

ASA Research Project into the China Soy Foods Market

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Introduction

China is currently the largest total consumer of soy foods in the world with just over nine million metric tons of soybeans expected to be consumed as food in 2005 according to various Chinese estimates (including those by CFAS). However, after conducting this research project on behalf of the American Soybean Association it appears that at most only 10% of this 9mmt of soybeans used for food are produced by commercial firms while the remaining 90% is still produced in individual households or very small operations. Basis survey results, most commercial firms are not large in scope, using an average of about 11,700 metric tons in 2004 although they are growing at a fast pace. (Note that the largest firm CFAS interviewed said they used 100,000 metric tons of soybeans in 2004.)

Basic consumption is still centered on sauces, soymilk, and bean curd (tofu) derivatives, but in recent years there has been a rapid increase in the use of soybeans in other types of foods with soybean protein isolates in particular growing at a rapid pace. CFAS' research for this project shows that changing consumer attitudes in China over food safety and health are also driving changes in the way and types of soy foods produced. Thus despite the relatively small percentage of soybeans used in commercial soy food operations, there is reason to be hopeful that commercial production will grow over time, and with that the potential for encouraging these firms to use U.S. origin food grade soybeans will be enhanced

For the purposes of this study, during April and May 2005, CFAS conducted face to face interviews with 30 leading Chinese soy food companies across three geographic regions; South China centered on Guangzhou, East China centered on Shanghai, and North China centered on Beijing. The findings and results of these interviews are summarized in the sections to follow. In addition, a separate file containing the entire responses for each of the 30 interviews is included along with an Excel spreadsheet providing complete contact information of these companies as well as other commercial soy food companies that could be found by CFAS during the course of this project.

Macro-view of Chinese soybean usage

Despite checking with numerous government offices and trade association officials, including for foods, health, and agriculture, there was no systemic collection of statistics related to soy food usage in China. Likewise, we checked with the firms interviewed for this project but no one had accurate estimates, only some relative ideas of how demand was in their particular areas, but even that is suspect because of the large number of small soy food processors involved in the industry. The only regularly collected data is on soybean production and soybean import and export data, which combined with extensive research into the Chinese soybean crushing industry over the past decade, has allowed CFAS to infer an estimate for soy food consumption which can be seen in the

following table of total Chinese soybean supply and demand:

Table 1: China Soybean Usage Supply and Demand Estimates

CHINA FOOD AND AGRICULTURAL SERVICES, INC.

Chinese Soybean Supply / Demand Estimates

1-Jun-05

(mmt)

Oct/Sept	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Soybeans													
Carry In	1.5	2.8	4.6	3.6	2.4	2.1	1.7	2.5	4.3	1.7	5.3	2.3	4.5
Domestic Production	15.3	16.0	13.5	13.2	14.7	15.2	13.9	15.4	15.4	16.5	15.4	17.0	16.7
Imports	0.0	0.2	0.8	2.3	2.9	3.9	10.1	13.2	10.4	21.4	16.9	25.0	26.0
TOTAL SUPPLY	16.8	19.0	18.9	19.1	20.0	21.2	25.7	31.1	30.1	39.6	37.6	44.3	47.2
Crush	9.0	9.5	10.1	10.7	11.4	12.5	15.7	19.0	20.2	25.8	26.3	30.5	33.0
Exports	0.8	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2
Food Use	4.2	4.5	5.0	5.8	6.3	6.8	7.3	7.6	7.9	8.3	8.7	9.1	9.5
Change in Food Use	N/A	7.1%	11.1%	16.0%	8.6%	7.9%	7.4%	4.1%	3.9%	5.1%	4.8%	4.6%	4.4%
TOTAL DEMAND	14.0	14.4	15.3	16.7	17.9	19.5	23.2	26.8	28.4	34.3	35.3	39.8	42.7
Carry Out	2.8	4.6	3.6	2.4	2.1	1.7	2.5	4.3	1.7	5.3	2.3	4.5	4.5
C/O to Use Ratio	20.0%	31.9%	23.5%	14.4%	11.7%	8.7%	10.8%	16.0%	6.0%	15.5%	6.5%	11.3%	10.5%

Source: Production Data: China National Bureau of Statistics except for 2004-2006. Trade Data: Chinese Customs except for 2004-2006.

All other data are CFAS estimates made basis research in the Chinese crushing industry and via various private estimates in China.

As per the table above, soy food usage in 2005 is expected to be between 9.0 – 9.5 million metric tons, an increase of about 4.5% compared to 2004. As per comments above and below however, it appears the amount of soybeans used by commercial soy food producers is growing at a much faster pace than this overall rate of growth and is thus why it is an opportune time for ASA to try to promote US food grade soybean exports.

Trends in China's Soy Food Industry

Besides soybean crushing, traditional soy-based food consumption in China, including bean curd (tofu), soybean milk, and soy sauce, have always been a significant channel for soybean consumption. In addition, since the mid-1990s, deeper processing of soybeans for products such as lecithin has gained popularity and become an important food product produced from soybeans.

But it is the staples of tofu and soybean milk that dominate total consumption. Soy-based foods have a long, rich history in the diet of Chinese people. Used as main ingredients to make various dishes, tofu in particular is widely available in local wet markets and modern retailer outlets. Usually, soft tofu is packed in small plastic cases, with an average of 500 grams per case whereas firm Tofu and other related products are sold unpacked. The annual per capita consumption of tofu in urban areas is about 7.0 kg. According to government estimates, total soy food consumption per capita for the whole country is estimated at 20 kilograms per capita.

Tofu is an easy product to make. As a result, there are few large producers and thousands of small workshops, both official and unlicensed, operating to serve the market. This pattern makes food sanitation and sewage discharge hard to control by the governmental departments concerned. Take Beijing as an example. According to a government report, there are more than 200 licensed processors involved in the production of tofu and other related soy products while there are 2,000 unlicensed private (Ge Ti Hu) operators. Due to weak enforcement of regulations, fake and poor quality products often appear in the markets, especially those in some suburban and rural areas.

However, the tide is changing in the wake of the outbreak of SARS epidemic and Asian Avian flu as consumers become more aware of food safety problems. They prefer to choose products made from modern processing plants and as a result, the large-sized soy food producers listed in the separate database report rapidly increased sales in the past year.

Soy sauce is widely used as a seasoning in China. According to the Food Industry Association, the annual output of soy sauce is estimated to be 6 million tons. About 1 million tons of soy sauce is sold with a brand and package while 5 million tons are generic soy sauce sold in bulk. Soy sauce is available in local mom-and-pop shops and supermarkets. As was the case with large-sized tofu producers, large-sized soy sauce producers report rapid growth rates, with several saying 2004 sales increased by over 20% compared to 2003.

As a good source of protein, soybean milk powder and soybean milk beverage have long been popular with Chinese consumers. Attracted by its market potential and its low barrier to entry, numerous soybean milk facilities were set up in China. However, due to poor quality and management, many have stopped operation or closed down, creating opportunities for good quality, well-managed firms.

Jiangsu VV Group is the biggest player in this sector. It has many production facilities in major provinces across China in the forms of establishing its own operations or collaborating with local processors. Currently, there are about 20 large-scale soybean

milk powder manufacturers across China.

With the rapid development of economy and ever increasing improvement in people's living conditions, China's food industry has been growing steadily year on year, thus creating a huge market for various food ingredients, including soybeans. Importantly, as incomes rise and as consumer food safety awareness increases, there will be a steady increase in demand for soy foods produced by larger-sized, quality conscious producers. Likewise, as consumer awareness grows there is a growing demand for a greater variety of health foods, which because of the strong Chinese tradition of consuming soybeans means a ready market for health foods made from soybeans.

Most survey respondents were very positive with respect to market expansion and growth in China's soy food processing industry. Reasons vary among respondents, but a re-occurring response was that consumers in China and around the world are becoming increasingly health conscious and soy food products fall into the category of healthy food. Numerous research studies have shown various health benefits of soy products including that they are an excellent source of protein, with low cholesterol levels and have also been linked to preventing cancer.

Although the overall outlook for soy food products looks promising, some interviewees, such as Shandong Daily Foodstuff Co Ltd and Qingyuan Food Group Co Ltd, were a little pessimistic about the long-term outlook for soy milk powder and liquid products. They say that as incomes in China rise (especially in urban areas); consumers have switched from soymilk to dairy milk because the latter is higher in nutritional value. They and others also point out (some bitterly) that the central government has given a lot of encouragement and some financial support to the cow dairy industry and that is to the detriment of the soy milk industry. However, they also say in the short term the market remains strong, especially in China's western regions, where the economic development is still in the early stages.

Rising incomes may limit the growth potential for soy food products such as soymilk, but it offers an opportunity for products such as soy protein isolates (SPI). SPI is often blended with processed meat products as a protein concentrate. With China's growth in per capita meat consumption (due to higher per capita incomes), the growth in demand for SPI will follow.

Soy Protein Isolates, also known as Isolated Soy Protein, is made from defatted soybean meal. Most of the fats and carbohydrates have been removed, yielding a product containing more than 90% soy protein. Soy protein isolate possesses the greatest amount of protein of all soy products. Also, soy protein isolate has a very neutral flavor compared to other soy products.

Soy protein isolate is used in the food industry for both nutritional (increasing protein content), sensorial (better mouth feel, bland flavor) and functional reasons (for applications requiring emulsification, water and fat absorption and adhesive properties).

Soy protein isolate is used in following food products:

snacks

meal replacements

breakfast cereals

energy and protein bars

weight loss ready-to-drink beverages

soups, sauces and prepared foods

baked foods

ice cream, yogurt and other dairy or dairy-free products

meat alternatives

processed meat, poultry and fish products

Soy protein isolate is a complete vegetable protein. It contains all essential amino acids for growth and it is equal in quality to the protein in meat, milk and eggs. On the other hand soy protein isolate has a very low fat content. Soy protein isolate may reduce the risk of coronary heart disease. There are also indications that soy protein can help in the prevention of osteoporosis, some cancers and menopausal symptoms.

Pure soy protein isolate is difficult to find in stores and is mainly used by the food industry and less by consumers. It is sometimes found in health stores or in the pharmacy section of the supermarket. Soy protein isolate is mainly found combined with other food ingredients.

With the rapid development of economy and ever increasing improvement in people's living conditions, China's food industry has been growing steadily year on year, thus creating a huge market for various food ingredients. Thanks to the versatile functions exhibited in food applications, soy protein isolate (SPI) has been used more and more in

various food including processed meats, beverages, infant formulas, and healthcare products. According to the China Food Industry Association, the demand for SPI in 2004 was about 145,000 tons, a sharp increase over the estimated 68,000 tons used in 2000. About 2/3 of SPI goes to the processed meat sector. In accordance with China's Tenth Five Year Plan for the Food Industry, total processed meat products will amount to 70 million tons in 2005, about 8% higher than 2004, thus the demand growth for SPI remains strong. Using sausage as an example; this product accounts for 5-10% of the total processed meats. If 3-5% of SPI is added to all sausage, it will require 100,000 tons to 200,000 tons of SPI.

At the same time, Chinese firms have increased their production capacity for SPI so much in the past years that there is now a glut of capacity (similar to soybean crushing) and as a result, some plants have temporarily halted production while others operate at less than optimal capacity (see accompanying Excel file of Chinese soy food processors for a list of SPI producers and additional comments).

The world's total output of SPI in 2004 was estimated by industry officials to be more than 700,000 tons. USA is ranked first in terms of output and takes a lead in its application. Dupont Protein Technologies (and JV partner Bunge in the Solae Company), and ADM are the biggest soy protein products manufacturers in the USA. Their products are exported to more than 20 countries and regions, accounting for 70% of the world's consumption. SPI production is still a relatively new industry in China. Before 1996, China relied on imports to meet all of its SPI demand.

Lured by the market potential, many domestic companies were established to produce SPI, but many of them were unsuccessful and were closed down (including some on our list) due to the lack of core technologies and capital. Meanwhile, some of the world's leading soy protein manufacturers flocked to China to establish their own production facilities (often via joint ventures). Dupont Protein Technologies, for example, has invested in three soy protein companies since 2001. Of these three operations, two are wholly-owned subsidiaries and one is a joint venture with Shineway, China's largest meat processor. Japan Fuji Company also has invested in China by establishing a joint venture in 1994 in Jilin province while another joint venture in Tianjin is now under construction.

Most of the large-scale SPI companies are located in Shandong Province and Heilongjiang Province. On one hand, many companies said that the domestic market for SPI is structurally over capacity, with most of products developed for use in the processed meat products. Thus, the competition is quite fierce, resulting at the moment in low profit margins according to SPI producers. To cope with this situation, many companies have turned to the export markets, with the EU, Russia, and Southeast Asia the primary target destinations.

Soy Protein Concentrate

As part of this study, CFAS contacted over 20 companies in China involved in the production of soy protein products by phone and conducted face to face interviews with three companies: Shandong Xiangchi Soy Protein Science & Technology Co Ltd, Shandong Sinoglory Soy Protein Co. Ltd., and Linyi Shansong Biological Products Co. Ltd. Combined, the companies produced a variety of soy protein products including Soy Protein Concentrate (SPC) and Soy Protein Isolate (SPI). Between the two products, SPI was by far and away the product with the greatest production volume¹.

Shandong Xiangchi, Sinoglory and Linyi Shansong together boasted production of 70,000 metric tones of SPI in 2004 (10,000, 20,000 and 40,000 respectively). These production numbers dwarf the production volume of SPC. In fact, among the three companies only Sinoglory said they produced SPC totaling 3,000 MT/year. CFAS has come up with several reasons why these companies have chosen to focus on SPI production over SPC.

SPI has a larger scope of applications compared to SPC due to its higher protein content and neutral flavor (90 % vs. 65 %). SPC is traditionally used as a nutritional ingredient (protein supplement) in baked goods, breakfast cereals and in some processed meat products. In addition to the products just mentioned, SPI can also be used in the production of snacks, meal replacements, energy and protein bars and weight loss ready-to-drink beverages to name just a few. Convenient and health related foods such as these are becoming increasingly popular in China and elsewhere.

The demand for SPI products from foreign countries is stronger than for SPC. In particular, Sinoglory and Shandong Xiangchi said they export approximately 90 percent and 60 percent of their SPI products respectively to countries such as the EU, Japan, South Korea and Russia. These countries are looking for suppliers of GM free SPI and Chinese soy protein companies (rightly or wrongly they are still characterized as using only domestic non GM soybeans) are among a handful of companies in the world that can still offer this “guarantee”. This demand for GM-free SPI has put soy protein companies like the ones CFAS interviewed in a favorable position to earn premiums for their SPI.

Although more expensive than SPC due to SPI’s higher protein concentration (and flavorless quality), it makes economic sense for meat companies to use SPI to blend with their meat products. The Jinluo meat processing company in Linyi (Shandong province)

¹ Note: Among the 20 soy protein companies contacted, only 2 or 3 said they were involved in SPC production. Please see the accompanying Excel spread sheet for more details.

is an example of a Chinese meat company that has realized the efficiency gains from using SPI instead of SPC. Linyi Shansong told CFAS that Jinluo meat is their biggest customer, consuming almost half of their annual 40,000 MT SPI production.

For the reasons outlined above, CFAS believes that SPI is the soy protein product with a more robust market and the greatest potential for growth. SPC production/consumption may also continue to witness growth, but likely not at the same rate as SPI.

While many soy protein producers complain about current low margins due to excess capacity, they also express optimism for this industry, primarily because they believe this is still a “sunrise” industry in China, with plenty of room of growth. Their major concerns are how to upgrade their technology, to explore more applications in other food sectors besides meat, such as beverages and functional foods, managing the price volatility of the raw materials (soybeans), and insuring that they meet rising Chinese environmental standards for the industrial waste that their factories produce.

China’s soy food processors are also offering a wider variety of soy food products such as snacks and ready to eat soy food meals that cater to modern day consumer’s fast paced lifestyle and diversified palate. Presenting a wider range of products offers soy food processors a larger demographic to market to and the opportunity to increase sales.

Although optimism remains in the industry, the individual firms also expressed some individual challenges they face in the coming years. The companies we interviewed almost unanimously agreed that fierce competition among firms within the soy food industry will be the biggest hurdle to overcome in the foreseeable future. Many companies fear a price war developing between firms, which will cut profit margins and in some cases put companies out of business. Similar to other industries, the soy food industry is also expected to consolidate, which means there are many companies at risk to either go out of business or to be taken over by a larger better positioned company. For the mean time, there are thousands of soy food companies in China (both large and small) all competing for a piece of the market share.

Soybean Usage by Commercial Soy Food Processors

To get an idea of food soybean demand and the scale of the respective companies that we interviewed, all companies were asked how many soybeans they used in 2004 and how many they planned to use in 2005². Table 2.1 and 2.2 gives a breakdown of the

² CFAS also sought to ask the companies what their production volumes of various products are, however, answers given were incomplete and segmented to give a clear indication about production volumes. Production values given by some of the companies can be found in the appendix

minimum, maximum and average levels of soybeans/meal used and forecasted to use for 2004 and 2005 respectively.

As can be seen from both Table 2.1 and 2.2, CFAS interviewed a wide scope of companies with respect to production size. The average usage level among the companies interviewed was just under 12,000 MT per year in 2004. In 2005, the forecasted average usage level is just under 16,000 MT per year. This represents a 37 percent y-o-y increase from 2004 levels.

Table 2.1: Soybean/Soybean meal minimum, maximum and average usage levels in 2004

	Usage Level in 2004 (MT)
Minimum	600
Maximum	100,000
Average	11,688

Table 2.2: Soybean/Soybean meal minimum, maximum and average expected usage levels in 2005

	Usage Level in 2005 (MT)	% Change from 2004
Minimum	2,000	
Maximum	150,000	
Average	16,036	37%

It is important though to not put much stock in the actual growth value because in CFAS' experience, firms in China often have high ambitions, but their plans may not actually come to fruition. However, the trend is clearly higher and provides further evidence to support CFAS' earlier claims that the soy food industry in China is indeed a growth market.

CFAS learned that companies involved in the production of soy sauce or vinegar usually purchased soybean meal instead of soybeans. Companies involved in soy sauce or vinegar production said that soybean meal was suitable for the brewing process and more convenient to use because the soybeans had already been crushed for them. In fact, CFAS learned that in soy sauce or vinegar production, a number of grains or oilseeds (peanuts, rape, wheat, barley) can be fermented and brewed together.

Factors Affecting Soybean / Soybean Meal Purchasing Decisions

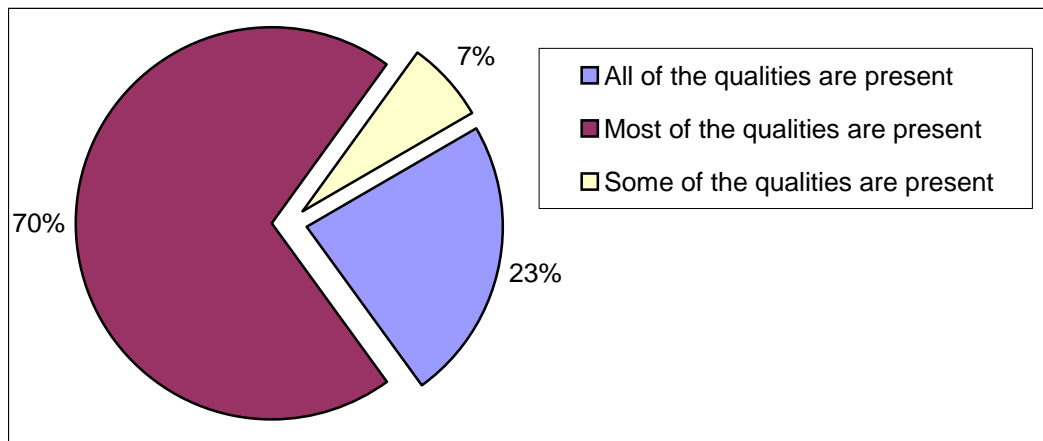
Quality specifications vary significantly among the companies interviewed; however, a few criteria did stand out from the responses given. Protein levels for soybeans should typically be no less than 35 percent and soybean meal should hover around 45 percent.

All companies responded that the higher the protein levels the better. The second most common response was the importance of moisture levels. Moisture levels should not exceed 14 percent. This factor is not only important in determining the quality of the final products, but also for storage and the added expenses of having to dry beans that are over the 14 percent moisture level. Foreign material is another factor that most companies considered when making their purchasing decisions. Although precise acceptance levels for foreign materials were not provided by most interviewees, CFAS did hear from several interviewees that “dead” beans are sometimes a problem in the soybeans that they source from China. Dead (or iron beans as they’re known in China) are small, shriveled, black colored beans that are as hard as steel and can cause serious quality problems such as discoloration and solid impurities in the soy foods being processed.

Also, several interviewees mentioned that under no circumstances could the soybeans be genetically modified (GM). They made this comment before we even reached the questions in the survey pertaining to GM soybeans, which gives some indication how important the GM issue is for many (if not all) of the soy food processors in China. The GM issue will be covered in greater detail in another section of this report. Other quality specifications considered are color of bean, size of bean, and uniformity of the bean; however, according to the interviewees these specifications were less important.

Asked whether the soybeans and soybean meal purchased from suppliers were of adequate quality, a surprising 70 percent (21 companies) of respondents said that most of the qualities were present and another 23 percent (7 companies) agreed that all of the qualities were present. Only 7 percent (2 companies) said that only some of the qualities they demanded were present. Refer to Figure 1.1 for a breakdown.

Figure 1.1 Presence of quality parameters in soybeans and soybean meal purchased



In addition to Chinese soybean/soybean meal suppliers already supplying good quality,

the interviewees at Zhongshan Fujinxiang Seasoning Food Co Ltd, Yeo Hap Seng (Guangzhou) Ltd and Beijing Laocaichen Food Co Ltd all said that when they do receive sub-par quality products, they simply send it back and have it replaced free of charge. If and when U.S. soybean growers/traders decide to enter China's soy food market and wish to compete, they must make certain that they can deliver the same level of quality that the domestic growers/traders are able to deliver.

Soybean varieties appear to play no role in a company's decision to buy soybeans. Most interviewees comment that as long as the important quality parameters are present, variety becomes a moot point. Only Mr. Luo Fayan of Shenzhen Vitasoy (Guangming) Foods and Beverage Co Ltd said that they prefer to buy a variety called Hefeng because of its distinct shade of yellow, uniform size and high protein content. CFAS was a little surprised Chinese companies paid little attention to variety because other Asian countries such as Japan and South Korea are very particular about the varieties used for soy food production. These countries already import significant amounts of food grade soybeans from countries such as the U.S. and Canada, where exporters must be very careful of Identity Preservation (IP) and guaranteeing that the varieties do not become contaminated with other soybeans. As China's grain handling system becomes more sophisticated, soy food processors selecting soybeans on the basis of variety might become more realistic.

Where and How Soybeans and Soybean Meal are Purchased

CFAS has already touched on some of the issues Chinese soy food processors have with using GM soybeans, which is why that almost all soybeans that go into the production of soy foods come from domestic suppliers. We are careful not to say all, because CFAS firmly believes that inevitably those companies sourcing soybean meal from crushers to make soy sauce and vinegar contain GM beans. However, for all other products domestic soybeans are used.

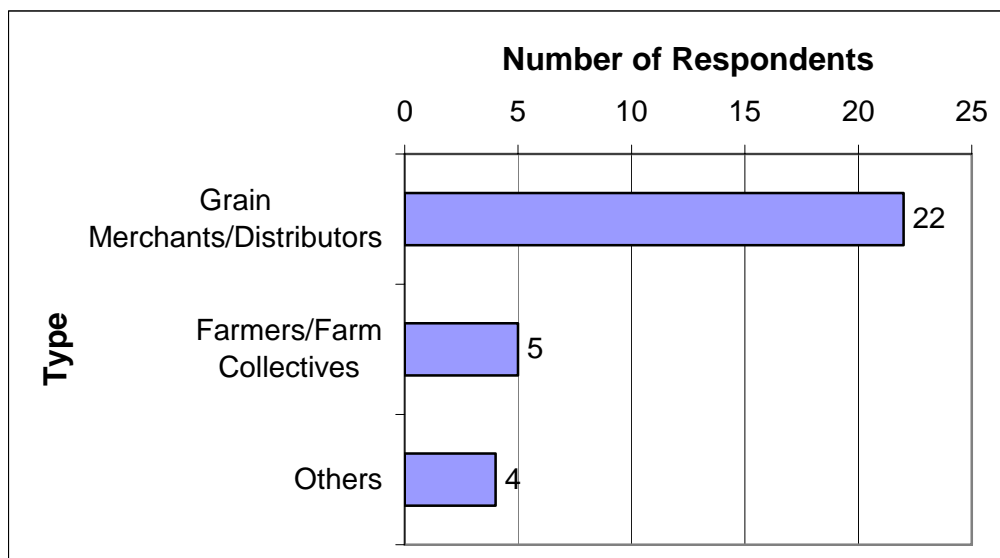
It came as no surprise that most soybeans come from China's North Eastern province of Heilongjiang, Jilin and Liaoning. Among the 3 provinces Heilongjiang is by far and away the largest producer and supplier of food grade soybeans to processors around the country. In fact, 26 out of the 30 companies interviewed sourced their beans or believe the origin of their beans and meal are from Heilongjiang province. Soybeans from Heilongjiang are renowned for their high protein and because of ample supplies within the province prices tend to be lower as well. Both soybean protein and price were what the interviewees rated most and second most important respectively when deciding from what region to purchase soybeans. Other quality parameters such as foreign material and damage came third, reliability of supplier ranked fourth most important, shipping time fifth and finally securing large quantities came last.

The only area where Heilongjiang is at a disadvantage is shipping time. China has yet to finish construction of suitable road and railway arteries to be able to consistently ship soybeans to different parts of China in a timely and efficient manner. Mr. Yan Zhongxiang of Shandong Daily Foodstuff Co Ltd said that in a best-case scenario, it can take 2-3 days by truck or 5-6 days by train for soybeans from Heilongjiang to reach their factory in Yishui, Shandong. Mr. Rolland Tian of the Sinoglory Group needs to secure larger quantities of beans and cannot rely on truck transport. He complains that train transport can sometimes take up to 50 days from Heilongjiang to Qingdao, Shandong. This is an enormous problem that causes his company and others like it to have significant down time and lost revenues.

Most companies that we spoke with use three different methods to source their soybeans or soybean meal: distributors, farm collectives (called nong chang in Chinese) and directly from crushers. Figure 1.2 provides the breakdown of this distribution.

22 of the respondents said that they use grain merchants, traders or distributors to source their soybeans or meal. These distributors usually have an extensive network of office locations scattered around the country. For example, they will have offices in some of the larger cities such as Shanghai, Beijing or Guangzhou to serve their customers and will also have facilities in the soybean growing areas to ensure that supplies can be secured and that customers are getting the desired quality soybeans. Soy food processors will often use a handful of these types of distributors to source their necessary supplies.

Figure 1.2 How soy food processors source soybeans or soybean meal



Five interviewees said that they source their soybeans directly from the growers themselves. They do not source directly from small individual farmers, but instead from

larger farm collectives (nong chang). In this way the soy food company has more assurance on the type of beans being grown and the cultivation practices used. Four companies (those involved in the production of soy sauce) source their soybean meal directly from crushers.

Imported Soybeans

Tracking whether companies do or do not use imported soybeans in the process of their products is difficult to assess. CFAS strongly believes that almost all companies involved in the production of soy sauce and vinegar indirectly use imported soybeans because they source most of their soybean meal from local domestic crushers, who in turn source their beans from countries such as the U.S., Brazil and Argentina.

From the 30 companies interviewed, eight admitted to having used imported soybeans at one stage. Four out of these eight companies (Ginho Food Industry Co Ltd, Shanghai Xuyang Food Co Ltd, Yeo Hap Seng Guangzhou Ltd, Shenzhen Vitasoy Guangming Foods and Beverage Co Ltd) were not involved in soy sauce or vinegar production, but instead liquid or powdered soy-milk products. Therefore, they sourced soybeans (not meal) directly from other countries.

Ginho Food Industry Co Ltd and Shanghai Xuyang Food Co Ltd had at one point sourced beans from Brazil for the production of soy milk powder. Imports from Brazil were used before China had put into effect strict regulations prohibiting GM beans from entering the food chain. Also, the interviewees said that in the mid and late 1990's the percentage of Brazil's soybean acreage sown to GM beans was largely uncertain.

Yeo Hap Seng Guangzhou Ltd and Shenzhen Vitasoy Guangming Foods and Beverage Co Ltd had as recently as 2004 imported identity preserved (IP) soybeans from Canada. Imports of Canadian soybeans into China are promoted by the Canadian Soybean Export Association (CSEA). The CSEA have held trade missions in China and Canada in an effort to get both Canadian growers and Chinese processors to better understand how and why Canadian grown soybeans can be used in China's soy food market. Currently, neither Yeo Hap Seng nor Shenzhen Vitasoy is importing soybeans from Canada. Although Mr. Zhiwen Hu of Yeo Hap Seng was very satisfied with the quality and consistency of Canadian beans, the company decided that they could not justify the higher cost they had to pay for imported beans. Mr. Luo Fayan of Shenzhen Vitasoy echoed these statements and added that upon entry into China, the company also had to bear the additional costs such as quarantine inspection fees, tariffs and taxes. In order to cover some of these higher costs, these processors said that they need to sell their products into premium priced markets such as Europe. However, both interviewees mentioned that these premium markets are difficult to sustain and the entire IP marketing process is too arduous and in their opinion currently not worth the effort.

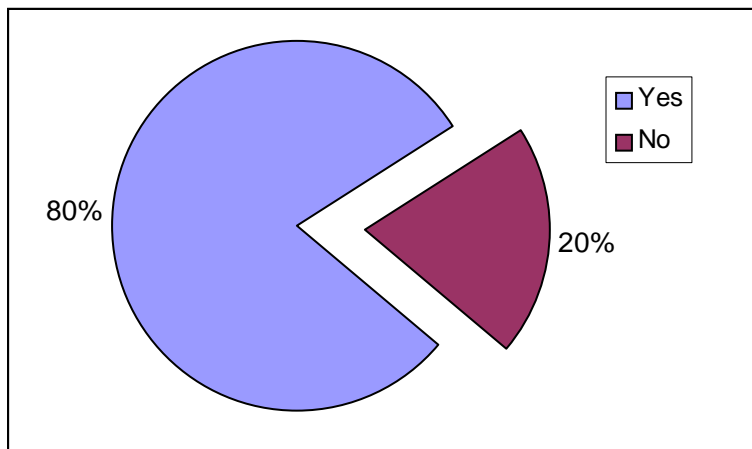
Although these challenges exist, the CSEA maintain that they continue to export IP food grade soybeans into the Chinese market. Recent visits to Canada by the Guangdong Food Profession Union present evidence that indeed some soy food companies in China are interested in using imported soybeans in their operations.

The GM Issue

When interviewees were asked whether they had ever heard of GM soybeans before, a startling 20 percent (6 respondents) were not aware that they existed. Refer to Figure 1.3

Among the interviewees who had heard about GM soybeans before, they admitted that their knowledge on the subject was limited to what they had heard from media reports and government policy. Both Chinese media and government have been active in distributing the message that GM foods are an unproven commodity that may or may not have negative impacts on human health. This has made consumers nervous and un-accepting of GM foods, which in turn causes soy food processors to be very cautious about the soybeans that they use and carefully label products (minus some soy sauce and vinegar) as containing GM beans. Even if GM soybeans were offered at a cheaper price, almost all the companies (keeping in mind that some of the companies are likely already using GM soybean meal) said that the risk of consumers discovering that the soy food products they consume containing GM beans is too great.

Figure 1.3 Awareness of GM soybeans



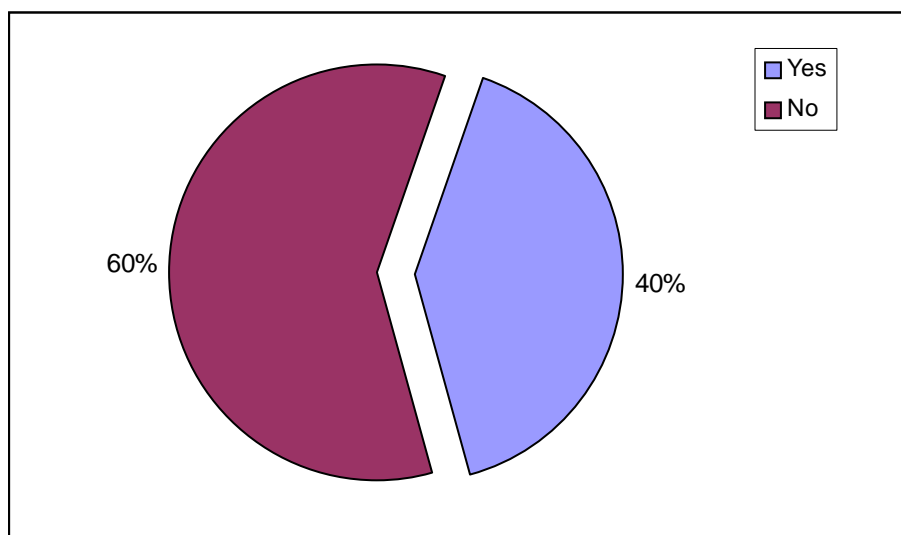
Negative ideas about GM soybeans are particularly strong in the Guangdong area because of a couple of documentaries on Hong Kong television produced in conjunction with Greenpeace. In fact, Vitasoy, a major soymilk producer with operations in Guangdong, said they have had surprise visits by Greenpeace workers to check to see if the soybeans they were using contained GM.

For this reason, the majority of soy food companies we interviewed had a negative opinion of GM soybeans. Although not a single company gave a high opinion of GM soybeans, several interviewees (Shanghai Ding Feng Fermentation Food Co Ltd, Shandong Sinoglory Group, and Beijing Laocaichen Food Co Ltd) expressed their personal opinion that the GM issue is blown a little out of proportion. They argue that no evidence exists to prove GM foods are harmful to people’s health and that consumer preferences are largely ambiguous and could easily be swayed to accept GM foods with a little support from the media and government.

Except for a few companies who buy soybean meal instead of beans for the production of soy sauce or vinegar, due to the GM issue, none of the companies CFAS interviewed source soybeans from the U.S. for soy food production. When asked whether they knew that U.S. soybean producers or producers from other countries grow non-GM or organic soybeans, 40 percent (12 respondents) were aware of this. Refer to Figure 1.4 for distribution.

The fact that 60 percent of respondents were unaware of non-GM soybean alternatives suggests that should soybean growers in countries such as the U.S. wish to market their non-GM varieties in China, a lot of education and marketing is still necessary. From the 30 companies CFAS spoke with, only Canada (through the work of the CSEA) has made headway in introducing non-GM soybeans into the Chinese soy food market place.

Figure 1.4 Awareness of GM soybean alternatives from the United States and other countries



CFAS spoke with representatives from China’s General Administration of Quality Supervision Inspection and Quarantine (AQSIQ) and the office of the Ministry of Agriculture (MOA) to try and get a clearer understanding about import procedures for

non-GM soybeans into China. The AQSIQ said that in addition to their standard testing procedures for oilseeds, they would also need to inspect and test the beans for GM content. With respect to special authorization or documentation necessary, the representative at the MOA said that the procedures and documentation for non-GM food grade soybeans are the same as for other non GM agriculture commodities entering China.

CFAS has put together the following import procedure guidelines for food grade soybeans to China based on interviews with AQSIQ and those companies that have imported food grade soybeans from Canada:

China Import Procedure for Identity Preserved (GM Free) Food Grade Soybeans

Step 1. Any firm looking to export food grade soybeans into China must first have an identity preservation (IP) system in place that can guarantee the importing country that the soybeans have the desired quality characteristics. Quality characteristics on an IP certificate vary from size to color, but the most important characteristic is that the variety is GM free.

Step 2: A) If the soybean importer intends to re-export value-added products (such as tofu, etc.) It must apply for an import permit from China's Custom Bureau so that it can claim a VAT waiver on the imports. Before the permit can be issued, representatives from China Customs visit the importer to make sure it has a proper business license and capacity to handle the beans and that the beans are indeed intended for processing and the products re-exported. This will be done for every shipment. B) If the soybean importer intends to sell the value-added products domestically it must apply to AQSIQ for an import permit. Before the permit can be issued, representatives from AQSIQ will visit the importer to make sure it has a proper business license and capacity to handle the beans and not merely for trading purposes. Normally once AQSIQ has approved the company for imports it only needs to apply once per year.

Step 3: Importer applies for a quarantine certificate from China's Administration of Quality Supervision, Inspection and Quarantine (AQSIQ). Like all other importers, the company must meet all the AQSIQ's customary standards. In addition, the importer must show that it has proper facilities that can keep the IP beans segregated from other beans. If all standards are met the permit is issued.

Step 4: After the IP certificate for the exporter and Customs/AQSIQ permit(s) for the importer has been issued, a contract between the two parties is signed.

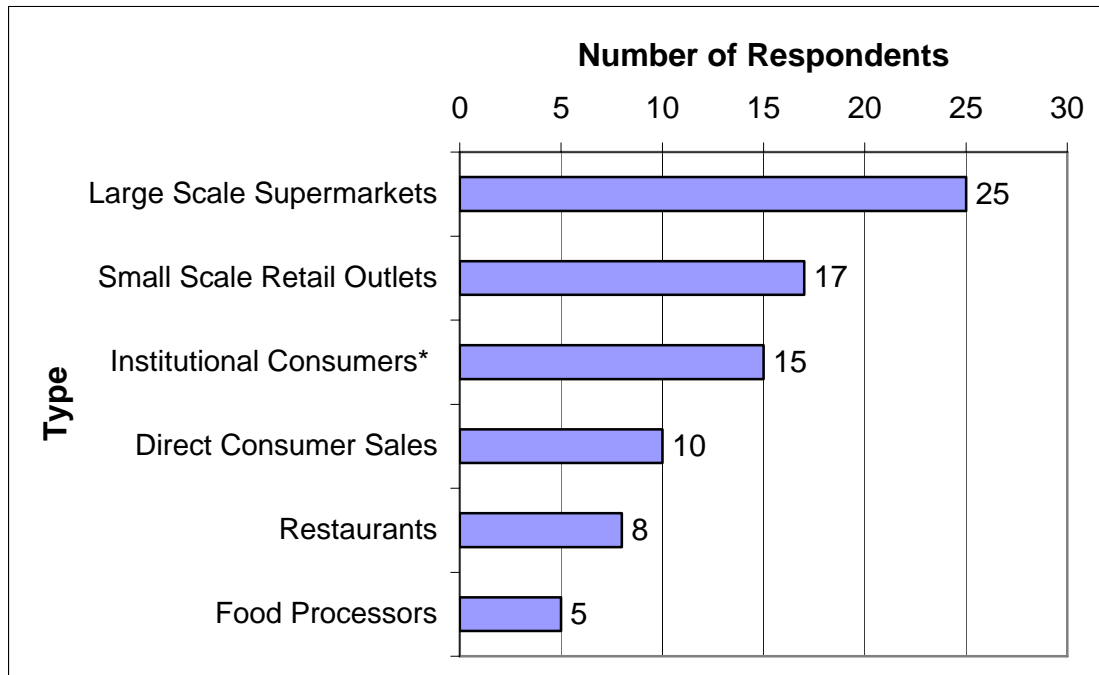
Step 5: Upon arrival of the container with IP soybeans, necessary certificates are checked by the AQSIQ along with invoices, contracts and shipping documents. Local AQSIQ

officials will also open the container to sample the soybeans to check for GM content and other quality parameters. After clearance by the AQSIQ, the beans are released to the importer and used for processing.

Soy Food Distribution Methods within China

Figure 1.5 gives a breakdown of what techniques and strategies soy food companies use to distribute their products.

Figure 1.5 Methods of distribution for soy food products



**Institutional Consumers include establishments such as hotels, schools and hospitals.*

25 out of 30 interviewees listed supermarkets as their most common point of entry into the consumer market. Selling products through supermarkets has become more popular in recent years. More large-scale supermarkets are constructed each year to meet consumer demands for clean and convenient places to shop that have higher quality standards and a larger variety of products compared to the traditional small shops or wet markets.

Interestingly, Beijing Laocaichen Food Co Ltd, Beijing Tianshuiyuan Food Co Ltd and Shanghai Ding Feng Fermentation Food Co Ltd all complained about the high shelf fees that need to pay in order to sell their products into supermarkets. 17 respondents said they used smaller retail outlets and 15 respondents sell their products to institutions such as hotels, schools and hospitals.

Some of the companies CFAS interviewed also conducted significant exports. In particular Shandong Sinoglory Group and Shandong Xiangchi Soybean Technology Co Ltd, who are both involved in SPI production, export 90 and 60 percent of their total output respectively. Yeo Hap Seng (Guangzhou) Ltd and Shanghai Fu Sheng Soya Food Co Ltd, which produce primarily liquid soy milk, also distribute their products through traders to capture some of the premium prices available in other countries.

ASA Activities and Recommendations

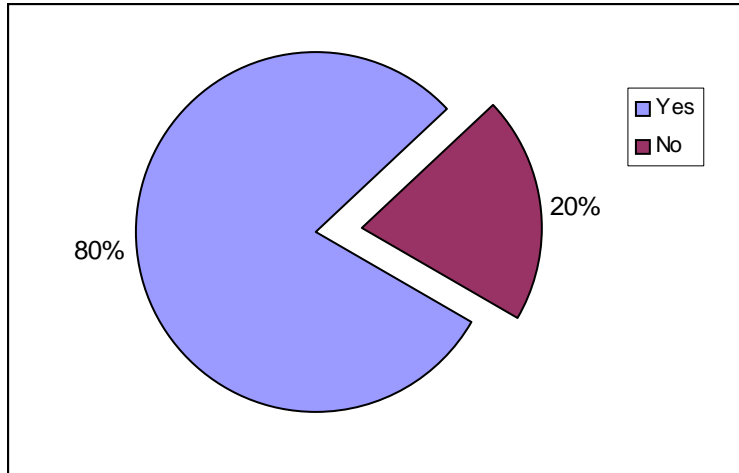
Overall, the survey results indicate that the soy food industry in China is a large market with a good deal of expected growth in the near and long term future – more so by commercial soy food firms than the industry as a whole. Interviewees agreed that soy food's natural healthy composition and an increasing variety of soy food products offered all point to an increasing trend in consumption.

Currently, using GM soybeans in China's soy food industry is not an option and the potential for US food grade IP soybean exports to China is somewhat untested. Using the Canadian experience as an example, it would appear that price, rather than import restrictions, is why so few food grade soybeans have been exported to China. The 2 companies that claim to have used Canadian IP beans (Yeo Hap Seng Guangzhou Ltd and Shenzhen Vitasoy Guangming Foods and Beverage Co Ltd) no longer do because of cost and inconvenience. However, Canadian soybean growers and the CSEA continue to push for IP exports to China and only time will tell whether volumes will increase.

CFAS asked interviewees if they what information Chinese soy food processors would like and whether processors would be interested in meeting directly with U.S. food soybean suppliers. Refer to Figures 1.6 and 1.7 to get a breakdown on interviewee responses.

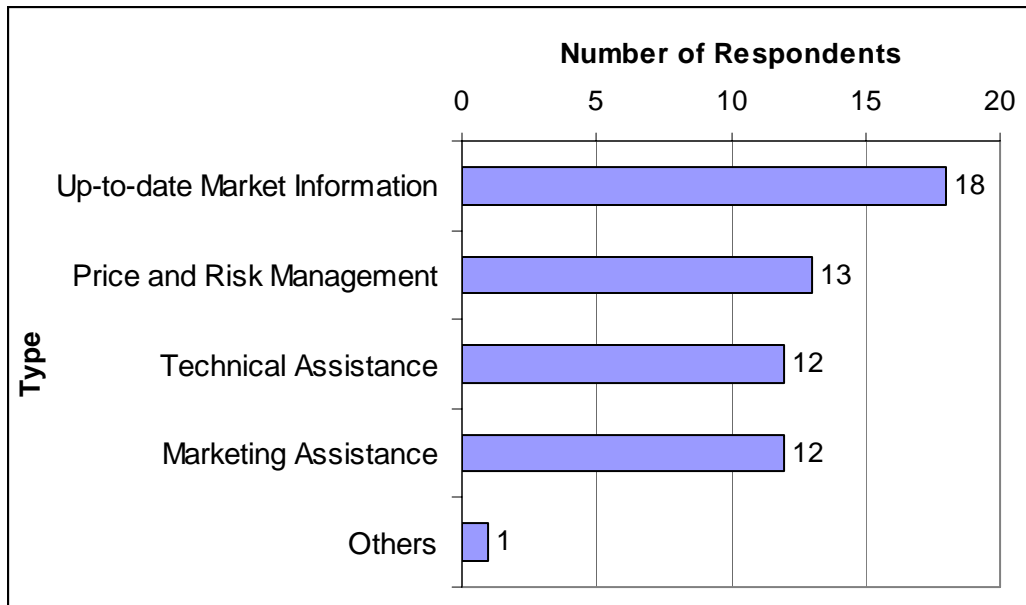
80 percent (24 of the respondents) said they would be interested in receiving information from ASA (Figure 1.6).

Figure 1.6 Respondents interested in receiving ASA information



The interviewees were most interested in receiving up to date market information, with 18 of 30 companies responding this way (Figure 1.7).

Figure 1.7 Type of information requested



END