



USDA Foreign Agricultural Service

# GAIN Report

Global Agriculture Information Network

Template Version 2.09

Voluntary Report - public distribution

**Date:** 12/29/2005

**GAIN Report Number:** CH5617

## China, Peoples Republic of

### Market Development Reports

## Cold Storage in South China: Keeping US Chilled Exports Competitive in the Chinese Market

### 2005

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**Report Highlights:**

Although China represents a potentially vast market for US agricultural exports, lack of a cold storage infrastructure severely limits market penetration of temperature sensitive products. China's cold chain capacity is only 20 to 30 percent of current demand and spoilage losses range from 16 to 33 percent. The resultant price increase and decline in quality erodes long-term product acceptance and the competitive advantage of US products. China's cold chain is improving though domestic and foreign investment that will help US agricultural exporters tap into a lucrative and growing market.

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Includes PSD Changes: No  
Includes Trade Matrix: No  
Unscheduled Report  
Guangzhou [CH3]  
[CH]

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## Section I: Overview

With a population of 1.3 billion that is growing by 10 million people per year, China represents a potentially vast market for US agricultural exporters. The current per capita GDP is approximately \$1,100 USD and the economy has had a yearly average growth rate of 9 percent. China is one of the world's largest consumers of food. For example China consumes 51 percent of the world's pork, 33 percent of rice, 19 percent of ice cream, 19 percent of poultry and 12 percent of beef. In raw figures China consumes 8.5 million tons of meat per year, 40 million tons of vegetables and over 12.5 million tons of fruit. The food sector accounted for over 25 percent of total consumer expenditure in 2004.

Table 1: China Food Expenditure

	2001	2002	2003	% Change 2002	2003
<b>Urban</b>					
Disposable Income	6,859.60	7,702.80	8,472.20	12.2	9.9
Food Expenditure	2,014.00	2,271.80	2,416.90	12.8	6.3
<b>Rural</b>					
Disposable Income	2,366.40	2,475.60	2,622.20	4.6	5.9
Food Expenditure	830.70	872.40	886.00	1.5	1.6

Source: China Statistical Yearbook 2002, 2003, 2004.

As the table above shows, Chinese people are making more money and spending more money on food. This is particularly true in the urban areas in the south and along the eastern coast. Urban residents spend more money eating out and on expensive high quality foods and processed foods than their rural counterparts. Aside from having more money to spend on food, urban residents also have access to a wider variety of goods as China's infrastructure is currently unable to supply rural areas with expensive processed or imported goods at reasonable prices. Most rural residents still purchase fresh food on a daily basis and make all meals from scratch. Changes in the eating habits of urban residents are having a direct impact on China's cold chain—there has been a general increase in demand in most food sectors, especially fruit, meat and dairy products; a growing demand for quality food products; and a growing demand for convenience.

The increasingly busy lifestyles of urban Chinese in particular have led to an increased demand for convenience foods, such as frozen ready meals. An increasing number of people are finding it difficult to go shopping for food each day, and so more people are now buying foods for use another day, leading to an increased acceptance of frozen food use. Rising average annual incomes has also led to an increased ownership of refrigerators and freezers, which, combined with increased exposure to western and international cuisines and a greater array of goods in the supermarket are all combining to increase sales of frozen foods in China. Supermarket sales are now growing by 30 to 40 percent per year.

US agricultural products are perceived as higher in quality than domestically produced items. US agricultural exports to China continue to rise to meet this demand for quality in several sectors such as dairy, fruit, seafood, poultry and pork products. (Beef exports should also be strong once the BSE--Mad Cow's Disease--ban on imported US beef is lifted) While rising income has led to

an increased demand for quality the Chinese market is still very price sensitive and the bottom line is still the dominant factor in purchasing decisions. China's lack of cold storage and transport has a serious impact on US agricultural exports. Improper handling of cold products leads to a lower quality final delivery. Furthermore, loss along the way from point of entry to final delivery leads to higher prices to make up for losses. Increased price and lower quality is a double-edged sword that erodes the competitiveness of US products while wasting millions of dollars that could be spent on market development funds. Furthermore, the current problems with China's cold chain make it extremely difficult for US products to penetrate the rural market as the cost of shipping is simply too high. If the quality of U.S. products is compromised at the importer or consumer level, it can erode long-term general product acceptance and U.S. exports will lose their competitive advantage.

## Section II: Cold Trade Between USA and China

When considering agricultural trade between USA and China it is important to take Hong Kong into consideration. This is especially important with agricultural goods such as meats, fruits, and vegetables where a high proportion are generally shipped into southern China and trucked north. While seeming to decline in popularity the “gray channel” route of transshipments via Hong Kong is still a preferred choice for some importers. Using the gray channel, goods are first shipped to Hong Kong where they are offloaded and shipped to the border with mainland China for entry. Many importers rely on “transportation” companies to take care of the import license, provide transportation from Hong Kong to the mainland, and to pay all fees including VAT and customs duties. These companies usually charge a flat fee for their services. This also means that the US exporters will not have a direct relationship with the mainland importer. This is not a recommended long-term approach to entry into the China market.

In order to get a better idea of the value of temperature sensitive products shipped to China, one must also look at the data for Hong Kong as the total value of goods that reaches China is generally considered to be higher than that reported between China and the United States alone. Of even greater importance is the issue of inventory tracking. The current cold chain lacks computerized inventory systems making it very difficult to keep track of how long cold products are in storage or transit for. Given that food may be smuggled between Hong Kong and China or even intentionally mislabeled, transshipments through Hong Kong can make tracking difficult or impossible and greatly increase the risk of improper handling. Assuming that China's cold chain continues to improve, US agricultural exporters would be wise to ensure that they ship products intended for China directly to China.

Table 2: Value of US Cold Exports to China and Hong Kong, 2002-2003 (US Dollars)

Product	Country	CY 2002	CY 2003	CY 2004	%Change 2003/2004
Dairy*	China	24,191,196	27,589,480	37,221,764	34.91%
	Hong Kong	7,055,256	5,862,841	6,409,354	9.32%
Seafood	China	109,249,245	169,242,948	243,669,219	43.98%
	Hong Kong	24,606,035	25,962,981	29,663,214	14.25%

Product	Country	CY 2002	CY 2003	CY 2004	%Change 2003/2004
<b>Meat</b>	China	82,086,120	140,441,227	64,733,580	-53.91%
	Hong Kong	339,984,949	308,606,004	156,351,707	-49.34%
<b>Vegetable</b>	China	5,245,955	8,935,228	8,137,919	-8.92%
	Hong Kong	14,531,755	10,090,613	8,936,498	-11.44%
<b>Fruit</b>	China	45,899,665	49,359,167	70,815,039	43.47%
	Hong Kong	223,127,670	220,237,812	183,797,182	-16.55%
<b>Total</b>	<b>China</b>	<b>266,672,181</b>	<b>395,568,050</b>	<b>424,577,521</b>	<b>7.33%</b>
	<b>Hong Kong</b>	<b>609,305,665</b>	<b>570,760,251</b>	<b>385,157,955</b>	<b>-32.52%</b>

\* Does not include dried dairy products.

Source: US Customs Export Data

As the table above shows, exports of key cold items to China was valued at nearly USD \$425 million in 2004. Strong gains are being made in dairy, fruit and seafood products. Further gains should be made in meat products pending resolution of the BSE issue. However, as the table below will show, the value of cold exports to China is actually is higher.

Table 3: Value of China Cold Imports from USA and Hong Kong (US Dollars)

Product	Country	CY 2002	CY 2003	CY 2004	%Change 2003/2004
<b>Dairy*</b>	USA	25,984,620	30,657,011	41,074,773	33.98%
	Hong Kong	655,004	36,453	0	-100.00%
<b>Seafood</b>	USA	104,164,260	132,030,869	242,547,976	83.71%
	Hong Kong	919,116	526,545	847,473	60.95%
<b>Meat</b>	USA	509,570,301	578,394,309	170,586,730	-70.51%
	Hong Kong	0	277,232,969	140,733,112	-49.24%
<b>Vegetables</b>	USA	6,206,358	12,117,737	12,847,043	6.02%
	Hong Kong	3,804	695	216	-68.92%
<b>Fruit</b>	USA	37,307,076	68,324,299	86,460,757	26.54%
	Hong Kong	2,104	42,230	67,851	60.67%
<b>Total</b>	<b>USA</b>	<b>683,232,615</b>	<b>821,524,225</b>	<b>553,517,279</b>	<b>-32.62%</b>
	<b>Hong Kong</b>	<b>1,580,028</b>	<b>277,838,892</b>	<b>141,648,652</b>	<b>-49.02%</b>

\* Does not include dried dairy products.

Source: China Customs Import Data

US export data shows nearly USD 425 million worth of cold products exported to China in 2004 while Chinese import data puts the value at over USD \$550 million. US export Data from table 2 valued cold dairy exports to China at just over USD \$37 million in 2004, while China's import data shows that over USD \$41 million worth of cold dairy products came from the United States.

The discrepancy could be accounted for by the more than USD \$6 million worth of cold dairy products shipped to Hong Kong, a certain portion of which probably ended up in China. Take also for example the data for meat products where there is a discrepancy of over USD \$105 million. Some of this could be accounted for by the over USD \$156 million worth of meat shipped to Hong Kong. While it is difficult to ascertain the true value of US agricultural products sold in China, it is safe to say that the United States exports over USD \$500 million worth of temperature sensitive products to China each year and that this number is likely to increase.

Not only are there direct exports of temperature sensitive products but also US agricultural products that do not require cold storage may be destined for use in processed foods such as ready-made meals that require refrigeration. The inability of the cold chain to handle these types of foods will have a direct impact on US exports of food ingredients products.

Table 4: Hong Kong Import and Export of Cold Goods: USA and China

Product	Country	CY 2002	CY 2003	CY 2004	%Change 2003/2004
<b>Dairy</b>	From USA	9,090,383	6,480,387	7,380,933	13.90%
	To China	86,128,625	43,018,932	50,510,103	17.41%
<b>Seafood</b>	From USA	28,637,527	37,777,015	37,170,851	-1.60%
	To China	81,964,901	75,369,752	62,608,472	-16.93%
<b>Meat</b>	From USA	443,864,083	417,405,581	194,095,084	-53.50%
	To China	648,221,945	681,969,569	295,053,935	-56.74%
<b>Vegetables</b>	From USA	26,419,364	17,732,527	19,953,994	12.53%
	To China	2,288,229	1,602,430	1,748,403	9.11%
<b>Fruit</b>	From USA	236,429,641	240,193,957	222,470,865	-7.38%
	To China	279,287,160	184,232,391	191,182,278	3.77%
<b>Total</b>	<b>From USA</b>	<b>744,440,998</b>	<b>719,589,467</b>	<b>481,071,727</b>	<b>-33.15%</b>
	<b>To China</b>	<b>1,097,890,860</b>	<b>986,193,074</b>	<b>601,103,191</b>	<b>-39.05%</b>

\* Does not include dried dairy products.

Source: Hong Kong Customs Data

### Section III: The Cold Chain in China

In developed countries, food markets are characterized by a network of cold storage warehouses, companies that consolidate food from farms, processors, and other companies and then distribute them to regional and local warehouses, which ultimately deliver foods to retailers and consumers. In China, these crucial intermediary links have not kept pace with consumer demand or productive capacity. Reforms have partially dismantled state-run distribution monopolies, but these necessary reforms left a fragmented system of small traders with limited geographic scope. Producers and retailers have had to piece together delivery network and customers receive small shipments from large numbers of suppliers, with little consistency. Producers must deal

separately with cold storage warehouses and arrange for inter-city and intra-city transport. China's agri-food sector critically depends on the efficiency, commercial orientation, and responsiveness of China's transportation system and intermediaries in the cold chain.

Until China's WTO accession, investment in trading, wholesaling, and distribution has been dominated by state-held institutions and off-limits to foreign investors, with a few exceptions. Markets were carved up along both geographic and jurisdictional grounds, leaving them fragmented and open to manipulation. As time passed, some foreign enterprises were allowed to develop their own systems, but were precluded from exploiting those developed by others. Private entrepreneurs and non-incumbent domestic enterprises have encountered similar obstacles. Still, there is evidence that, when incentives are right, China has the ability to produce and transport high-value perishable products that meet or exceed international standards. Joint ventures with Japanese and Singapore investors, for example, have produced high value fruit, vegetables, juice, poultry and pork products for export to East and South-East Asia. But the incidence of such successes is well below China's potential.

The list of problems in the cold chain is a long one. The system is fragmented and under-funded requiring negotiation with several intermediaries en route resulting in too much loading and unloading of products. There is a lack of refrigeration in storage and in transit, a lack of proper handling procedures at all stages and inadequate humidity control. Communication and IT is still very limited in scope with paper based transactions still the norm at many points. This severely hampers inventory support and tracking. The problem occurs at farms, ports, cold storage and handling facilities, transportation, and wholesale and retail outlets. As temperature-controlled equipment is not always available, food products, in some cases, are simply cooled with bagged ice and covered with a blanket. China now produces such equipment, but incentives in the value chain are not yet sufficient for them to be widely used. Marketers of temperature-sensitive food products also have concerns about excessive loading and unloading under less than ideal conditions, excessive damage potential, and unreliable delivery times. While the cold storage problem seems less severe at the point of entry than at other points along the chain, the problem has widespread ramifications and is not limited to any single link in the chain.

### **Capacity and Standards**

It is estimated that China's cold storage capacity is only 20 to 30 percent of the current, and growing, cargo demand. While approximately 85 percent of temperature sensitive products are handled properly in the US and EU countries, there is only about 20 percent compliance in China. Spoilage losses for fresh fruit products appear to average around 16 percent from point of entry to final delivery. For temperature sensitive products as a whole, spoilage estimates run from 20 percent to as high as 33 percent.

For some commodities such as bulk-frozen beef, pork, and poultry the system manages to get by. This is because frozen goods are easier to handle, as these products can more easily endure temporary breakdowns in the cold chain. Cartons of frozen meat are often off-loaded from imported 40-foot containers and thrown onto the backs of trucks and vans and delivered directly to wet markets where they are immediately sold to restaurants and other consumers for immediate consumption. Chilled meats, dairy products, fruits and vegetables, on the other hand, have short shelf lives and will deteriorate rapidly without efficient handling under controlled conditions

Regarding standards it is safe to say that, regardless of any written laws at the national or provincial level, standards effectively do not exist. When questioned about any national standards for the cold chain, industry insiders reply that there are none and that if they did exist there is no capacity to enforce them. Recently, as will be discussed below, large-scale supermarkets and hypermarkets have begun to enforce their own standards with suppliers.

### **The Bottom Line**

The true dollar value impact of the cold chain on agricultural products is difficult to pin down. Domestically, estimates claim that more than 20 percent of China's annual agricultural production of US\$300 billion is lost due to poor refrigeration in transit. Furthermore, in 2004 estimates claim that China lost US\$8.63 billion in discarded fruit and vegetables alone. Keeping 20 percent as an estimate then that means that over USD \$110 million worth of temperature sensitive US exports are lost each year in China. The cost of this is passed onto the consumer further reducing the competitive edge of American products as consumers may not be able to justify the high price of quality goods.

## **Section IV: Problems Along the Chain**

### **Port of Entry**

China's cold chain is generally considered to be effective through import but not through distribution. Most major ports have facilities to connect refrigerated containers to electricity and some have cold storage on site. However, many ports still lack dedicated cold storage facilities. Even Nan Sha, a brand new port in southern Guangdong province that opened in June, 2005 has no cold storage facilities on site. However, it is anticipated that cold storage will be provided at a new logistics facility nearby. Generally speaking, the problem begins when a cold storage container leaves the port area.

### **Transportation**

While there is refrigerated trucking available, the bulk of trade is in insulated trucks and often in open trucks covered with blankets. Furthermore, drivers of refrigerated trucks will often leave a port area with the refrigeration unit turned on only to stop and turn it off after leaving the port and restarting it just before delivery. Often, for voyages of less than one day the refrigeration unit will not be turned on at all. At the sub-distributor level, final delivery in cities is still often made in vans with no refrigeration or with the air conditioning turn on.

- Refrigerated trucking is available but under-utilized
- Insulated trucks and blankets are the norm
- Refrigeration standards often not followed even when available

### **Cold Storage and Distribution Facilities**

The Da Lou Tan cold storage facility in Guangzhou presents a good example of what one might expect to find in China. The facility boasts 150,000 tons of cold storage across 5 facilities and is a

national pricing center for frozen imports where products are often bid for right on the loading dock. Refrigerated trucks often arrive from nearby ports without the refrigeration turned on. The products are either transferred into the facility itself or directly to other trucks. While the facility itself is cooled, the doors lack any seals and the loading docks are external meaning that some food sits on the leading dock. Few, if any, of the smaller trucks accepting products for onward delivery are refrigerated. Most of the trucks are simply lined with styrofoam insulation or have blankets placed over their cargo.

- Facilities are often converted from other uses
- Material handling systems are limited
- Narrow docks lacking refrigeration and door-seals

### **Processing Plants**

While many processing facilities are modern there are still many smaller facilities that need to be upgraded and modernized. However, it is not simply a question of upgrading the facilities as one of the biggest areas for improvement lies in understanding and following the refrigeration procedures and eliminating cross contamination.

- Variety of ultra-modern and very old plants
- Food safety standards need to be adopted
- Cross-contamination a big problem
- Lack of refrigeration

### **Supermarkets and Wetmarkets**

Wetmarkets do not generally have any cold storage available. However, rapid growth in the retail sector has created a variety of supermarket and hypermarkets chains that are challenging wetmarkets, especially in urban areas. Sanitation, quality, safety and shrink reduction, and variety are becoming priorities for retailers and consumers alike. However, many supermarkets still lack adequate cold storage areas and inadequate inventory systems and logistics means that stores often receive more than 100 small deliveries per day and overloading the system. Furthermore, lack of understanding about cross contamination in cold storage leads to further loss of products.

- Rapid growth of more advanced supermarkets and hypermarkets
- Lack of adequate storage and preparation areas primarily due to over-capacity
- Produce quality tends to be high but opportunities exist for reducing shrink
- Cross contamination must be reduced
- Sanitation and safety standards still vary

### **Information Technology**

The current cold chain lacks efficient computerized inventory systems. While there are some computer systems in place, efficient integration and application to the cold chain has yet to be realized. This makes it very difficult to keep track of how long cold products are in transit for and prevent over-capacity at cold storage facilities. Upgrading to computerized systems will greatly improve the cold chain.

## Section V: Exporting Goods to China

Given that inventory systems for cold products are often antiquated it is difficult to say exactly what happens to an imported temperature sensitive product once it leaves a port facility in China. However, a recent study of fresh produce importers and distributors operating in China gives some idea of what to expect along the cold chain.<sup>1</sup> The focus is not import procedures but on the transit routes and shipment times for imported products entering China. For a detailed description of procedures and guidelines for exporting agricultural products to China please visit the USDA China web site at <http://www.usdachina.org>.

Table 5: Major Chinese Ports by Tonnage (10, 000 tons)

Seaport	1999	2000	2001	2002	2003
Shanghai	18,641	20,440	22,099	26,384	31,621
Ningbo	9,660	11,547	12,852	15,398	18,543
Guangzhou	10,157	11,128	12,823	15,324	17,187
Tianjin	7,298	9,566	11,369	12,906	16,182
Qingdao	7,257	8,636	10,398	12,213	14,090
Dalian	8,505	9,084	10,047	10,851	12,602
Qinhuangdao	8,261	9,743	11,302	11,167	12,562
Total	69,799	80,144	90,890	104,243	122,7

Source: China Statistical Yearbook, 2004

Although Guangzhou is not the busiest port in China, the Pearl River Delta is one of the dominant import zones in China, which, combined with Hong Kong, make it the usual starting place for cold products that generally follow a south to north path within China. Fresh produce is often shipped into Guangzhou and distributed through large wholesale markets such as Jiang Nan Wholesale Fruit and Vegetable Market, while meats often pass through the Da Lo Tan distribution facility. The implication is that items sold in Guangzhou are fresher and cheaper than items sold in northern cities such as Beijing or Shanghai. Imported produce sold in Shanghai is on the road for an average of 17 days after docking in Guangzhou. Furthermore, produce may double in price by the time it reaches its destination owing to tariffs, transport cost, vat, and markups. A box of apples that sells for USD \$20 ex-vessel in Guangzhou will sell for USD \$40 in Shanghai. One way to keep the price down is to skimp on refrigeration. However, more and more companies are importing directly into northern ports including Shanghai, Dalian, and Tianjin. For high value items such as fresh seafood, many in the catering industry still have food flown into China.

Imported fresh produce usually suffers 16 percent shrink from importer, distributor to retailer. Gaps in cold chain are largely to blame. To compensate for shrink, the price is increase at each transfer point to compensate for lost stock.

### Importers

Importers generally consider cold storage to be the responsibility of the wholesaler or distributor. However, when asked, many importers claim that they have their own cold storage facilities and

<sup>1</sup>Produce Marketing Association, "China: Opportunities for Fresh Produce Suppliers" 2003

that products are transported from port of entry to their facilities in refrigerated trucks. As with all business in China, having good relationships is the key to success and most industry insiders will tell you that the key to successful cold chain is having the right relationships and being able to book cold storage in advance.

The bulk of importers still sell to distributors/wholesalers while a small yet increasing amount are beginning to sell direct to supermarkets and hypermarkets.

- Fresh produce remains in possession of importer on average of 4.4 days.
- Average 4.2 percent shrink.
- Sales go to the following:
  - 79 percent wholesalers/distributors
  - 15 percent hypermarkets
  - 5 percent supermarkets
  - 1 percent other

### **Distributors**

Distributors generally have larger cold storage facilities, although many rent additional space. Many distributors claim that they use refrigerated trucks to transport produce to their own facilities but admit that in cooler months they are not used as much. On the other hand, many distributors admit that they do not transport produce to their buyers in refrigerated trucks. Generally speaking, the bulk of distributors sell to a secondary distributors but many are selling to hypermarkets. In Guangdong, the percentage of distributors who sell to hypermarkets is higher than in other areas.

Distributors average transit times from Guangzhou port to storage facilities:

- Guangdong 2 hours
- Shanghai 30.5 hours
- Beijing 44 hours

Distributors Average Possession Time:

- Guangdong: 2.1 hours
- Shanghai: 7.8 hours
- Beijing: 9.3 hours

Distributors sell to:

- secondary distributors: 49 percent
- hypermarkets: 30 percent
- supermarkets: 6 percent
- wetmarkets: 10 percent
- foodservice outlet: 4 percent
- others: 1 percent

## Retail Outlook

Most retailers still get the bulk of their products from primary or secondary distributors. However, as the number of supermarkets and hypermarkets continues to increase this model may change as larger retailers consolidate importing and distribution. Most retailers say that the average delivery time from a supplier to their facility is just under 2 hours and while the number who say they receive deliveries in refrigerated trucks is growing, many claim that deliveries are still made in non-refrigerated trucks.

Retailers get their produce from:

- primary distributors: 66 percent
- Second distributors or wholesalers: 23 percent
- grower-exporter: 5 percent
- other: 6 percent

## Section VI: Solutions and Trends

After China enters the WTO, restrictions in the area of retail distribution will be gradually removed. Foreign companies will be allowed to participate in the forms of agency, distribution and chain operation. It is predicted that innovative sales promotions and discounts by foreign operators will attract considerable attention from customers. Also, the more competitive environment in the major cities will drive the multiple grocers to expand to smaller cities, the Western regions and rural areas. Increased investment, competition and foreign involvement should lead to a corresponding improvement in the cold chain. Many large western-style hypermarket chains have already started importing fresh food products on their own account including Carrefour, Wal-Mart, Metro, McDonald's, Yum Foods KFC, and Pizza Hut have contracted with cold storage companies and have established sophisticated supply chains for their products.

### Increased investment in CS equipment

Aside from knowledge of food safety standards, increased investment is the single most important factor in improving the cold chain. Fortunately, there are indications that investment in many points along the cold chain is increasing rapidly. For example, the Zhuhai Maoda Vehicle Co. in Guangdong is scheduled to begin yearly production of 50,000 refrigerated trucks in 2005 through a joint venture with Japan. Dalian Sanyo Cold Chain Co is a joint venture set up by Sanyo Electric and Dalian Bingshan Group that, specializes in developing and manufacturing supermarket showcases, freezing and cooling storage facilities and, refrigerated-warehouse blowers.

### Supermarkets Replacing Wetmarkets

Supermarkets are spreading quickly and in some cases replacing wet markets. In 2003 an explicit program was launched to convert wetmarkets to supermarkets through an auction system. Although this trend is largely limited to cities, up to 49 percent of consumers now buy fresh vegetables at supermarkets that are more likely to have controlled atmospheres than wetmarkets.

## **Direct Sales Increasing**

New markets for direct sales to supermarkets are opening up. In Guangzhou and Shanghai especially, many importers are selling direct to supermarkets and some port facilities, such as Tianjin are upgrading facilities to allow storage and direct transport to supermarkets. Distributors are increasingly selling to supermarkets instead of secondary distributors thus reducing the number of links in the chain and the average transit time.

## **Big Chains And Central Distribution**

Big supermarket chains and multinationals are centralizing their logistics. Increasingly these companies have large centralized warehouses and handle their own distribution to retail outlets. This allows them to tighten their control over food safety standards and inventory tracking. Typically, products that are easily stored such as processed items are first centralized with fresh foods following later. Metro has its own distribution centers and trucking fleet to supply as far west as Chongqing and Xi'an. However, it is still prohibitively expensive to ship certain items over great distance. A little bucket of ice cream can cost 15 dollars in the west.

## **Development of Trucking Fleets**

Problems with rail transport have caused many foreign and indigenous ventures to develop their own trucking fleets. China's third-party trucking industry is also growing rapidly – in response to the competitive market demands and China's integration into international trade. Several large international shipping and logistics companies are now making inroads into China's distribution system, in some cases providing controlled temperature trucking services. But, for the most part, such services are still in short supply and dominated by domestic firms with jurisdictional monopolies

## **Shift towards private standards**

Lacking government guidelines and regulations many firms, especially larger retailers, have adopted private standards and testing procedures which are used with preferred suppliers. In order to maintain a preferred status distributors must adhere to the retailers standards. Restaurants have also implemented their own inspection procedures that motivate distributors to improve

## **Competition**

Distribution of all agricultural products in China is changing rapidly from an old informal systems dominated by Hong Kong and Chinese entrepreneurs to a more open and formal systems open to western ideas, capital and management. The distribution industry in China is now very competitive and now that there are an increasing number of alternatives, recipients are now more likely to reject deliveries they are dissatisfied with.

## **FAS Programs and Opportunities**

The USDA and FAS are constantly seeking ways to improve the cold chain in developing countries. Currently, USDA/FAS has implemented the Global Cold Chain Improvement Project that is operating in many nations, including China. For more information, contact the relevant ATO office listed in section VII or consult the following article:

<http://www.fas.usda.gov/info/agexporter/2002/April/page04-05.pdf>

The US Meat Export Federation (USMEF) has also launched a cold chain project in China. The USMEF-managed cold chain project is funded through the USDA Foreign Agricultural Service Market Access Program Global Based Initiative.

### **Section VII: Post Contact and Further Information**

For further information, please contact the appropriate ATO office. FAS/China has ATOs in Beijing, Shanghai and Guangzhou. E-mail and fax numbers are as follows:

ATO Beijing:                   ATOBeijing@usda.gov, (8610) 8529-9962

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Further information is also available on the USDA China website at <http://www.usdachina.org>.