling soup, rice gruel, stewed meat, heat can be controlled in free. | | |



Figure A8.4 -- Tri-use mixer

Table A8.2 -- Tri-use mixer specifications

| Model No. | Electric Power | Measurement(LxWxH) | Weight |
|-----------|---|--------------------|--------|
| WS-530 | 3 Phase 220V60Hz2HP | 1510x900x1650m/m | 350kg |
| Function | Suitable use in seasoning, mixing and baking for meats, chicken's leg/wing, rib, etc. | | |



Figure A8.5 -- Single-axis mixer

Table A8.3 -- Specifications for single-axis mixer

| Model No. | Electric Power | Measurement(LxWxH) | Weight |
|-----------|---|--------------------|--------|
| MX-70 | 3 Phase 220V60Hz1HP | 1270x500x950m/m | 150kg |
| MX-100 | 3 Phase 220V60Hz1HP | 1500x600x950m/m | 250kg |
| Function | Suitable use for mixing and churn meals of fish, chicken, steak, sausage so on. | | |

Figure A8.6 – Meat slicer



Table A8.4 -- Specifications for the meat slicer

| Power | Blade | Size | Weight |
|-------|-------|----------------|--------|
| 1/3HP | 250mm | 500x500x470m/m | 25kg |



Figure A8.7 -- Infrared ray auto grill

Table A8.5 -- Specifications for infrared ray auto grill

| Out Size | Voltage | Hp | LPG | Weight |
|-----------------|---------|-----|----------|--------|
| L300xH120xW63cm | 220Vx3p | 1Hp | 3.2kg/hr | 420kg |

Figure A8.8 -- High speed meat-twisting machine



Table A8.6 -- Specifications for the high speed meat-twisting machine

| Model No. | Electric Power | Measurement(LxWxH) | Weight |
|-----------|---|--------------------|--------|
| WS-530 | 3 Phase 220V60Hz3HP | 1000x660x1500m/m | 150kg |
| Function | Twist to pieces (chips) for meat, vegetarian foods-beans. | | |



Figure A8.9 -- Rotary mixer

Table A8.7 -- Specifications for the rotary mixer

| Model No. | Hp | Net Weight | Gross Weight | Dimension(LxWxH) |
|-----------|-----|------------|--------------|------------------|
| WSC-811 | 1Hp | 120kg | 180kg | 1260x680x1000m/m |



Figure A8.10 -- Jerky baker

Table A8.8 -- Specifications for the jerky baker

| Consumption Power | Electric Power | Size | Purpose |
|-------------------|----------------|---------------------|---|
| Electric or Gas | 1Hp | L240xW80xH 160cm | A special pan for baking beef jerky. |



Figure A8.11 -- Machine for fish bone removal

Table A8.9 -- Specifications for fish bone removal machine

| Model No. | Hp | Net Weight | Gross Weight | Dimension(LxWxH) |
|-----------|-----|------------|--------------|------------------|
| WSC-613 | 1Hp | 250kg | 350kg | 815x730x990m/m |



Figure A8.12 -- High speed crusher and strainer

Table A8.10 -- Specifications for the high-speed crusher and strainer

| Model No. | Hp | Net Weight | Gross Weight | Dimension(LxWxH) |
|-----------|-------|------------|--------------|------------------|
| WSC-112A | 2-3Hp | 120kg | 180kg | 790x485x1450m/m |



Figure A8.13 -- Automatic shredder

Table A8.11 -- Specifications for the automatic shredder

| Model No. | Hp | Net Weight | Capacity | Gross Weight | Dimension(LxWxH) |
|-----------|-------|------------|---------------|--------------|------------------|
| WSC-313 | 1/2Hp | 140kg | 250-650pc/Min | 190kg | 1000x620x1600m/m |



Figure A8.14 -- Dried meat powder shredder, dryer and mixer

Table A8.12 -- Specifications for dried meat powder shredder, dryer and mixer

| Model No. | Electric Power | Measurement(LxWxH) | Weight |
|-----------|---|--------------------|--------|
| R-28 | 3 Phase 220V60Hz1HP | 1000x1360x1250m/m | 260kg |
| R-22 | Single Phase 110V60Hz1/2HP | 1000x800x1250m/m | 200kg |
| Function | For roasting fried shredded butcher's meat, mixing roasted flour, all kinds of stuffing, etc. | | |

APPENDIX 9. QUESTIONS AND ANSWERS --

Appendix 9 contains the answers to questions posed by Mr. Duff Mitchell (Alaskan Dried Foods).

A9.1 - How does packaging differ for a Japanese brand and a local brand?

Japanese brands are readily identified by modern and artistic design, high quality materials, zero defects, cleanliness, and uniqueness. Taiwan products allow for more defects, are less clean, and are less original in design. American products match or exceed Japanese products, especially in the use of high quality materials and zero defects. The greatest differences are the use (or over- use) of single serve packs and the application of unique artistic designs. The single servings are typically smaller than a standard U.S. serving. The U.S. products are more ecologically minded and value oriented. Japanese products cater to individuals that do not mind the extra litter and enjoy the appearance of abundance - even though the overall weight is reduced by packaging.

U.S. companies that study the artistic design of Japanese packages are encouraged to create new themes, new trends, and new fashions. The richness of U.S. culture and heritage provides the greatest advantage and this advantage can be demonstrated through package design. The idea is to observe existing Japanese designs, adapt American heritage designs, improve, and orient the product toward the target consumers and the U.S. brand image.

A9.2 -- What is GMP or CAS?

GMP means "Good Manufacturing Process" and CAS means "China Agricultural Standard." Reference documents from the Taiwan Council of Agriculture are provided in a separate volume. Both designations are intended for Taiwan companies rather than for foreign owned, offshore operations. However, U.S. companies operating under a joint venture or operating as a wholly owned subsidiary can apply for the designations. At least two Japanese companies operating as joint ventures with Taiwan meat processors hold CAS accreditation. Likewise, Coca-Cola Taiwan holds accreditation since it domestic production facilities. The best strategy for U.S. dried seafood and snack produces is to obtain the highest levels of accreditation from American associations as well as approval from the FDA. Such approvals are effective when translated and advertised on the package.

Additional information about the Taiwan CAS and GMP can be obtained from:

Taiwan Council of Agriculture
No. 37 Nan Hai Road
Taipei, Taiwan
Telephone number (080) 022-5888

The Food Industry Research and Development Institute offers classes and consulting services for companies wishing to obtain accreditation (see reference documents). Their address is:

FIRDI
331 Food Road
Hsinchu, Taiwan 30099
Telephone number 886-35-214016.

A9.3 - Can more processing information from FIRDI be obtained?

The Food Industry Research and Development Institute (FIRDI) is a non-profit, self-sustaining research organization with close ties to the Taiwan authorities. FIRDI's budget comes from various agencies as well as from industry sponsored research. Their list of publications (see reference documents) are available for sale and their services are for hire. However, companies in the U.S. should not overlook cooperative research ventures with local universities. One such school, the Fu Jen Catholic University, has an excellent and very approachable food science department. The phone number for Fu Jen University is (886-2) 903-1111.

Several journal articles (in Chinese) are included with the reference documents. An English language summary is included and contains illustrations of the cuttlefish A-frames as well as other equipment commonly utilized in Taiwan. Appendix 8 contains additional diagrams and pictures of processing equipment, including dryers and mixers. Process diagrams, however, are limited to the information collected from journal articles and the visit to FIRDI by a Management of Technology student. U.S. manufacturers can obtain additional information by visiting factories listed in Appendix 5, hiring FIRDI to provide detailed process diagrams, or working collaboratively with a local research university.

A9.4 - What are the U.S. and Canadian positions in the marketplace?

The U.S. and Canada hold a share of the raw materials supply market for dried fish products. Taiwan and Japanese companies package the majority of the products but foreign companies play the largest role in supplying raw materials. For example, data for

January through September (1997) imports show frozen cod and Pollock for surimi is sourced from the U.S., Chile, and Argentina (respectively 3377015, 151600, and 91900 kilograms). New Zealand, Chile, and Japan provide other minced and frozen fish (138300, 99811, and 84510 kilograms respectively).

Cuttlefish imports for January through September (1997) are from Oman, Thailand, and India (124399, 109601, and 99568 kilograms respectively). Canada holds a major share of the fresh lobster market (56278 kilograms, Jan.-Sept, 1997) and the fresh, chilled and live oyster market (28637 kilograms, Jan.-Sept, 1997).

A9.5 – What are the barriers to entry?

The Agricultural Trade Office, the American Institute in Taiwan reports that import tariffs for seafood ranges from 20% to 50%. The import tariffs are levied on a CIF basis, ad valorem. Reductions to the tariff structure are expected with Taiwan's accession to the WTO, although the date when this will occur is unclear. Table A9.1 provides tariffs for selected seafood items. On average, tariffs are about 25% with half of the fish species subject to tariffs above 40%.

Table A9.1 – Tariffs for selected seafood items (1997)

| Fish Type | Fresh/chilled | Frozen |
|--------------------|---------------|--------|
| Pacific salmon | 20% | 20% |
| Other salmonidae | 20% | 25% |
| Halibut | 25% | 15% |
| Plaice | 25% | 25% |
| Sole | 30% | 40% |
| Other flat fish | 30% | 30% |
| Skipjack or bonito | 30% | 37.5% |
| Herrings | 42.5% | 42.5% |
| Cod | 20% | 20% |
| Fish roes | 15% | 15% |
| Oysters | 42.5% | 42.5% |
| Crabs | 42.5% | 42.5% |

Tariffs for dry seafood products fall under the category of “other prepared or preserved fish” (tariff number 1604.20) with a tariff rate of 15% for dry fins and 45% for “other prepared or preserved fish”. Squid and cuttlefish, prepared or preserved, (tariff number 1605.90.50) has remained the same at least since 1992 with a rate of 42.5%. In addition to tariffs, there is a harbor construction fee (0.5% of CIF value), a trade promotion fee ((0.0425% of CIF value), and a customs clearance fee (approximately US\$400).

A9.6 – Will the mention of Omega 3 oils improve sales?

At least seven years ago, the sale of Omega 3 pills was very popular. The trend continues today, especially for organic vitamins and supplements. DHA and EPA are advertised by a small number of companies and the consumer effect is unknown (but can be easily measured). Perhaps the use “GMP” and “CAS” are much more important to the consumer. These marks are supported by national, televised campaigns.

A9.7 – Is it possible to include web-site information? Appendix 7 and Appendix 8 include web-site information. Appendix 7 focuses on the largest manufacturer of dried fish products, Shin Ho Enterprises. Appendix 8 provides details about machine processes and machinery from Tsung Hsing Food Processing Machinery Enterprises.

A9.8 – What is the importer’s profit for bringing in Japanese dried fish?

Given the tariff structures, it is not as profitable to bring in large quantities of bulk, dried fish from Japan unless higher margins are charged. Taiwan companies are importing raw materials and making the majority of dried fish products locally. It might be the case that a local company is processing dried fish for export to Japan and some of these products find their way into local Taiwan stores as “imports.” As mentioned, the extent that this is occurring (and even whether this is occurring) is hard to determine. Genuine Japanese dried fish products are at least twice as expensive as local products. In the marketplace, Japanese brand products reach the highest levels of mark-up, exceeding 100%.

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