

# Food Safety In China

A Briefing for **Responsible** Investors



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# 1. Food Safety In China

## A Briefing For Responsible Investors

### Introduction

In the medium to long term, the Chinese market looks extremely lucrative for food companies and their investors. The middle-class is booming; McKinsey projects China's middle class will increase from 43% of the population today to over 75% by 2025.<sup>1</sup> They will spend an increasing proportion of their income on food, and spending will support new product categories, such as packaged food and beverages and fast food, more typical of an urban middle class than the traditional Chinese rural consumer. AT Kearney, for example, forecasts sales of branded food products in China to reach \$650 billion by 2017 from US\$150 billion in 2007.<sup>2</sup>

The issue of food safety, however, should force investors to tread carefully in this sector. The tainted milk scandal of 2008 was the largest food safety incident in history. Successive crises highlight that the issue poses both opportunities and threats to listed food companies in China. On the one hand, consumers can become fiercely loyal to a brand that doesn't make them sick. On the other, consumers can stay away from a whole industry that is perceived unsafe and unreliable. In the aftermath of the Sanlu case, for example, the share prices of soymilk machine producers surged, as consumers stopped buying milk and started buying machines to make their soymilk at home.



This report details the current status of the food safety situation in China, describes recent food related incidents and identifies root causes. It analyzes key aspects of 14 Chinese food companies and suggests a number of risk factors investors should consider when investing in Chinese food companies. Finally, it proposes entry level ESG reporting criteria for Chinese food companies.

Whilst Responsible Research would normally cover all material environmental, government and social issues in a sector, this report covers just the food safety issues. We recognise that more research work would need to be done before recommending any of these listed companies as investable for responsible investors. Issues we would cover in a full report include use of hazardous chemicals, pesticides, veterinary medicine residues, GM Foods, food additives, water, soil and air pollution, as well as standard ESG issues such as emissions, energy efficiency, supply chains, human rights, governance issues and employee welfare. Animal welfare is also becoming more important for some responsible investors globally, with the big box supermarkets performing forensic analysis of supply chains to uncover maltreatment of livestock by suppliers. Issues such as shark 'finning', 'foie gras' production and poultry habitats are becoming more important concerns for global consumers and investors each year.



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## 2. Food Safety and Incidents

### 2.1 Food for Thought

Over the past few years, awareness of China's severe food safety crisis has grown. Reports have uncovered excessive use of pesticides and chemical fertilizers to boost crop yields and shown rampant industrial pollution, which risks introducing heavy metals into the food chain. Reports have uncovered excessive use of pesticides and chemical fertilizers to boost crop yields and evidence of rampant industrial pollution which risks introducing heavy metals into the food chain. The international community has also been shocked at the widespread use of potentially harmful antibiotics to control disease in seafood and livestock.

The problems do not end here. The intentional deception of consumers for short-term profits is the cause of most food scares. Farmers have used the carcinogenic industrial dye Sudan Red to boost the value of their eggs and have fed the banned asthma medication Clenbuterol to pigs to produce leaner meat. Processors have used pesticide to preserve ham and industrial bleach to whiten vermicelli. Shoddy infant formulas with little or no nutritional value have been blamed for severe malnutrition problems in babies. Most recently, it was discovered that milk tainted with melamine has been given to nearly 300,000 infants, resulting in sickness and death. In March 2008, China's Ministry of Commerce said a survey found that 97% of urban residents ranked food safety as a major concern. Even among rural residents, who tend to have lower incomes and fewer sources of information, 86% responded that they put food safety among their major concerns when shopping.

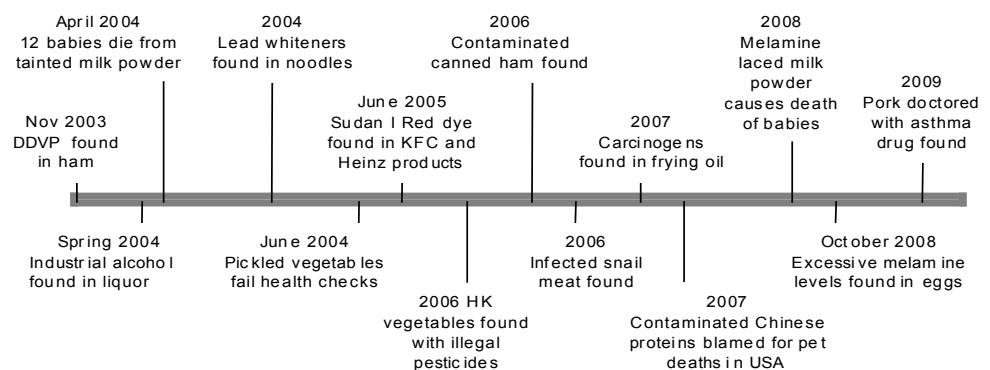
Adulteration on such a scandalous scale is the result of flaws in the regulatory and enforcement framework coupled with a fast growing and newly capitalist economy. The rewards are instant so there is a strong temptation to tamper with food. It is not always easy for consumers to detect the difference between the pure and the adulterated - particularly with substances such as milk, eggs and meat.

The scandals in China today are reminiscent of incidents which occurred in New York over 100 years ago. For example, in the 'Swill Milk Scandal' of the 1850s, 8,000 children reportedly died from milk from cows fed with swill which was whitened with plaster, thickened with starch and then laced with molasses. By 1906, food processing hygiene in the United States was so abysmal that Upton Sinclair's novel *The Jungle*, an expose of "the inferno of exploitation" in the meat-packing industry, became a best seller.

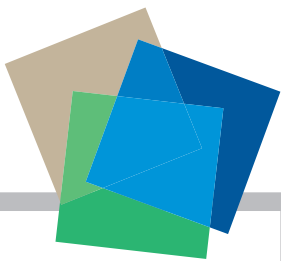
Food safety remains a serious problem in China. Activities that impair health and lead to loss of life will persist until they are halted by a strong regulatory response.

### 2.2 Major Food Safety Incidents

Figure 1: Timeline of major incidents



Source: Responsible Research 2009



## 2. Food Safety and Incidents

### **Ham Laced With Pesticide (2003)**

- In November 2003, People's Daily reported that two ham producers in Jinhua in Zhejiang province had used pesticides containing the toxic compound DDVP as an additive to preserve ham.<sup>3</sup> The producers were subsequently closed down by regulators. DDVP is known to cause acute neurotoxicity and carcinogenicity.

### **Counterfeit Alcoholic Drinks (2004)**

- In spring of 2004, six men died of alcohol poisoning and 33 other men were taken to hospital in Guangdong.<sup>4</sup> Authorities in the local health department believed the makers of the fake liquor blended industrial alcohol and rice wine and subsequently closed several unlicensed liquor manufacturers.

### **Fake Baby Formula (2004)**

- In April 2004, at least 12 babies in Fuyang in Anhui province died of malnourishment from ingesting substandard milk powder with little protein content.<sup>5</sup> Hundreds of other babies in Anhui suffered malnutrition but survived. Over 141 factories were responsible for the production of the formula and 47 people were arrested for manufacturing and selling it.

### **Contaminated Longkou Vermicelli (2004 and 2006)**

- In May 2004, testing by Chinese authorities determined that some brands of vermicelli produced in Longkou in Shandong province were contaminated with lead.<sup>6</sup> It later emerged that several unscrupulous companies added lead-based whiteners to their vermicelli.
- In December 2006, Beijing Food Safety Administration found sodium formaldehyde sulfoxylate, a toxic industrial bleach, was used as a whitener by the Yantai Deshengda Longkou Vermicelli Company. The company was ordered to cease production and distribution in Beijing.<sup>7</sup>

### **Adulterated Pickled Vegetables (2004)**

- In June 2004, the Chinese authorities declared only around 23% of all pickled vegetables produced in Chengdu, Sichuan province, had acceptable levels of chemical additives. Labelling on pickled vegetables was also found to be inaccurate. Authorities said industrial-grade salt was used to pickle the vegetables and pesticides were sprayed on the pickled vegetables before shipment.<sup>8</sup>

### **Sudan I Red Dye (2005)**

- The Chinese authorities discovered the banned carcinogen, Sudan I Red Dye was being used in food in major Chinese cities by over 30 Chinese and multinational companies.<sup>9</sup> In Beijing, the Heinz Company was reported to have added the red dye to chilli sauce; in Guangdong, Zhejiang, Hunan, and Fuzhou provinces, the red dye was discovered in vegetables and noodles. KFC, formerly known as Kentucky Fried Chicken, used the red dye in its 1,200 restaurants. Sudan I Red Dye was banned as food additive in China as early as 1996.

### **Malachite Green (2005)**

- In November 2005, Hong Kong authorities discovered malachite green in canned 'dace', otherwise known as Chinese Mud Carp, under several brands, including famous ones such as 'Pearl River Bridge' and 'Eagle Coin'.<sup>10</sup> Malachite Green is a carcinogen that was used illegally as an anti-fungal agent.



## 2. Food Safety and Incidents

### 2.2

### Material Food Safety Incidents since 2003

#### **Pesticide Residue on Vegetables (2006)**

- In early 2006, Greenpeace discovered that 30% of the vegetable samples tested in two Hong Kong supermarkets, Park'n'shop and Wellcome, exceeded safe levels of pesticides. Several also tested positive for illegal pesticides, including DDT, HCH and Lindane. Nearly 80% of the vegetables in these grocery stores originated from mainland China.<sup>11</sup>
- As early as 2001, authorities discovered over 45% of vegetables samples tested in 23 cities contained unsafe levels of pesticides.<sup>12</sup> Vegetables laced with pesticide are so common that reports of them are no longer deemed newsworthy. Families now focus on ways to get rid of them in the kitchen by peeling vegetables and washing them with special detergents.

#### **Infected Snail Meat (2006)**

- In summer 2006, the Shuguo Yanyi Restaurant in Beijing served raw Amazonian snail meat that contained *Angiostrongylus Cantonensis*, a parasite that harms the human nervous system and causes headaches, vomiting, stiffness and fever. As a result, 70 diners were hospitalized.<sup>13</sup> The Beijing Municipal Office of Health prohibited restaurants from serving raw or half-cooked snails and disciplined the Shuguo Yanyi Restaurant.

#### **Sudan IV Red Dye (2006)**

- In November 2006 it was reported that eggs found on sale in Beijing contained Sudan IV Red Dye. Farmers fed ducks and hens the cancer-causing Sudan IV to make their egg yolks more orange and to fetch higher prices at market. Sudan IV Red Dye is more poisonous than the Sudan I Dye which was at the heart of an earlier scandal.<sup>14</sup>

#### **Contaminated Maling Canned Ham (2006)**

- In December 2006, Hong Kong authorities discovered carcinogens known as nitrofurans in canned ham produced by the Shanghai Maling Food Company.<sup>15</sup> Authorities suspected the raw material was contaminated. Maling is one of China's top producers of canned foods.

#### **Potential Carcinogen Used in Frying Oil (2007)**

- In March 2007, Southern Daily reported that KFC restaurants in several cities in Shaanxi province added the oil filtering powder, magnesium tri-silicate, to its frying oil so the oil could be used repeatedly for up to ten days. KFC argued the additive was safe according to United States and international standards, but local experts claimed reusing the oil decreased its nutritional value and had the potential to cause cancer.<sup>16</sup>

#### **Contaminated Pet Food (2007)**

- In May 2007, the General Administration of Quality Supervision, Inspection, and Quarantine (AQSIQ) confirmed that two domestic companies had exported contaminated wheat gluten and rice protein blamed for the deaths of pets in the United States. The Chinese government arrested managers at the two companies. Ingredients such as melamine and cyanuric acid were used to inflate the apparent protein content of the product, so that inexpensive ingredients could pass for more expensive, concentrated vegetable proteins.<sup>17</sup>



## 2. Food Safety and Incidents

### 2.2

### Material Food Safety Incidents since 2003

#### Tainted Milk (2008)

- In September 2008, Sanlu Group issued a recall of baby formula contaminated with melamine. According to figures released, over 294,000 babies became ill and six babies died as a result of drinking tainted formula.<sup>18</sup>
- AQSIQ found several other suppliers, including Mengniu, Yili and Bright Dairy, the nation's three leading milk companies, produced several batches of contaminated milk and milk products.<sup>19</sup>
- Several international food companies, including Lotte, Cadbury, Unilever and Nestlé, recalled products due to melamine contamination.<sup>20 21 22 23</sup>
- In March 2009, eight senior government officials from food quality supervision departments and agriculture ministry were fired or disciplined for supervisory failure in the scandal. The director of AQSIQ, Li Changjiang, also resigned.<sup>24</sup>

#### Contaminated Egg Products (2008)

- In October 2008, certain egg products produced by Hanwei Group were contaminated with melamine in China.<sup>25</sup> Japanese, Singaporean and South Korean authorities' tests on imported egg powder from China found melamine contamination.<sup>26 27</sup>
- Agriculture officials believe adulterated feed given to hens could explain the elevated melamine levels. The government has now started clamping down on melamine sales to food processing companies and manufacturers of animal feed.<sup>28</sup>

#### Contaminated Pork (2009)

- In February 2009, an outbreak linked to banned animal feed additive Clenbuterol harmed at least 70 people in Guangdong Province. Clenbuterol, an asthma medication, is often added to pig feed to produce leaner meat. In mid-March, 15 people were arrested in Guangdong on charges of selling hogs that had been fed clenbuterol.<sup>29</sup>



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# 3. Key Issues Affecting ESG Compliance

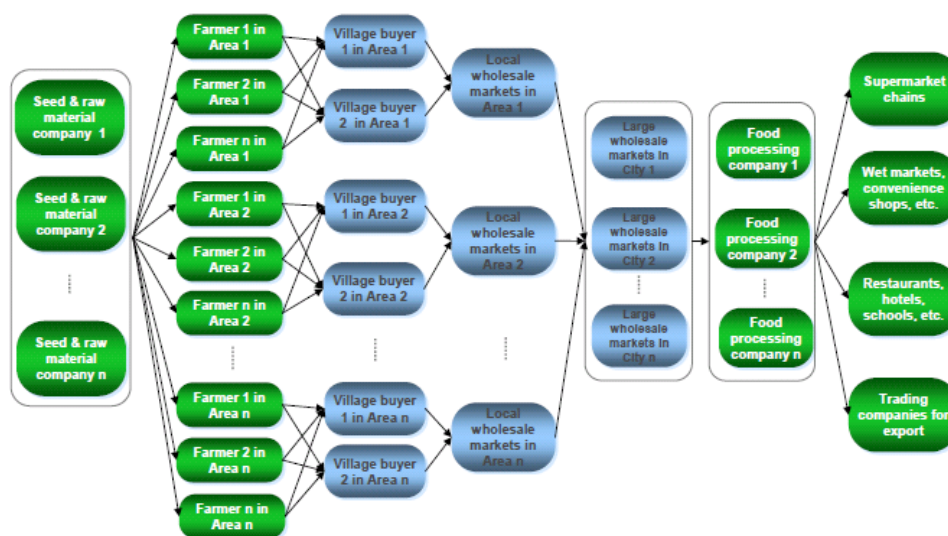
## 3.1 Low industry concentration

China has approximately 500,000 registered food production companies of which nearly 80% are small food workshops with fewer than ten employees. There are also countless small, unregistered operations, often blamed for introducing illegal chemicals and food additives into the food chain. At present, these small workshops pose the most problems for ensuring food quality and safety. Even the Chinese government admitted, in 2006, that the average pass rate in sample surveys of food workshops was only 70%.<sup>30</sup>

Furthermore, China has more than 200 million farmers who ship direct to market with little documentation. They often do not have access to information on the correct usage of pesticides, antibiotics and chemical fertilizers and will normally buy the cheapest inputs available in the marketplace. Given the scattered nature of agricultural production, ensuring the safety of agricultural products will be an arduous and long-term project for the government.

The scattered nature of the production system is the fundamental reason there have been so many food safety incidents in China. In addition, the government has not allocated sufficient funding for meaningful inspection processes at all stages of the food production process.

Figure 2: Fragmented vegetable supply chain in China



Source: Chaoda Modern Agriculture<sup>31</sup>



## 3. Key Issues Affecting ESG Compliance

### 3.2 "Get-Rich-Quick" mentality - 财迷心窍



Some farmers, food producers and government officials do not prioritise professional ethics and they generally lack a sense of social responsibility. Experience has shown that many readily ignore food safety laws if they believe this will lead to short term financial gain. Even the death penalty does not seem to have been a sufficient deterrent in the past.

Local governments are responsible for food safety supervision within their administrative regions. However, local government officials are often under pressure to encourage business activity and earn tax revenues as a result. In addition, many food safety scandals have exposed the often incestuous relationship between local business and local government. Many companies invite local officials to become 'silent partners' in their corporations in return for political 'protection'.

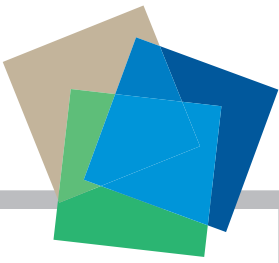
According to an article written in October 2008, mixing melamine into animal feed was an 'open secret' in the industry.<sup>32</sup> When the government finally started clamping down on melamine sales to food processing companies and animal feed manufacturers after the tainted milk scandal, they found more than 500 feed-makers and animal farms engaged in 'illegal or questionable practices'. Some 3,700 tons of feed with excess levels of melamine were seized.

### 3.3 Poor agency coordination

No single agency is responsible for food safety regulation and enforcement in China and coordination among oversight agencies has been poor.

For instance, the tainted milk scandal highlighted loopholes in China's food monitoring system. While the Ministry of Agriculture is responsible for the health of dairy cows, several ministries are involved in getting their milk to consumers, and no department was responsible for the milk collection stations where the melamine was added. In addition, poor communication between ministries and agencies may have prolonged the melamine poisoning outbreak.

China's legislature worked diligently to approve the Food Safety Law in February 2009, providing a legal basis for the government to strengthen food safety control 'from the production line to the dining table.' The new law, effective on June 1st, will create a Beijing-based National Food Safety Commission to coordinate the work of the five ministries that will retain day-to-day supervision over different phases of the food production. These five ministries are outlined below. The Law represents a positive step in that it created a centralized agency with clear duties, enforcement powers and accountability.



# 3. Key Issues Affecting ESG Compliance

## 3.3 Poor Coordination between Agencies

### Ministry of Health

- Coordination between all agencies
- Food safety risk assessment
- Formulation of safety standards
- Release of food safety information
- Determining food inspection requirements
- Determining qualifications for food inspection agencies
- Crisis Management - organizing investigation and handling of major food safety incidents

### Ministry of Agriculture

- Food safety regulations and policies at the farm level

### The General Administration of Quality Supervision, Inspection, and Quarantine (AQSIQ)

- Supervising and administering food safety regulations and policies at production level

### State Administration for Industry and Commerce (SAIC)

- Supervising and administering food safety regulations and policies in transit and storage

### State Food and Drug Administration (SFDA)

- Supervising and administering food safety regulations and policies in the catering industry

## 3.4 Inadequate certification and standards

China uses two sets of compulsory national food standards - one for food hygiene, issued by the Ministry of Health, and the other for food quality, issued by AQSIQ. These two standards sometimes contradict one another, causing confusion among both supervisors and producers. For example, the food quality standards allow the use of the preservative sodium sulphite in processing dried daylilies, while the food hygiene standards do not. In addition to national food standards, China has over 1,000 separate industrial standards.

Some of the existing food standards appear outdated and reflect an under-resourced sector. For example, there are only 291 pesticides residue limits in China's current food hygiene standard, while there are over 2,000 limits in many developed countries.

According to the recently passed Food Safety Law, the Ministry of Health will clean up the current set of food standards to reduce the number of loopholes and contradictions. The Law pays special attention to food additives – an issue that lies at the heart of most food scandals.

Additives will be allowed only if they can be proven both safe and necessary.

In a statement from the Ministry of Health, national unified dairy product safety standards will be announced in the latter half of 2009. These standards will focus on the use of pesticides, veterinary medicine residues and food additives. However, the unification process may be difficult, because it will affect the interests of several government departments.<sup>33</sup>



## 3. Key Issues Affecting ESG Compliance

### 3.5 Inadequate inspection systems

China has a substantial food testing and inspection network. By 2007 there were almost 4,000 certified food testing laboratories, around 50 of which are state-level quality inspection centres, and 35 are key food laboratories. China also has set up over 320 state-level quality inspection centres and almost 1,800 local-level testing institutions specialized in agricultural products.<sup>34</sup>

The government claims that their testing capabilities are relatively advanced. A constant stream of recent food scandals, however, reveals that the government has not yet succeeded as a supervisor. Moreover, we believe some of the official inspections to be meaningless and the official figures to be misleading. For example, during regular inspections in 2008, the Ministry of Agriculture showed that the average acceptance rate was 96.3% for vegetables, 98.6% for livestock products, 94.7% for aquatic products.<sup>34</sup>

A Southern Daily article published in March 2009<sup>35</sup> revealed that hog dealers often purchase genuine quarantine and quality certificates at product origin points, in wholesale markets, and at slaughter houses. This has led to the outbreak linked to clenbuterol laced pork that harmed at least 70 people in Guangdong province. In fact, the pork may have been confirmed as 'acceptable' by the government. The incident underscores the need for improved inspection programs.

### 3.6 Developing Legal System

The new Food Safety Law strengthens penalties to include cancellation of licenses and punitive damages. Companies and individuals can now be held liable for amounts up to 10 times the price of the product. This represents additional liability over and above medical and other damages and criminal liability.



Tian Wenhua, Sanlu's former chairwoman and general manager, stood trial in court on Dec. 31, 2008. She was sentenced to a life jail term and fined almost US\$3m at the Shijiazhuang Municipal Intermediate People's Court.



'More Sanlu, More nutrition'  
Sanlu advertisement



# 3. Key Issues Affecting ESG Compliance

## 3.6 Developing Legal System

The handling of the Sanlu tainted milk case set a good precedent. The courts suspended the civil cases while the government has attempted to create a general settlement between the victims and the dairy industry. Once a settlement agreement was reached, victims had the option of accepting the settlement amount or continuing their court cases. Several individuals were then subjected to criminal prosecution.

Private litigation regarding food issues can span several years, so delaying the court cases until a general settlement was reached was an effective way of dealing with the situation. The time and expense associated with individual claims gives large corporations incentives to stonewall. The legal system could compensate by allowing for huge punitive damages, but that risks turning the system into a lottery.

## 3.7 Degradation of Land and Water

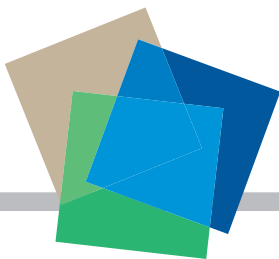
Excessive use of pesticides and fertilizers in farming as well as rampant industrial pollution causes severe degradation of land and water resources. This reduces food quality and introduces heavy metals and other pollutants into the food chain. In a report compiled by the U.S. Department of Agriculture in 2005 only around 6% of agricultural products in China were considered pollution-free, while safer, better quality food officially stamped as 'green' accounted for just 1% of the total.<sup>36</sup>

This issue will be dealt with in later reports.



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## 4. Risks to Earnings

### 4.1 A systemic issue

Food safety issues pose both opportunities and threats to all food companies in China. On one hand, consumers develop strong brand loyalties to products that do not make them sick. They are willing to pay a premium for traits that Western consumers and producers may take for granted, such as meat that is guaranteed to be safe and uncontaminated.

On the other hand, consumers stay away from a brand or even a whole industry that is perceived unsafe and unreliable. For example, in the aftermath of the tainted milk scandal in September 2008, the stock price of soymilk machine producer Jiu Yang (002242 CH) surged, as consumers stopped buying milk and started buying machines to make soymilk at home.

As a group, the listed Chinese food companies under our review scope appear to have the potential to greatly benefit from the situation. They employ highly automated and advanced manufacturing procedures. They are usually awarded various product quality certifications, including HACCP and ISO 9001. If they can stand by iron-clad guarantees, they will be able to enhance their already solid brand name, charge premium prices and seek to and further expand market share in their respective fields.

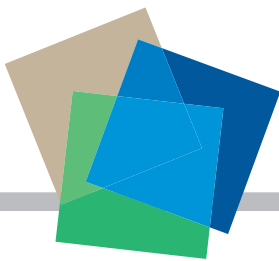
However, these procedures and certifications are hardly foolproof in China, and supply chains are notoriously difficult to control. China Mengniu (2319 HK) has been awarded five international quality control certifications (GMP, HACCP, ISO9001, ISO14001 and OHS18001) and has invested intensively in manufacturing facilities. Yet it was still among those named for having milk powder samples which tested positive for melamine in September 2008. What is also troubling is that on August 4 2008 the two largest shareholders, Yinniu and Jinniu, sold HK\$1.28 billion worth of shares through a placement before the HKSE suspended trading in the company on September 17 2008. When the company resumed trading the share price collapsed from over HK\$20 to below HK\$7.

Chart 1: China Mengniu 1-year share price movement - HK\$



Source: Bloomberg

While decades of market activity and legislation has created solid systems, production and sourcing infrastructures for the global food industry, the process in China has started only recently. For now, companies are relying on the strength of their internal systems and their relationship with suppliers.



## 4. Risks to Earnings

### 4.2 Risk Factors

**The following can substantially increase a company's risk exposure to food safety issues in China.**

#### 1. Fragmented Supply Chain

To ensure product safety and quality, a company needs to know its suppliers well and test thoroughly. However, this could be difficult if a company is the client of a fragmented supply chain and relationships are held with numerous suppliers. Mengniu, for example, sourced fresh milk, its principle raw material, from thousands of milk collection stations who sourced direct from farmers. Each farmer, on average, raises fewer than three dairy cows in China.

Other than Mengniu, companies that face a fragmented supply chain include China Yurun Food (1068 HK) and Little Sheep (968 HK), whose principle raw materials are hogs and sheep respectively. Both are primarily produced by small-scale farming in China. Ajisen China (538 HK) also sources seafood and vegetables that are subject to the same issue.

#### 2. Reliance on Cold Chain Logistics

In China an integrated cold chain simply does not exist. Where the United States has nine refrigerated trucks per 10,000 middle-class consumers, China has just two. As a result, there is no system of refrigerated trucks, warehouses and retail space that can guarantee cool temperatures for meats, milk, fresh juice and similar products. Companies whose main products require refrigeration include Yurun, Mengniu and Little Sheep.

#### 3. Outsourcing or Franchising

If a company outsources or franchises its activities to third parties, independent business decisions made by those third parties are beyond its control. Consequently, required product standards may not be met. Companies that have substantial (over 15%) business outsourced or franchised to third parties include Uni-President (220 HK) and Little Sheep.

#### 4. Human Contact in Product Processing

Potential human errors could add additional risks to processing procedures that are not fully automated. Companies that are exposed to this risk factor include Ajisen China and Little Sheep.

### 4.3 Impact on Fundamentals

Our checks on recent food quality scandals in China indicate such news generally stays in the public spotlight for 3-6 months, during which time demand for relevant products declines, sometimes sharply. Demand seems to gradually recover over 6-12 months as the news fades and consumers rebuild their confidence. Sometimes, however, the impact can be long term and have a material impact on earnings.

China's dairy market was hit hard by the tainted milk scandal in September 2008. Sanlu went bankrupt. Mengniu reported 2008 earnings at a loss of Rmb950mn, implying a loss of Rmb1.6bn since the scandal broke, most of which stemmed primarily from product recalls. Mengniu's sales volume was once down 96% after the breakout of the scandal, according to Xinhua News Agency. From October 2008, demand started to rise on the back of strict quality control measures and aggressive promotion by the company. Mengniu's 1Q09 sales rebounded back to 80% of its pre-scandal level, according to management.



## 4. Risks to Earnings

Tingyi (322 HK)'s share in bottled water market fell from 23% in September 2008 to 20% in December 2008, according to AC Nielsen. This is potentially due to scandals involving its mineralized water product (please refer to tables in Section 5 for more details). The company said that the mineralized water business was profitable before the news appeared, but showed a loss in 4Q08. Tingyi also indicated that it would focus on developing natural mineral water business in the future.

Bright Dairy (600597 CH)'s subsidiary in Zhengzhou Henan province was reported using expired products as raw material for new products in June 2005. Bright's sales revenue outside Shanghai declined over the following 12 months as a result. With the damage to the brand image, as well as competition from aggressive peers, it took Bright around 18 months to get its sales growth back to its pre-scandal level.

### 4.4 Risk Exposure Assessment

We analyzed raw material sourcing, production and certification as well track record of 14 Chinese food companies. Among them, China Mengniu, China Yurun, Ajisen and Little Sheep have high risk exposure to food safety issues, because they hit multiple risk factors we identified earlier in sector 4. Tsingtao Brewery (168 HK), China Resources Enterprise (291 HK), China Agri-Industries (606 HK) and China Green (904 HK) have low risk exposure, as they enjoy the benefits of a relatively high level of concentration of supply chain, a simple recipe with few food additives as well as highly automated production facilities. We would like to stress that the judgment is on their business model more than their management capability.



## 4. Risks to Earnings



Table 1: Risk exposure assessment of 14 listed food companies

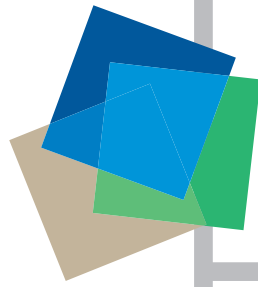
COMPANY NAME	TICKER	PRICE (HK\$)	MKT CAP (US\$ mn)	RISK LEVEL	COMMENT
<b>Food Processor</b>					
China Mengniu	2319 HK	14.84	2,971	High	<ul style="list-style-type: none"> <li>- Sources from over 3,000 milk collection centers and has supply contracts with 3 million dairy farmers</li> <li>- Main risk factors include highly fragmented supply chain and reliance on under-developed cold chain logistics</li> <li>- Mixed response to how it handled the tainted milk scandal</li> </ul>
China Yurun	1068 HK	9.96	1,955	High	<ul style="list-style-type: none"> <li>- Sources from hundreds of hog farmers and distributors, who in turn source from various farms</li> <li>- Main risk factors include highly fragmented supply chain and reliance on under-developed cold chain logistics</li> <li>- Recalled canned meat products with traces of Clenbuterol promptly</li> </ul>
Tingyi	322 HK	9.90	7,091	Medium	<ul style="list-style-type: none"> <li>- Some visibility in supply chain</li> <li>- Prompt media responses to past crisis</li> </ul>
Want Want	151 HK	3.72	6,299	Medium	<ul style="list-style-type: none"> <li>- Similar to Tingyi</li> </ul>
Uni-President	220 HK	3.49	1,611	Medium	<ul style="list-style-type: none"> <li>- Some visibility in supply chain.</li> <li>- Main risk is its partial outsourcing model as nearly 20% of its products manufactured by OEM factories</li> </ul>
China Huiyuan	1886 HK	5.62	1,058	Medium	<ul style="list-style-type: none"> <li>- Similar to Tingyi</li> </ul>
China Foods	506 HK	3.96	1,417	Medium	<ul style="list-style-type: none"> <li>- Similar to Tingyi</li> </ul>
Tsingtao Brewery	168 HK	20.15	4,063	Low	<ul style="list-style-type: none"> <li>- Simple recipe, no additive, high level of concentration of supply chain as well as automated manufacturing facilities</li> <li>- Clean public track record</li> </ul>
CRE	291 HK	15.90	4,870	Low	<ul style="list-style-type: none"> <li>- Similar to Tsingtao</li> </ul>
China Agri-Industries	606 HK	4.35	2,151	Low	<ul style="list-style-type: none"> <li>- Focuses on simple products such as rice, flour, edible oil and malt that have low risk of contamination</li> <li>- Clean public track record</li> </ul>
<b>Restaurant</b>					
Ajisen	538 HK	4.52	619	High	<ul style="list-style-type: none"> <li>- Raw materials with highly fragmented supply chain, such as meats and sea foods, are sourced locally</li> <li>- As a restaurant, the other major risk factor is human contact in processing</li> </ul>
Little Sheep	968 HK	3.36	443	High	<ul style="list-style-type: none"> <li>- Sources from over 5,000 shepherders and generates most of its revenue from franchisees</li> <li>- Main risk factors include franchising, fragmented supply chain, reliance on cold chain logistics and human contact in processing</li> <li>- Clean public track record</li> </ul>
<b>Grower</b>					
Chaoda Modern	682 HK	4.70	1,588	Medium	<ul style="list-style-type: none"> <li>- Vertically integrated production platform, but the company was reported to have sourced from third parties</li> </ul>
China Green	904 HK	6.97	790	Low	<ul style="list-style-type: none"> <li>- Vertically integrated production and processing platform</li> <li>- Clean public track record</li> </ul>

Source: Responsible Research, Bloomberg.

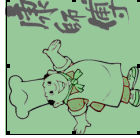

# 5. Case Studies: Listed Chinese Food Companies

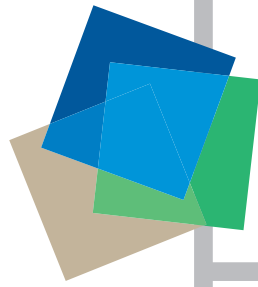


COMPANY INFO	BUSINESS	RAW MATERIALS	SOURCING	PRODUCTION	CERTIFICATION	INCIDENTS AND REACTION
<p><b>China Mengniu Dairy Company Ltd</b></p> <p>2319 HK Market Cap US\$3.0bn <a href="http://www.mengniu.com">www.mengniu.com</a></p>  <p>Est. 1999 Listed HK 2004</p> <p>Founding individuals and employees 22%</p>	<p>One of the leading dairy product manufacturers in China with 'Mengniu' as its core brand</p> <p>Products include liquid milk, yogurt, ice cream, dry milk and cheese</p>	<p>Milk is the principle main raw material.</p>	<p>Established more than 3,000 milk collection stations and entered contract relations with 3 million dairy farmer households</p> <p>Relies on small-scale dairy farmers for over 90% of its production. On average, a farmer raises fewer than three dairy cows in China.</p>	<p>23 production bases with a combined annual production capacity of 5.5 million tons</p> <p>Ultra-high-temperature (UHT) pasteurized milk and milk powder do not require refrigeration while most the rest products do.</p>	<p>Obtained five international quality control certifications – GMP, HACCP, ISO9001, ISO14001 and OHS18001</p>	<p>In September 2008, Mengniu was among those named for having milk powder samples which tested positive for melamine. The company recalled tainted milk powders and apologized to the public.</p> <p>In February 2009, the safety of Osteoblast Milk Protein (OMP) that was used as a food additive in Mengniu's Milk Deluxe was questioned by AQSIQ. The protein is not yet listed as a legal food material under current food safety law yet Mengniu has been using it in the Milk Deluxe products since 2005. The company stopped adding OMP to its milk on February 2nd after a government order, but did not recall products already on the market. Later the Ministry of Health stated that OMP is "not harmful to human health", but the ban on its use stayed in place because the importer had not submitted the necessary paperwork.</p>
<p><b>China Yurun Food Group Ltd</b></p> <p>1068 HK Market Cap US\$2.0bn <a href="http://www.yurun.com.hk">www.yurun.com.hk</a></p>  <p>Listed HK 2005</p> <p>Mr. Zhu Yicai, Chairman and Executive Director 33.2%</p>	<p>One the largest meat suppliers in an extremely fragmented market in China</p> <p>Distributes chilled &amp; frozen meat, as well as manufacturing processed meat products</p> <p>Major brand names include 'Yurun', 'Furun', 'Wangrun' and 'Popular Meat Packing'</p>	<p>Hogs for chilled and frozen pork products</p> <p>Raw meats and additives, such as flavourings and soy protein for the production of processed meat products</p>	<p>Procures its supply of hogs from hundreds of hog farmers and distributors, who in turn source from various farms</p> <p>Procured 38% of its raw meat requirements from third party suppliers and the rest from its own slaughtering houses in 2004</p> <p>Additives are mostly imported.</p>	<p>Production capacity of downstream meat processing and slaughtering segments were 258,000 tons and 18 million head respectively at the end of 2008.</p> <p>Chilled pork must be refrigerated at temperatures in the region of 0 to 48°.</p> <p>Chilled pork also requires the production processes to be performed in a temperature controlled environment.</p>	<p>Most of the facilities had obtained ISO9001 and HACCP certifications.</p>	<p>In January 2005, Qingdao authorities found 1.5 tons of frozen pig tails being sold under the 'Furun' brand which had reached their expiration date (Qingdao Morning Daily).<sup>37</sup> Yurun apologized and blamed the salesman and delivery staff at a newly acquired subsidiary for intentionally selling the spoiled meat to the public.</p> <p>In April 2009, authorities discovered traces of Clenbuterol in a batch of Yurun's canned meat products manufactured by its factory in Fuyang, Anhui. Yurun promptly recalled 115 boxes of these canned meat products and destroyed them in the presence of local authorities.</p>





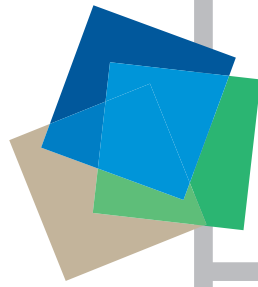
# 5. Case Studies: Listed Chinese Food Companies

COMPANY INFO	BUSINESS	RAW MATERIALS	SOURCING	PRODUCTION	CERTIFICATION	INCIDENTS AND REACTION
<p><b>Tingyi Holding Corp</b> 322 HK Market Cap US\$7.1bn <a href="http://www.tingyi.com">www.tingyi.com</a></p>  <p>Est. 1991 Listed HK 1996</p> <p>Ting Hsin (Cayman Islands) Holding Corp. 36.6% Sanyo Foods Co. Ltd. 33.2%</p>	<p>Production and distribution of instant noodles, beverages and baked goods in China.</p> <p>Market leader in instant noodles, ready-to-drink (RTD) teas and bottled water. Large market share in the fruit juice and sandwich crackers business</p> <p>Best known for its 'Master Kong' brand</p>	<p>Flour, palm oil, dehydrated vegetables, spices and flavourings for instant noodles</p> <p>Sugar, fruit juice concentrate, tea leaves, flavourings and water for beverages</p>	<p>Palm oil, most fruit juice concentrates and flavourings imported</p> <p>The rest are mostly sourced from Chinese producers.</p>	<p>Manufacturing sites in more than 40 cities in China</p> <p>Advanced technological production plants and equipment introduced</p>	<p>All plants have been awarded ISO 9001 certification and Food Safety Management System QS certification. The refrigerated business' facilities are HACCP certified.</p> <p>Suppliers are required to have ISO 9001. Those with HACCP certification are preferred.</p>	<p>In 2005, Shanghai Consumer Protection Committee announced that the lead content in 'Master Kong' instant noodle samples approached 0.5mg/kg, the maximum level allowed. Tingyi clarified that the lead content was 0.454mg/kg in those samples and declared the instant noodles safe. Subsequently, the National Food Inspection Centre also tested samples bought from Shanghai and Beijing, and found the lead level lower than 0.1mg/kg.<sup>38,39</sup></p> <p>In 2008, reports claimed Master Kong mineral water brand was using urban tap water rather than the "high quality water sources" referred to in advertisements.</p> <p>According to China Business View, Tingyi admitted that the mineralized water produced by their Hangzhou factory was indeed purified from tap water, and apologized to the public, saying that the company "didn't make it clear enough and has caused misunderstanding among its customers."</p>
<p><b>Want Want China Holdings Ltd</b> 151 HK Market Cap US\$6.3bn <a href="http://www.want-want.com">www.want-want.com</a></p>  <p>Listed HK 2007</p> <p>Mr. Tsai Eng-Meng, Chairman and CEO 51%</p>	<p>Engaged in the manufacturing, distribution and sale of rice crackers, dairy products and beverages, snack foods and other products</p> <p>The largest maker of rice cakes and flavoured milk in China</p> <p>Best known for its 'Want Want' brand</p>	<p>Rice, Sugar, milk powder, eggs, water and flavourings are its main raw materials.</p>	<p>Rice, sugar and water are sourced from domestic suppliers.</p> <p>Milk powder is mainly sourced from suppliers in New Zealand under annual supply contracts.</p> <p>Raw material procurement is mostly centralized, although certain materials, such as eggs, are ordered by individual factories locally.</p>	<p>Manufactures all of its products and had a total of 31 production bases in operation as of September 2007</p>	<p>Has obtained HACCP and ISO 9000 certifications for the majority of its factories</p>	<p>In June 2008, a batch of milk beverage produced by a subsidiary of Want Want in Shandong was found spoiled, according to the National Food Safety Information Centre. Local Health authorities ordered the batch of products to be removed from supermarkets and other retail outlets.</p>





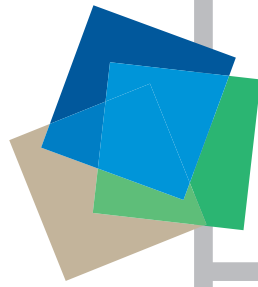
# 5. Case Studies: Listed Chinese Food Companies

COMPANY INFO	BUSINESS	RAW MATERIALS	SOURCING	PRODUCTION	CERTIFICATION	INCIDENTS AND REACTION
<p><b>Uni-President China Holdings Ltd</b></p> <p>220 HK Market Cap US\$1.6bn <a href="http://www.upch.com.cn">www.upch.com.cn</a></p>  <p>Est. 1992 Listed HK 2007</p> <p>Uni-President Enterprises (1216 TW), ultimate holding company</p>	<p>A leading beverage and instant noodles producer in China. Principal products include juice drinks, RTD tea drinks, bottled water and instant noodles.</p> <p>Major brands include "Uni-President" and "More"</p>	<p>Major raw materials are sugar, juice concentrates, tea leaves, flour, flavourings, palm oil and water.</p>	<p>Sources sugar, flour, tea leaves and water within the PRC, palm oil from Malaysia and most of juice concentrates from Brazil</p> <p>Most raw materials are sourced centrally at headquarters.</p>	<p>Had 13 production facilities producing beverage and instant noodle products as of September 2007</p>	<p>All self-owned facilities are awarded ISO 9001 certification, and almost all self-owned facilities have HACCP certification.</p> <p>Had arrangements with 60 independent manufacturing partners. (nearly 20% of its products are manufactured by OEM factories)</p>	<p>In December 2005, the Shanghai Consumer Protection Committee announced that the lead content in 'Uni-President' instant noodle samples approached 0.5mg/kg, the maximum level allowed by the national standard.<sup>38</sup></p> <p>There was also an alleged incident of hazardous soy sauce being sold by Uni-President in 2001 which contained 3-MCDDP, a controlled carcinogenic food additive, and was withdrawn from sale by the Food Standards Agency in the UK. No public information is currently available on this incident.</p>
<p><b>China Huiyuan Juice Group Ltd</b></p> <p>1886 HK Market Cap US\$1.1bn <a href="http://www.huiyuan.com.cn">www.huiyuan.com.cn</a></p>  <p>Est. 1992 Listed HK 2007</p> <p>Mr. Zhu Xinli, Chairman and Executive Director 41.5%</p> <p>Danone 23%</p>	<p>A leading juice producer in China, holding an estimated 42% share of the pure fruit juice and juice puree market</p> <p>Products include fruit juice and vegetable juice, nectars and juice drinks</p> <p>Main brand is 'Huiyuan'</p>	<p>Juice concentrates, purees and water are the primary raw materials to produce beverages.</p> <p>Other ingredients include sugar, various types of flavourings and vitamins.</p>	<p>The company purchases juice concentrates and purees mainly from its controlling shareholder, as well as from other suppliers in China and overseas.</p> <p>Frozen orange juice, cranberry and grape juice concentrates are usually imported.</p>	<p>Has 20 factories in China</p> <p>Utilizes highly automated modern technologies for the production and packaging process in all production facilities</p>	<p>Obtained various international and domestic quality control certifications, including HACCP, ISO9001 and "Safe Beverage" certification.</p>	<p>In March 2006, Shanghai SFDA announced that a batch of orange juice drinks manufactured by Huiyuan had excessive levels of lead, according to East Morning Daily. Two days later, Shanghai SFDA withdrew its previous claim and said Huiyuan's juice drinks met national standards.</p>





# 5. Case Studies: Listed Chinese Food Companies

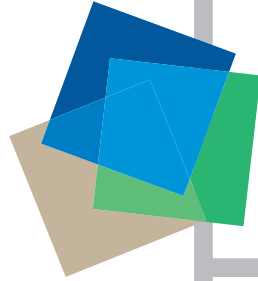
COMPANY INFO	BUSINESS	RAW MATERIALS	SOURCING	PRODUCTION	CERTIFICATION	INCIDENTS AND REACTION
<p><b>China Foods Ltd</b> 506 HK Market Cap US\$ 1.4bn <a href="http://www.cofco.com">www.cofco.com</a></p>  <p>Part of the state-owned COFCO Group</p>	<p>Engaged in the wine, edible oil, beverage and confectionery businesses</p> <p>Main products include 'Great Wall' wines, 'Fortune' edible oil and 'Le Conte' chocolate</p> <p>It also has a joint venture with Coca-Cola.</p>	<p>Grapes for the wine business and bulk edible oil for the edible oil business</p> <p>The main raw materials for chocolate are natural cocoa fat and cocoa bean liquor and New Zealand milk powder.</p>	<p>Most grapes used for its wineries are from contracted or self-owned grape growers located on the Loire region in France and Napa Valley in California.</p> <p>Edible oil is primarily sourced from China Agri-Industrials, a sister company within the COFCO Group.</p>	<p>All products are self-manufactured.</p>	<p>All of China Foods' facilities have been awarded Food Safety Management System QS certification.</p>	<p>In October 2006, Beijing Health Bureau announced that a batch of 'Great Wall' wines failed in bacterial count test.<sup>40</sup></p> <p>In December 2004, the Ministry of Health said that the acid value in tested 'Fortune' salad oil exceeded permitted level.<sup>41</sup></p>
<p><b>Tsingtao Brewery Company Ltd</b> 168 HK Market Cap US\$ 4.1bn <a href="http://www.tsingtao.com.cn">www.tsingtao.com.cn</a></p>  <p>Est. 1903 Listed HK 1993</p> <p>Tsingtao Brewery Group, a state-owned company, parent</p>	<p>Tsingtao Beer, a well-hopped standard pilsner of 4.7% alcohol, is the flagship brew, accounting for most of the brewery's production.</p> <p>The brewery also produces a number of other beers, mostly for the local market.</p>	<p>The main ingredients are water, barley and hops.</p> <p>Tsingtao Beer was long advertised as being "brewed with mineral water from the Laoshan Spring", which contributed to its characteristic flavour; however, this now applies only to beer produced in Qingdao, not to that produced in the company's other breweries.</p>	<p>All barley used for Tsingtao Beer is currently imported from Australia, Canada and France.</p> <p>Hops used are grown in Xinjiang Autonomous Region.</p> <p>All suppliers are required to have HACCP certification.</p>	<p>Owning 51 breweries and one malting plant in 18 provinces and cities all over China.</p> <p>The brewery combines tradition with modernism and advanced technology.</p>	<p>All manufacturing plants have been awarded ISO 9001 certification and HACCP certification.</p>	<p>We are not aware of any confirmed incidents in the past five years although there were reports of the Chinese barley used in the late 1990s being heavily contaminated with pesticides and fertilizers. Barley is now imported from Australia and Canada.</p>





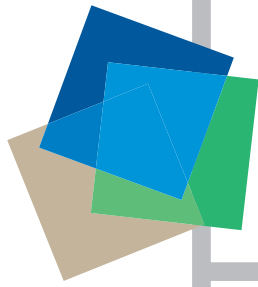
# 5. Case Studies: Listed Chinese Food Companies

COMPANY INFO	BUSINESS	RAW MATERIALS	SOURCING	PRODUCTION	CERTIFICATION	INCIDENTS AND REACTION
<p><b>China Resources Enterprise Ltd</b>            291 HK            Market Cap US\$4.9bn  <a href="http://www.cre.com.hk">www.cre.com.hk</a></p>  <p>Part of the state-owned China Resources National Corporation</p>	<p>A conglomerate focusing on retailing, beverage, food processing and distribution, textiles and real estate in China</p> <p>Also the largest beer producer in China principally under the 'China Resources Snow' brand</p> <p>Ng Fung Hong, the subsidiary engaged in food processing and distribution, is a major supplier of food products to Hong Kong.</p>	<p>The main ingredients for its beer are water, barley and hops.</p>	<p>Water is locally sourced; most of the barley and hops are imported.</p>	<p>Owning over 60 breweries in 19 provinces and regions in China</p>	<p>Most of the plants have ISO9001 and HACCP certifications.</p>	<p>In July 2006, over 90,000 bottles used to produce 'CRE Snow' beer were declared unsafe by an AQSIQ branch in Xining city.</p>
<p><b>China Agri-Industries Holdings Ltd</b>            606 HK            Market Cap US\$2.2bn  <a href="http://www.coifco.com">www.coifco.com</a></p>  <p>Listed HK 2007            Part of the state-owned COFCO Group</p>	<p>A leader in processing and trading of oilseed, rice, wheat and brewing materials</p> <p>It also owns a bio-fuel and biochemical business.</p>	<p>Malting barley, soybeans, paddy and wheat are the primary raw materials.</p>	<p>The company imports all soybeans, and almost all of the malting barley. The rest is sourced from domestic suppliers.</p> <p>The largest five suppliers accounted for over 50% of its total purchases in 2006.</p>	<p>All products are self-manufactured.</p>	<p>All production facilities have ISO9001 certification, and most also have HACCP certification.</p>	<p>We are not aware of any confirmed incidents in the past five years.</p>



# 5. Case Studies: Listed Chinese Food Companies

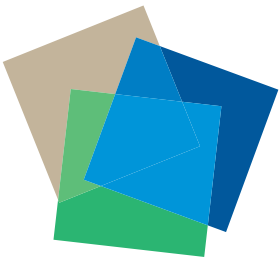


COMPANY INFO	BUSINESS	RAW MATERIALS	SOURCING	PRODUCTION	CERTIFICATION	INCIDENTS AND REACTION
<p><b>Ajisen China Holdings Ltd</b></p> <p>538 HK Market Cap US\$0.6bn <a href="http://www.ajisen.com.hk">www.ajisen.com.hk</a></p>  <p>Listed HK 2007</p> <p>Anmi Holdings, founded by Ms. Poon Wai, Executive Director 51%</p>	<p>A well known restaurant chain in China. The main features of its restaurants are pork rib-based white soup and ramen.</p> <p>There were a total of 270 stores in China as of August 2008.</p> <p>Its franchisor, Shigemitsu Industry, is also its largest supplier.</p>	<p>The main raw materials are white soup base, flour, vegetables and raw meat.</p>	<p>White soup base is supplied by the mainland company set up by Shigemitsu. Wheat flour is also sourced locally. Seafood is purchased from coastal cities.</p> <p>White soup base and flour are sourced centrally. For all other perishable raw materials are sourced by regional offices.</p>	<p>Ajisen owns food manufacturing and processing facilities in Shanghai, Shenzhen, Beijing and Hong Kong.</p> <p>The company manufactures and distributes ramen, prepares white soup condiments as well as cooked and semi-cooked food for all Ajisen chain restaurants, including the sub-franchised ones.</p>	<p>The factories in Shanghai and Shenzhen are ISO9001 and HACCP certified.</p>	<p>In July 2006, SFDA determined the hygiene conditions of an Ajisen restaurant in Super Brand Mall in Shanghai unsatisfactory, according to Food QS Net. The authorities found plates placed on the floor in the cold dish preparation room, and oily plates in the disinfecting cabinet.</p>
<p><b>Little Sheep Group Ltd</b></p> <p>968 HK Market Cap US\$0.4bn <a href="http://www.littlesheep.com">www.littlesheep.com</a></p>  <p>Est. 1999 Listed HK 2008</p> <p>Founding individuals and employees approximately 62%</p> <p>3i 11.3%</p>	<p>A restaurant group which specializes in Mongolian-style hot pot cuisine. Its signature dishes have an aromatic soup base and include Mongolian lamb specialties.</p> <p>Currently the company has over 300 chain restaurants, most of which are franchise restaurants.</p>	<p>Lamb is the principal raw material used in its hot pot cuisine. Raw materials for the soup base include ingredients such as Chinese herbs, vegetable oil, chili peppers and other spices.</p> <p>The rest of the key ingredients include other types of meat, vegetables and fresh food supplies, seasoning and other dry foods.</p>	<p>It purchases free range sheep for its lamb processing facilities from numerous sheepherders' unions in Inner Mongolia which currently negotiate on behalf of over 5,000 sheepherders.</p> <p>The company's policy is to centralize required purchases as much as practicable.</p>	<p>Little Sheep has brought much of the food delivery and processing in-house. It operates two lamb processing facilities in Inner Mongolia and a production facility which produces the hot pot soup base served in its restaurants.</p> <p>Little Sheep also utilizes about 20 third party lamb processing facilities to meet almost half of its supply needs.</p>	<p>The company has got HACCP, ISO9001 and QS certifications.</p>	<p>A small number of customers have experienced allergic reactions to the herbs used in the soup base, according to Little Sheep's prospectus. We are not aware of any other confirmed incidents in the past five years.</p>



## 5. Case Studies: Listed Chinese Food Companies

COMPANY INFO	BUSINESS	RAW MATERIALS	SOURCING	PRODUCTION	CERTIFICATION	INCIDENTS AND REACTION
<p><b>Chaoda Modern Agriculture (Holdings) Ltd</b></p> <p>682 HK Market Cap US\$1.6bn <a href="http://www.chaoda.com.hk">www.chaoda.com.hk</a></p>  <p>Listed HK 2000 Mr. Kwok Ho, Chairman and Executive Director 25%</p>	<p>A vegetable and fruit grower. Approximately 75% of the sales of crops were sold in the domestic market of China and the remaining 25% were for indirect export.</p> <p>Almost 2m tons of fruits and vegetables were grown and sold in FY2008.</p>	<p>Main inputs are soil, water, seeds, fertilizers and pesticides.</p>	<p>All agricultural inputs are domestically sourced</p>	<p>The company has 34 production bases with a cultivated area of more than 90,000 acres, across 15 different provinces and cities in China.</p> <p>The Group is committed to expanding its production bases on a large scale and in geographical diversification.</p>	<p>Regular tests for all agricultural inputs, including soil, water and air are carried out, according to the company.</p>	<p>In August 2006, according to Peoples Daily, Chaoda was accused by a reporter for purchasing vegetables from the wholesale market, and then selling them as self-produced ones at a 57% price premium.</p>
<p><b>China Green Holding Ltd</b></p> <p>904 HK Market Cap US\$0.8bn <a href="http://www.chinese-green.com">www.chinese-green.com</a></p>  <p>Listed HK 2003 Mr. Sun Shaofeng, Chairman and Executive Director 47%</p>	<p>A vertically integrated food producer</p> <p>Its products include fresh vegetables, processed vegetables and branded food and beverage products.</p>	<p>Main inputs are soil, water, seeds, fertilizers and pesticides.</p>	<p>All agricultural inputs are domestically sourced</p> <p>Vegetables and corn, being the principal raw materials for processed vegetables business, are grown by the company.</p>	<p>The company has 40 cultivation bases and 10 processing plants across China as of October 2008.</p> <p>China Green has a vertically integrated production and processing platform, from sowing to harvesting, from sterilization to packaging, from uploading in the factory to delivering at the market.</p>	<p>The company obtained Safe Corp Certificate, Green Food Certificate, and certifications under ISO9001, ISO: 9002 and HACCP.</p>	<p>We are not aware of any confirmed incidents in the past five years.</p>



# 6. Recommended ESG Reporting for the Food Sector in China (Entry level)

## Production Oversight

- Number of suppliers a company works with in total
- Number of domestic suppliers
- Degree of traceability by major raw material type
- Percentage of supply coming from suppliers with current 'quality' certifications
- Percentage of processing facilities that have current 'quality' certifications
- Percentage of production which is outsourced
- Number of incidents of non-compliance with regulations
  - Concerning product
  - Concerning marketing
- Monetary fines for non-compliance with laws and regulations concerning the provision of products

## Environment

- Policy toward genetically modified organisms (GMOs)
- Percentage of raw material that is organic or 'green' (describe industry definition of 'green')
- Measures in place to manage food waste e.g. biomass gasification, food waste digesters
- Volume of water used in production p.a.
- Measures to eliminate hazardous chemicals/pesticides entering water system

## Safety

- Description of food safety systems in place
- Safety auditing procedures
  - Internal processes
  - Logistics and transportation
  - Suppliers
- Crisis management procedure in place
- Product recall procedures in place
- Number of product recalls p.a.

## Customers' Health

- Number of customer food safety complaints p.a.
- Approach to nutrition labeling
- Percentage of products offered that are deemed 'healthy and nutritious choices'
- Approach to reduction of salt, fat, trans-fat, MSG and sugar in products

# Appendix

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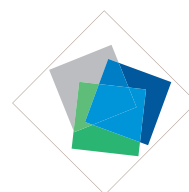
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