

# Shipping Containerized U.S. Agricultural Products to the Philippines



Map of Philippines

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## **Shipping Containerized U.S. Agricultural Products to the Philippines**

The Philippines has a long history as a maritime nation and continues this interest through the further development of its port infrastructure, terminals, ships, and maritime workforce. The Philippine Port Authority (PPA) has traditionally maintained a close hold on all port development and operations. Recently, however, the PPA has allowed ports and private-sector investors much more freedom to develop and operate larger, international ports. The Asian financial crisis has delayed a new \$41 million berth in Manila, but the PPA looks forward to completing its master plan, which includes the development of 10 international-scale ports, as well as new intermodal services, among the many islands which comprise the Philippines.

From the perspective of the U.S. agricultural exporter and the Philippine importer, the ocean liner industry, composed of shipping lines like Sea-Land, Maersk, and American President Lines, is a vital link between U.S. farms and the Philippine consumer. Understanding which shipping firms are doing the majority of the business, how perishable products move through Asia to the Philippines, how shipping firms price their services, and what can be done to maintain product quality while lowering shipping costs are essential to establishing long-term, profitable marketing operations.

U.S. agricultural producers employ the latest "cold chain" technologies to ensure a product can sustain shipments to far distant overseas markets. Philippine importers can increase profits and ensure continued sales by delivering top quality products at reasonable costs.

### **Major Agricultural Commodities in U.S. to Philippine Liner Trades**

Table 1 lists the top 10 agricultural commodities shipped in containers from the United States to the Philippines during 1997 and 1998. Total shipments of containerized agricultural commodities for 1997 were 27,318 20-foot equivalent units (TEU), a standard measure used in ocean shipping. In 1998, a total of 17,686 TEU's of agricultural goods reached the Philippines, a significant decrease from 1997. A 20-foot container generally weighs between 9 and 15 tons, depending on the commodity.

Fruits, mainly apples, pears, and grapes, by far the major commodity imported into the Philippines in 1997, registered a decline of almost 50 percent in 1998. Vegetables, mainly frozen potatoes, showed only a slight decline. Generally, perishable products, which include vegetables, oranges, dairy products, and fruit, comprised 5,617 TEU's in 1998, or 31 percent of containerized movements into the Philippines from the United States. Soups, pastes, sauces, cotton, fish, and grain products were other predominant products imported by container. Bulk grains, both for animal and human consumption,

are generally shipped on bulk vessels, but a good percentage are also shipped in containers. The container allows for transit to more remote locations where bulk transport, handling, and storage are not generally available.

**Table 1: Top 10 Agricultural Commodities, 1997 and 1998**

| <b>Rank</b> | <b>Commodity (12 mo.)<br/>(Jan.-Dec. 1997)</b> | <b>TEU*</b>   | <b>% of<br/>total</b> | <b>Commodity (12 mo.)<br/>(Jan.-Dec. 1998)</b> | <b>TEU*</b>   | <b>% of<br/>total</b> |
|-------------|--|---------------|-----------------------|--|---------------|-----------------------|
| <b>1</b>    | Fruit (apples, grapes)                         | 5,535         | 20%                   | Vegetables (frozen potatoes)                   | 2,859         | 16%                   |
| <b>2</b>    | Pastes, sauces, soups                          | 4,441         | 16%                   | Pastes, sauces, soups                          | 2,295         | 13%                   |
| <b>3</b>    | Vegetables (frozen potatoes)                   | 3,230         | 12%                   | Fruit (apples, grapes)                         | 2,279         | 13%                   |
| <b>4</b>    | Cotton, fabric                                 | 1,889         | 7%                    | Cotton, fabric                                 | 1,628         | 9%                    |
| <b>5</b>    | Dairy products (+eggs)                         | 1,351         | 5%                    | Animal feed, hay                               | 1,628         | 9%                    |
| <b>6</b>    | Animal feed, hay                               | 1,318         | 5%                    | Dairy products (+eggs)                         | 1,183         | 7%                    |
| <b>7</b>    | Candy, jam, jelly <sup>4</sup>                 | 1,278         | 5%                    | Frozen fish                                    | 863           | 5%                    |
| <b>8</b>    | Oranges, pulp                                  | 976           | 4%                    | Fish meal                                      | 599           | 3%                    |
| <b>9</b>    | Nonalcoholic beverages                         | 782           | 3%                    | Candy, jam, jelly                              | 558           | 3%                    |
| <b>10</b>   | Starch   | 638           | 2%                    | Oranges, pulp                                  | 479           | 3%                    |
|             | Other ag commodities                           | 6,060         | 22%                   | Other ag commodities                           | 3,497         | 20%                   |
|             | <b>Total</b>                                   | <b>27,318</b> | <b>100%</b>           | <b>Total</b>                                   | <b>17,868</b> | <b>100%</b>           |

*\*TEU is 20-foot equivalent container units. Both 20-foot and 40-foot containers are regularly used in the U.S.- Philippine trades. (Source: PIERS, Journal of Commerce, New York)*

### **Market Prospects**

The Philippines continues to be the largest market in Southeast Asia and the 15th largest market for U.S. agricultural products with exports amounting to \$740 million in calendar year (CY) 1998. This represents an 18-percent drop from CY 1997, which is not bad in the face of a 40-percent currency devaluation and a regional economic crisis. But the good news is that the Philippines is leading the Association of Southeast Asian Nations in recovering from the 1997 economic crisis, and imports are already posting strong gains this year. It is interesting to note that for the first 5 months of 1999, compared to the same period in 1998, imports of consumer-oriented products have registered a 73-percent increase while fish and seafood products posted a 96-percent increase. Exports of snack foods, dairy products, and processed fruits and vegetables, which account for over 61 percent of total consumer-ready products, are expected to remain strong. In addition, significant increases in the export of poultry meat, fruit and vegetable juices, breakfast cereals and pancake mixes, and eggs and egg products are also noted.

The Philippine economy is expected to post moderate growth this year. Moreover, the Peso has strengthened and appears to have stabilized, which is expected to sustain further increases in imports, particularly of consumer-oriented products.

## Major Shipping Lines in the U.S.-to-Philippine Trades

A major advantage of the ocean container shipping market is the degree of competition which exists. Competition among shipping lines tends to drive shipping rates down and increase services. Policies of the Governments of the Philippines and the United States encourage worldwide shipping lines to call at each nation's ports, allowing shippers a wide range of shipping services and more frequent service. Table 2 lists the top 10 shipping lines serving the U.S.-Philippines trades in 1997 and 1998.

| Rank | Shipping line (12 mo.) (Jan.-Dec. 1997) | TEU*          | % mkt share | Shipping line (12 mo.) (Jan.-Dec. 1998) | TEU*          | % mkt share |
|------|---|---------------|-------------|---|---------------|-------------|
| 1    | APL                                     | 3,906         | 14%         | APL                                     | 2,188         | 12%         |
| 2    | Hanjin                                  | 3,132         | 11%         | Sea-Land                                | 1,996         | 11%         |
| 3    | OOCL                                    | 2,831         | 10%         | Hanjin                                  | 1,678         | 9%          |
| 4    | Sea-Land                                | 2,435         | 9%          | Evergreen                               | 1,649         | 9%          |
| 5    | Hyundai                                 | 2,357         | 9%          | OOCL                                    | 1,485         | 8%          |
| 6    | Evergreen                               | 2,150         | 8%          | Maersk                                  | 1,465         | 8%          |
| 7    | Maersk                                  | 2,118         | 8%          | Hyundai                                 | 1,324         | 7%          |
| 8    | Madrigal                                | 1,683         | 6%          | Mitsui OSK                              | 1,002         | 6%          |
| 9    | Mitsui OSK                              | 1,482         | 5%          | K Line                                  | 913           | 5%          |
| 10   | COSCO                                   | 1,207         | 4%          | NYK Line                                | 905           | 5%          |
|      | Other                                   | 4,017         | 15%         | Other                                   | 3,263         | 18%         |
|      | <b>Total</b>                            | <b>27,318</b> | <b>100%</b> | <b>Total</b>                            | <b>27,318</b> | <b>100%</b> |

\* TEU is 20-foot equivalent container units.

Because carriers sometimes specialize in services (refrigerated containers versus nonrefrigerated or dry containers) or commodities (Some carriers have contracts with major shippers of cotton or other products.), the ranking of top shipping lines is likely to change from year to year due to changes in the types of products imported. Carriers with a large market share for refrigerated shipments to the Philippines are Hyundai, APL, Maersk, and Sea-Land.

On May 1, 1999, new U.S. regulations concerning all ocean shipping companies which call on U.S. ports took effect. Probably the most dramatic event has been the demise of ocean shipping cartels, notably the Transpacific Westbound Rate Agreement, which dominated pricing in the U.S.-to- Asia trades. Ocean carriers are still allowed to meet and discuss rate levels and capacity in the trades, but the cartels are much less disciplined, and carriers do not necessarily have to maintain standard rate levels. These

changes have largely been brought about by newer, more liberal confidential contracting arrangements, which are now possible between shippers and ocean carriers. Industry officials believe that 80 to 90 percent of all container movements will eventually move under contract. U.S. exporters and Philippine importers should explore establishing contractual shipping services with one or several carriers as a way of reducing rates or setting service standards. Shipper associations, whether for import or export, are being formed to pool container volumes and enhance shipper bargaining power when negotiating with carriers.

### **Major U.S.-to-Philippine Shipping Routes**

About 96 percent of the containers shipped (primarily) from U.S. West Coast ports must be transshipped through other Asian ports before arrival in the Philippines. Only about 4 percent of cargoes reached the Philippines directly in 1998, down from 15 percent in 1996. Insufficient port depth and handling equipment and the lack of sufficient Philippine-bound cargoes per ship are the two primary reasons ocean liner companies prefer to transfer containers into smaller vessels from the larger (4,000 to 6,000 TEU) vessels which regularly leave the United States. Philippine-owned Madrigal Lines is the only international shipping company which calls on Manila directly from the United States.

Table 3 lists the major transshipment points in years 1996, 1997, and 1998. For each year, Kaohsiung, Taiwan, has handled the majority of containers destined for the Philippines. Hong Kong and Singapore handled 18 percent and 9 percent, respectively, in CY 1998. Manila received 4 percent of cargoes directly from the United States.

| <b>Rank</b> | <b>1996</b>           | <b>1997</b>          | <b>1998</b>          |
|-------------|-----------------------|----------------------|----------------------|
| <b>1</b>    | Kaohsiung (54%)       | Kaohsiung (48%)      | Kaohsiung (56%)      |
| <b>2</b>    | Hong Kong (17%)       | Hong Kong (27%)      | Hong Kong (18%)      |
| <b>3</b>    | Singapore (7%)        | Singapore (6%)       | Singapore (9%)       |
| <b>4</b>    | Other (7%)            | Other (11%)          | Other (13%)          |
|             | Manila [direct] (15%) | Manila [direct] (8%) | Manila [direct] (4%) |
|             | <b>Total (100%)</b>   | <b>Total (100%)</b>  | <b>Total (100%)</b>  |

(Source: PIERS, *Journal of Commerce*, New York)

Table 4 lists the Philippines' receiving ports, with Manila being the main container-receiving port. Manila handles over 92 percent of agricultural cargoes destined for the Philippines. This percentage is consistent with total containers of all commodities, including nonagricultural goods, arriving in the Philippines. Subic Bay/Clark are shown as handling 5 percent of the agricultural cargoes, although the number may be higher as

Subic Bay is considered by some shippers to be within the Port of Manila. Cebu is shown as a receiving port for 2 percent of U.S. cargoes, and the ports of General Santo, Davao, and Cagayan on the southern island of Mindanao receive only 1 percent of shipments directly from the United States.

**Table 4: Major Philippine Receiving Ports: U.S.-Philippine Agricultural Trade**

| Rank | 1996                | 1997                | 1998                 |
|------|---------------------|---------------------|----------------------|
| 1    | Manila (91%)        | Manila (93%)        | Manila (92%)         |
| 2    | Subic Bay (3%)      | Cebu (3%)           | Subic Bay/Clark (5%) |
| 3    | Cebu (3%)           | Subic Bay (2%)      | Cebu (2%)            |
| 4    | Other (3%)          | Other (2%)          | Mindanao Ports (1%)  |
|      | <b>Total (100%)</b> | <b>Total (100%)</b> | <b>Total (100%)</b>  |

(Source: PIERS, *Journal of Commerce*, New York)

### **Philippine International Container Ports**

**Manila:** The port of Manila has two terminals, the newer North Harbor facility designed specifically for containers and the older South Harbor facility, which handles both containers and breakbulk cargoes. International Container Terminals Incorporated (ICTI) operates the North Harbor container-handling operations for all carriers calling at the facility. The 10-year-old, state-of-the-art terminal is a 25-year, build-operate-transfer (BOT) project. The facility has 5 berths at its 1.2 kilometer wharf, 10 container cranes, and several 40-ton straddle cranes. It handles 1 million metric tons per year (Hong Kong handles 12 million metric tons.), 20,000 tons of which are refrigerated products.

More than 160 ships, averaging about 850 to 900 TEU's each, land each month from major Asian ports like Kaohsiung, Hong Kong, Singapore, and Jakarta. A 4,000-TEU vessel is the largest to have ever served the port, but ICTI has installed gantry cranes to handle the largest post-Panamax vessels of 6,000 TEU's. Cranes of sufficient reach were initially installed to forestall replacing cranes when new generations of vessels are built. Over 70 percent of containers arriving in Manila are handled at ICTI, terminal services being more efficient at North Harbor than at the older South Harbor facility. ICTI estimates container-handling efficiency at 25 to 28 containers per hour per crane, above average for container-handling efficiency. The \$140 million new berth planned for ICTI is on hold because of the economic downturn. The facility now handles 20 percent fewer containers than it did a year ago. There is not a refrigerated storage facility at the port, nor is there believed to be a need for one. Batangas, a port 2 hours from Manila in the south of Luzon, is being considered as an international container port.

**Cebu:** The PPA relinquished control of all national ports to local authorities 3 years ago, and the Cebu Port Authority (CPA) was formed. It receives no subsidies from the

national government and operates for profit, although regional development is the primary objective. Oriental/Allied Container Terminal Services is contracted to provide container-handling services at the port.

The port has one kilometer of berth space and 10 hectares of container-storage space. The port has two gantry cranes and ten yard cranes, all purchased in 1996. Crane efficiency is estimated to be 25 containers per crane per hour. All containers, normally of 20-foot length, are lifted on and off; there is no roll-on/roll-off service. Cebu port normally handles ships with 300- to 400-TEU capacity and cannot handle any larger because of 9-meter draft limitations. The port would like to expand berth space and increase draft to 10 meters.

There is no cold storage facility in the port area but there are several adjacent to the port. Cebu officials believe they have enough refrigerated capacity for now but expect growth in refrigerated trade.

Cebu receives feeder vessels directly from Kaohsiung, which carry containers that have been transshipped from the United States. These shipments are cheaper than if the containers arrived in Manila first and were then transshipped to Cebu. The port also receives containers directly from Australia, which are transshipped through Singapore. A Singapore firm would like to open a new port terminal, but CPA will allow this only if the new port generates new volumes to support the additional terminal.

Ports of interest in Mindanao are General Santos and Davao in the south and Cagayan de Oro in the north. These ports receive very little traffic directly from Asia. Almost all traffic to and from Mindanao is transshipped through Cebu. A new Panamax-size port is being planned near the port of Cagayan de Oro in northern Mindanao. The future port will be designed to handle international container traffic.

### **Interisland Transportation**

Interisland shipping rates have been deregulated, and carriers can charge what they like. The Philippine government does regulate the price of shipping "socially-important" commodities such as rice but does not interfere with transport pricing of high-end products like fruit.

When imported fruit is transported to other islands, most often two 20-foot refrigerated containers are leased, and the product is transloaded from the arriving 40-foot container. WG&A, Sulpicio, and Negros are the three main Philippine interisland container carriers. Although interisland sea services are deregulated, all three carriers charge the same rates for service. Ships usually have only three plugs to connect refrigeration units to electrical sources, five plugs being the maximum. When more refrigerated containers must be carried, two containers sometimes share the same plug intermittently. A technician usually accompanies the ship to ensure the refrigeration units are operating properly and the correct temperatures are maintained. Vessels carry between 100 and 300 TEU's depending on whether they are dedicated container carriers or

passenger/breakbulk/ container combinations. About half of the vessels in the trade are dedicated to container traffic, primarily carrying dry containers.

It takes about 20 hours to reach Cebu from Manila and 3 days to reach General Santos port in the south of Mindanao. Cagayan de Oro on the north shore of Mindanao also receives containers, which are then trucked around the eastern rim of the island to Davao or General Santos in the south, about a 10-hour trip. A more direct route (4 hours) across the center of the island is avoided because of poor roads and criminal activity in the area.

Most traffic is destined for Cebu, with a small portion going to Mindanao. Carriers offer door-to-door service, preferring to pick up and deliver containers to shippers to minimize damage and retain better control of containers. The rate to Cebu from Manila, a distance of 583 kilometers, is \$750. The rate to Mindanao (Davao) from Manila, a distance of 985 kilometers, is \$1,000. Demurrage starts after 48 hours and is set at 1,200 pesos (\$30.00) per day. From time to time, containers from international lines (e.g., Sea-Land, APL) have restricted container traffic for Mindanao due to damage and risk of nonreturn.

Non-Vessel Owning Common Carrier's (NVOCC), are companies which present themselves to shippers as a "carrier of product," but they actually contract space on a carrier's vessel. An NVOCC often provides agricultural shippers with extra services, the opportunity for more frequent sailings, and leverage in dealing with ocean carriers due to the amount of cargo NVOCC's can supply to any particular ocean carrier.

NVOCC's in the Philippines are very important to agricultural shippers as they own and lease refrigerated containers and provide technical services. Hundreds of refrigerated containers in 10-foot, 20-foot, and 40-foot sizes have been purchased second hand from Japan and other sources. About 80 percent of the containers are the 20-foot size.

Containers headed for Mindanao are often unloaded in Manila, and perishable products are loaded into refrigerated trucks. The trucks (8-ton) travel south to the southern tip of Luzon. Trucks are then ferried across to the island of Samar in the Visayas and onto the island of Leyte by bridge. From Leyte, trucks are ferried to the northern tip of Mindanao and continue to the southern population centers of Davao and General Santos. The trip takes approximately 3 days, covers 850 kilometers, and costs about \$1,000. Sometimes, 1 day is saved using trucks to transport good to Mindanao from Manila versus using interisland vessels.

Often imported fruit is placed in an air-conditioned part of the vessel (crew or passenger section) to keep it cool. Apples can sustain about 24 hours out of refrigeration and grapes about 12 hours, then they noticeably start to lose quality. An estimated 15 percent of perishable items are transported to the south. It is believed the region could experience strong growth if refrigerated transport were available.

Once a refrigerated container arrives at southern islands, the container is plugged in on land and used for storage until it is unloaded. Carriers usually transport frozen processed meats, butter and margarine, apples, and grapes out of Manila and backhaul fish, dressed bacon, and bananas from Cebu and Mindanao.

Maintaining the "cold chain" could be improved by transferring refrigerated product from container to truck or container to container more quickly. Hand labor is currently used, and the process usually takes about 3 hours to complete. Fork lifts could accomplish the transfer much more quickly, but they are not purchased as hand labor is cheap at about \$5.00 per day per person.

### **Internal Distribution Methods**

**Imported Products:** In Manila, carriers almost always receive a listing of the containers on board a feeder vessel well in advance of the vessel's arrival, and the consignee is notified of the time the container will be ready for pickup. When refrigerated containers arrive at port, they are plugged into electrical receptacles. The container is unplugged from the electrical outlet 1 hour before it is to be picked up for delivery in Manila. Containers usually reach cold storage warehouses 3-4 hours from the time they are picked up at the port. A refrigerated container will normally maintain its set temperature 6 hours, so a generator set is not used for delivery. Ocean carriers report few claims because of improperly shipped or stored perishables.

Refrigerated warehouses are generally near the port. Most commonly, the container is trucked to a refrigerated warehouse, but another method is to unload directly into small, unrefrigerated trucks at the port. Charges to the consignee for electricity for the refrigeration unit start on the first day, but 3 days are allowed before demurrage charges are assessed for storage at port.

Local distribution is a mix of refrigerated trucks and nonrefrigerated trucks. Shippers constantly weigh using the more expensive and less available refrigerated trucks if a nonrefrigerated truck will work. Length of haul, traffic, time of day, temperature, and sensitivity of the product are all factors entering into the decision.

Shippers normally employ 8-ton refrigerated trucks to distribute around Manila. The trucks cost about \$30,000, approximately the same as in the United States. Also used are 2-ton refrigerated trucks with a 10-foot box for intercity deliveries. The smaller size is preferred because larger trucks (6-wheeled) are prohibited from distributing around Manila during the hours of 6:00-9:00 a.m. and 6:00-9:00 p.m.

**Domestic Production:** Fruits and vegetables sourced in Baguio, 195 kilometers from Manila in northern Luzon, are transported in nonrefrigerated trucks. The trip, normally accomplished at night when it is cooler, takes 6-7 hours, 5 hours minimum (average speed is about 20 miles per hour). Trucks are often stopped by police looking for contraband.

Losses are high, often making imported products cheaper than local production. It is estimated that almost 50 percent of the produce spoils before it is consumed. For domestic meats, 80 percent of beef, hog, and poultry production is performed on small farms and brought to wet markets for sale. Refrigeration is seldom used either for transport or storage as the meat is consumed within a few days.

## The Cost of Importing Into the Philippines

In tables 5 and 6, the rates charged by ocean carriers serving selected Asian ports are compared for both apples and grapes. As mentioned previously, the Philippines' dependence on transshipment from other countries can add extra costs and increase transit times relative to other Asian ports. However, competition and other factors have decreased apple rates into the Philippines by 21 percent, or by \$677, since July 1988. Apple shipments into Hong Kong are 4 percent higher than shipments to the Philippines but 2 percent cheaper into Taiwan than the Philippines. This may explain why Taiwan has picked up a considerable amount of transshipment business at the expense of Hong Kong.

| Country         | Apple rate April 1999* | \$ Difference Philippine rate | % Difference Philippine rate | Approx. distance (st. miles) | Cost per mile |
|-----------------|------------------------|-------------------------------|------------------------------|------------------------------|---------------|
| Taiwan          | \$2,469                | (-) \$65                      | (-) 2%                       | 5,323                        | \$0.46        |
| Hong Kong       | \$2,627                | (+) \$93                      | (+) 4%                       | 5,634                        | \$0.47        |
| The Philippines | \$2,534                | -----                         | -----                        | 5,777                        | \$0.44        |
| Singapore       | \$3,064                | (+) \$530                     | (+) 21%                      | 7,013                        | \$0.44        |
| Thailand        | \$2,987                | (+) \$453                     | (+) 18%                      | 6,472                        | \$0.46        |

\* Weighted average for one 40-foot container by market share of all carriers serving trade lane for this commodity based on tariffs filed at the U.S. Federal Maritime Commission, April 15, 1999.

Because some of the ports differ considerably in distance from the United States, the rates to destinations selected were divided by the statute miles to compute a "cost per mile" figure for a representative container of apples. Discounting distance in this way, costs to the Philippines were the lowest in the region at \$0.44 cents.

In the case of grape shipments from Los Angeles/Long Beach to Hong Kong, it is evident that something of a "price war" is occurring. Rates for grapes are almost always higher than for apples, sometimes almost twice as much. Carriers usually practice "value of service" pricing, meaning they charge what the traffic can bear. Since grapes are more valuable (per container) than apples and more perishable, ocean carriers know they can charge more and do. The costs to the ocean carrier are no more for carrying apples than grapes; i.e., same ship, same type of container. Overall, rates into Manilla are lower than into all other ports, with the exception of Hong Kong, of course.

| Country | Grape rate | \$ Difference Philippine | % Difference | Approx. distance | Cost per |
|---------|------------|--------------------------|--------------|------------------|----------|
|---------|------------|--------------------------|--------------|------------------|----------|

|                        | <b>April 1999*</b> | <b>rate</b> | <b>Philippine rate</b> | <b>(st. miles)</b> | <b>mile</b> |
|------------------------|--------------------|-------------|------------------------|--------------------|-------------|
| <b>Taiwan</b>          | \$3,156            | (+) \$14    | (+) 0.4%               | 5,323              | \$0.59      |
| <b>Hong Kong</b>       | \$1,540            | (-) \$1602  | (-) 51%                | 5,634              | \$0.27      |
| <b>The Philippines</b> | \$3,142            | -----       | -----                  | 5,777              | \$0.54      |
| <b>Singapore</b>       | \$3,386            | (+) \$244   | (+) 8%                 | 7,013              | \$0.48      |
| <b>Thailand</b>        | \$3,531            | (+) \$389   | (+) 12%                | 6,472              | \$0.55      |

\* Weighted average for one 40-foot container by market share of all carriers serving trade lane for this commodity based on tariffs filed at the U.S. Federal Maritime Commission, April 15, 1999.

It should be emphasized that using a cost-per-mile figure has its limitations because a vessel may stop at one or more ports before it arrives at a particular port. Increased volumes of Philippine-bound cargoes will increase the amount of direct service from the United States and lower ocean freight rates. Further development of container facilities will be contingent upon increased volumes.

### **Foreign Competition**

China is the United States' strongest competitor for fresh fruits, mainly bringing in apples both in container and refrigerated vessels. A 40-foot container costs \$1,900-\$2,300 from China to the Philippines, as opposed to about \$2,500 from the U.S. to the Philippines. Transit from China takes approximately 12-14 days, and shipments are normally direct, with no transshipment through any other port. Chinese refrigerated vessels bring 60,000-120,000 cartons at a time into South Harbor for breakbulk unloading. A 40-foot container will hold from 840 to 1,000 cartons.

Beef importers quoted rates of \$3,400 for a 20-foot container (19 tons) of beef from Australia to Manila and \$5,950 for a 40-foot container (24 tons) of beef from France to Manila. Rates from the U.S. West Coast to Manila is about \$4,500 (18 tons) for a 40-foot container of beef.

### **Summary**

This analysis dealt mainly with the ocean carrier industry, which serves the U.S.-Philippine trades, and focused on the "cold chain" as it relates to interisland trade in the Philippines, associated transport costs, and how product quality is maintained until it reaches Philippine consumers. While it is apparent that Philippine importers have a good understanding of the importance of the "cold chain," U.S. efforts to provide technical assistance and information will improve our ability to increase perishable product exports.

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# Map of Thailand

