

A Report from the Economic Research Service

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2009/10 Rice Yearbook

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Approved by USDA's
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Abstract

In market year 2009/10 (August-July), the U.S. increased the quantity of rice it exported by more than 15 percent. This followed a 10-percent decline in U.S. exports a year earlier. The 2009/10 U.S. export expansion was largely due to weather problems in several rice-growing nations, and a narrow price difference between U.S. rice and comparable grades from major competitors. In addition, U.S. rice growers had adequate supplies to benefit from expanded export opportunities.

This report first analyzes the global market conditions that supported increased exports of U.S. rice in 2009/10, including global production, domestic use, prices, and trade. The analysis then focuses on the U.S. market, detailing U.S. farmers' planting decisions for the 2009/10 crop, movements in the U.S. domestic rice market, and U.S. export competitiveness.

Keywords: Rice, area, yield, production, imports, exports, stocks, prices, global trade

Excel spreadsheet versions of the tables printed here can be downloaded from the ERS website at <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1285>

Approved by the World Agricultural Outlook Board. Summary released December 2010. All estimates and forecast are from the December 2010 *World Agricultural Supply and Demand* report. The *Rice Outlook* and the text of the *Rice Yearbook* may be accessed electronically. For details, call ERS Customer Service (202) 694-5050.

International Section

Erratic Monsoon, El Niño, and Typhoons Reduce 2009/10 Global Rice Production

The first forecasts for the 2009/10 market year indicated record global rice production and expectations of only a slight rebound in U.S. exports after a big decline in 2008/09. Following the 2007/08 global food price crisis and continued trade restrictions by some key rice exporters, many importing countries made the decision to increase production and depend less on the global market, with many importers aiming for self-sufficiency.

Despite expectations of increased production in most countries early in the year, weather problems in several regions damaged rice crops in 2009/10, significantly affecting global trade flows. An erratic monsoon in India caused a big drop in its main-season *kharif* crop¹, several strong typhoons caused landslides and flooding in the Philippines, and excessive rain delayed plantings and reduced yields in the Southern Cone of South America. Global production in 2009/10 declined 2 percent from a year earlier to 441.2 million tons, the first decline since 2002/03 (fig. 1). Due largely to crop shortfalls, global prices remained well above both their long-term averages and early projections throughout 2009/10.

Initial Forecasts for 2009/10 Indicated Record Global Production and Lower Trading Prices

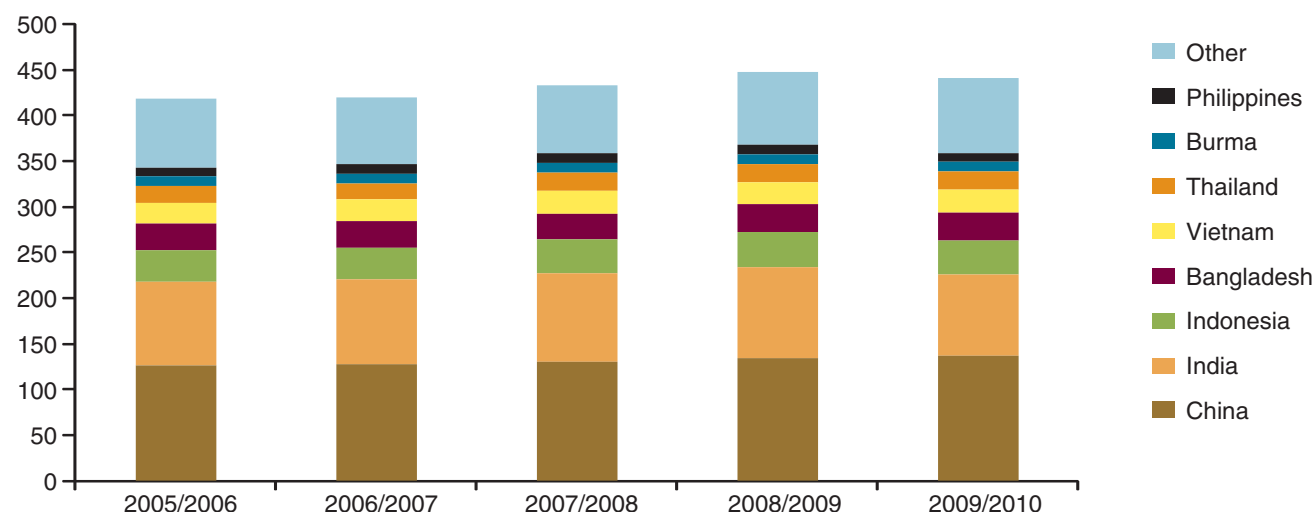
The initial forecasts for 2009/10 global rice production released in May 2009 by USDA projected a global crop of 448.1 million tons (milled basis), a record at that time. Because many rice-dependent importing countries were still concerned over adverse effects of the rice price crisis of 2007/08,

¹The *kharif* crop refers to crops sown in the summer months with the first monsoon rains and then harvested in the autumn. In India, the *kharif* crop makes up approximately 85 percent of the country's total annual rice production. In contrast, the *rabi* crop – typically accounting for no more than 15 percent of total rice production – is planted in the winter months and then harvested in the spring.

Figure 1

India's reduced crop accounted for much of the decline in global production in 2009/10

Production (million tons)



Source: *Production, Supply, and Distribution* data base, Foreign Agricultural Service, USDA, <http://www.fas.usda.gov/psd>.

self-sufficiency policies were strongly promoted. Despite the moves for self-sufficiency among many importers, several major or midlevel exporters—Burma, India, Thailand, and the United States—were initially forecast to boost production by at least 500,000 tons. Although rice prices had fallen from their highs in 2008, they remained stronger than historic levels, and net returns for rice relative to other crops were favorable. In countries like Burma and India, rice is a domestic staple, and yield growth trends indicate that those countries will likely harvest a record crop each year, barring any sort of natural disaster. For Thailand, an attractive price insurance scheme further motivated farmers to plant more rice. In the U.S., the year-to-year projected increase in production was largely based on the net returns to rice compared to other crops.

In contrast, several other exporters—China, Egypt, and Pakistan—were projected to produce slightly smaller crops in 2009/10. For China, large supplies and competition from alternative crops have reduced planted area from record levels. In Egypt, water restrictions and export restrictions discouraged rice production. Although Pakistan has a growing rice sector, infrastructure limitations were behind a slight forecast decline in production. Smaller crops were also forecast for Japan and South Korea – two countries where per capita rice consumption has declined sharply over the past few decades. With ample stocks of rice in the world and few substantial production declines initially expected for either exporters or importers, the outlook for U.S. rice exports in 2009/10 was bearish. In addition, the U.S. was unlikely to capture markets for milled long-grain rice from Pakistan, Thailand, or Vietnam because of a significant price advantage by these competitors.

However, by mid-summer 2009, the initial world supply and demand estimates were revised downward due to several weather-induced production problems. The first major problem was in India. The 2009 monsoon started off on time but soon faltered. This erratic monsoon left much of north and northwest India without sufficient moisture for the planting of the main-season *kharif* crop. This lack of moisture both prevented planting and reduced yields as sufficient water supplies for irrigation were not available. While some producers were eventually able to plant rice on part of the area later in the season, many had to plant shorter-duration, but lower-yielding varieties. In August 2009, USDA reduced India's rice area forecast nearly 10 percent to 40.0 million hectares, with total production down 15 percent from 2008/09 to just 84.0 million tons.

While such a large crop reduction for a major exporter had serious implications for global markets, it caused little movement in global prices at the time. Many market participants had assumed that, after the election in May 2009, India would begin to relax its ban on exports of non-basmati rice varieties that had been in place since March 2008. However, the ban was not lifted. Instead, the new Government wanted to make sure that state-held stocks were sufficient following the harvest. When the harvest turned out to be much lower than expected, discussion of relaxing the export ban halted. Several trade sources even speculated that India would need to import rice in order to satisfy domestic demand. With the continuation of India's export ban, prices held firm—primarily because Thailand was holding significant

quantities of rice in intervention stocks and would be able to bridge most of India's projected production shortfall.

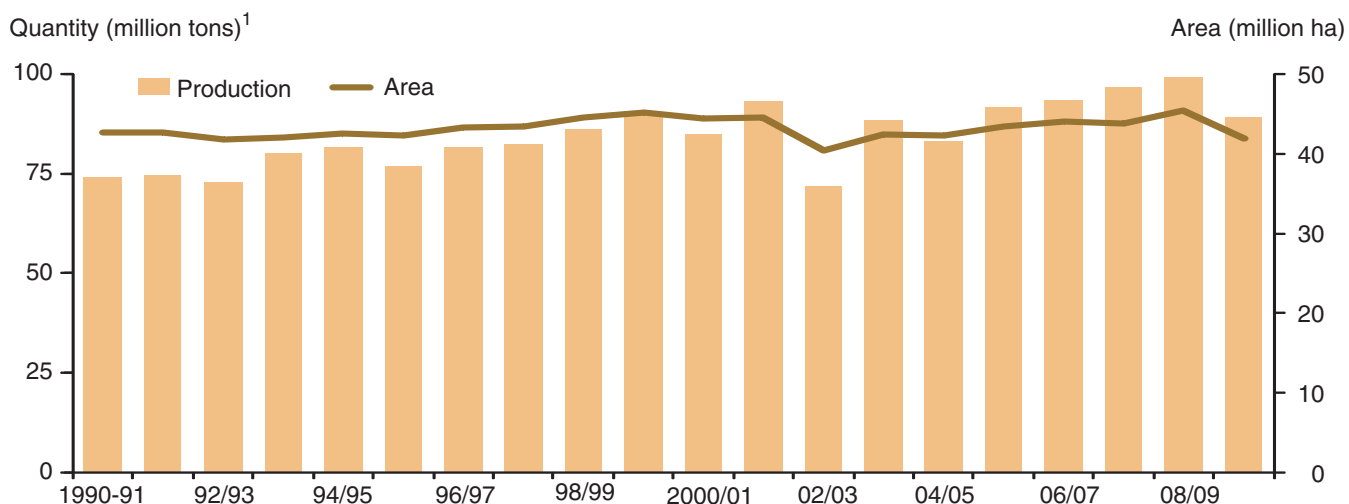
Initial estimates of India's crop damage from the monsoon were too high, largely because growers were able to increase plantings of the dry-season *rabi* rice crop as rains picked up at the end of *kharif* season. The *rabi* crop typically accounts for around 15 percent of India's total annual rice production. In the country's *Fourth Crop Advanced Estimate* released in July 2010, India's 2009/10 production was estimated at 89.13 million tons (Singh, 2010). Though this estimate is 6 percent higher than USDA's August 2009 projection, it still represents a year-to-year reduction of more than 10 percent (fig. 2).

Partly because of the substantial rice stocks in Thailand and few additional production problems worldwide, global rice prices showed little strength in the summer of 2009. But that began to change in September, when several late-season typhoons hit the Philippines, causing mudslides and widespread damage to the country's fall harvest – its largest rice crop. Price quotes for rice from Vietnam – the principal supplier to the Philippines – began to increase in October 2009, rising 4 percent from the previous month. Crop damage from flooding continued through October, with USDA lowering the Philippines' 2009/10 production forecast 3 percent from its initial projection to 10.4 million tons in November 2009. By that time, global rice prices were on the rise, further supported by the announcement of several upcoming large purchases by the Philippines. Vietnam's prices increased another 15 percent from early October to early November, with the Thai 100% grade B price posting a 5-percent gain and U.S. prices for comparable grades rising nearly 7 percent. Prices continued to increase through December 2009.

By late 2009, El Niño-induced dryness began to affect other parts of the Philippines. In both January and February of 2010, the Philippines' production forecast was further reduced due to dry conditions in western and central Luzon (fig. 3). In June, the full extent of the damage from both floods and

Figure 2

The erratic monsoon caused a sharp decline in India's rice area and production in 2009/10

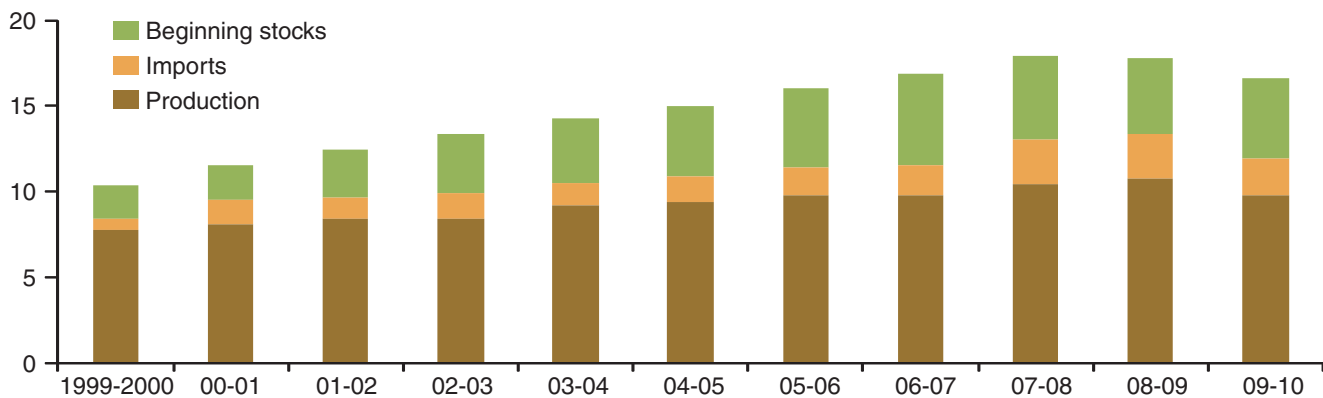


¹Milled basis.

Source: *Production, Supply, and Distribution* data base, Foreign Agricultural Service, USDA, <http://www.fas.usda.gov/psd>.

Figure 3

A smaller 2009/10 crop caused a reduction in the Philippines' total rice supplies



¹Milled basis.

Source: *Production, Supply, and Distribution* data base, Foreign Agricultural Service, USDA, <http://www.fas.usda.gov/psd>.

drought was assessed in a report by the Philippines' Bureau of Statistics, which reduced the 2009/10 production estimate to 9.8 million tons, down more than 9 percent from the previous year (BAS, 2010).²

Large tenders floated by the Philippines sustained international rice price gains through January, but ample supplies in Thailand, Vietnam, Pakistan, and the U.S., coupled with few sales outside of those tenders, allowed prices to drift back down starting in late February 2010. Global prices continued declining through May and were nearly stable in June and July. Prices began rising again in August due to a strengthening Thai baht, tightening supplies in Vietnam accompanied by an increase in that country's minimum export price, and concerns over how severe 2010 summer flooding in Pakistan would affect global rice supplies.

Weather problems in 2009/10 were not limited to Asia. Extremely wet weather in the Southern Cone of South America significantly delayed plantings. The bulk of the Southern Cone harvest is in March-May. Rio Grande do Sul in Southern Brazil—the largest rice-producing State in the country—was particularly affected. With plantings delayed, many producers opted for shorter-duration, but lower-yielding varieties to compensate for the later start date. Reductions in both planted area and yields ultimately resulted in a 7.7-million-ton crop in Brazil, down 11 percent from 2008/09. Though production was down significantly, larger stocks from 2008/09 and reduced exports helped the country to alleviate much of the shortfall in production, though imports did increase by 150,000 tons in 2010.

Brazil was not the only country in the Southern Cone adversely affected by weather. In Uruguay, severe winter dryness followed by overabundant rainfall delayed plantings. Continued cool and cloudy conditions throughout the growing season sharply lowered crop yields. At 804,000 tons, Uruguay's 2009/10 crop was 11 percent smaller than in 2008/09. Uruguay's exports—particularly to the Middle East—were reduced as a result of the smaller crop.

Other parts of South America were also affected by adverse weather in 2009/10. Beginning in late 2009, a sustained lack of rainfall started to take

²USDA aggregates the Philippines rice production on a July/June marketing year, such that the USDA estimate for 2009/10 comes from BAS' second-half 2009 estimate plus the estimate from the first half of 2010.

its toll on Venezuela's rice production. By March 2010, this had evolved into the worst drought to hit the country in decades. Irrigation reservoirs were drastically reduced, affecting both plantings and yields. Additionally, government-set producer prices were not adjusted to account for higher pumping and input costs. Amid poor production conditions and facing artificially low prices, many rice producers chose not to plant. Total 2009/10 production in Venezuela is estimated at 320,000 tons, down 35 percent from 2008/09.

Global Trade and Ending Stocks Rose in 2009/10; Global Disappearance Was Nearly Flat

Global rice disappearance for 2009/10 is estimated at 437.6 million tons, just fractionally larger than a year earlier. India's domestic disappearance is estimated to have declined 6 percent to 85.4 million tons, the smallest since 2005/06, largely due to the crop shortfall.³ This large year-to-year reduction in domestic disappearance was slightly offset by increases for Bangladesh, Burma, Cambodia, China, Indonesia, the Philippines, Thailand, and Vietnam.

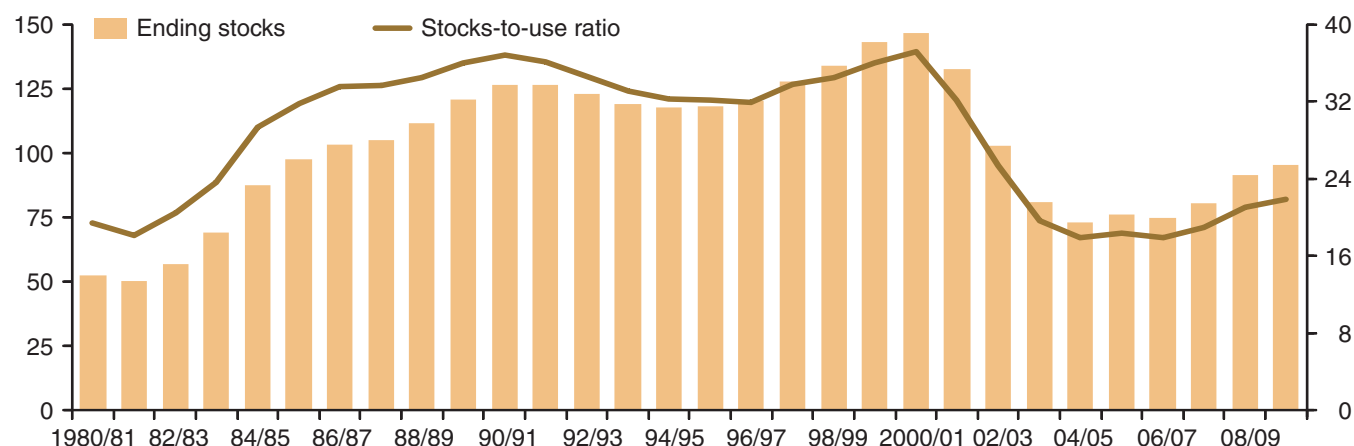
Despite an almost 2-percent decline in global production and marginally larger domestic disappearance, global ending stocks in 2009/10 increased 4 percent from a year earlier to 95.3 million tons, the largest since 2002/03 (fig. 4). In 2009/10, Burma, China, India, South Korea, Thailand, and the United States all had larger ending rice stocks than in the previous year. In contrast, a weak crop and near-record domestic disappearance lowered ending stocks in the Philippines by 28 percent from 2008/09, a major factor behind the record imports. The global ending stocks-to-use ratio in 2009/10 was 21.9 percent, up from 21.0 percent a year earlier and the highest since 2002/03. A major factor in the 2009/10 ending stocks buildup was a large carryin. At 91.7 million cwt, the 2009/10 carryin was up 14 percent from a year earlier. Domestic food security concerns have led many nations to increase stocks since the high prices of 2007/08.

³India's disappearance estimate includes a substantial residual component that accounts for unreported losses in processing, transporting, and handling, as well as any statistical error. The size of the residual is unknown, and a residual component is included for all countries' domestic use estimates.

Figure 4

Global ending stocks in 2009/10 were the highest since 2002/03

Million tons (milled basis)



2010/11 forecasts.

Source: *Production, Supply, and Distribution* data base, Foreign Agricultural Service, USDA, <http://www.fas.usda.gov/psd>.

Global trade in calendar year 2010 is projected at 29.9 million tons, up 2 percent from a year earlier, but still below the 2007 record of 31.9 million tons (fig. 5). Pakistan, the United States, and Vietnam account for the bulk of the projected increase in global exports in 2010 (fig. 6). Pakistan boosted its exports 19 percent to a record 3.8 million, with much of the rice shipped before the onset of severe floods late in the summer of 2010. The U.S. increased exports more than 18 percent to 3.5 million tons, one of the highest levels on record for the U.S. Vietnam's exports are projected at a record 6.5 million tons, a 9-percent increase. Thailand, the world's largest exporter of rice, decreased shipments slightly to 8.5 million tons—1.5 million tons below the near-record exports of 2008.

Cambodia and India are projected to increase exports in 2010 by at least 50,000 tons. Although India has officially banned non-basmati exports since March 2008, it continues to ship its premium basmati rice and sells some non-basmati rice to selected markets. Despite the expected increase in 2010, India's exports are just 35 percent of its near-record shipments of 2007.

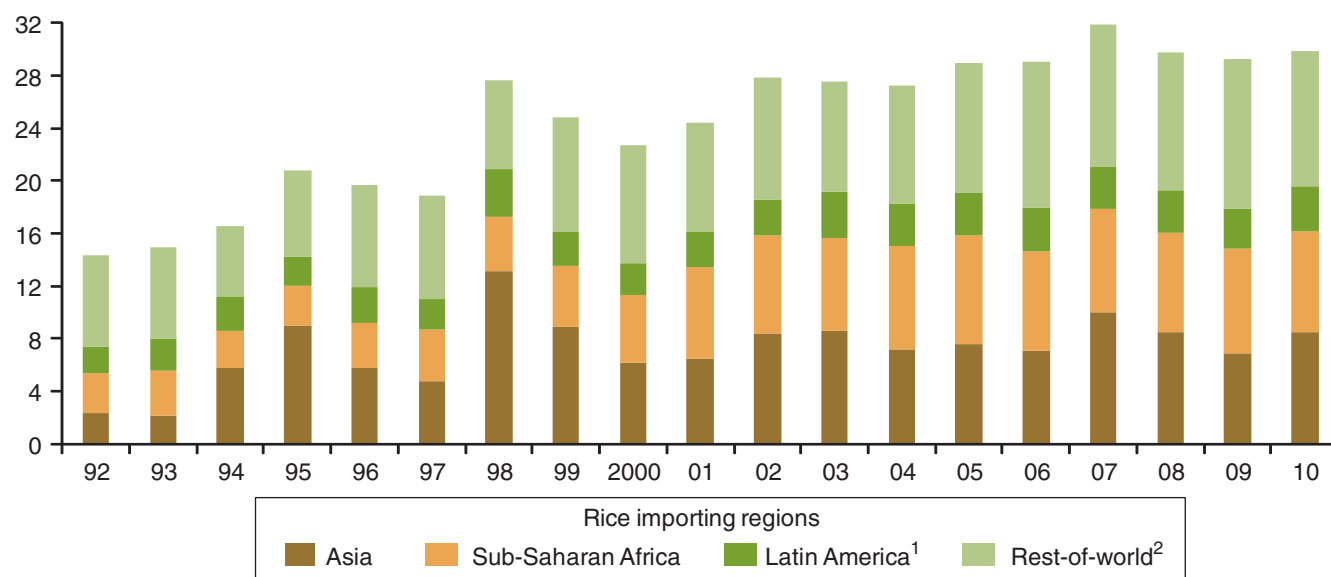
In contrast, all Southern Cone exporters—Argentina, Brazil, and Uruguay—are projected to reduce exports in 2010, due primarily to smaller crops in 2009/10 (fig. 7). Uruguay's exports are projected to decline 24 percent to 700,000 tons, the smallest since 2003. Shipments from Brazil are projected to contract 32 percent from 2009 to 400,000 tons. At 500,000 tons, Argentina's 2010 exports are down more than 16 percent. In Asia, Burma's exports are projected to plummet 62 percent to just 400,000 tons, a result of government efforts to limit domestic price increases.

On the import side, several major and midlevel buyers are projected to increase purchases in 2010 (fig. 8). The Philippines—the largest rice-

Figure 5

Global trade is projected to increase 2 percent in 2010

Million tons (milled basis)



¹Mexico, Central America, the Caribbean, and South America.

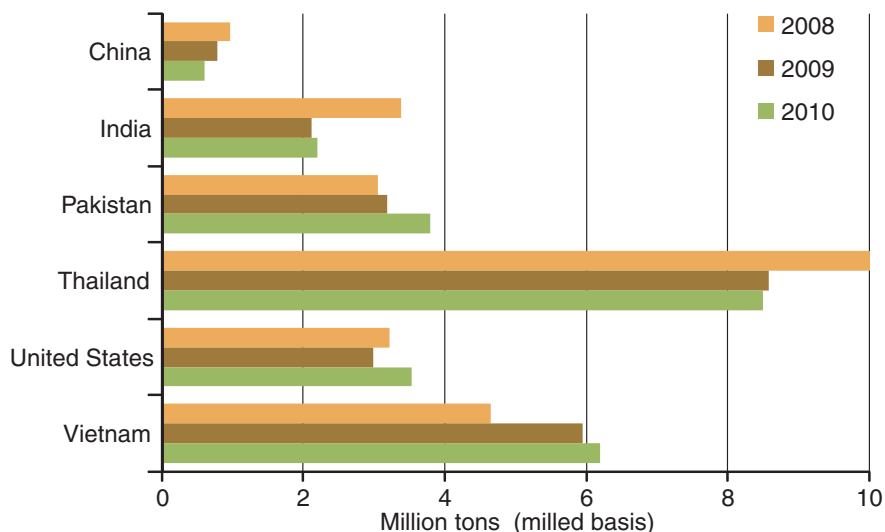
²Includes imports not assigned a specific country.

Source: *Production, Supply, and Distribution* data base, Foreign Agricultural Service, USDA, <http://www.fas.usda.gov/psd>.

Figure 6

India, Pakistan, the United States, and Vietnam increased exports in 2010

Major exporters

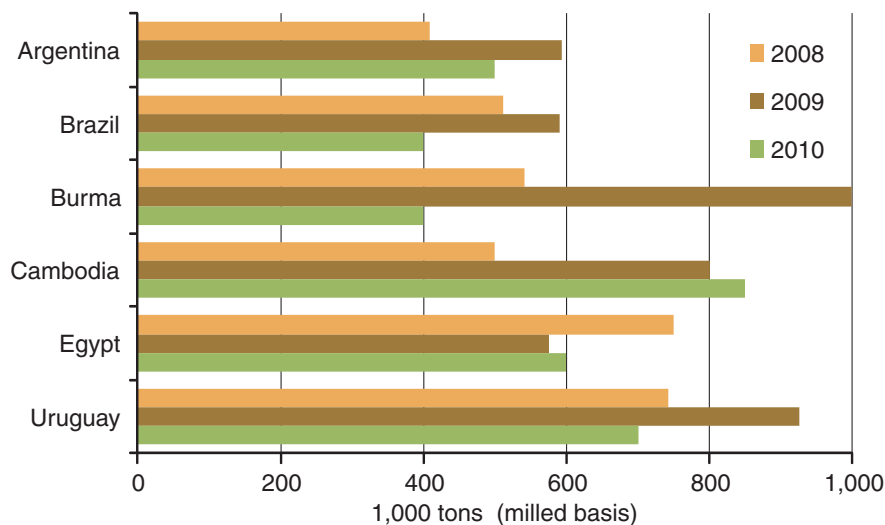


2010 projections. These 6 countries account for more than 85 percent of global rice exports.
Source: *Production, Supply, and Distribution* data base, Foreign Agricultural Service, USDA,
<http://www.fas.usda.gov/psd>.

Figure 7

Burma's exports dropped sharply in 2010

Midlevel exporters

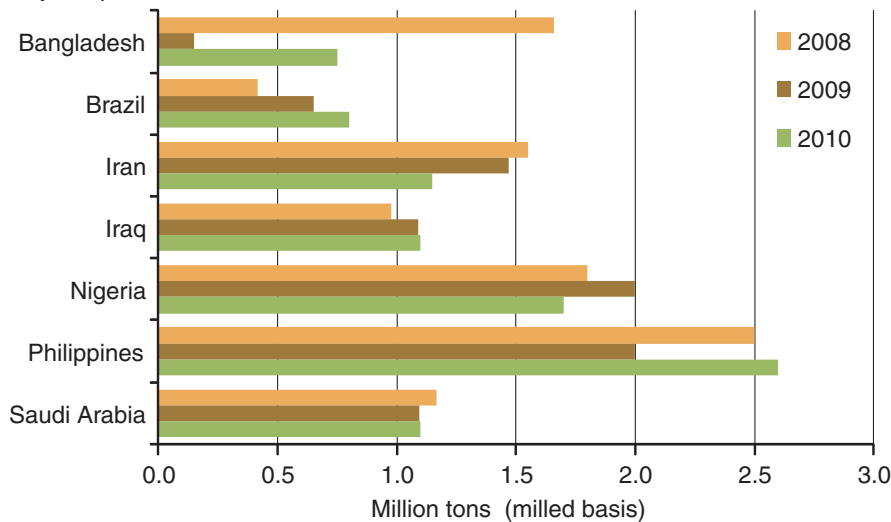


2010 projections.
Source: *Production, Supply, and Distribution* data base, Foreign Agricultural Service, USDA,
<http://www.fas.usda.gov/psd>.

Figure 8

Bangladesh's imports increased five-fold in 2010

Major importers



2010 projections. These 7 countries typically account for about one-third of global imports.
Source: *Production, Supply, and Distribution* data base, Foreign Agricultural Service, USDA,
<http://www.fas.usda.gov/psd>.

importing country in the world—is projected to increase imports 30 percent to a record 2.6 million tons, a result of a production shortfall and concerns over rising prices. Bangladesh is projected to import 750,000 tons of rice in 2010—5 times the level imported in 2009. There was no production growth in Bangladesh from 2008/09 to 2009/10. Brazil’s imports are projected to increase 23 percent to 800,000 tons, the highest since 2004, as a result of a production decline. Several major buyers in Sub-Saharan Africa are projected to increase imports in 2010. They include Cote d’Ivoire, Guinea, and South Africa. In the Middle East, Turkey and Syria are expected to import more rice in 2010 than in 2009, almost offsetting weaker imports from Iran. Iraq’s imports of 1.1 million tons are virtually unchanged from 2009.

In contrast, Iran, Malaysia, Nigeria, Vietnam, and the United States are expected to import less rice in 2010. Nigeria’s imports are projected to drop 15 percent to 1.7 million tons in 2010, accounting for most of the expected decline in imports by Sub-Saharan Africa. Production in both Nigeria and the region in 2009/10 were the highest on record.

Domestic Section

U.S. 2009/10 Rice Plantings Increased 5 Percent

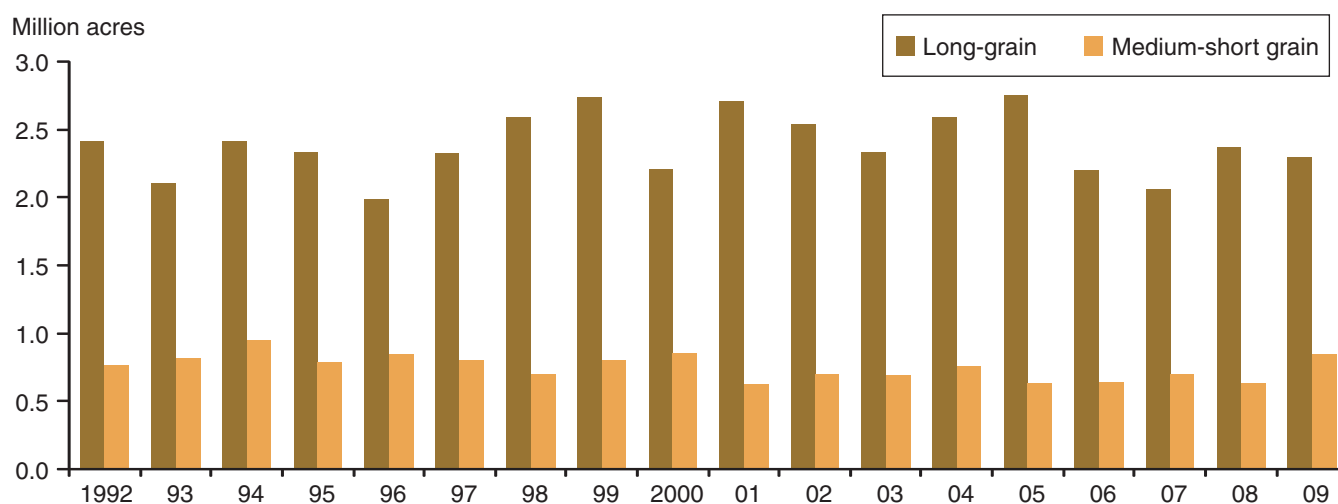
In 2009/10, U.S. rice growers expanded plantings almost 5 percent from a year earlier to 3.14 million acres—the highest since 2005/06. The expansion was largely due to expectations of favorable returns to rice production compared with returns to alternative crops, especially in the Mississippi River Delta. Although average farm prices for rice had declined from the record highs achieved in 2008, the decline was less than for competing crops such as soybeans and corn. In fact, from August until March 2009, reported cash prices for U.S. soybeans dropped 29 percent, while the average all-rice price declined just 13 percent.

By class, medium/short-grain plantings increased 34 percent in 2009/10 to 845,000 acres, the highest since 2000/01, with area expanding in both the South and California (fig. 9). In the South, medium/short-grain area increased 141 percent to 289,000 acres—the highest since 2000/01. Arkansas accounted for nearly two-thirds of the medium/short-grain area expansion in the South; Louisiana accounted for most of the remainder. These two States produce almost all the Southern medium/short-grain crop. California growers, who produce more than two-thirds of the U.S. medium/short-grain crop, expanded plantings 9 percent in 2009/10.

The substantial increase in medium/short-grain area was largely due to record and near-record prices at planting. U.S. medium/short-grain rough-rice prices peaked in April 2009, and were more than double reported cash prices for long-grain rice at the time. Medium/short-grain prices were being supported by a lack of exportable supplies in Australia and continued export restrictions by Egypt. Both countries had been major exporters and U.S. competitors.

Figure 9

Medium/short-grain accounted for all of the 2009/10 U.S. rice area expansion



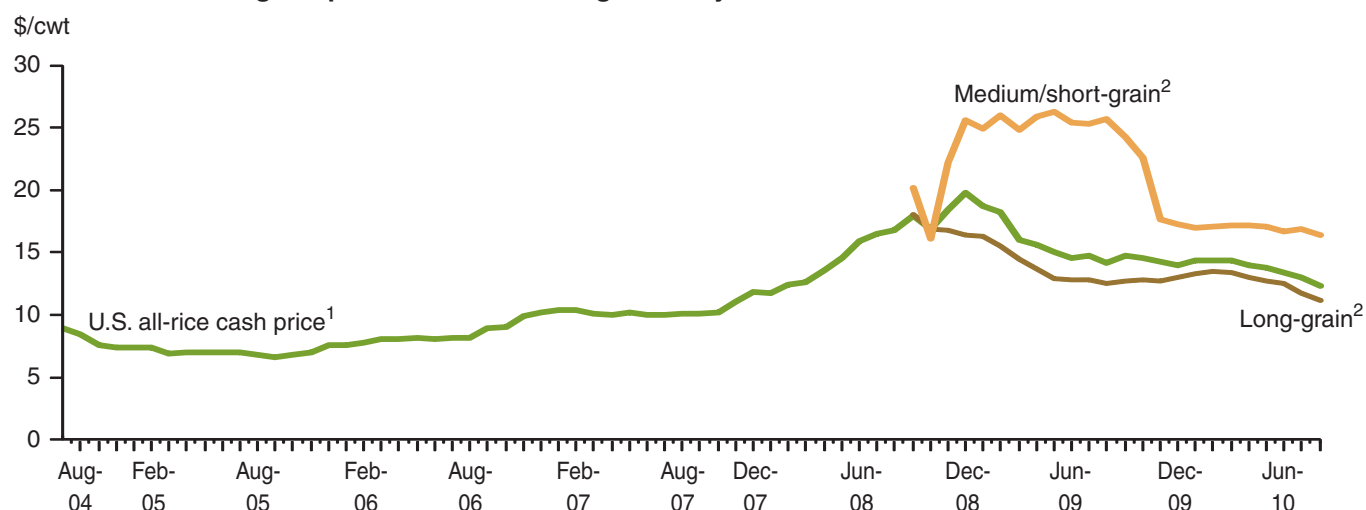
Sources: USDA, National Agricultural Statistics Service--Quick Stats, U.S. & All States Data--Crops.
http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats_1.0/index.asp

In contrast, total U.S. 2009/10 long-grain plantings declined more than 3 percent to 2.3 million acres—still higher than levels planted in 2006/07 and 2007/08. Arkansas and Louisiana accounted for most of the 2009/10 decline in long-grain plantings. The decline was largely due to adverse weather that severely delayed plantings in the Delta, which is the largest rice-producing region in the U.S. In March, prior to the onset of heavy rains that delayed plantings, growers in the South indicated a 7-percent expansion in long-grain plantings from 2008/09, with Arkansas and Missouri indicating almost all the intended expansion. Although by March 2009 U.S. long-grain rough-rice prices had dropped 25 percent from the August 2008 record, this decline was much smaller than those reported for competing crops (fig. 10). The South produces almost all the U.S. long-grain crop.

Rice plantings expanded from a year earlier in all reported States in 2009/10 except Texas and Louisiana, with Arkansas and California accounting for most of the increase (fig. 11). At 1.49 million acres, rice plantings in Arkansas were 6 percent higher than a year earlier. Medium/short-grain accounted for all of the area expansion in Arkansas; long-grain plantings in the State declined 3 percent. Growers in California increased rice plantings 8 percent to 561,000 acres, with medium/short-grain accounting for all of the increase. Mississippi growers boosted rice plantings nearly 7 percent to 245,000 acres, the highest since 2005/06. The State produces only long-grain rice. Rice plantings in Missouri increased 1 percent to 202,000 acres. In Texas, rice plantings decreased 2 percent to 171,000 acres. The State experienced severe drought during much of the season. Long-grain accounts for almost all rice production in Missouri and Texas. Louisiana's rice plantings of 470,000 acres were unchanged from 2008/09, with a 40,000-acre increase in medium-grain area offsetting a 40,000-acre decline in long-grain plantings.

Figure 10

U.S. medium/short-grain prices were record high in early 2009



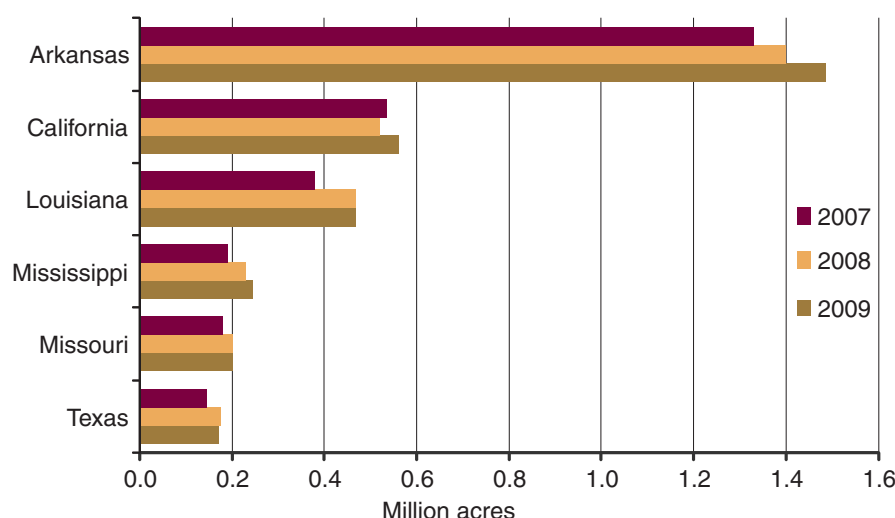
¹Monthly U.S. cash price for all-rice reported by NASS.

²Monthly rough-rice prices by class first reported August 2008.

Source, U.S. cash price, *Agricultural Prices*, NASS, USDA.

Figure 11

Rice plantings increased in 2009 in all reported States except Texas and Louisiana



Source: U.S. Department of Agriculture, National Agricultural Statistics Service, http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats_1.0/index.asp.

***Despite Delayed Plantings in the South,
U.S. Average Field Yield Rose 3.5 Percent in 2009/10***

The U.S. average field yield for rice was 7,085 pounds per acre in 2009/10, an increase of 3.5 percent from a year earlier, but still almost 2 percent below the 2007/08 record.

By class, the long-grain field yield was 6,743 pounds per acre, an increase of more than 3 percent from a year earlier, but still more than 3 percent below the 2007/08 record. Much of the year-to-year increase in the long-grain field yield was due to significant yield losses in 2008/09. Except for parts of Texas, 2008/09 yields in the South were substantially reduced by abnormally heavy rain in April and May that delayed plantings several weeks, and by impacts from two late-season hurricanes. Despite the increase, the 2009/10 long-grain yield was still more than 100 pounds below the 20-year trend.

The combined medium/short-grain field yield was 8,010 pounds per acre, fractionally below the year-earlier record. The decline was almost entirely due to a larger share of the medium/short-grain crop coming out of the South, which achieves lower yields than rice grown in California.

In 2009/10, all reported States except Mississippi achieved higher yields than a year earlier, with record yields reported for California, Louisiana, and Texas. The California field yield of 8,600 pounds per acre was up more than 3 percent from a year earlier. Weather in California was quite favorable for rice production in 2009/10.

In contrast to California, growers in the Delta experienced delayed plantings due to abnormally heavy rains early in the 2009/10 season, with many growers having to replant in late May. Some areas in the Delta had heavy rains at harvest as well. Louisiana's average field yield of 6,300 pounds per

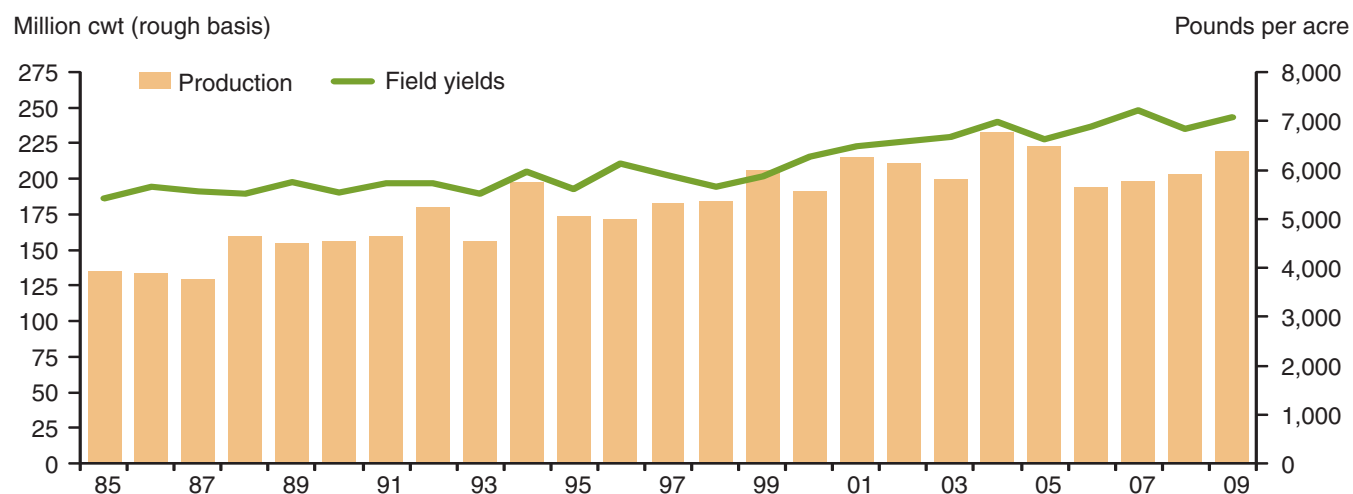
acre was up 8 percent from 2008/09, when the State's crop was adversely impacted by late-season hurricanes. Arkansas growers boosted yields 2 percent to 6,800 pounds per acre, still 6 percent below the 2007/08 record. In Missouri, average yields were 6,710 pounds per acre, up more than 1 percent from a year earlier. Average yields in Texas soared almost 13 percent to 7,700 pounds per acre—the highest average yield ever achieved by a Southern State—partly due to favorable end-of-season growing conditions, which allowed for an ample ratoon crop harvest. In contrast, yields in Mississippi declined 2 percent to 6,700 pounds per acre, the lowest since 2005/06. In addition to late plantings, October was extremely wet in Mississippi, likely reducing yields.

Total U.S. rice production in 2009/10 was 219.9 million hundredweight (cwt), an increase of 8 percent from a year earlier, as a result of both expanded area and a higher yield (fig. 12). By class, long-grain production was 152.7 million cwt, almost unchanged from a year earlier, as a higher yield offset reduced plantings (fig. 13). Combined medium/short-grain production was 67.1 million cwt, up 33 percent from a year earlier and second only to the 1981/82 record of 72.3 million cwt. The substantial increase in medium/short-grain production was largely due to expanded plantings, especially in the South, and a record yield in California where more than two-thirds of the U.S. medium/short-grain crop is produced.

Production in 2009/10 was higher than a year earlier in all reported States (fig. 14). Arkansas' production of 99.9 million cwt was up nearly 8 percent from a year earlier, a result of both expanded plantings and a higher yield. Medium-grain accounted for all of the Arkansas production increase. Louisiana growers increased production to 29.2 million cwt due to a record yield, with medium-grain accounting for all of the production increase. The Mississippi rice crop is estimated at 16.3 million cwt, an increase of 4 percent from a year earlier, and a result of expanded plantings. Missouri's growers harvested 13.4 million cwt of rice in 2009/10, up nearly 2 percent from a year earlier, primarily due to a higher yield. In Texas, production increased more

Figure 12

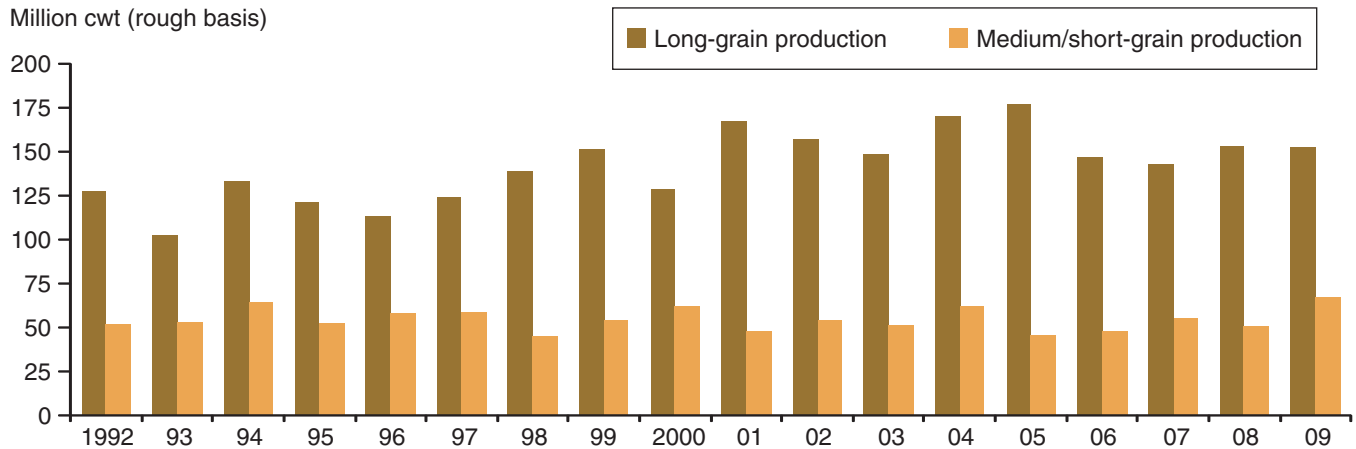
The U.S. 2009/10 rice crop increased 8 percent to 219.9 million cwt



Source: USDA, National Agricultural Statistics Service--Quick Stats, U.S. & All States Data--Crops.
http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats_1.0/index.asp

Figure 13

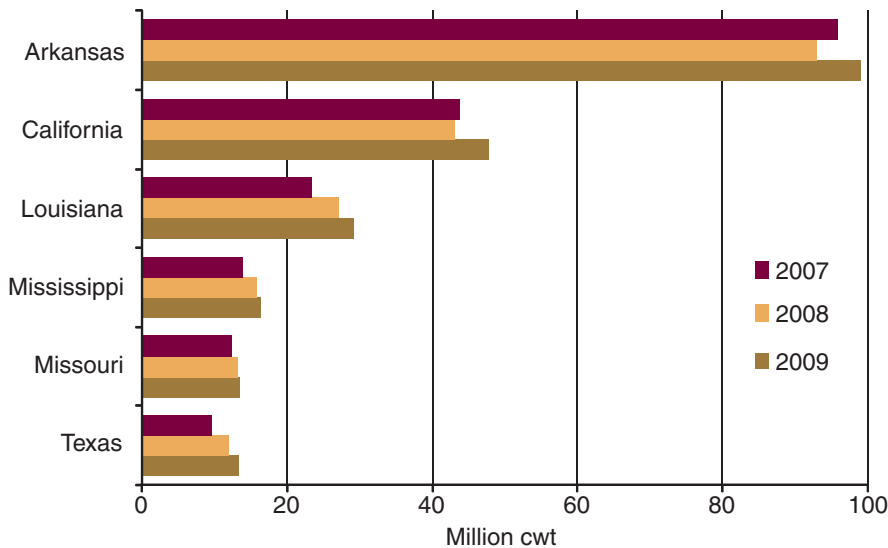
Medium/short-grain accounted for nearly all of the 2009/10 U.S. production increase



Sources: USDA, National Agricultural Statistics Service--Quick Stats, U.S. & All States Data--Crops.
http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats_1.0/index.asp

Figure 14

Rice production was larger in all reported States in 2009



These 6 States account for more than 99 percent of U.S. production.

Source: USDA, National Agricultural Statistics Service--Quick Stats,
http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats_1.0/index.asp.

than 11 percent to 13.2 million cwt due to a record yield. A record yield and expanded plantings were responsible for an 11-percent increase in California rice production to 47.8 million cwt.

The 2009/10 U.S. crop was the third highest on record, despite weather problems in much of the South, with both total area and the average yield higher than a year earlier. Though high prices at planting encouraged producers to greatly expand rice production, adverse weather in the Delta hindered the intended increase in plantings and limited overall production increases.

Larger Production and a Bigger Carry-In Boosted 2009/10 Total U.S. Supplies Almost 7 Percent

Total supplies of U.S. rice in 2009/10 are estimated at 269.4 million cwt, up almost 7 percent from a year earlier and the largest since 2005/06 (fig. 15). The increase was due to a larger crop and a bigger carry-in. By class, medium/short-grain accounted for almost all of the increase in total supplies. At 78.7 million cwt, medium/short-grain total supplies were up 27 percent from a year earlier and the highest since 1983/84. Long-grain total supplies were 189.3 million cwt, fractionally above a year earlier.⁴

The 2009/10 carry-in is calculated at 30.6 million cwt, an increase of 3 percent from a year earlier. Long-grain accounted for all of the increase in carry-in. At 20.1 million cwt, the long-grain carry-in was 5 percent larger than a year earlier. In contrast, the medium/short-grain carry-in of 8.0 million cwt was 12 percent below a year earlier and the smallest since 1999/2000.

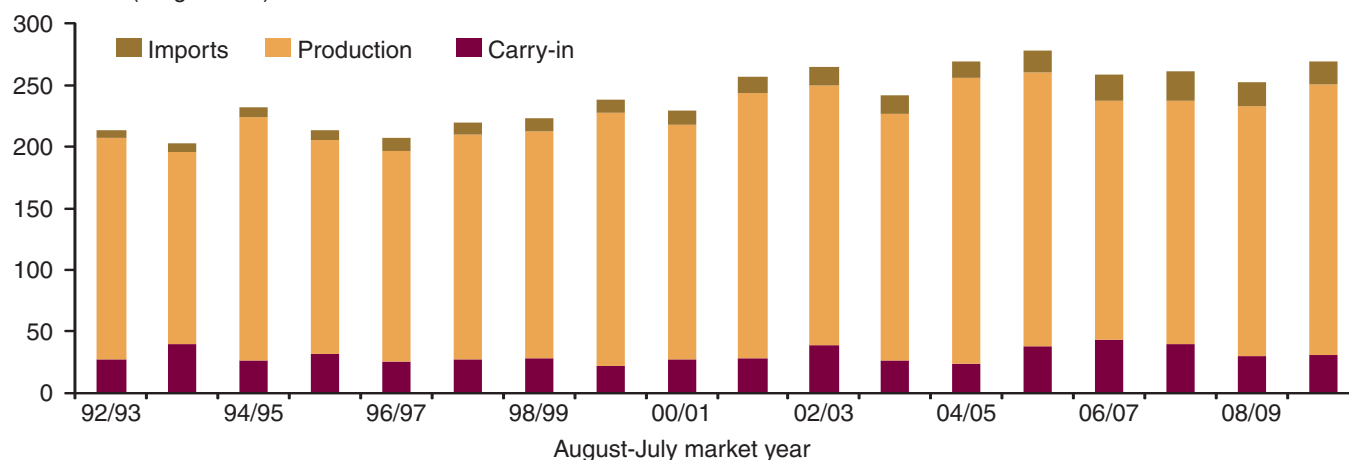
In 2009/10, the U.S. imported 19.0 million cwt of rice, down 1 percent from a year earlier and the smallest since 2005/06 (fig. 16). Medium/short-grain accounted for all of the decline. At 2.5 million cwt, medium/short-grain imports were 25 percent below a year earlier and the smallest since 2000/01. Thailand supplied most of the U.S. rice imports classified by the Census Bureau as medium/short-grain. Nearly all of the medium/short-grain shipments from Thailand were specialty rices. U.S. medium/short-grain imports have dropped sharply since 2007/08, as Puerto Rico – where nearly all rice consumed is medium/short-grain – has shifted back to buying U.S. rice. China and Egypt supplied most of Puerto Rico's rice from 2000/01 to 2007/08. Shipping costs, supply availability, and price differences are the main factors behind Puerto Rico's decisions on where to source rice supplies. Puerto Rico often shifts between California and the South when buying U.S. rice.

⁴Total rice stocks include stocks of broken, which are not differentiated by class. Thus, stocks by class will not add up to the total stocks estimate.

Figure 15

Total U.S. rice supplies in 2009/10 were up 7 percent from a year earlier

Million cwt (rough basis)

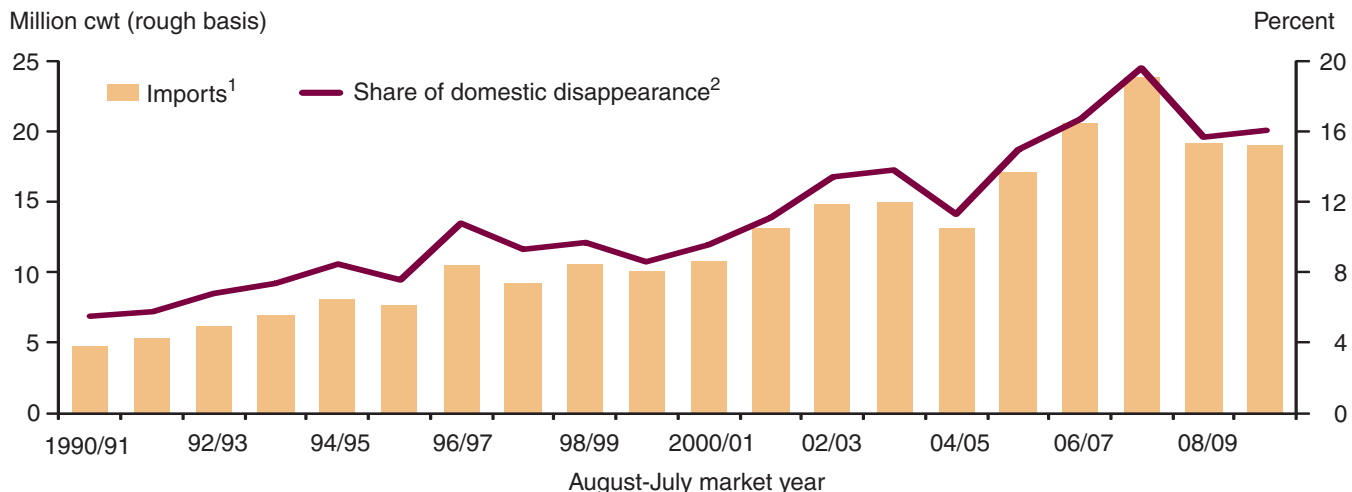


Sources: 1992/93-2007/08, *2010 Rice Yearbook*, Economic Research Service, USDA; 2008/09-2009/10, *World Agricultural Supply and Demand Estimates*, <http://www.usda.gov/oce/commodity/wasde/index.htm>.

Figure 16

U.S. rice imports were nearly unchanged in 2009/10

Million cwt (rough basis)

¹Total of rough, brown, and milled imports on a rough basis.²Does not include seed use.Sources: 1990/91-2007/08, *2010 Rice Yearbook Data Set*, Economic Research Service, USDA; 2008/09-2009/10, *World Agricultural Supply and Demand Estimates*, World Agricultural Outlook Board, USDA.

U.S. long-grain imports in 2009/10 were 16.5 million cwt, up 4 percent from a year earlier, but still below the 2007/08 record. Thailand supplies about 70 percent of U.S. long-grain imports, with its premium jasmine accounting for nearly all of its shipments to the U.S. Basmati rice—also a premium aromatic—from India and Pakistan account for most of the remainder of U.S. long-grain imports. The rate of growth in U.S. long-grain imports has slowed in recent years. The recession and sluggish economic growth may account for the decline in growth. In addition, researchers at Louisiana State University have recently developed a new rice variety called *Jazzman* in an attempt to replicate the flavor, texture, and aroma of jasmine rice grown in Thailand. *Jazzman* seed was first available for commercial use in 2009/10. If successful, *Jazzman* rice may substitute for imported rice. Previously released U.S. aromatic varieties did not have the same cooking qualities, taste, and texture as imported aromatic varieties.

Despite Larger Supplies, U.S. Total Domestic and Residual Use Fell in 2009/10

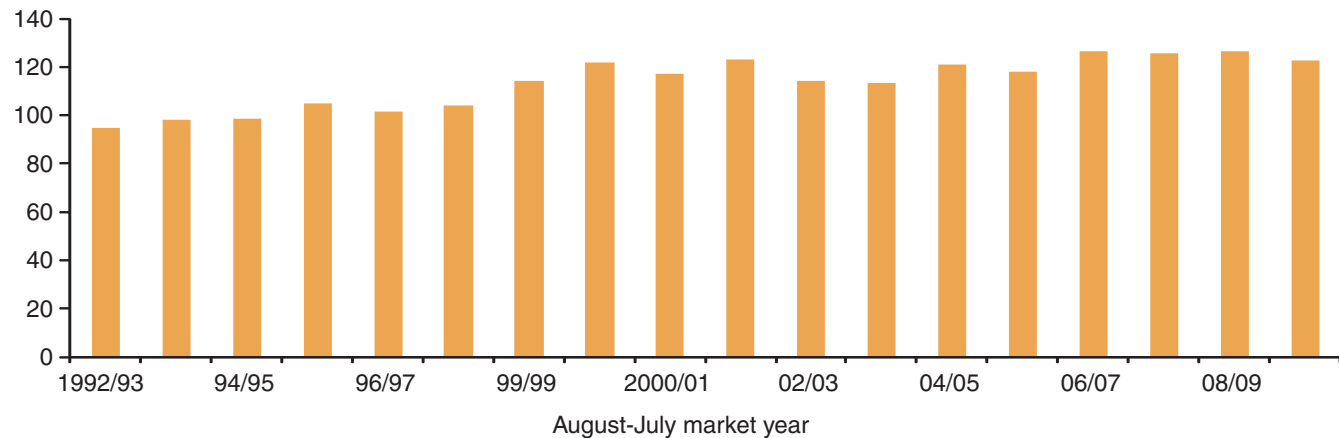
Though U.S. production rose 8 percent in 2009/10 and total U.S. supplies were up 7 percent, the U.S. domestic market was unable to absorb the increased supplies. Total domestic and residual use has grown very little since 2006/07, after growing rapidly during the 1980s and 1990s. Per capita disappearance in the U.S. is essentially flat, with total use growing at about the rate of population growth. Competition from other foods, popularity of protein-based diets, and impacts of the recession on restaurant sales are likely behind the slow expansion in the domestic market in recent years.

In 2009/10, total domestic and residual rice use was 122.6 million cwt, down 3 percent from a year earlier and the smallest since 2005/06 (fig. 17). This estimate includes all food uses, pet food, beer, seed, and a residual that represents unreported losses in processing, marketing, and transporting. Any

Figure 17

Domestic and residual rice use has been nearly stable since 2006/07

Million cwt (rough basis)



Sources: 1992/93-2008/09, *2010 Rice Yearbook Data Set*, Economic Research Service, USDA; 2008/09-2009/10, *World Agricultural Supply and Demand Estimates*, World Agricultural Outlook Board, USDA.

statistical error in any other supply or use account is also implicit in this estimate. Although the residual is never known with certainty, some or all of the year-to-year decline in total domestic use in 2009/10 may have been due to a smaller residual.

By class, long-grain domestic disappearance is estimated at 90.8 million cwt, a decline of almost 9 percent from the year-earlier record. In contrast, combined medium/short-grain domestic disappearance increased 18 percent in 2009/10 to 31.8 million cwt, still well below the 1997/98 record of 44.2 million cwt. For both the all-rice totals and rice by class, estimates of total domestic and residual use balance total supply with total demand when year-end estimates for exports, imports, production, and stocks are released at the end of the market year.

Based on monthly data reported by the U.S. Treasury Department, U.S. shipments of all-rice for use in beer in 2009/10 was reported at 10.2 million cwt, down from 10.9 million a year earlier and the lowest since 1978/79. Rice use in beer peaked in 2001/02 at 17.1 million cwt. The decline has been due to weaker overall beer sales, substitution to other inputs besides rice in making beer, and more competition from imports and microbrewers. This trend is expected to continue. Rice used in beer is not reported by class.

Seed use for 2009/10 is calculated at 4.5 million cwt, second only to the 1980/81 record of 5.1 million cwt. The seed estimate is based on the area planted for the 2010/11 crop. Only an all-rice seed use estimate is reported.

There are no official USDA projections for food use or residual for all-rice or by class.

U.S. Exports Increase 15 Percent Due to Tight Global Supplies and Competitive Prices

Larger U.S. supplies and sustained higher global rice prices helped the U.S. increase exports substantially in 2009/10, with weather-damaged rice crops

in several countries creating both direct and indirect marketing opportunities for U.S. rice growers. U.S. rice producers, despite facing their own weather problems during planting and harvesting, were able to take advantage of the tighter global supplies and a much smaller price differential between U.S. rice and rice from competitors (primarily Thailand and Vietnam) to export larger quantities in 2009/10. Additionally, tight global supplies of medium/short-grain rice in 2008/09 (due to consecutive years of drought in Australia and continued export restrictions by Egypt) encouraged U.S. farmers to sharply expand medium/short-grain acreage in 2009/10. With much larger U.S. medium/short-grain supplies, prices fell, further boosting U.S. medium/short-grain exports.

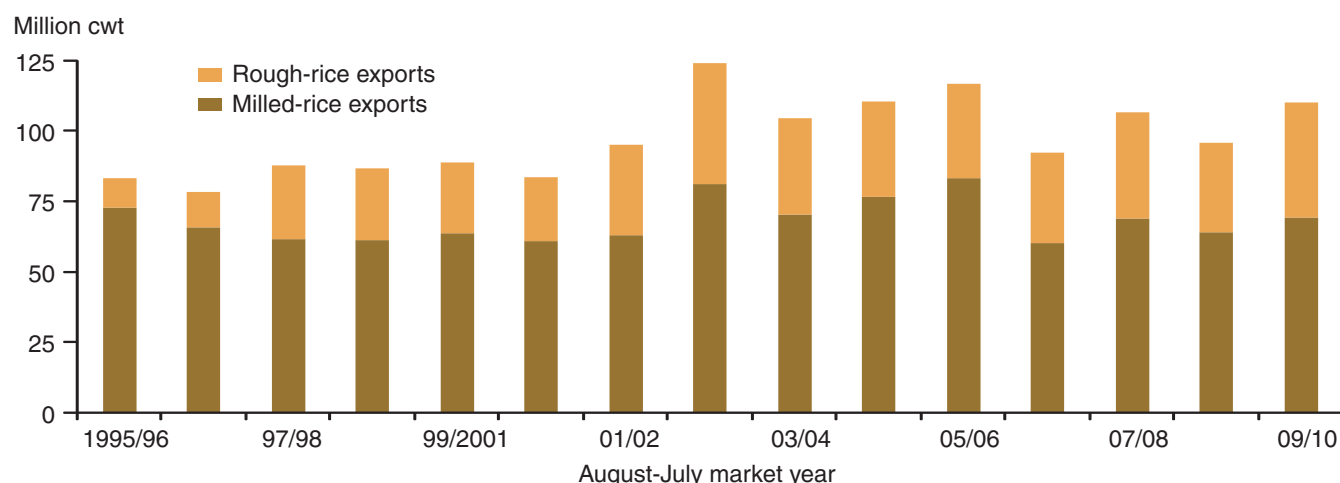
In May 2009, the initial export forecast for 2009/10 was 97 million cwt, up only slightly from 2008/09. But as crop damage reports from India, the Philippines, and the Southern Cone accumulated, expected declines in global trading prices failed to materialize, enhancing the competitiveness of U.S. rice exports. In total, the U.S. exported 110.2 million cwt of rice (rough equivalent) in 2009/10—a 15-percent increase from 2008/09, and 14 percent higher than original projections.

By type, the majority of the year-to-year increase in exports came from dramatically increased shipments of rough rice (fig. 18). From 2008/09 to 2009/10, U.S. rough-rice exports increased nearly 30 percent, representing 63 percent of the total annual increase in all-rice exports. While the increase in rough-rice exports was partially a response to weather problems in South America, the U.S. increased shipments to other markets in Latin America and to the Middle East as well. Many countries overbought rice in 2007/08 during the global food price crisis. Burdened with heavy stocks in 2008/09, those countries imported much less. In 2009/10, however, many countries returned to their pre-crisis buying trends.

Although U.S. milled rice exports increased 8 percent from a year earlier in 2009/10, much of the growth was due to the timing of WTO shipments to

Figure 18

U.S. rough-rice exports increased nearly 30 percent in 2009/10



¹ Total of milled, brown, and rough rice exports on a rough basis.

Sources: 1992/93-2007/08, *2010 Rice Yearbook Data Set*, Economic Research Service/USDA; 2008/09-2009/10, *World Agricultural Supply and Demand Estimates*, <http://www.usda.gov/oce/commodity/wasde/index.htm>.

markets in Northeast Asia and did not indicate long-term growth in sales to these markets. Since joining the WTO, none of the three Northeast Asian buyers—Japan, South Korea, and Taiwan—have ever purchased any rice beyond their commitments under the WTO.

By class, U.S. exports of both long- and medium/short-grain rice increased in 2009/10, with medium/short-grain posting the strongest growth, increasing nearly 30 percent from a year earlier to a record 34.8 million tons (fig. 19). The 2009/10 global medium/short-grain supply situation supported expanded U.S. rice exports. Australia's rice production had not fully recovered from years of drought, and Egypt's rice exports were still limited by export restrictions that were initiated during the 2007/08 price spike. Though exports were not entirely banned, restrictions kept Egypt's 2009/10 exports at 700,000 metric tons—only 58 percent of the country's average export levels before the restrictions were introduced in 2007/08. Even with these supply limitations, prices for medium/short-grain rice fell substantially due to a larger U.S. crop of both Southern and Californian medium/short-grain rice.

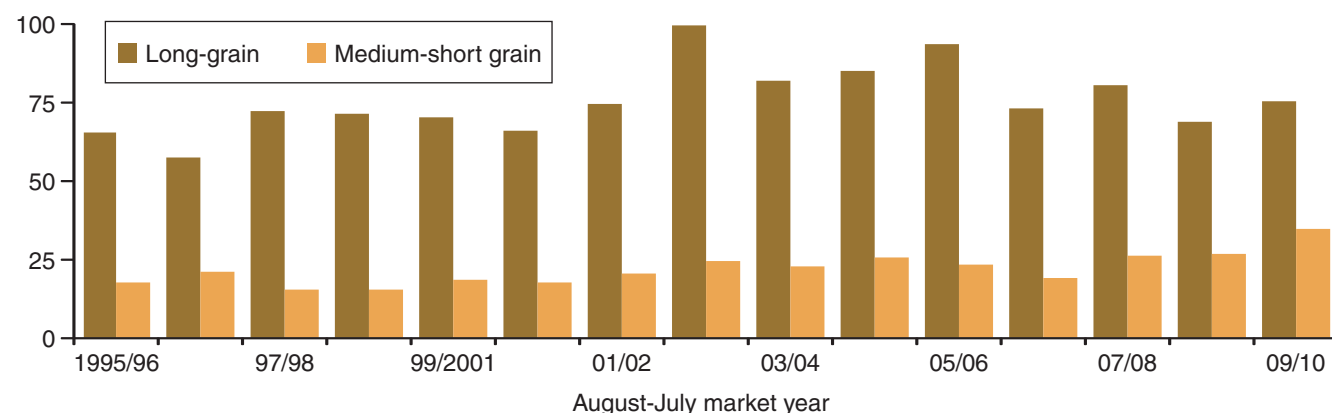
Exports of long-grain rice were up 10 percent to 75.4 million cwt in 2009/10, largely due to increased demand for rough rice in the Western Hemisphere.

Exports by market varied greatly between 2008/09 and 2009/10 (fig. 20). Shipments to Mexico—the largest single-country U.S. export market—increased by 20 percent in 2009/10. Mexico did not experience a production shortfall in 2009/10, but U.S. shipments to Mexico in 2008/09 were down because of a large buildup in stocks in 2007/08. In fact, when 2009/10 Mexican imports of U.S. rice are compared against pre-crisis import levels of 2006/07, growth is a more modest 6 percent. The U.S. continues to have very little international competition in the Mexican market, primarily because Mexico imports mostly long-grain rough rice from the U.S. (the country also imports small quantities of U.S. milled and brown rice, as well as some U.S. medium/short-grain rice). Because Mexico's production of rice has declined

Figure 19

U.S. medium/short-grain exports reached a record 34.8 million tons in 2009/10¹

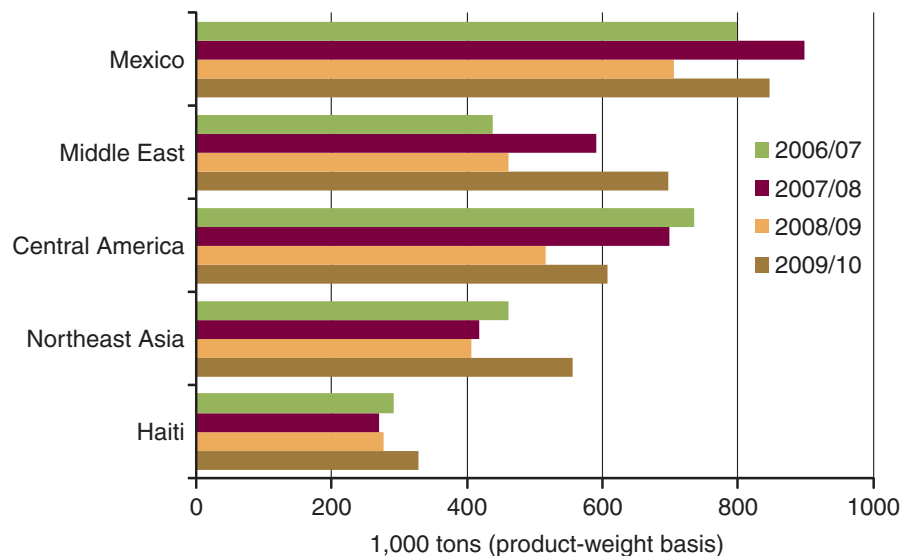
Million cwt (rough basis)



¹Total of milled, brown, and rough rice exports on a rough basis.

Sources: 1996/97-2007/08, *2010 Rice Yearbook Data Set*, Economic Research Service/USDA; 2008/09-2009/10, *World Agricultural Supply and Demand Estimates*, <http://www.usda.gov/oce/commodity/wasde/index.htm>.

Figure 20

U.S. rice exports increased in 2009/10 to all top five markets

Source: U.S. Census Bureau Export Data, 2010.

over the past 35 years, the country has excess milling capacity and generally prefers imports of unmilled rice to maintain their milling capacity.

With imports of U.S. rice up more than 50 percent, the Middle East overtook Central America as the United States' second-largest rice export market in 2009/10 (fig. 21). The scaling back of Egyptian exports played a big role in supporting U.S. gains to the region. Lower U.S. medium/short-grain prices, largely due to the increase in U.S. production, also played a role. Turkey accounted for the largest increase, importing 281,000 tons of U.S. rice—mostly medium-grain rice of Southern origin. This represented an increase of nearly 1,000 percent over 2008/09 import levels. Though Turkey posted the largest year-over-year import gain, Egypt's reduced market participation also created opportunities for exports of U.S. medium/short-grain elsewhere in the Middle East. Both Israel and Syria greatly increased imports of U.S. medium/short-grain in 2009/10.

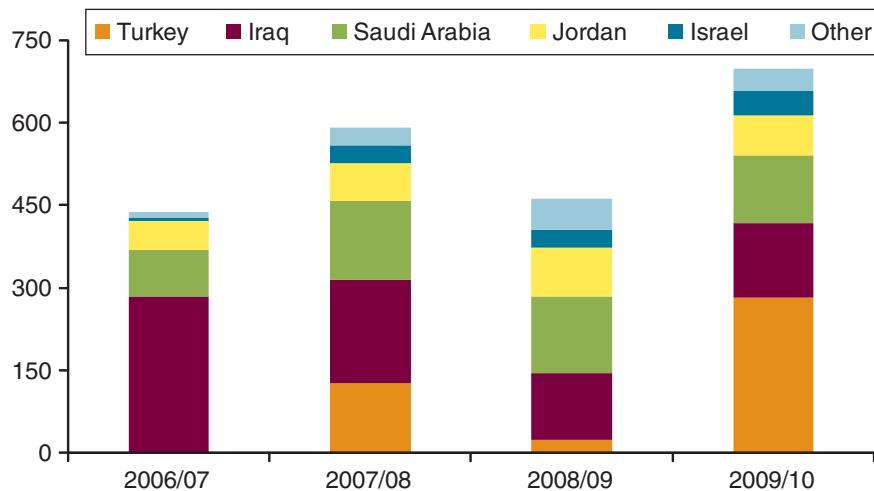
Long-grain milled rice shipments to the Middle East increased as well. In 2009/10, Iraq purchased 135,000 tons of long-grain milled rice from the U.S.—up 12 percent from 2008/09. Saudi Arabia also continued to be an important market for U.S. rice in the region, though imports were down slightly from a year earlier.

U.S. exports to Central America, the third-largest U.S. export market in 2009/10, increased nearly 18 percent in 2009/10 to 608,000 tons on a product-weight basis. Like Mexico, purchased quantities were below 2007/08 levels, which had been motivated by the food price crisis. The biggest increase in U.S. sales in the region was to Panama. After importing only 9,500 tons in 2008/09, Panama bought more than 100,000 tons of U.S. rough rice in 2009/10. These substantial imports were partially driven by a smaller than expected crop resulting from severely dry conditions. Additionally, Panama's stock levels were cut substantially in 2008/09 when the country imported very little rice.

Figure 21

U.S. exports to the Middle East increased 50 percent in 2009/10

1,000 tons (product-weight basis)



Source: U.S. Census Bureau Export Data, 2010.

The timing of annual WTO commitment purchases of medium/short-grain milled rice accounts for much of the 37-percent increase in U.S. exports to Northeast Asia in 2009/10 to 555,000 tons.⁵ In addition, the decline in medium/short-grain prices from 2008/09 (due to large U.S. supplies and a larger share of Southern medium-grain rice) helped to re-initiate purchases by Taiwan. Though Taiwan is obligated to buy a certain quantity of rice each year as part of its WTO commitments, Taiwan did not meet its import commitment in 2007 or 2008, claiming that the trading price of medium/short-grain rice exceeded their ceiling price for imports. But with lower prices in 2009/10, the “ceiling price” problem ended and Taiwan imported more than 100,000 tons of rice.

Although Taiwan accounted for nearly two-thirds of the increase in Northeast Asian imports of U.S. rice in 2009/10, U.S. shipments to both Japan and South Korea were up as well. However, these increases do not represent a trend of increasing imports to the region and were a result of the timing of purchases. According to WTO obligations, each country must fill their quota during their fiscal year, neither of which coincides with the U.S. rice market year.

Shipments to Haiti—the largest market for U.S. long-grain milled rice exports—increased nearly 20 percent in 2009/10. Though Haiti is a major commercial importer of U.S. milled rice, a powerful earthquake in January 2010 destroyed much of the country’s port infrastructure and essentially halted most commercial activity in the months immediately following the disaster. However, food aid donations more than made up for shortfalls in commercial shipments. Donations to Haiti helped to raise total U.S. food aid shipments of rice to all recipients nearly 40 percent from 2008/09, though food aid was less than 5 percent of the total quantity of U.S. rice exported in 2009/10. Commercial shipments to Haiti have since resumed.

Of all the rice-producing countries significantly affected by weather phenomena in 2009/10, Venezuela’s drought had the largest direct impact

⁵For more information on WTO commitment purchases by Japan, South Korea, and Taiwan, please see the Rice Briefing Room, the Japan Briefing Room, and the South Korea Briefing Room at www.ers.usda.gov/Briefing/.

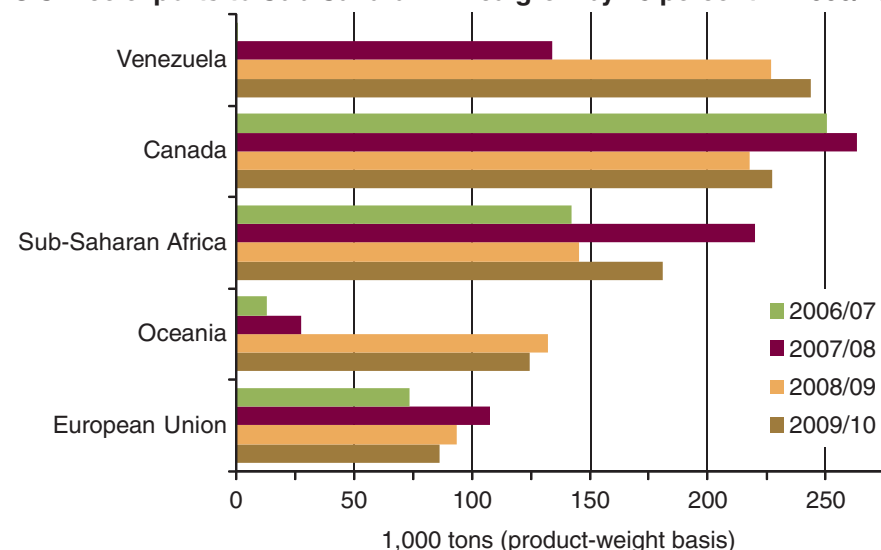
on U.S. rice exports. Because Venezuela has ample rice mills, the country prefers to import rough rice. Venezuela typically purchases its rough rice from neighboring Colombia. After escalating political disputes in 2009, however, the two countries severed trade ties, forcing Venezuela to source rough rice from elsewhere. Venezuela was unable to purchase sufficient amounts of rough rice from trading partners within South America due to the Southern Cone's production problems. The country was able, however, to secure 150,000 tons of rough rice from Argentina, and contracted another 100,000 tons from Ecuador. But Venezuela's efforts to buy rice from Ecuador were largely unsuccessful; although Venezuela made several purchases of Ecuadorian rice, Ecuador's infrastructure proved inadequate for handling and shipping such large quantities of rice. For these reasons, the U.S. was once again the principal supplier of Venezuela's rice imports, which rose 7 percent in 2009/10 to 244,000 tons (fig. 22).

Elsewhere in South America, U.S. rice producers also benefited from Brazil's 2009/10 production shortfall. The U.S. sold approximately 15,000 tons of rice (mostly rough) to Brazil in 2009/10—the first significant U.S. sale to Brazil since 2003. Additionally, the U.S. was able to capitalize on Brazil's decreased exports by making sales into Brazil's Sub-Saharan African markets. For example, in October 2009, the U.S. shipped 13,000 tons of parboiled rice to Nigeria, followed by another shipment of 7,000 tons in May 2010. The U.S. had not shipped significant quantities of parboiled rice to Nigeria since 2005.

Canada is one of the largest export destinations for U.S. long-grain milled rice, and it is unique in that it is one of the few large U.S. export markets that do not produce rice. Because Canada lacks a climate suitable for growing rice, all of its supplies are imported. Though the U.S. remains the largest source of Canadian rice imports, aromatic imports from Thailand, India, and Pakistan are increasing – mostly due to the affluence of Canadian consumers and the country's ethnic mix. Like the U.S., per capita consumption is virtu-

Figure 22

U.S. rice exports to Sub-Saharan Africa grew by 25 percent in 2009/10



Source: U.S. Census Bureau Export Data, 2010.

ally flat in Canada. While total Canadian imports grew in 2009/10, most growth was in aromatic varieties; imports of U.S. rice were nearly flat.

Although U.S. exports of milled long-grain rice to affluent countries were largely flat in 2009/10, U.S. shipments to the lower-income countries of Sub-Saharan Africa increased by 25 percent. Part of this increase was due to larger food aid donations. Cameroon, Niger, and Togo all received food aid donations of over 10,000 tons in 2009/10. But commercial sales also played a role in the increased year-to-year rice shipments, driven largely by Nigeria. In 2009/10, U.S. shipments to Nigeria nearly doubled from 2008/09 levels. Competitive pricing of U.S. rice and a big reduction in Brazil's exportable supplies were the primary reasons for the increase.

Exports to the largely medium/short-grain markets of Oceania were down 6 percent from the previous year to 124,000 tons, with exports falling slightly to nearly every country in the region. Despite the decline, U.S. sales to the region were second only to the 2008/09 record. The U.S. has gained markets in this region since the withdrawal of Australia from the world rice export market.

Finally, U.S. exports to the EU did not post any recovery in 2009/10. Though the U.S. had exported more than 321,000 tons (mostly brown rice) to this market as recently as 2005/06, the EU imposed stringent testing requirements on U.S. rice after the discovery of trace amounts of LL601—a genetically modified rice variety not approved for commercial use—in U.S. rice supplies in 2006. This made U.S. rice more expensive than rice from competing suppliers. The U.S. rice industry took a proactive approach to the problem, and further contamination of U.S. supplies has not been detected. The EU lifted their mandatory testing requirement in May 2010, but U.S. exports to the EU have not yet recovered. In fact, U.S. exports to the EU actually fell slightly in 2009/10.

Ending Stocks Increase, Season-Average Farm Prices Decline, and Annual Milling Rates Are Revised

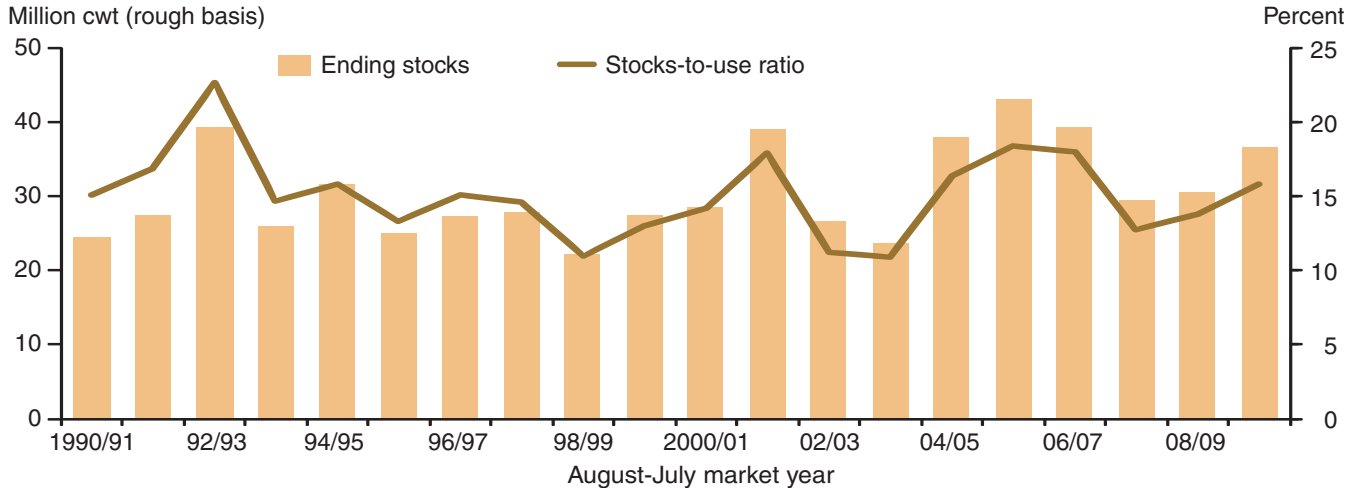
Although much larger U.S. supplies and more competitive prices allowed the U.S. to greatly increase exports in 2009/10, the U.S. continued to build stocks. The 2009/10 carryout is calculated at 36.7 million cwt (rough basis), an increase of 20 percent from a year earlier and the highest since 2006/07 (fig. 23). The estimate is based on data reported in the August 2010 *Rice Stocks* (NASS, 2010).

By class, long-grain stocks are estimated at 23.2 million cwt, an increase of 15 percent from a year earlier. Medium/short-grain ending stocks are estimated at 12.1 million cwt, an increase of 50 percent from 2008/09 and the highest since 2004/05.

U.S. milled rice prices closely followed international prices in 2009/10 – particularly the Thai 100% B quoted price – which remained above long-term averages, but declined from the record levels seen in 2008. The same was true of U.S. rice farm prices in 2009/10. The season-average farm price (SAFP) for both long-grain and medium/short-grain declined in 2009/10 (fig. 24). For long-grain, the annual SAFP declined 14 percent from the

Figure 23

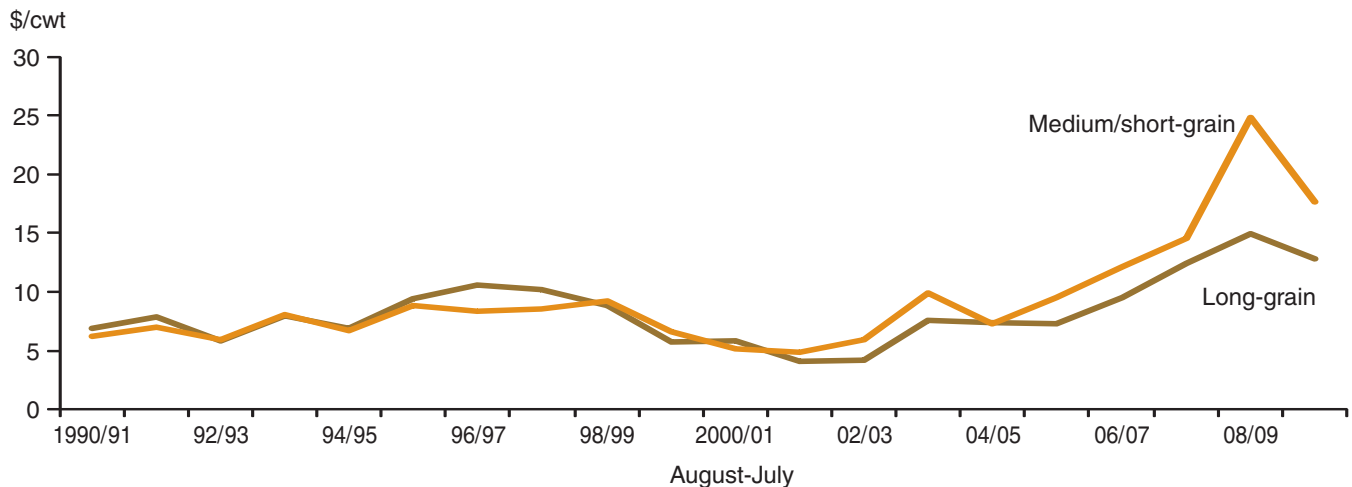
U.S. ending rice stocks increased 20 percent in 2009/10



Sources: 1989/90-2007/08, *2010 Rice Yearbook Data Set*, Economic Research Service, USDA; 2008/09-2009/10, *World Agricultural Supply and Demand Estimates*, World Agricultural Outlook Board, USDA.

Figure 24

U.S. season-average farm prices for both long- and medium/short-grain rice declined in 2009/10



Source: USDA, National Agricultural Statistics Service--*Quick Stats*, http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats_1.0/index.asp.

year-earlier record to \$12.80 per cwt. For combined medium/short-grain, the annual SAFP dropped 29 percent from the year-earlier record to \$17.70 per cwt. Some of the decline in the medium/short-grain price was due to a larger share coming from the South, which is typically priced below California rice.

In May 2010, USDA revised its 2000/01-2009/10 annual all-rice milling rates based on Farm Service Agency data on long-, medium-, and short-grain rice stored under loan in warehouses. Stocks, exports, and domestic and residual estimates for each of these years were revised based on the new milling rates. An all-rice milling rate is used for long- and medium/short-grain rice.

Conclusion

Comparatively favorable prices for rice led to larger U.S. plantings in 2009/10, and consequently a larger crop was harvested than in 2008/09. At the same time, weather problems in several major global markets reduced available global supplies of rice. With ample supplies, the U.S. was able to significantly boost exports in 2009/10 to supply a larger share of global demand. Despite higher exports, U.S. stocks continued to grow, leading to a larger carry-in for 2010/11.

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