

The U.S. Rice Export Market

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Abstract: The United States is a leading exporter of high-quality rice in the international market, shipping rough, brown, and milled rice. This article breaks up the United States' rice export market by type of rice exported and describes recent trends within each market. While the United States has lost market share in the combined brown and milled rice market, it is a leading supplier of rough rice, with Latin America accounting for the bulk of shipments. In 1999/2000, rough rice accounted for almost 30 percent of total U.S. rice exports, a near-record share. In contrast, since the mid-1990's, the United States has steadily lost market share in the global milled rice market, primarily to lower cost Asian exporters. The U.S. milled rice market could benefit from recent legislation ending unilateral sanctions on exports of food and medicine to Iran and Cuba.

Keywords: Rice, exports, rough, brown, milled, market share, trade liberalization.

The United States is a leading exporter of rice in the international market, accounting for about 12 percent of global rice trade. The United States currently ranks fourth among major exporters, behind Thailand, Vietnam, and China. In some years India has exported more rice than the United States. More than 40 percent of the U.S. rice crop is exported each year, making the U.S. market sensitive to movements in international prices.

The United States is regarded as a reliable year-round shipper of high-quality rice to numerous and varied markets worldwide. However, the United States has much higher production costs than the major Asian exporters, making the United States uncompetitive in some markets.

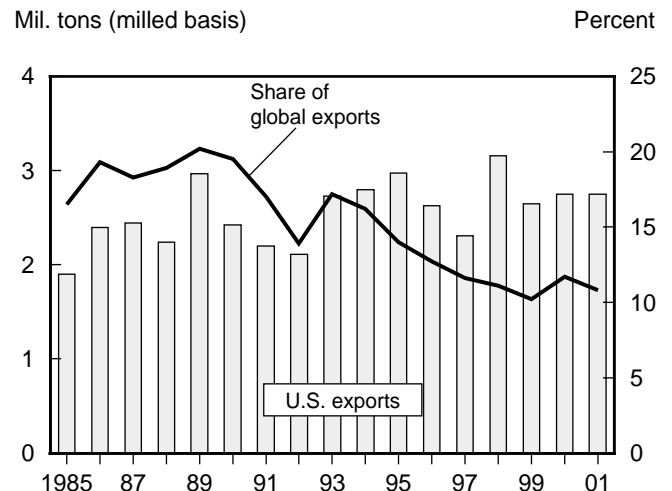
The total volume of U.S. exports ranged from 2.5 million tons to 2.8 million (milled basis) from 1995/96 to 1999/2000. However, this is well below the 1994/95 record of 3.3 million tons. The U.S. Department of Agriculture's (USDA) long-term baseline forecasts project U.S. rice exports to slowly decline over the next decade, a result of rising domestic use, near-steady U.S. production, and strong price competition in the international market.

The United States was the largest exporter of rice most years from the late 1960's through 1980, with Thailand occasionally out-shipping the United States. However, Thailand has been the leading exporter of rice every year since 1981, largely due to expanded area. This made the United States

the second largest exporter. By the mid-1990's, Vietnam had recovered enough from decades of war and political upheavals to become the second largest exporter. The country had returned as an exporter only in the late 1980's after a 30-year absence. In the mid-1990's, India emerged as a major exporter, typically ranking fourth or fifth each year. Declining per capita consumption and several years of bumper crops allowed China to expand exports, making the country the third largest exporter by the late-1990's.

Figure D-1

The U.S. share of global rice exports has declined since 1989



2000 and 2001 projected.

Source: Foreign Agricultural Service, USDA.

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The Global Rice Market Is Stratified by Type and Quality

The global rice market is severely segregated by type and quality, with little substitution among buyers. In fact, tastes and preferences are so strong that prices for various types of rice can move in opposite directions. There is little substitution in production among the various types of rice either, as soil and climate often dictate the type of rice that can economically be grown in any particular area. As a result, global rice prices are typically more volatile than prices for other grains.

There are four types of rice traded globally: indica, japonica, aromatic, and glutinous. *Indica rice* is the dominant type of rice traded worldwide, accounting for almost 80 percent of global trade. Indica rice cooks dry, separate, and fluffy. It is grown mostly in tropical and sub-tropical areas. U.S. southern long and medium grain rices are considered indica. *Japonica rice*, which cooks moist and sticky, accounts for more than 10 percent of global trade and is typically grown in temperate climates. Japonica rice has a more rounded grain than indica. California medium grain rice is a japonica.

Aromatic rices, primarily Thai jasmine and basmati from India and Pakistan, account for almost 10 percent of global trade and sell at a premium to indica and japonica. Aromatic rices are also called fragrant rices. And finally, *glutinous rice* (or sweet rice), grown mostly in Southeast Asia, accounts for almost all of the remainder. Glutinous

rices lose almost all of their shape during cooking and are typically used in ceremonial dishes and in pastes. Like aromatic rices, they sell at a premium to indica and japonica. The bulk of glutinous rice is grown in Southeast Asia. The United States grows a very small amount of glutinous rice, mostly in California.

Thailand, Vietnam, China, the United States, and Pakistan are the primary exporters of indica rice. Argentina, Uruguay, Guyana, Burma, and Surinam export smaller amounts of indica as well. Australia, Egypt, China, the EU and the United States are the primary exporters of japonica rice. Thailand, India, and Pakistan export the bulk of the aromatic rices, with the United States exporting a very small amount. Thailand accounts for most of the glutinous rice traded. In addition, the United States exports a very small amount of glutinous rice, grown mostly in California, to Japan.

Southeast Asia, South Asia, Sub-Saharan Africa, and Latin America are the primary import markets for indica rice. Northeast Asia and the Eastern Mediterranean are the major import markets of japonica rice. Europe, the Middle East, and the United States account for the bulk of basmati imports. China, the United States, Hong Kong, and Singapore are the primary markets for jasmine rice. Southeast Asia and Japan are the major import markets for glutinous rice.

Rice Is Traded in Three Forms: Rough, Brown, and Milled

Rice is traded in three primary forms: fully milled, brown, and rough. Rough rice is rice that has not been milled, thus both the hull and the bran layer remain attached to the kernel. Brown rice is rice that has the hull removed but the bran layer is still attached. Fully milled rice has both the hull and bran layer removed. The more of the bran layer that is removed the greater the degree of milling and typically the higher the price. In addition, the fewer broken kernels, the higher the price.

Milled rice accounts for the bulk of global rice trade, with brown rice ranking second. Very little rough rice is exported, as most countries prefer to capture the value added from the additional processing. In fact, the United States is the only major exporter that ships rough rice. Argentina and Uruguay ship small amounts of long grain rough rice within Latin America. Australia has recently started shipping some medium grain rough rice to Turkey.

In addition, rice can be parboiled, a process whereby rough rice is soaked in water and steamed under intense pressure. Parboiling makes the rice less likely to break during milling and pushes nutrients from the bran layer into the kernel. Parboiled rice typically sells at a premium to non-parboiled rice. Rough, brown, and milled rice can all be exported as parboiled. The major exporters of parboiled rice are Thailand, India, and the United States. The Middle East, Western Europe, and South Africa are the main markets for parboiled rice.

The United States exports rice in all three forms: paddy, brown, and rough. However, since the mid-1990's, only rough rice has shown any sustained growth. This has prevented total U.S. rice exports from dropping substantially in the face of greater global competition in the milled and brown rice markets.

Since 1997/98, rough rice has accounted for almost 30 percent of U.S. rice exports, a record share. While slowly rising since the early 1990's, U.S. rough exports expanded rapidly in the mid-1990's and have exceeded 1.1 million tons a year

since 1997/98. Although the 1997/98 El Niño contributed to greater U.S. rough rice exports, shipments to regular buyers have shown steady growth during the past decade.

Long grain accounts for the bulk of U.S. rough rice exports, with Mexico and Central America the top markets. In addition, when Argentina and Uruguay—who supply most of Brazil's rice imports—have weak crops, the United States typically ships substantial amounts of rough rice to Brazil. And while the Andean region is typically self-sufficient in rice, the United States has exported large quantities of long grain rough rice to Ecuador and Colombia when the region had weak crops.

In contrast to expanding rough rice exports, combined milled and brown U.S. rice exports have declined almost steadily since 1995/96, primarily due to strong competition from Asian exporters. In fact, combined milled and brown U.S. rice exports are projected at just 2.5 million tons (rough basis) in 2000/01, the lowest in at least 15 years. Larger supplies and improved quality in Asian exporting countries, plus greater price competition, are the main factors behind the decline in U.S. milled rice shipments since the mid-1990's. Trade embargoes with Iraq and Iran, once major buyers of U.S. milled rice, accounted for some of the decline in the 1990's.

Unless stated otherwise, U.S. rice exports are reported on a product-weight basis in this article.

The U.S. Rough Rice Export Market

Mexico is the Largest Market For U.S. Rough Rice

Mexico is the largest single-country market for U.S. rough rice. In 1999/2000 Mexico imported a record 450,000 tons of U.S. rough rice, up almost 50 percent from a year earlier. Mexico accounted for nearly 40 percent of total U.S. rough exports in 1999/2000. Low U.S. prices, rising consumption, and stagnant production in Mexico are behind the recent strong growth in U.S. shipments to Mexico. U.S. rough rice exports to Mexico have grown substantially since the late 1980's and have almost doubled since 1994/95.

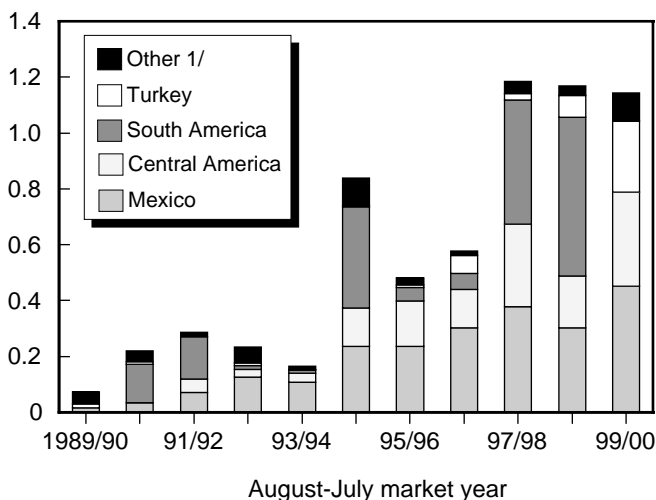
Policy reform in Mexico is a major factor behind the long-term growth in Mexico's rice imports. Market liberalization, which began in the late 1980's, reduced government support for rice production. As a result, Mexico's rice production began a long-term decline. With consumption growing, imports steadily rose.

About 90 percent of U.S. rice exports to Mexico is rough rice. This is due to substantial excess milling capacity in Mexico and lower tariffs for rough than for brown or milled rice imports. The North American Free Trade Agreement, implemented in 1994, will phase out tariffs on all rice from

Figure D-2

Mexico is the largest market for U.S. rough rice exports

Mil. cwt (product-weight)



1/ Primarily the EU.

Source: Bureau of the Census, USDC.

the United States over a 10-year period. It is unclear if Mexico will remain predominately a rough rice market or shift to milled rice once all tariffs are removed.

Mexico ceased to import Asian rice after the early 1990's, a result of phytosanitary restrictions. The United States has supplied the bulk of Mexico's rice imports since 1993, with Argentina and Uruguay accounting for nearly all of the remainder. Even without phytosanitary restrictions, the United States faces lower tariffs and a substantial freight advantage compared with Asian exporters. In addition, the United States has established a viable market for U.S. origin rice with Mexico's consumers.

Central America is a Major Market for U.S. Rough Rice

Central America has become a major market for U.S. long grain rough rice over the past decade. In 1999/2000, Central America imported a record 338,400 tons of U.S. rough rice, more than double imports from the United States in 1996/97 and 10 times the level imported in 1993/94. Market reforms that began in the late 1980's led to a decline in rice plantings in Central America. Expanding consumption outpacing production and more open trade policies have promoted substantial import growth. The United States was quick to expand exports to this growing market.

Like Mexico, the region had excess milling capacity and typically provided lower tariffs for rough than milled rice imports. Phytosanitary restrictions severely limit Asian

imports. However, Argentina and Uruguay have shipped small amounts of rough rice to Central America.

Over the last decade, Costa Rica has been the largest market for U.S. rough rice in Central America, taking more than 100,000 tons in 1997/98, a record. Nicaragua and Honduras are also major buyers and have expanded imports of U.S. rough rice in recent years. Honduras imported 93,000 tons in 1999/2000, a record and nearly three times a year earlier's level. Nicaragua's imports of U.S. rough rice expanded substantially in 1999/2000. The country imported a record 75,000 tons, up from 53,000 a year earlier. In both countries, rice area has declined substantially in recent years, while consumption continues to rise.

Although smaller markets, El Salvador and Guatemala have increased imports of U.S. rough rice in recent years as well. El Salvador imported a record 47,000 tons and Guatemala a record 37,000 tons of U.S. rough rice in 1999/2000. Production has declined in both countries since the mid-1990's. While Panama is a large consumer of rice, the country is nearly self-sufficient in rice. Belize is a very small market for rice.

The 1997/98 El Niño Caused Record South American Imports

While typically not a big market for U.S. rice, *Brazil* has at times imported substantial amounts of U.S. rough rice, a result of poor harvests. In 1998/99, Brazil imported a record 543,000 tons of U.S. rough rice, largely due to El Niño crop damage in the region. With recent bumper crops and duty-free imports available from Argentina and Uruguay, Brazil is currently out of the U.S. market. Brazil, Argentina, Uruguay, and Paraguay are members of MERCUSOR, a regional trading block.

While the *Andean* typically imports little U.S. rice, weak crops in the region caused U.S. exports to rise substantially in some years. In 1997/98, difficulties stemming from El Niño were responsible for record rough rice imports by Ecuador and Colombia, with Colombia taking 290,000 tons and Ecuador 128,000 tons of U.S. rough rice. Regional trading blocks give Venezuela preferences to import markets within the Andean Region.

Italy and Spain are small but steady markets for U.S. long grain rough rice. In fact, the European Union (EU) has purchased small amounts of U.S. rough rice for many years and was the main market for U.S. rough rice prior to market liberalization in Latin America. In 1999/2000, Italy and Spain imported a combined total of 65,000 tons of U.S. rough rice, almost all long grain.

While the bulk of rice production in the European Union is japonica, both Italy and Spain produce some indica rice. Consumption of indica rice has grown faster than for japonica

rice in the EU. U.S. rough rice exports to the EU are largely driven by the indica supply situation in Italy and Spain.

Turkey is the only significant market for U.S. medium grain rough rice. Turkey, the second largest market for U.S. japonica rice after Japan, has shifted from primarily a milled to a rough rice market for the United States since the mid-1990's. In 1999/2000, Turkey imported a record 254,000 tons of U.S. medium grain rough rice, up from 78,000 a year earlier and accounting for more than 90 percent of U.S. rice exports to Turkey.

However, total U.S. exports to Turkey remain well below the 1994/95 record of more than 333,000 tons (product-weight), even as Turkey's total rice imports have risen. The United States faces stiff competition from Australia and Egypt in Turkey. While the United States was once the sole exporter of rough rice to Turkey, since the late 1990's Australia has also exported rough rice to Turkey.

The U.S. Brown Rice Export Market

The EU is the Largest Market For U.S. Brown Rice

The EU is typically the largest market for U.S. brown rice, taking more than 230,000 tons—including parboiled-brown rice—in 1999/2000, and accounting for nearly 60 percent of total U.S. brown rice exports. Nearly all of this rice is long grain and is shipped to northern Europe where it is fully milled. Much of the rice is then re-exported, mostly to other EU countries. The United Kingdom and the Netherlands account for the bulk of EU brown rice imports.

A significant share of U.S. brown rice exports to the EU is parboiled, all long grain from the South. U.S. parboiled exports to the EU have declined substantially in recent years, a result of smaller parboiling capacity in the United States and greater imports of Asian specialty rices.

The major reason the bulk of U.S. exports to the EU is brown rice is that import duties for brown rice are substantially lower than for fully milled rice. This allows the EU to import brown rice, complete the milling in the EU, then ship the milled rice to markets both in and outside the EU. In late October 2000, the import duty on milled long grain rice was 416 EURO per ton compared with 199.5 EURO for brown rice.

In addition to brown rice, the EU imports almost 39,000 tons of U.S. milled rice each year under a tariff-rate quota (TRQ) implemented to compensate exporters for the accession of Finland, Austria, and Sweden into the EU in 1995. In addition to the 39,000 tons of milled rice, about 8,000 tons of U.S. brown rice and around 7,000 tons of broken are imported under the TRQ.

For the past decade the United States has faced increasing competition for the EU market from Asian exporters, especially Thailand and India. These two countries ship primarily aromatic rice to the EU—basmati from India and jasmine from Thailand. Larger production of indica rice in Spain and Italy has limited growth in the EU import market as well. U.S. rice exports to the EU are substantially below levels in the 1980's due to a partial shift to indica from japonica production, first in Spain and then in Italy.

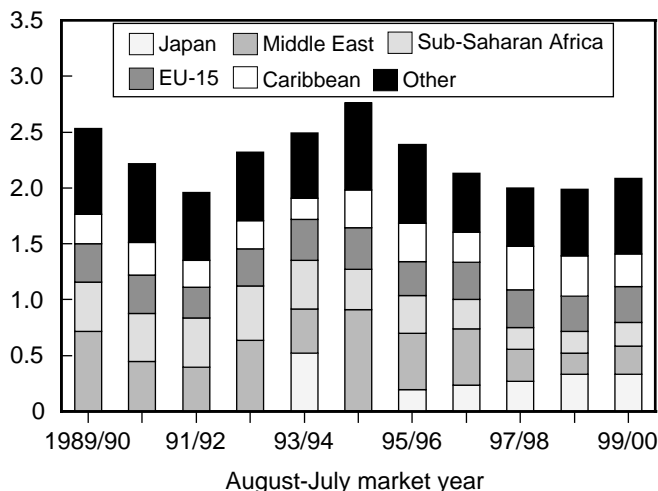
The EU is considering changing its rice policy regime. Currently the EU relies on intervention purchases and import tariffs to protect domestic producers from much lower world prices. A major problem with this policy has been a tremendous increase in EU intervention (or government held) stocks in recent years. One policy option being considered is eliminating intervention buying, increasing tariffs, and providing greater direct income support to producers. Under the current policy, tariffs are bound to intervention prices. It is unclear how this potential change would impact EU producers or U.S. exports.

Besides the EU, markets for U.S. brown rice are rather small and not expanding. Canada and Mexico each typically import around 15,000 tons of long grain brown rice each year. The bulk of Canada's rice imports are milled. In past years, Cote d'Ivoire, Haiti, and Jamaica have taken significant amounts of U.S. brown rice. However, in recent years these countries have imported little U.S. brown rice. Haiti has taken greater amounts of milled rice and Jamaica has imported some rough rice along with milled rice.

Figure D-3

U.S. milled/brown rice exports to the Middle East and Sub-Saharan Africa have declined since the mid-1990's 1/

Mil. tons (product-weight)



1/ Includes both milled and brown rice.

Source: Bureau of the Census, USDC.

Japan is the Largest Market For Medium Grain Brown Rice

Japan accounts for the bulk of U.S. medium grain brown rice exports. In 1999/2000, Japan imported nearly 150,000 tons of medium grain brown rice from the United States, down from a year earlier's record 250,000 tons. Japan divides its minimum access purchases between milled (including broken) and brown rice, with each type's share varying each year. The United States typically supplies half of Japan's total annual minimum access purchases. This is the last year of any scheduled increase in Japan's rice imports under the World Trade Organization (WTO) agreement. Japan's minimum access levels are expected to remain at the 2000/01 level unless a new agreement is signed.

In addition to Japan, Canada imports about 20,000 tons of U.S. medium grain brown rice a year. Haiti, taking 5,000 to 6,000 tons a year, is the only other significant importer of U.S. medium grain brown rice.

The United States exports about 10,000 to 14,000 tons of short grain brown rice each year. Japan accounts for two-thirds, most of it sold under the Simultaneous-Buy-Sell (SBS) portion of their total WTO minimum access imports. In 2000/01, SBS is expected to account for about a fifth of Japan's total minimum access imports. The United States has recently lost substantial market share in the SBS to Australia and China. Canada is the only other significant market for short grain brown rice, taking a few thousand tons a year.

The U.S. Milled Rice Export Market

The U.S. Faces Stiff Competition in the Long Grain Milled Rice Market

It is in the milled rice export market that the United States faces its strongest competition from Asian exporters. U.S. milled rice exports declined every year from 1995/96 to 1998/99, and the milled rice share of total U.S. exports declined as well. Excluding parboiled shipments, U.S. milled rice exports declined from 1.5 million tons in 1994/95 to 872,000 in 1998/99. In 1999/2000, U.S. milled rice exports rose slightly. This was due to greater medium grain milled rice shipments to Japan and Jordan and large food aid shipments—almost entirely long grain—to Indonesia, the Philippines, and Russia.

The top commercial markets for U.S. long grain milled rice are Saudi Arabia, South Africa, and Haiti. Saudi Arabia and South Africa are almost entirely parboiled markets. Smaller commercial markets for long grain milled rice include Canada, Ghana, the Dominican Republic, the EU, Mexico, and Peru. Peru occasionally imports larger amounts of U.S. long grain milled rice when supplies in the Andean region are tight.

Nearly all of the EU's milled rice imports from the United States are purchased under a tariff-rate quota implemented to compensate exporters for Finland, Sweden, and Austria joining the EU. Mexico imports mostly rough rice. While the United States supplies nearly all of Haiti's and the Dominican Republic's rice imports, lack of purchasing power severely limits their import growth. Both of these countries typically receive food aid donations from the United States. In past years Haiti also imported brown rice, although the country is currently importing mostly milled rice. The United States accounts for 35 to 40 percent of Ghana's rice imports, with some U.S. rice shipped as food aid. U.S. exports to Ghana have expanded in recent years as the country's rice imports have increased.

Saudi Arabia and South Africa Account for Bulk of Decline in U.S. Milled Exports

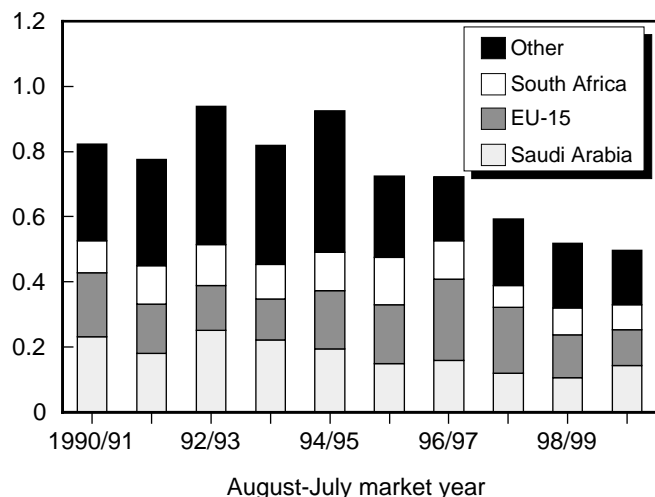
Saudi Arabia and South Africa account for much of the recent decline in U.S. long grain milled rice exports. Both are top global markets for high-quality long grain rice, mostly parboiled. Neither country produces any rice.

In 1982, the United States accounted for nearly two-thirds of Saudi Arabia's total rice imports of 471,000 tons (milled basis). By 1993, the U.S. share had shrunk to 23 percent and by 1999 had dropped to just 16 percent, even though total imports by Saudi Arabia had risen to 750,000 tons. India accounts for the bulk of the reduction in U.S. market share in Saudi Arabia. In 1998 and 1999, India shipped about 500,000 tons of rice to Saudi Arabia, mostly basmati and some parboiled rice.

Figure D-4

U.S. parboiled rice exports have declined since 1994/95 1/

Mil. tons (product-weight)



1/ Includes both milled and brown rice.

Source: Bureau of the Census, USDC.

The United States has lost substantial market share in South Africa as well. In the 1960's and 1970's the United States supplied 80 to 90 percent of South Africa's rice imports. However, by the early 1980's, the U.S. market share began to drop, falling to less than 40 percent by 1990 and to 14 percent by 1999. Since the mid-1990's U.S. rice exports to South Africa have generally declined even as this market has expanded.

South Africa's rice imports more than doubled from the late 1980's to the late 1990's, reaching almost 600,000 tons by 1999. Thailand has increased exports to South Africa sharply over the past decade. South Africa transships small amounts of rice to neighboring countries. Both Saudi Arabia and South Africa are projected to remain major exporters.

Iran, Iraq, and Cuba Are Potential Markets for U.S. Rice

Iran, Iraq, and Cuba are three large global markets for long grain milled rice that U.S. exporters had been prevented from trading with due to U.S.-imposed sanctions. Iran imports more than a million tons of rice a year, primarily from Thailand. Iraq is currently taking almost a million tons, with Vietnam supplying the bulk. Both countries are consistent buyers of high-quality long grain rice. Cuba imports around 400,000 tons a year, nearly all low-quality long grain rice, mostly from Vietnam and China. Prior to the sanctions—imposed in 1962 for Cuba, in 1990 for Iraq, and in 1995 for Iran—each of these countries was a major market for U.S. long grain milled rice.

In October 2000, President Clinton signed legislation eliminating unilateral embargoes on exports of food and medicine to Cuba, Iran, Libya, Sudan, and North Korea. The embargo exemptions become effective 120 days after the President signed the bill. The legislation permits the President to allow private and government financing assistance for sales to Iran, Libya, Sudan, and North Korea if the President determines it is in the interest of the United States or for humanitarian needs. However, there are restrictions with trade to Cuba, including no U.S. financing.

In April 1995, the United Nations Security Council adopted Resolution 986 which, subject to certain conditions, established a program to allow the Government of Iraq to sell a limited amount of oil for food and medicine. U.S. exporters were allowed to sell rice to Iran under the UN's Oil-for-Food program if licensing were provided by the U.S. Department of the Treasury.

However, the United States did not sell any rice under the Oil-for-Food program until this year. In July 2000, the United States sold more than 30,000 tons of rice to Iraq, the first sales since 1990 when trade was embargoed. To date, there have been no additional sales of U.S. rice to Iraq.

While each of these three countries is a potential market for U.S. long grain milled rice, it is unclear if these countries will return as major markets for U.S. rice. Although the United States has a freight advantage in shipments to Cuba, the country is currently a low-quality importer. And while Iran and Iraq are high quality markets, U.S. prices are currently much higher than prices for comparable grades of rice from Thailand and Vietnam.

Japan is the Top Market for U.S. Medium Grain Milled Rice

Japan is the largest market for both medium and short grain milled rice. Virtually all of Japan's rice imports are purchased under minimum access requirements of the WTO. In 1999/2000, Japan imported more than 67,000 tons of U.S. medium grain milled rice, virtually all from California, and accounted for more than a third of total U.S. medium grain milled rice exports.

Jordan and Turkey accounted for the bulk of the remainder. These two countries prefer California medium grain rice but will import southern medium grain if California supplies are tight. The U.S. share of Turkey's market has varied between a third and two-thirds for the past few years, depending on the competition from Egypt and Australia. Jordan imports mostly medium grain milled rice, with the United States supplying 35 to 40 percent. Jordan is a relatively small market for rice with limited potential for growth. Canada is a small, but consistent, market for U.S. medium grain milled rice.

Japan accounts for the bulk of U.S. exports of short grain milled rice, taking nearly 23,000 tons in 1999/2000. Nearly all were purchased under the SBS program as part of Japan's WTO minimum access purchases. The United States has lost exports and market share in the SBS to Australia and China in recent years. Liberia is the only other significant market for short grain milled rice.