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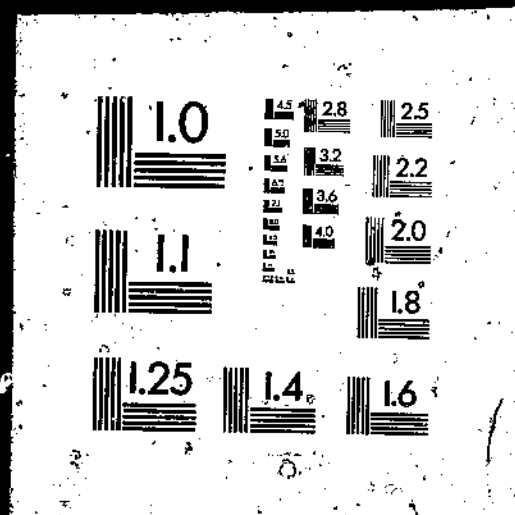
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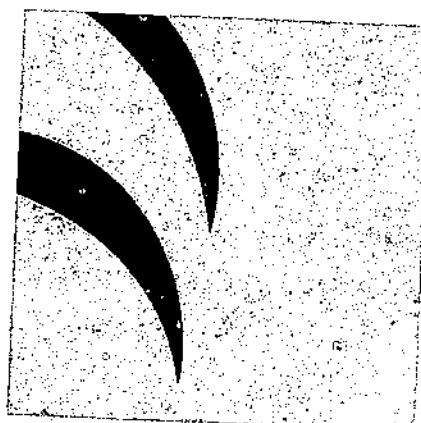
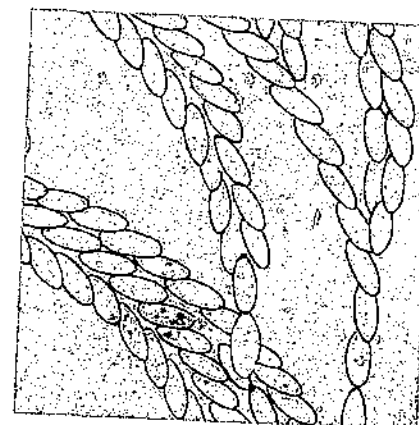
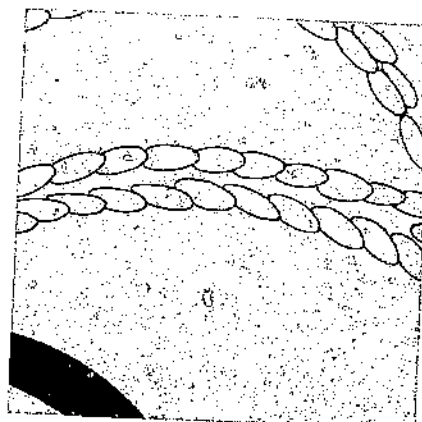
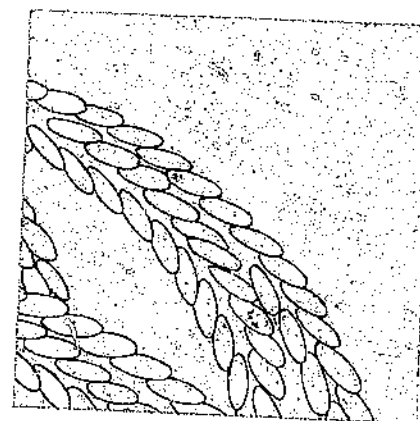
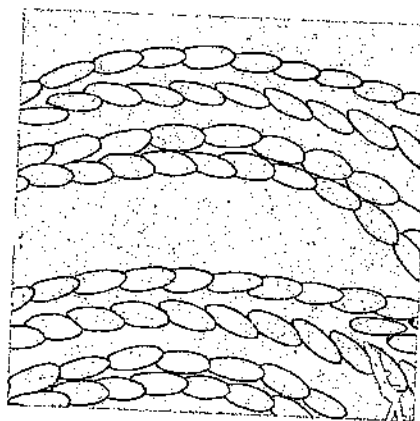
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# U.S. Rice Distribution Patterns, 1986/87

Nathan W. Childs



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**U.S. Rice Distribution Patterns, 1986/87.** By Nathan W. Childs, Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture. Statistical Bulletin No. 776.

### **Abstract**

U.S. rice millers and repackagers distributed 38.3 million hundredweight (cwt) of rice in marketing year 1986/87 for three domestic uses: direct food, processed foods, and beer. This figure represents a 13.8-percent increase over shipments in 1984/85, the previous survey year. Between 45 and 50 percent of U.S. rice is consumed domestically (including seed use and residual); the rest is exported. Rice shipments for use directly in food rose by 1.76 million cwt, shipments for use in processed foods rose by 2.10 million cwt, and, although reported rice shipments to the beer industry increased by only 787,400 cwt, use increased by 1 million. The sharp drop in U.S. rice exports in the early eighties may contribute to further expansion in the domestic rice market. This report assesses rice market shares and trends.

**Keywords:** Milled rice, distribution patterns, domestic rice outlets, market shares, package size, specialty rices, processed foods.

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## Summary

U.S. rice millers and repackagers distributed 38.3 million hundredweight (cwt) of milled rice in marketing year 1986/87 for three major domestic uses: direct food, processed foods, and beer. This figure represents a 13.8-percent increase over shipments in 1984/85, the previous survey year. Domestic uses account for 45-50 percent of U.S. rice (including seed use and residual); the rest is exported. Rice shipments for direct food use rose by 1.76 million cwt, shipments for processing rose by 2.10 million cwt, and, although reported rice shipments to the beer industry increased by only 787,400 cwt, use increased by 1 million cwt. This report assesses rice market shares and trends.

Shipments to the wholesale, retail, and restaurant trade for direct food use totaled 23.4 million cwt in 1986/87. Milled white rice accounted for 80 percent of these shipments, parboiled rice for 14 percent. The Arkansas rice milling area was the major supplier to the direct food use market. The Texas-Mississippi mill area ranked second. Previous surveys combined Arkansas and Mississippi shipments for reporting purposes. However, combining Texas and Mississippi shipments is more reflective of mill ownership.

Package sizes of under 5 pounds accounted for 27.6 percent of total U.S. direct food use distributions, and package sizes of 25-100 pounds accounted for 31.3 percent. Long grain's share of direct food use shipments was 78.7 percent, medium grain's was 20.5 percent, and short grain's was 0.8 percent.

Breakfast cereal, the largest processed food product made from rice (excluding beer), accounted for 4.8 million cwt of rice shipped in 1986/87. The Arkansas rice milling area was the principal source of rice for cereal manufacturers, accounting for 46 percent of reported shipments. The amount of rice used in soups and baby foods decreased from 1984/85, while the amount used in package mixes and pet foods increased substantially. The amount of rice used in various processed foods (pet food, rice cakes, candy, and frozen dinners) not listed separately in previous surveys is reported.

Rice mills cooperating in the 1986/87 rice distribution survey reported shipments to breweries of 7.83 million cwt. The California mill area ranked first in shipments to breweries. The Arkansas mill area ranked second.

# U.S. Rice Distribution Patterns, 1986/87

Nathan W. Childs

## Introduction

Declining U.S. rice exports in the early eighties have focused new attention on the domestic rice market, which accounts for 45-50 percent (excluding shipments to U.S. territories) of domestic milled rice shipments. The detailed data on domestic rice shipments in this study will be helpful in assessing market shares, changes in market outlets, and trends in distribution patterns. Such information is useful for economic analysis of the rice industry and efforts to expand domestic rice consumption.

Data in this report are based on information reported by 31 rice milling and 7 repackaging firms, which accounted for an estimated 90 percent of total domestic (excluding U.S. territories) milled rice shipments in marketing year 1986/87. Since no data are available on their flow patterns, none of the 2.3 million hundred-weight (cwt) (rough basis) of rice imported by the United States in 1986/87 is included in this study. This rice, however, is believed to be consumed primarily by Asian ethnics on the west coast. Imported rice is primarily aromatic and, to a lesser extent, glutinous rice.

## Distribution to Major Domestic Outlets

The three principal U.S. outlets for rice are direct food use, processed foods, and beer. U.S. rice millers and repackagers reported 38.3 million cwt of milled rice shipped to these three major domestic outlets in marketing year 1986/87. This is a 13.8-percent increase over the 33.7 million cwt of milled rice reported shipped to domestic outlets in the 1984/85 milled rice distribution survey (Holder, 1986).

### Direct Food Use

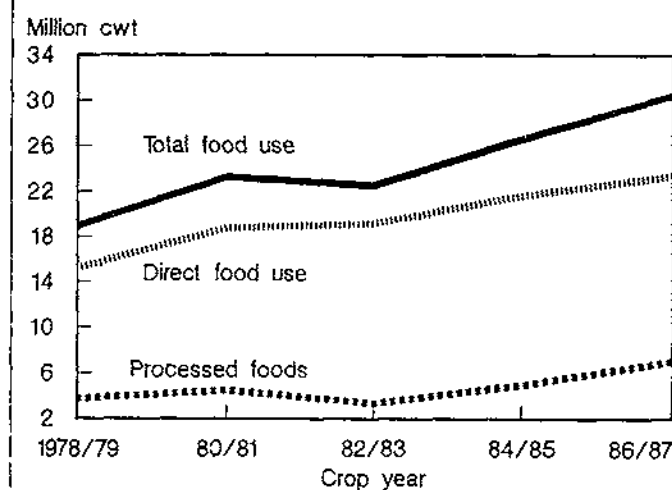
In 1986/87, 23.4 million cwt of milled rice were shipped to domestic wholesale, retail, and food service outlets for direct food use (table 1 and fig. 1; see tables at end of report)--an increase of 1.76 million cwt from 1984/85. This amount includes 555,200 cwt of rice shipped directly from mills as package mixes, compared with 466,550 in 1984/85. The proportion of the total distributed directly from the rice mills and repackagers to each outlet was 71, 21, and 8 percent (table

2). In the previous survey, the distribution was 65, 18, and 17 percent. The proportion of total direct food use shipments ultimately distributed to consumers through retail and food service outlets was 68 and 32 percent. Long-grain rice accounted for 78.7 percent, medium grain for 20.5 percent, and short grain for 0.8 percent of total domestic direct food use shipments during 1986/87. In the 1984/85 survey, long grain's share was slightly less than 75 percent, medium grain's share almost 25 percent, and short grain's share 0.6 percent.

Milled white rice accounted for 80 percent of domestic direct food use shipments in 1986/87, compared with 77 percent in 1984/85. Parboiled, precooked, and brown rice accounted for 14, 3, and 2 percent of direct food use shipments (table 4). Comparable figures for 1984/85 are 17, 4, and 1 percent. Aromatic rice made up most of the remainder in each survey.

Brown rice recorded a substantial increase in both quantity and share of domestic direct food use shipments, while both parboiled and precooked rice declined in quantity and share (fig. 2). Although precooked specialty rice's share of domestic direct food shipments declined by only 1 percent, the reported quantity shipped declined by 31 percent from the amount in the 1984/85 survey. Both the Arkansas

Figure 1  
Domestic food use shipments of rice



and Louisiana-Florida mill areas reported substantial declines in precooked shipments.

Domestic and territory specialty rice shipments (parboiled, precooked, aromatic, and brown rice) totaled 4.69 million cwt (including 89,300 cwt shipped to U.S. territories) in 1986/87, a small decrease from the 4.89 million cwt reported in 1984/85. This decline may be due to the lack of participation by a few brown rice mills. Parboiled rice accounted for 72 percent, precooked for 14 percent, and brown rice for 9 percent of total domestic specialty rice shipments. Comparable figures from the 1984/85 survey are 74, 20, and 6 percent. Other specialty rice products such as aromatic rice accounted for the remaining portion. Brown rice shipments of 407,100 cwt for 1986/87 may be low due to the lack of information from some small brown rice mill operations. Long-grain rice accounted for 94 percent of total domestic specialty shipments, 99 percent of domestic parboiled shipments, and 97 percent of domestic precooked shipments.

To replace some of the nutritive value lost by removing the bran layer in the milling process, 94 percent of the direct food use shipments in the domestic market were treated with thiamin, niacin, and iron enrichments (table 5). This is a substantial increase over the 79 percent reported in 1984/85. Almost 6 percent of the reported shipments received riboflavin treatment, a decline of more than two-thirds from the 19.2 percent reported in 1984/85. Domestic shipments treated with calcium rose from 4.3 percent in 1984/85 to 10 percent in 1986/87. Domestic rice shipments treated with vitamin D rose from 1.1 percent in 1984/85 to 5.9 percent in 1986/87.

## Processed Foods

Breakfast cereals remain the foremost processed food use (excluding beer) of rice in the United States, accounting for shipments of 4.8 million cwt in 1986/87, a 1.22-million-cwt increase from 1984/85 (table 6 and fig. 3). Medium-grain rice remains the most important type of rice used by breakfast cereal manufacturers, although its share declined from 58 percent in 1984/85 to 45 percent in 1986/87. Broken rice made up 30 percent and long-grain rice accounted for 21 percent of the rice used in breakfast cereals. Rice flour accounted for 4 percent of total rice used in cereals, up from only 0.36 percent in 1984/85.

Soup, candy, and frozen dinners each accounted for relatively minor uses of milled rice, but their combined shipments were equivalent to 283,500 cwt (table 6). Shipments for use in soup recorded a substantial decline from 240,600 cwt reported in 1984/85 to 75,600 cwt in the current survey. Rice used in soups and frozen dinners were the long-grain type. Two-thirds of the 146,800 cwt of rice used in candy were broken and the remainder was medium grain.

Shipments of milled rice to domestic processors for use in package mixes were equivalent to 949,500 cwt of milled rice in 1986/87 (table 6). An additional 555,200 cwt of rice were shipped directly from participating mills as package mixes (table 2). This represents a substantial increase over the 466,550 cwt of rice shipped directly by millers as package mixes and the 100,400 cwt shipped directly from mills to domestic processors for use in package mixes in 1984/85. Long-grain rice accounted for 78 percent of the rice shipped

Figure 2  
Domestic specialty rice shipments

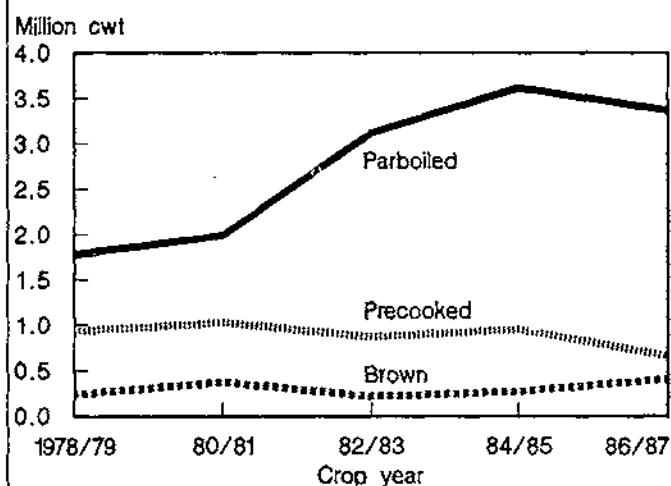
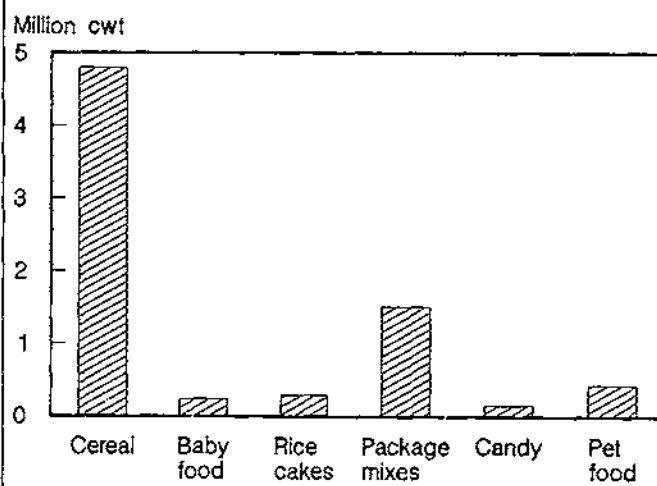


Figure 3  
Principal uses of rice in processed foods, 1986/87



to domestic processors for use in package mixes, and medium-grain rice accounted for most of the remainder. Long-grain rice accounted for all of the rice shipped to processors for package mixes in 1984/85.

Rice shipments for use in baby foods, rice cakes, and pet foods accounted for 951,000 cwt. Shipments for baby foods declined from 315,700 cwt in 1984/85 to 232,500 cwt in 1986/87. Over 90 percent of the rice used in baby foods was rice flour and the remainder was mostly long grain. Rice cakes, accounting for 287,500 cwt of milled rice, used primarily long-grain rice and some small amounts of short-grain rice. Rice used in pet foods was almost 100-percent broken. An additional 91,200 cwt of rice flour were shipped to domestic processors for use in such products as a non-allergenic baking powder, dusting powder for certain fried foods and pizza, and ingredients in various diet snack foods (table 6).

### Beer Brewing

Rice millers cooperating in the 1986/87 milled rice distribution survey reported shipments to breweries of only 7.84 million cwt (table 6). However, data from the U.S. Department of Treasury, Bureau of Alcohol, Tobacco, and Firearms, reported 10.6 million cwt of milled rice used by brewers in 1986/87. This difference cannot be fully explained by the fact that some rice mills did not participate in the survey. The few white rice millers not cooperating in the 1986/87 survey ship primarily to the export market. The 1984/85 milled rice survey also reported an undercount of similar magnitude for rice shipments to brewers (9.6 million cwt versus 7 million). An apparent discrepancy exists between reported shipments and reported use.

Broken rice accounted for almost 92 percent of the rice used by brewers in 1986/87. This is an increase over the 80 percent reported in 1984/85. The increased use of broken rice in beer processing is mirrored by the decline in the use of medium-grain rice in beer. Brewers prefer to exhaust the available supply of broken rice before using the higher priced medium-grain rice.

### Per Capita Consumption of Rice

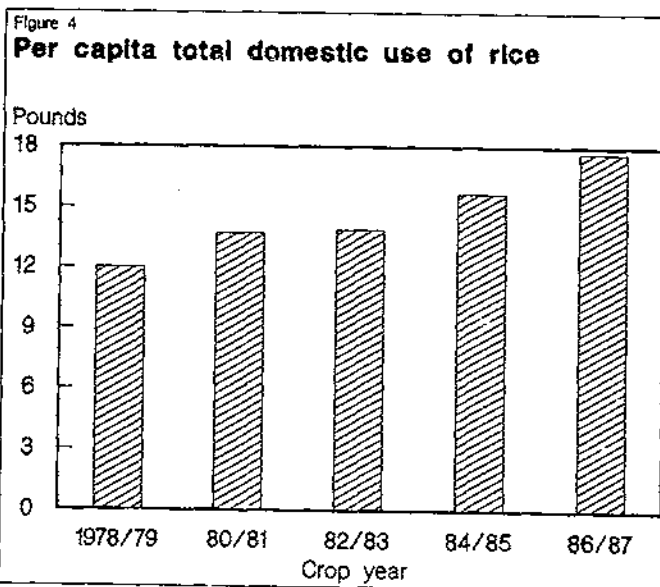
Rice distribution data help determine changes in per capita direct food use in the nine major geographic regions of the United States. (See table 8 for a listing of States in each census region.) The regional per capita rice consumption data in table 7 are for direct food use only and do not show total use. These data are based on distribution of rice for direct food use to

States and regions as reported by rice millers and repackagers. Shipments to U.S. territories are excluded as are Government distributions, imports (for which no State and regional destination data are published), and distribution for use by the military, use in processed foods, and use in brewing beer. However, 555,200 cwt of milled rice shipped directly by mills as package mixes are included.

National per capita consumption of rice for direct food use rose from 8.6 pounds in 1984/85 to 9.7 pounds in 1986/87. If the quantity of rice used in processed foods is included in the per capita calculation, per capita domestic food consumption would equal 12.6 pounds. Adding the 10.6 million cwt of rice used by domestic brewers to the total domestic food use shipments yields a total domestic per capita consumption of 17 pounds. Finally, adding the 2.3 million cwt (rough basis) of imported rice yields a total per capita domestic consumption of 17.6 pounds (fig. 4).

The Pacific, Middle Atlantic, West South Central, and South Atlantic regions reported the highest per capita consumption of rice for direct food use in the United States in 1986/87. The Pacific region had the highest per capita consumption of rice for direct food use, 16.2 pounds (table 7), a substantial increase from 12.4 pounds in 1984/85. This figure does not include consumption of 2.3 million cwt (rough basis) of imported rice, which is estimated to have been consumed primarily in this region. The Pacific region ranked third in per capita consumption in 1984/85.

The Middle Atlantic region's reported per capita consumption of rice was 13.6 pounds, down from 14.1 pounds in 1984/85. A 26-percent decline in reported



shipments to New Jersey is the cause of this region's decline in per capita consumption. The West South Central region also reported a decline in per capita consumption, from 14 pounds in 1984/85 to 12 pounds in 1986/87. The region moved from second to third place in per capita consumption. Smaller direct food shipments to Louisiana and Texas account for the decrease in per capita consumption in this region. Per capita consumption in the South Atlantic region rose from 7.9 pounds to 11.5 pounds. Much of the reported increase in per capita consumption in the South Atlantic was due to substantially increased shipments to Florida, which increased from 1.49 million cwt in 1984/85 to 2.34 million cwt in 1986/87. However, a significant share of the shipments to Florida is believed to be unreported exports destined to Haiti from Miami.

Reported per capita consumption figures do not include rice used in processed foods. Processed food use has increased substantially in recent years. The decreases in per capita direct food use in the West South Central and Middle Atlantic regions are likely the results of substitutions from direct food use of rice to processed foods. No State shipment data on rice use in processed foods are available.

### Distribution of Rice by Region, Package Size, and Type

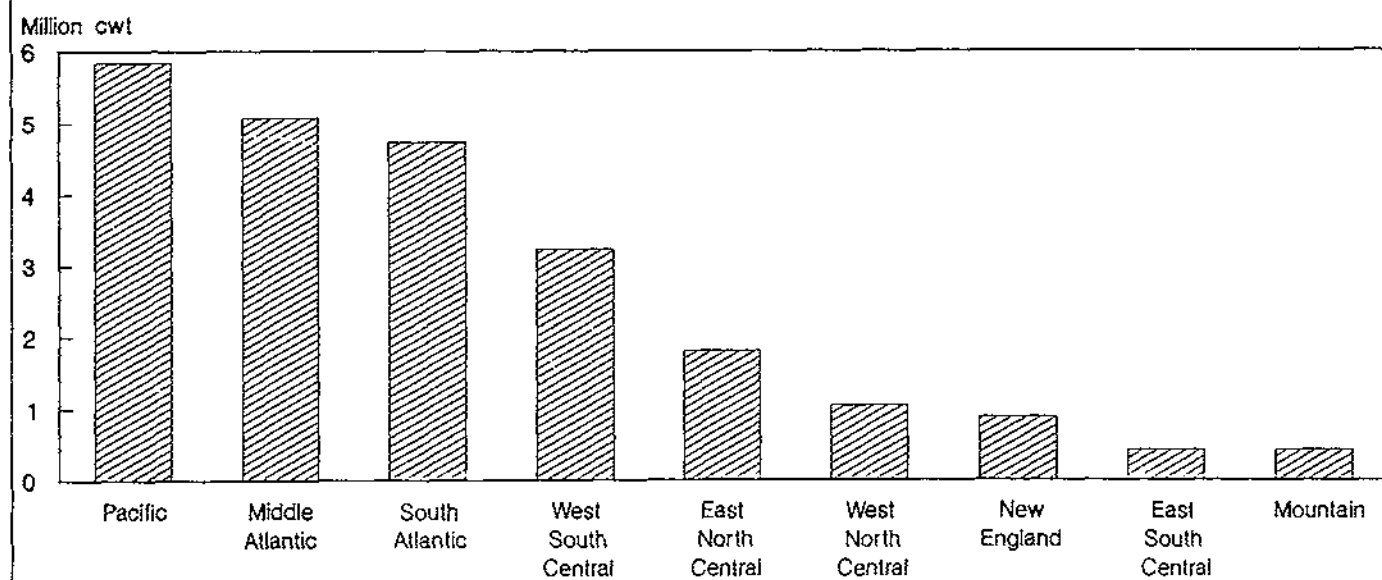
Reported direct food use shipments to the Pacific region totaled 5.84 million cwt in 1986/87, ranking the region first in receiving domestic direct food use ship-

ments (table 8 and fig. 5). California was the most important rice-consuming State in both the Pacific region and the Nation, accounting for 85 percent of direct food use shipments to the Pacific region, up from 79 percent in 1984/85. Shipments to California increased from 3.45 million cwt in 1984/85 to 4.96 million cwt in 1986/87, making the State the largest market for direct food use shipments. California alone accounted for 21 percent of total domestic direct food use shipments.

Long-grain rice accounted for 47 percent and medium-grain rice 50 percent of direct food use shipments to the Pacific region. Rice shipments to Hawaii were almost 93 percent medium grain. Over 54 percent of the rice shipments for direct food use to the Pacific region were shipped in packages of 25-100 pounds or bulk. No other geographic region had as high a proportion of its rice for direct food use packaged in these size categories. The Pacific region received 602,000 cwt of specialty rice, up from 393,900 in 1984/85. California accounted for 80 percent of the specialty rice shipped to the Pacific region.

The Middle Atlantic region received 5.07 million cwt of rice for direct food use in 1986/87, down from 5.25 million cwt in 1984/85, making it the second largest outlet for this class of rice use (table 8). New York received over half the shipments to the Middle Atlantic region, and New Jersey received over a third. Shipments to New York increased slightly since 1984/85, while shipments to New Jersey declined by almost 26 percent. Long-grain rice accounted for 84.9 percent of the shipments to this region and medium grain 14.8 per-

Figure 5  
Destination of direct food use shipments of rice by region, 1986/87



cent. Long-grain rice accounted for 75.2 percent of the shipments in 1984/85. All package size categories were about evenly represented except for bulk shipments, which accounted for only 3.3 percent of direct food use shipments.

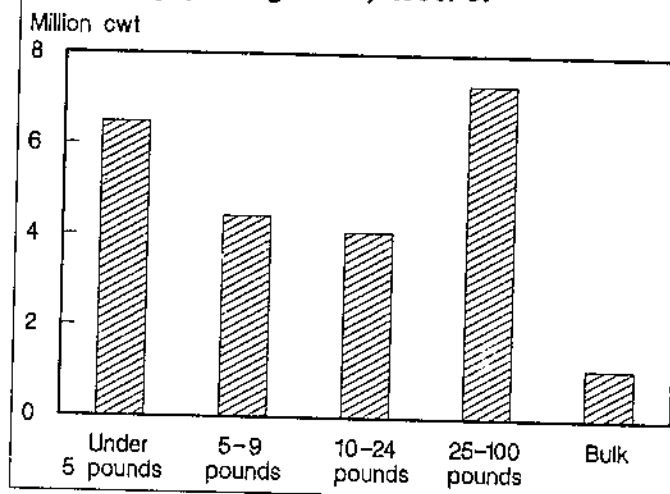
Direct food use shipments to the South Atlantic region totaled 4.73 million cwt in 1986/87, a substantial increase over the 3.17 million cwt reported in 1984/85. The South Atlantic region rose from fourth to third place in domestic direct food use shipments in 1986/87. Shipments to Florida accounted for 60 percent of total shipments to the region, up from 47 percent in 1984/85. Shipments to Florida increased from 1.49 million cwt in 1984/85 to 2.84 million cwt in 1986/87, making Florida the second largest single State outlet for direct food use. Except for bulk shipments, which accounted for only 0.4 percent of total shipments, all package size categories were about evenly represented in the South Atlantic region.

The West South Central region received 3.23 million cwt of rice for direct food use in 1986/87, down from 3.7 million in 1984/85. The region ranked fourth in shipments of rice for direct food use in 1986/87. Texas, Arkansas, and Louisiana accounted for 98 percent of the receipts. Shipments to both Texas and Louisiana declined substantially between 1984/85 and 1986/87, while shipments to Arkansas increased slightly. Long-grain rice, with 87 percent of the total receipts, was the most popular rice for direct food use in the West South Central region. Medium-grain rice accounted for the remainder. The most popular package sizes were under 5 pounds and 25-100 pounds.

Of the total direct food use shipments reported for 1986/87, package sizes of less than 5 pounds accounted for 28 percent (6.48 million cwt) and 25- to 100-pound sizes accounted for 31 percent (7.34 million cwt) (table 8 and fig. 6). Package sizes of 5-9 pounds and 10-24 pounds accounted for 19 percent (4.42 million cwt) and 17 percent (4.08 million cwt) of total direct food use shipments. Bulk shipments accounted for 5 percent of direct food use shipments. Overall, the medium-range package sizes (5-9 pounds and 10-24 pounds) increased their shares of domestic direct food shipments, while the larger package sizes (25-100 pounds and bulk) declined as a share of domestic direct food use shipments. The share accounted for by the smallest package size category (under 5 pounds) remained approximately the same.

Long-grain rice accounted for 78.7 percent of the total reported direct food use shipments in 1986/87 (table 8). However, eight of the nine geographic regions had a long-grain use proportional share above the U.S.

Figure 6  
Distribution of direct food use shipments,  
of rice by package size, 1986/87



average, ranging from 81.7 percent in the Mountain region to 94.8 percent in the South Atlantic region. The Pacific region was the only region with a long-grain rice share less than the national average. The South Atlantic region ranked first in long-grain receipts, with 4.49 million cwt, replacing the Middle Atlantic region, with 4.3 million cwt, as the largest market for long-grain rice.

Medium-grain rice captured 20.5 percent of the total direct food use market, and short-grain rice took 0.8 percent (table 8). The Pacific region received the largest shipment of medium-grain rice for direct food use, about 2.91 million cwt. The Middle Atlantic region ranked a distant second with 749,800 cwt. Shipments of short-grain rice totaled 187,400 cwt. The Pacific region received the largest shipment of short-grain rice (169,300 cwt), and the Middle Atlantic region received most of the remainder.

Distribution of specialty rice (parboiled, precooked, aromatic, and brown rice) was highest to the Middle Atlantic, South Atlantic, and West South Central regions (table 8). These three regions accounted for 56 percent of total domestic specialty rice shipments in 1986/87. Although shipments of specialty rice to the Middle Atlantic region increased from 281,000 cwt to 1.05 million cwt between 1984/85 and 1986/87, shipments to the West South Central and South Atlantic regions declined. The Pacific and East North Central regions ranked fourth and fifth in specialty rice shipments, and shipments to both regions increased between 1984/85 and 1986/87. Total domestic specialty rice shipments, excluding U.S. territories, increased from 4.19 million cwt in 1984/85 to 4.6 million cwt in 1986/87.

## Rice Shipments to Territories and for Export

Direct food use shipments of rice to U.S. territories totaled 3.8 million cwt in 1986/87 (table 9), a small increase from the 3.62 million cwt reported in 1984/85. Puerto Rico received over 86 percent of the shipments, with short-grain accounting for 57 percent of the total. Rice shipments to Puerto Rico declined 53,700 cwt from 1984/85. The only other U.S. territories to receive milled rice shipments were Guam and the trust territory, with shipments totaling 228,100 cwt and 287,900 cwt. Shipments to these two territories were primarily medium-grain rice that was shipped in larger package sizes (25-100 pounds and bulk).

For all shipments to territories, long-, medium-, and short-grain rice shares were 10, 40, and 50 percent (table 9). Packages of less than 5 pounds were the most popular, accounting for 53 percent of total shipments to the territories. Bulk shipments, primarily to Puerto Rico and the trust territories, accounted for a third of the shipments. The United States shipped 89,300 cwt of specialty rice to U.S. territories in 1986/87, more than twice the quantity shipped in 1984/85. All specialty rice shipments to U.S. territories went to Puerto Rico and 95 percent of it came from the Louisiana-Florida mill area.

Exports of milled rice for direct food consumption in 1986/87 totaled 45.31 million cwt (table 10). This is a substantial increase over the 37.39 million cwt reported in 1984/85. The impact of the marketing loan program started in April 1986 was responsible for much of the increase in exports. The export figure probably underestimates total U.S. rice exports for two reasons. First, a few mills that primarily export rice did not participate in the survey, and second, rough rice exports were excluded.

Almost 50 percent of all direct food use exports of rice were shipped from the Arkansas mill area. Rice in 25- to 100-pound bags (mostly 100 pounds) accounted for 58 percent of all exports, and bulk shipments accounted for 34 percent. This package size distribution is very similar to that reported in 1984/85. Long- and medium-grain rice accounted for 79 percent and 21 percent of the market. Comparable figures for 1984/85 are 74 percent and 26 percent. Short-grain rice exports accounted for only 0.1 percent of reported shipments in 1984/85 and 1986/87. Exports of specialty rice totaled 14.3 million cwt in 1986/87, a 4.4-million-cwt increase over the quantity shipped in 1984/85.

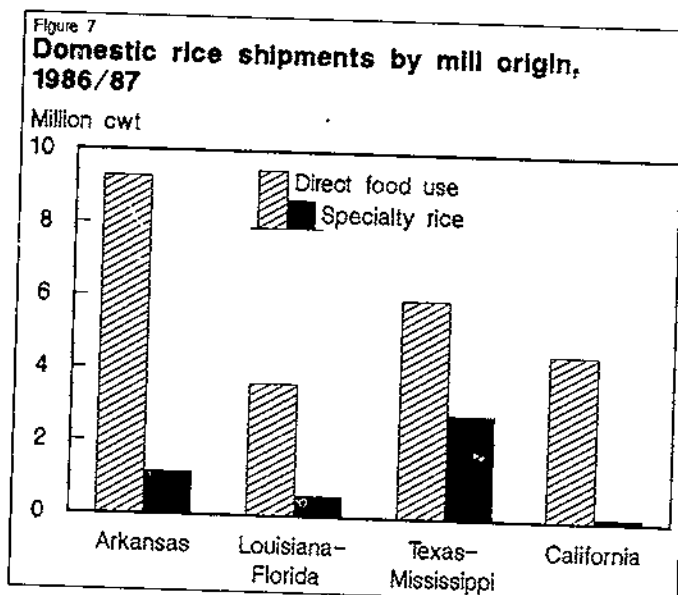
Over half the specialty rice exported came from the Arkansas mill area. The Texas-Mississippi mill area shipped most of the remainder.

## Mill Origin of Rice Shipments

Rice distribution data from firms with rice milling facilities in more than one State were tabulated as originating in the State where the major volume was processed. Although only a few firms operate mills in more than one State, results of the origin data may be slightly biased since firms with multimill operations do not supply separate data for each facility. Because of the small number of rice mills in Mississippi, survey data from Texas and Mississippi are combined to prevent disclosure of specific mill operations. In a similar manner, survey data from Louisiana and Florida rice mills are combined. For reporting purposes, shipments by repackagers are assumed to originate from the State in which the rice was milled.

### Arkansas

Arkansas mills produced 39.3 million cwt, or 46 percent of U.S. production of milled rice in 1986/87 (table 3). Rice milling firms in the Arkansas mill area reported distributions of 9.28 million cwt of rice for domestic direct food use in 1986/87, up from 8.32 million cwt reported in 1984/85 (table 11 and fig. 7). The Middle Atlantic region was the largest market, accounting for 31 percent of direct food use shipments in 1986/87. The South Atlantic (primarily Florida) and East North Central (primarily Missouri) regions ranked second and third, accounting for 24 and 12 percent of direct food use shipments.





Almost 95 percent of the Arkansas mill area's shipments for direct food use were long grain, and 5 percent were medium-grain rice. Short-grain shipments accounted for 0.3 percent of total shipments. Package sizes of 25-100 pounds accounted for 39 percent of direct food use shipments and the other package size groups (except bulk) about evenly divided the remaining direct food use rice shipments. The Arkansas mill area supplied 1.15 million cwt of specialty rice for domestic use (fig. 7), an increase from the 795,600 cwt reported in 1984/85.

U.S. territories are not an important market for the Arkansas mill area (see table 9). Only 131,000 cwt of rice were reported as shipped to territories in 1986/87, of which 96 percent were medium grain. The shipments were composed primarily of packages of less than 5 pounds, and all shipments were to Puerto Rico. The Arkansas mill area shipped 4,800 cwt of specialty rice to Puerto Rico.

The Arkansas mill area is the largest exporter of milled rice for direct food use, exporting 21.8 million cwt in 1986/87 (see table 10). This is an increase of over 13.1 million cwt from the 8.62 million reported in 1984/85. The Arkansas mill area accounted for 48 percent of total exports from mills cooperating in the 1986/87 survey. Nearly 99 percent of the shipments were long grain. Almost 65 percent of the exports from Arkansas mills were shipped in large package sizes of 25-100 pounds, and most of the remainder were shipped in bulk. The Arkansas mill area was also the largest exporter of specialty rice products in 1986/87, shipping 7.78 million cwt or 54 percent of total specialty rice exports.

The Arkansas mill area was the largest supplier of rice to breakfast cereal manufacturers in 1986/87, with 46 percent (2.18 million cwt) of the total reported shipments (table 12). This mill area was also the largest supplier of rice for package mixes and soups. The Arkansas mill area accounted for 31 percent of the total rice shipped to brewers and was the second largest supplier of rice for brewing (fig. 8). The Arkansas mill area supplied 202,900 cwt (71 percent) of milled rice for use in rice cakes.

#### Louisiana-Florida

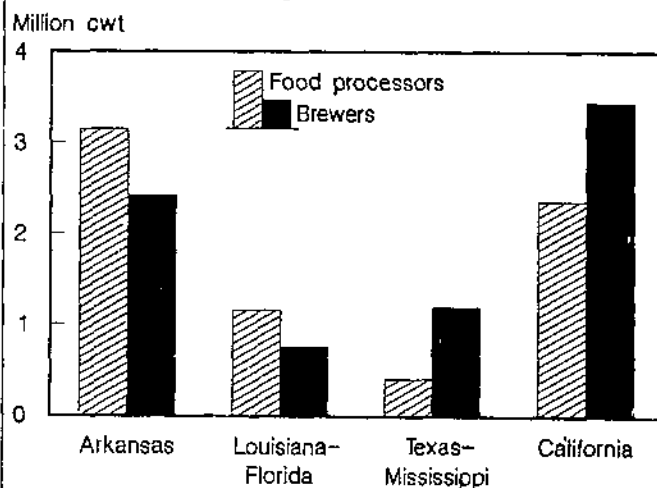
Louisiana-Florida mills produced 11.1 million cwt of milled rice in 1986/87, or 13 percent of the Nation's production (table 3). Rice milling firms in the Louisiana-Florida area shipped 3.62 million cwt of rice for direct food use in 1986/87 (table 13 and fig. 7), a 9.4-percent increase over that reported in 1984/85. The West South Central region accounted for 35 percent of ship-

ments and was the principal market for direct food use shipments from the Louisiana-Florida rice milling area. (Arkansas was the most important outlet in the West South Central region, accounting for 53 percent of the shipments to the region.) The South Atlantic and Middle Atlantic regions ranked second and third in importance as direct food use rice markets for the Louisiana-Florida mill area in 1986/87. Florida was the most important outlet in the South Atlantic region, and New York and New Jersey were the most important outlets in the Middle Atlantic region. Long-grain rice shipments to California in smaller sized packages (less than 25 pounds) also constituted an important market for the Louisiana-Florida mill area.

Rice shipments from the Louisiana-Florida mill area were 79.6 percent long grain and 20.4 percent medium grain. Package sizes of under 5 pounds accounted for 52 percent of domestic shipments and package sizes 5-9 pounds accounted for 31 percent. The Louisiana-Florida mill area shipped 473,100 cwt of specialty rice for domestic consumption, up from 296,500 cwt in 1984/85.

The Louisiana-Florida rice milling area reported shipments of 862,500 cwt of rice to U.S. territories in 1986/87 (see table 9). This was equal to almost 75 percent of the 1.15 million cwt shipped to territories by all mills in the southern rice-growing States. The Louisiana-Florida mill area ranked second behind California in total shipments to U.S. territories. All shipments were to Puerto Rico, and medium-grain rice accounted for 76 percent of the shipments to Puerto Rico by the Louisiana-Florida mill area. Most of the shipments were in packages of less than 5 pounds.

Figure 8  
**Shipments to domestic food processors and brewers by mill origin, 1986/87**





This mill area shipped 84,500 cwt of specialty rice to Puerto Rico, accounting for 95 percent of total specialty rice shipments to U.S. territories.

Almost 16 percent, or 7.1 million cwt, of the exports by rice mills cooperating in the 1986/87 rice distribution survey originated from the Louisiana-Florida mill area (see table 10). This is an increase over the 14 percent (5.4 million cwt) reported in 1984/85. Seventy-nine percent of the Louisiana-Florida mill area export shipments were long grain, and the remainder were medium grain. Over 80 percent of the exports were shipped in large package sizes (25-100 pounds). Louisiana-Florida ranked last in exports of specialty rice, reporting shipments of 161,000 cwt, only a tenth the quantity reported in 1984/85.

Total shipments of rice to domestic processors from Louisiana-Florida mills were 1.92 million cwt, up from 1.47 million cwt in 1984/85 (see table 12). With reported distributions to brewers of 758,500 cwt excluded, 53 percent (616,400 cwt) of shipments from the Louisiana-Florida rice milling area to processors were to breakfast cereal manufacturers. Almost 80 percent of the shipments for cereal from the Louisiana-Florida mill area were medium-grain rice, and most of the balance was evenly split between rice flour and broken. Louisiana-Florida area mills were the largest suppliers of rice for use in candy, 86,800 cwt, and the second largest supplier of rice used in package mixes, 513,800 cwt (including 238,600 cwt of rice shipped directly by mills as package mixes). Use of rice in package mixes from the Louisiana-Florida mill area more than doubled between 1984/85 and 1986/87.

### Texas-Mississippi

Rice mills in the Texas-Mississippi area produced 14.1 million cwt, or 16 percent of U.S. milled rice in 1986/87 (table 3). The Texas-Mississippi area reported distributions of 5.99 million cwt for domestic direct food use in 1986/87, a 239,900-cwt decrease over direct food use shipments in 1984/85 (table 14). Some of this decline in milled rice shipments from Texas-Mississippi can be explained by the large quantities of rough rice exported to Brazil from the Texas-Mississippi mill area in 1986/87. The South Atlantic region was the most important outlet for the Texas-Mississippi mill area for direct food use shipments in 1986/87. The South Atlantic region accounted for 27 percent of total direct food shipments from Texas-Mississippi, and shipments to Florida accounted for 54 percent of the shipments to this region. The Pacific (primarily California), Middle Atlantic, and West South Central regions ranked second, third, and fourth. These four regions accounted for over 80 percent of total domestic

direct food shipments from the Texas-Mississippi area.

Long-grain rice accounted for 98 percent of the shipments from this region, up from 87 percent in 1984/85. The most popular package sizes were 25-100 pounds and under 5 pounds. Each of these two size categories accounted for roughly a third of domestic shipments from the Texas-Mississippi mill area.

The Texas-Mississippi mill area is not a major supplier of rice to U.S. territories, accounting for only 4 percent of the total shipments in 1986/87 (table 9). Shipments of 156,200 cwt in 1986/87 were down from the 226,000 in 1984/85. The only U.S. territory market for the Texas-Mississippi mill area was Puerto Rico, and almost all of the shipments were smaller packages (under 5 pounds and 5-9 pounds) of long-grain rice.

Exports from the Texas-Mississippi mill area declined from 17.2 million cwt in 1984/85 to 8.33 million cwt in 1986/87 and its rank declined from first to a distant second (table 10). Ninety-nine percent of the Texas-Mississippi mill area exports were long-grain rice. Shipments of package sizes 25-100 pounds and bulk accounted for 79 percent of exports. The remainder were shipped primarily in package sizes under 5 pounds. Texas-Mississippi area mills accounted for 39 percent (5.64 million cwt) of the 14.3 million cwt of specialty rice exported in 1986/87.

The Texas-Mississippi mill area was the smallest supplier of rice to domestic food processors and brewers (table 12). Total shipments to domestic processors and brewers totaled 1.6 million cwt of which 1.2 million cwt went to brewers. This is approximately equal to the 1.63 million cwt, of which 1.07 million went to brewers, shipped to domestic processors in 1984/85. The Texas-Mississippi mill area was the second largest supplier of rice for use in soup, accounting for 30 percent (22,600 cwt). Rice flour shipments from the Texas-Mississippi mill area for use in cereals increased from 13,500 cwt in 1984/85 to 73,700 cwt in 1986/87. Shipments from the Texas-Mississippi mill area for use in package mixes (including 316,300 cwt shipped directly from mills as package mixes) increased from 318,100 cwt to 384,600 cwt between 1984/85 and 1986/87. The Texas-Mississippi mill area supplied 38,500 cwt and 69,700 cwt of rice for frozen dinners and pet foods. Shipments from the Texas-Mississippi mill area for use in soup declined from 182,700 cwt in 1984/85 to 22,600 cwt in 1986/87.

## California

Rice mills in California produced 21.2 million cwt, or 25 percent of the Nation's total in 1986/87 (see table 3). California mills reported shipments of 4.54 million cwt for direct food use in 1986/87 (table 15). This was a substantial increase over the 2.74 million cwt reported in 1984/85. The principal direct food use rice market for the California area was the Pacific region, which accounted for over 84 percent of the 1986/87 shipments. Of the shipments to this geographic region, California was foremost, accounting for almost 69 percent of the California mill area's total shipments for domestic direct food use. Most of its shipments were 25- to 100-pound bags (41 percent) and bulk (22 percent). Although California mills reported direct food use shipments to all geographic regions, the Middle Atlantic and Pacific regions accounted for almost 93 percent. No other single geographic region accounted for over 2 percent of domestic shipments.

Long-grain rice accounted for 19.7 percent of the California mill area's total direct food use shipments in 1986/87, and medium grain accounted for 76.6 percent (table 15). Comparable figures for 1984/85 are 20.8 percent and 76.3 percent. The California mill area was the only mill area to report an increase in medium grain's share of domestic shipments and a decrease in long grain's share. Most short-grain shipments were to California. The California mill area ships few small packages (less than 5 pounds). The California mill area was the smallest supplier of specialty rice, shipping 116,000 cwt in 1986/87. However, this was a substantial increase over the 2,200 cwt reported in 1984/85.

The California mill area was the largest supplier of milled rice to U.S. territories, accounting for 69.8 percent of total shipments in 1986/87 (see table 9). California mills were the major supplier of rice to Puerto Rico, with 65.1 percent of that market. Eighty-one percent of the California mill area's total shipments of 2.66 million cwt to U.S. territories went to Puerto Rico. Eighty-eight percent of the shipments to Puerto Rico were short-grain rice, and the remainder was medium grain. Almost 49 percent of the shipments to territories were bulk shipments, and the remainder was mostly smaller package sizes (under 5 pounds). The California mill area was the only supplier of rice to Guam and the trust territory, shipping 228,100 cwt and 287,900 cwt.

California mills exported 8.11 million cwt of milled rice for direct food use in 1986/87 (see table 10). This is a 1.91-million-cwt increase over export shipments in 1984/85. The area ranked first in export shipments of

medium-grain rice in 1986/87 and ranked a very close third behind the Texas-Mississippi mill area for all reported U.S. rice exports. Almost 93 percent of reported exports were medium-grain rice, and the remainder were mostly long grain. The California mill area was the only producing region to export any short-grain rice, with shipments totaling about 56,800 cwt. Bulk shipments accounted for 66 percent of all exports, and large package sizes (25-100 pounds) made up most of the remainder. California mills accounted for only 5 percent (718,800 cwt) of total specialty rice exports in 1986/87. However, the mill area reported no specialty rice exports in 1984/85.

The largest supplier of milled rice to domestic processors (including brewers) in 1986/87 was the California mill area, shipping 5.8 million cwt (see table 12). This amounted to 39 percent of all rice used by domestic processors, including shipments to beer brewers. California ranked first in rice shipments to brewers, accounting for 44 percent, and ranked a very close second behind Arkansas in shipments to cereal manufacturers, accounting for 40 percent. Nearly 96 percent of California shipments to brewers were broken rice, and the remainder was medium grain. California mills ranked first in milled rice shipments for use in pet foods, accounting for almost 58 percent of all shipments. Almost 29 percent of rice shipped to domestic processors for use in rice cakes and over 40 percent of rice used in candy came from the California mill area.

## Related Reports

Here is a list of USDA reports concerning rice distribution patterns. The reports are market-year specific and are in chronological order.

Doty, Harry O., Jr. *Patterns of Rice Distribution in the United States and Territories*. AMS-305. U.S. Dept. of Agr., Ag. Mktg. Serv., May 1959.

McGrath, Edward J. *Domestic Distribution Patterns for Rice*. ERS-126. U.S. Dept. of Agr., Econ. Res. Serv., May 1963.

Eiland, J. C. *Distribution of Rice in the United States, 1966/67*. ERS-408. U.S. Dept. of Agr., Econ. Res. Serv., April 1969.

Eiland, J. C., and Theo. F. Moriak. *Distribution Patterns for U.S. Rice, 1969/70*. ERS-484. U.S. Dept. of Agr., Econ. Res. Serv., May 1972.

Eiland, J. C., and Theo. F. Moriak. *Market Patterns for U.S. Rice, 1971/72*. ERS-528. U.S. Dept. of Agr., Econ. Res. Serv., August 1973.

Eiland, J. C. *U.S. Rice Distribution Patterns, 1972/73*. ERS-567. U.S. Dept. of Agr., Econ. Res. Serv., November 1974.

Holder, Shelby H., Alberta Smith, and J. C. Eiland. *Distribution Patterns for U.S. Rice, 1973/74*. ERS-624. U.S. Dept. of Agr., Econ. Res. Serv., March 1976.

Holder, Shelby H., and Alberta Smith. *An Analysis of Rice Distribution Patterns*. AER-413. U.S. Dept. of Agr., Econ. Stat. Coop. Serv., November 1978.

Holder, Shelby H., and David Martella. *U.S. Rice Distribution Update*. SB-640. U.S. Dept. of Agr., Econ. Stat. Coop. Serv., July 1980.

Holder, Shelby H., and Douglass Dorland. *U.S. Rice Distribution Patterns, 1980/81*. SB-693. U.S. Dept. of Agr., Econ. Res. Serv., October 1982.

Holder, Shelby H. *U.S. Rice Distribution Patterns, 1982/83*. SB-723. U.S. Dept. of Agr., Econ. Res. Serv., March 1985.

Holder, Shelby H. *U.S. Rice Distribution Patterns, 1984/85*. SB-748. U.S. Dept. of Agr., Econ. Res. Serv., December 1986.

Table 1--Distribution of milled rice to principal domestic outlets 1/

Year 2/	Unit	Direct food use 3/	Processed foods	Beer	Total 4/
1956/57	1,000 cwt	8,707.7	1,560.6	2,776.4	13,044.7
	Percent	66.7	12.0	21.3	100.0
1960/61	1,000 cwt	10,286.3	2,170.5	2,764.6	15,221.4
	Percent	67.6	14.2	18.2	100.0
1961/62	1,000 cwt	11,294.8	2,270.1	2,982.4	16,547.7
	Percent	68.3	13.7	18.0	100.0
1966/67	1,000 cwt	11,087.0	2,961.1	3,147.5	17,195.6
	Percent	64.5	17.2	18.3	100.0
1969/70	1,000 cwt	13,012.8	2,994.9	4,631.2	20,638.9
	Percent	63.1	14.5	22.4	100.0
1971/72	1,000 cwt	12,835.8	3,455.3	4,082.0	20,373.1
	Percent	63.0	17.0	20.0	100.0
1972/73	1,000 cwt	13,325.5	3,174.4	4,553.7	21,053.4
	Percent	63.3	15.1	21.6	100.0
1973/74	1,000 cwt	13,181.5	3,413.8	5,193.8	21,789.1
	Percent	60.5	15.7	23.8	100.0
1974/75	1,000 cwt	12,604.0	2,507.1	6,096.4	21,207.5
	Percent	59.4	11.8	28.8	100.0
1975/76	1,000 cwt	12,958.1	2,849.3	4,642.1	20,449.5
	Percent	63.4	13.9	22.7	100.0
1978/79	1,000 cwt	15,221.0	3,717.1	8,158.7	27,096.8
	Percent	56.2	13.7	30.1	100.0
1980/81	1,000 cwt	18,789.9	4,490.9	7,667.0	30,947.8
	Percent	60.6	14.5	24.8	100.0
1982/83	1,000 cwt	19,173.3	3,342.0	9,095.0	31,610.3
	Percent	60.6	10.6	28.8	100.0
1984/85	1,000 cwt	5/ 21,664.4	4,971.0	7,038.0	33,673.4
	Percent	64.3	14.8	20.9	100.0
1986/87	1,000 cwt	6/ 23,428.9	7,074.8	7/ 7,825.4	38,329.1
	Percent	61.1	18.5	20.4	100.0

1/ Excludes shipments to U.S. territories.

2/ Marketing year beginning August 1.

3/ Includes Government distribution to schools, institutions, welfare agencies, and purchases for U.S. military mess halls and for overseas commissary resales.

4/ Does not include rice imports.

5/ Includes 466,550 cwt of rice shipped directly by rice milling firms as packaged rice mixes.

6/ Includes 555,200 cwt of rice shipped directly by rice milling firms as packaged rice mixes.

7/ See discussion of this number on page 3.

Table 2--Domestic marketing channels for U.S. rice mills by origin, 1986/87 1/

Origin	Direct food use shipments from mills 2/						
	Wholesale			Retail	Food service	Total direct food use	Package mixes
	Retail 3/	Food service 4/	Total				
	1,000 cwt						
Arkansas	4,518.3	3,994.7	8,513.1	583.6	183.7	9,280.3	0.3
Louisiana-Florida	1,626.5	180.6	1,807.1	1,587.3	222.6	3,617.0	238.6
Texas-Mississippi	2,616.2	1,208.2	3,824.4	1,284.1	881.0	5,989.5	316.3
Total South	8,761.1	5,383.5	14,144.6	3,824.4	1,287.3	18,886.8	555.2
California	2,309.6	290.2	2,599.8	1,314.0	628.2	4,542.1	0
U.S. total	11,070.7	5,673.7	16,744.4	4,769.0	1,915.5	23,428.9	555.2

1/ Marketing year beginning August 1.

2/ Shipments to wholesale, retail, and food service outlets directly from mills.

3/ Shipments to retail outlets from wholesale distributors.

4/ Shipments to food service outlets from wholesale distributors.

Table 3--Milled rice supply and ending stocks, 1986/87 1/

Origin	Beginning stocks	Purchases from other mills	Production	Total supply	Ending stocks	Responses
	1,000 cwt					Number
Arkansas	1,475.8	470.1	39,293.7	41,239.6	1,846.4	8
Louisiana-Florida	683.9	2,946.2	11,087.1	14,717.2	914.8	8
Texas-Mississippi	547.2	17.4	14,086.1	14,650.7	692.2	9
Total South	2,706.9	3,433.6	64,466.9	70,607.4	3,453.4	25
California	973.8	100.2	21,204.6	22,278.5	1,185.3	6
U.S. total	3,680.7	3,533.8	85,671.5	92,886.0	4,638.7	31

1/ Marketing year beginning August 1.

Table 4--Domestic shipments of specialty rice by rice millers and repackagers, 1986/87 1/

Class	Long grain	Medium grain	Short grain	Total
	<u>1,000 cwt</u>			
Parboiled	3,266.3	26.9	0	3,293.2
Precooked	644.4	17.6	0	662.0
Brown rice	220.9	153.1	33.1	407.1
Precooked-parboiled	72.4	0	0	72.4
Precooked-brown rice	.3	.1	0	.4
Aromatic rice	217.1	36.5	0	253.6
Total 2/	4,421.4	234.2	33.1	4,688.7

1/ Marketing year beginning August 1.

2/ Includes specialty rice shipped to U.S. territories.

Table 5--Domestic milled rice shipments treated with enrichments and additives, 1986/87 1/

Item	Quantity treated	Proportion of shipments treated
	<u>1,000 cwt</u>	<u>Percent</u>
Vitamin enriched: 2/		
Powder	17,907.1	76.4
Rinse resistant premix	4,051.6	17.3
Total	21,958.7	93.7
Other vitamins added: 3/		
Riboflavin	1,388.3	5.9
Vitamin D	1,388.3	5.9
Calcium	2,345.0	10.0
Total shipments 4/	23,428.9	--

-- = Not applicable.

1/ Marketing year beginning August 1.

2/ Enriched rice has thiamin, niacin, and iron added.

3/ Rice receiving other vitamins might also have been enriched; therefore, total percentage is greater than 100.

4/ Total domestic milled rice shipments for direct food use, excluding U.S. territories.

Table 6--Milled rice distributed to domestic processors by rice milling firms and repackagers, by type of rice and product, 1986/87 1/

Type and class of rice	Type of product 2/										Total 4/	Share of total
	Cereal	Soup	Baby food	Beer	Rice cakes	Package mixes 3/	Frozen dinners	Candy	Pet food	Other		
	1,000 cwt											Percent
Long grain	994.2	75.6	13.4	327.3	204.2	742.1	61.1	0	0.6	0	2,418.4	16.2
Medium grain	2,139.8	0	1.8	326.2	0	136.9	0	46.8	0	0	2,651.4	17.8
Short grain	54.4	0	0	0	83.3	30.0	0	.1	0	0	167.7	1.1
Total head rice	3,188.4	75.6	15.2	653.5	287.5	909.0	61.1	46.9	.6	0	5,237.5	35.2
Broken	1,417.0	0	6.3	7,171.9	0	40.5	0	99.9	426.0	0	9,161.7	6.5
Rice flour	194.3	0	211.8	0	0	0	0	0	4.4	91.2	501.0	3.4
Total 5/	4,799.7	75.6	232.5	7,825.4	287.5	949.5	61.1	146.8	431.0	91.2	14,900.2	100.0
	Percent											
Share of total	32.2	.5	1.6	52.5	1.9	6.4	.4	1.0	2.9	.6	100.0	--

-- = Not applicable.

1/ Marketing year beginning August 1.

2/ Based on main product produced.

3/ Totals do not include purchases from Commodity Credit Corporation or imports but do include shipments by repackagers.

4/ Does not include 555,200 cwt of milled rice shipped directly from mills as packaged rice mixes.

5/ Totals may not add due to rounding.

Table 7--Proportion of direct food use rice distributed to major U.S. regions and per capita, 1986/87 1/

Region 2/	Proportion of total		Amount per capita	
	<u>Percent</u>	<u>Rank</u>	<u>Pounds</u>	<u>Rank</u>
Pacific	24.9	1	16.2	1
Middle Atlantic	21.6	2	13.6	2
South Atlantic	20.2	3	11.5	4
West South Central	13.8	4	12.0	3
East North Central	7.7	5	4.3	7
West North Central	4.4	6	5.9	6
New England	3.8	7	6.9	5
East South Central	1.8	8	2.8	9
Mountain	1.8	9	3.2	8
U.S. total 3/	100.0	--	9.7	--

-- = Not applicable.

1/ Marketing year beginning August 1.

2/ Includes only distribution for direct food use. Excludes Government distributions, military use, shipments to food processors and brewers, and imports since State destinations are not available.

3/ Totals may not add due to rounding.



Table 8--Distribution of milled rice for direct food use, by State, region, package size, and type, 1986/87 1/

Destination	Package size (pounds)					Total 2/	Per-centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	Bulk			Long	Medium	Short	
	1,000 cwt							Percent			1,000 cwt
Maine	10.5	1.5	2.3	1.0	0	15.3	0.1	93.5	6.5	0	11.5
New Hampshire	7.5	1.4	.4	28.1	0	37.4	.2	98.7	1.3	0	8.5
Vermont	12.8	3.4	1.2	.2	0	17.7	.1	93.4	6.6	0	8.3
Massachusetts	142.5	146.0	159.2	201.7	3.2	652.6	2.8	93.5	6.4	0	235.8
Rhode Island	10.3	4.2	2.1	6.4	0	23.0	.1	84.6	15.4	0	10.2
Connecticut	79.3	41.1	11.2	6.1	0	137.8	.6	92.7	7.2	0	71.4
New England	262.9	197.6	176.5	243.5	3.2	883.7	3.8	93.4	6.6	0	348.5
New York	563.3	698.1	556.7	801.3	84.7	2,704.1	11.5	91.3	8.2	.5	491.0
New Jersey	541.0	499.5	430.7	134.0	84.7	1,689.9	7.2	78.0	21.8	.2	361.9
Pennsylvania	190.9	104.0	159.7	217.4	0	672.0	2.9	76.4	23.6	0	197.3
Middle Atlantic	1,295.1	1,301.5	1,147.2	1,152.7	169.4	5,066.0	21.6	84.9	14.8	.4	1,050.2
Ohio	103.5	29.0	32.0	83.6	0	248.1	1.1	94.9	5.1	0	119.6
Indiana	39.9	3.4	9.2	10.7	0	63.2	.3	95.4	4.6	0	49.5
Illinois	418.4	154.3	126.5	356.4	0	1,055.6	4.5	85.2	14.6	.1	264.0
Michigan	140.9	34.4	35.1	96.9	2.0	309.3	1.3	81.9	18.0	.1	106.7
Wisconsin	63.7	16.1	13.2	28.8	0	121.9	.5	78.7	21.3	0	47.1
East North Central	766.4	237.1	216.0	576.5	2.0	1,798.1	7.7	85.9	14.0	.1	486.9
Minnesota	52.7	10.0	11.2	66.3	0	140.2	.6	87.4	12.6	0	54.9
Iowa	15.7	.9	1.5	8.9	0	30.0	.1	99.2	.8	0	21.3
Missouri	502.0	35.2	87.9	56.5	0	681.6	2.9	94.3	5.7	0	55.8
North Dakota	4.8	1.0	1.3	1.9	0	8.9	0	92.2	7.8	0	6.2
South Dakota	3.1	.2	.6	0	0	3.9	0	94.6	5.4	0	3.5
Nebraska	14.2	3.2	3.9	10.7	0	32.0	.1	85.8	14.2	0	13.7
Kansas	26.9	3.6	93.3	15.9	0	139.8	.6	93.1	6.7	.2	26.6
West North Central	619.5	54.0	202.9	160.1	0	1,036.4	4.4	93.1	6.9	0	182.2
Delaware	2.8	.2	.1	2.0	0	5.2	0	99.1	.9	0	4.0
Maryland	48.0	43.4	48.8	61.3	0	201.5	.9	84.4	15.5	.2	93.1
DC	2.2	2.9	24.7	47.1	0	77.0	.3	98.4	1.6	0	13.6
Virginia	90.6	34.5	41.7	53.7	0	220.5	.9	82.7	17.3	0	76.0
West Virginia	10.4	1.0	.9	.2	0	12.5	.1	95.5	4.5	0	10.6
North Carolina	211.6	72.0	40.6	38.0	1.1	363.4	1.6	95.1	4.6	.4	106.4
South Carolina	281.7	177.7	92.2	106.3	0	657.8	2.8	91.8	8.2	0	108.5
Georgia	165.8	74.5	52.1	64.3	0	356.7	1.5	92.8	7.2	0	100.3
Florida	336.8	580.1	746.9	1,155.0	17.9	2,836.8	12.1	97.3	2.5	.2	304.9
South Atlantic	1,150.0	986.3	1,048.1	1,527.9	19.0	4,731.3	20.2	94.8	5.1	.2	817.3

See footnotes at end of table.

Continued--

Table 8--Distribution of milled rice for direct food use, by State, region, package size, and type, 1986/87 1/--Continued

Destination	Package size (pounds)					Total 2/	Per-centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	Bulk			Long	Medium	Short	
	1,000 cwt							Percent			1,000 cwt
Kentucky	27.5	15.7	28.6	3.7	0	75.4	0.3	97.1	3.0	0	20.6
Tennessee	43.1	5.1	11.7	6.7	0	66.6	.3	92.7	7.2	0	37.8
Alabama	59.6	26.3	9.3	9.3	7.1	111.6	.5	93.3	6.7	0	37.5
Mississippi	57.7	15.8	10.4	85.3	0	169.2	.7	91.5	8.5	0	22.2
East South Central	187.9	62.8	60.0	105.0	7.1	422.9	1.8	93.2	6.8	0	120.1
Arkansas	503.5	183.1	22.0	494.1	16.6	1,219.6	5.2	90.3	9.7	0	232.1
Louisiana	193.7	315.6	66.0	182.4	37.5	795.3	3.4	81.4	18.6	0	129.3
Oklahoma	27.6	10.1	12.8	21.4	0	71.5	.3	94.6	5.4	0	26.0
Texas	449.8	179.8	161.0	342.4	12.2	1,145.1	4.9	87.7	12.3	0	333.3
West South Central	1,174.6	688.6	262.0	1,040.0	66.3	3,231.5	13.8	87.3	12.7	0	720.7
Montana	5.7	.7	1.2	.3	0	7.9	0	92.0	6.7	1.3	5.5
Idaho	6.9	.7	2.4	14.1	.4	24.5	.1	65.4	32.6	2.0	9.0
Wyoming	5.5	.1	.2	.9	0	6.7	0	98.6	1.6	1.8	5.0
Colorado	39.0	11.1	15.3	100.1	2.6	168.1	.7	70.9	28.8	.3	42.3
New Mexico	7.5	1.0	4.6	12.3	0	25.4	.1	97.0	3.0	0	14.1
Arizona	39.4	11.5	9.5	30.9	0	91.2	.4	85.3	14.6	.1	36.3
Utah	14.3	2.1	8.5	30.3	0	55.2	.2	96.7	3.1	.2	34.0
Nevada	14.8	2.3	4.9	18.8	0	40.8	.2	93.9	5.8	.3	25.2
Mountain	133.1	29.5	46.6	207.7	3.0	419.9	1.8	81.7	17.9	.4	171.4
Washington	46.1	27.3	46.9	114.0	0	234.3	1.0	53.1	46.1	.8	50.1
Oregon	36.1	12.4	13.0	66.2	0	127.7	.5	67.4	29.2	3.3	37.2
California	753.6	775.8	555.1	2,030.7	841.6	4,956.7	21.2	50.9	46.1	3.0	483.4
Alaska	3.2	1.1	2.2	7.4	0	14.0	.1	37.6	60.8	1.5	4.0
Hawaii	47.4	47.7	299.9	110.9	0	505.9	2.2	4.1	93.0	3.0	27.3
Pacific	886.5	864.3	917.0	2,329.1	841.6	5,838.5	24.9	47.2	49.9	2.9	602.0
U.S. total 4/	6,476.0	4,421.8	4,076.3	7,342.6	1,111.6	23,428.9	100.0	78.7	20.5	.8	4,599.4

1/ Marketing year beginning August 1.

2/ Excludes Government distribution to States and military use because State shipment data are not available. Also excludes shipments to territories but includes repackagers. May include rice reported by a mill that has a facility in another State.

3/ Includes parboiled, precooked, aromatic, and brown rice. Specialty rice is included in total by package size and proportion by type.

4/ Totals may not add due to rounding.

Table 9--Milled rice distributed to U.S. territories, by mill area, package size, and type 1986/87 1/

Origin/ destination	Package size (pounds)					Total 2/	Per- centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	Bulk			Long	Medium	Short	
	<u>1,000 cwt</u>							<u>Percent</u>			<u>1,000 cwt</u>
Arkansas to:											
Puerto Rico	88.8	12.3	29.1	0.6	0	131.0	3.4	3.9	96.1	0	4.8
Louisiana-Florida to:											
Puerto Rico	726.3	126.8	9.4	0	0	862.5	22.7	23.8	76.2	0	84.5
Texas-Mississippi to:											
Puerto Rico	130.6	25.6	0	0	0	156.2	4.1	100.0	0	0	0
Total South to:											
Puerto Rico	945.7	164.7	38.5	.6	0	1,149.7	30.2	31.9	68.1	0	89.3
California to:											
Guam	29.2	7.5	15.0	176.4	0	228.1	6.0	4.7	93.8	1.5	0
Puerto Rico	1,047.7	22.3	22.3	23.3	1,025.7	2,141.3	56.3	0	12.0	88.0	0
Trust territories	0	1.5	6.3	6.8	273.3	287.9	7.6	0	99.8	.2	0
Territory total 4/	1,076.9	31.2	43.6	204.5	1,299.0	2,655.3	69.8	0.5	28.4	71.1	0
U.S. total to:											
Guam	29.2	7.5	15.0	176.4	0	228.1	6.0	4.7	93.8	1.5	0
Puerto Rico	1,993.5	187.0	60.8	23.9	1,025.7	3,290.9	86.5	11.1	31.6	57.3	89.3
Trust territories	0	1.5	6.3	6.8	273.3	287.9	7.6	0	99.8	.2	0
Territory total 4/	2,022.7	196.0	82.2	205.2	1,299.0	3,804.9	100.0	10.0	40.4	49.6	89.3

1/ Marketing year beginning August 1.

2/ Excludes Government shipments but includes repackagers.

3/ Includes parboiled, precooked, aromatic, and brown rice.

4/ Totals may not add due to rounding. Rice was not shipped to the Virgin Islands, American Samoa, or Wake Island.

Table 10--U.S. exports of milled rice for direct food use by mill origin, package size, and type, 1986/87 1/

Destination	Package size (pounds)					Total 2/	Per- centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	Bulk			Long	Medium	Short	
	1,000 cwt							Percent			1,000 cwt
Arkansas	57.7	29.3	19.0	14,134.4	7,527.2	21,767.6	48.0	98.7	1.3	0	7,781.6
Louisiana-Florida	656.5	250.3	116.3	5,747.0	330.8	7,100.9	15.7	79.2	20.8	0	161.0
Texas-Mississippi	1,530.2	124.4	88.2	4,274.2	2,314.5	8,331.5	18.4	99.0	1.0	0	5,639.8
Total South	2,244.4	404.0	223.5	24,155.6	10,172.5	37,200.0	82.1	95.0	5.0	0	13,582.4
California	414.3	6.1	18.7	2,349.3	5,325.0	8,113.4	17.9	6.9	92.5	0.7	718.8
U.S. total 4/	2,658.7	410.1	242.2	26,504.9	15,497.5	45,313.4	100.0	79.2	20.6	.1	14,301.2

1/ Marketing year beginning August 1.

2/ Excludes Government shipments, but includes repackagers.

3/ Includes parboiled, precooked, aromatic, and brown rice.

4/ Totals may not add due to rounding.

Table 11--Distribution of milled rice by Arkansas mills for direct food use, by State, region, package size, and type, 1986/87 1/

Destination	Package size (pounds)					Total 2/	Per- centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	Bulk			Long	Medium	Short	
	1,000 cwt							Percent			1,000 cwt
Maine	0	0.2	0.4	0.3	0	0.9	0	86.0	14.0	0	0.5
New Hampshire	0	.1	.1	27.3	0	27.5	0.3	100.0	0	0	0
Vermont	.2	.3	0	0	0	.5	0	100.0	0	0	0
Massachusetts	71.7	111.7	126.9	180.4	0	490.8	5.3	95.8	4.2	0	127.5
Rhode Island	.1	.4	.3	.9	0	1.6	0	85.9	14.1	0	.2
Connecticut	16.4	16.3	3.4	3.8	0	39.9	.4	92.8	7.2	0	9.8
New England	88.5	128.9	131.1	212.7	0	561.2	6.1	95.8	4.2	0	138.0
New York	257.0	272.6	330.2	576.4	0	1,436.1	15.5	95.3	4.7	0	149.1
New Jersey	261.3	348.2	381.3	105.0	0	1,095.8	11.9	92.5	7.5	0	88.2
Pennsylvania	39.5	43.5	45.9	185.6	0	314.4	3.4	96.0	4.0	0	45.1
Middle Atlantic	557.7	664.3	757.4	867.0	0	2,846.4	30.8	94.3	5.7	0	282.5
Ohio	23.4	13.4	13.6	66.5	0	116.9	1.3	94.7	5.3	0	21.7
Indiana	6.6	.7	3.7	7.7	0	18.6	.2	90.5	9.5	0	10.3
Illinois	293.8	125.1	83.1	288.0	0	789.9	8.6	87.0	13.0	0	137.0
Michigan	26.8	4.0	6.0	55.5	2.0	94.3	1.0	98.1	1.7	0.2	8.2
Wisconsin	25.5	13.9	7.8	11.3	0	58.5	.6	85.4	14.6	0	5.2
East North Central	376.1	157.1	114.2	429.0	2.0	1,078.3	11.6	88.8	11.2	0	182.5
Minnesota	3.8	1.0	3.9	47.1	0	55.7	.6	99.0	1.0	0	9.7
Iowa	2.6	.4	1.5	7.5	0	12.0	.1	98.1	1.9	0	3.7
Missouri	444.2	22.3	79.4	53.3	0	599.3	6.5	94.8	5.2	0	11.6
North Dakota	.1	.4	.5	1.6	0	2.6	0	87.5	12.5	0	1.1
South Dakota	0	.1	.1	0	0	.2	0	55.5	44.5	0	0
Nebraska	.1	.7	1.4	10.3	0	12.5	.1	72.4	27.6	0	.2
Kansas	4.9	1.1	89.2	9.8	0	104.9	1.1	92.1	7.6	.2	4.2
West North Central	4,455.6	26.0	176.0	129.6	0	787.2	8.5	94.4	5.6	0	30.2
Delaware	0	.1	.1	.4	0	.6	0	100.0	0	0	.1
Maryland	1.7	0.9	19.3	36.6	0	58.5	.6	98.6	.9	.5	9.1
DC	.1	.3	6.2	44.2	0	50.9	.6	99.2	.8	0	.5
Virginia	9.8	6.3	4.7	38.4	0	59.2	.6	93.9	6.1	0	4.1
West Virginia	.1	.1	.1	.1	0	.4	0	93.7	6.3	0	.3
North Carolina	47.3	40.6	26.8	19.0	0	133.7	1.4	96.0	3.4	.6	15.8
South Carolina	76.2	95.3	48.1	42.8	0	262.4	2.8	93.9	6.1	0	47.1
Georgia	49.2	43.6	42.0	47.9	0	182.8	2.0	96.2	3.7	.1	30.0
Florida	118.8	287.7	333.3	726.9	17.4	1,484.0	16.1	98.5	1.5	0	58.1
South Atlantic	303.1	474.9	480.7	956.5	17.4	2,232.4	24.2	97.5	2.4	.1	165.2

See footnotes at end of table.

Continued--

Table 11--Distribution of milled rice by Arkansas mills for direct food use, by State, region, package size, and type, 1986/87 1/--Continued

Destination	Package size (pounds)					Total 2/	Per- centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	Bulk			Long	Medium	Short	
	1,000 cwt							Percent			1,000 cwt
Kentucky	9.1	12.9	25.8	2.7	0	50.5	0.5	97.8	2.2	0	2.0
Tennessee	16.5	1.1	2.9	2.5	0	22.9	.2	85.0	14.9	0.1	5.0
Alabama	24.6	18.2	2.5	6.7	0	51.9	.6	94.2	5.8	0	2.0
Mississippi	24.9	5.7	3.1	84.0	0	117.6	1.3	93.1	6.9	0	4.3
East South Central	75.1	37.9	34.2	95.8	0	243.0	2.6	93.5	6.5	0	13.4
Arkansas	27.8	5.3	8.1	493.4	3.5	538.1	5.8	97.7	2.2	.1	103.3
Louisiana	27.9	63.0	27.5	83.2	0	201.7	2.2	93.8	6.1	.1	62.6
Oklahoma	3.9	7.4	9.2	18.0	0	43.5	.5	95.4	4.6	0	2.5
Texas	48.6	32.5	7.6	21.9	0	110.6	1.2	95.6	4.3	.1	9.1
West South Central	113.2	108.2	52.4	616.5	3.5	893.9	9.7	96.4	3.5	.1	177.6
Montana	.7	0	.1	0	0	.8	0	86.9	0	13.1	.2
Idaho	1.9	0	.8	6.5	0	9.2	.1	70.7	23.9	5.4	3.2
Wyoming	.7	.1	.1	.9	0	1.8	0	88.0	5.1	6.8	.1
Colorado	11.9	6.3	2.2	35.0	2.6	57.9	.6	95.3	3.8	.9	2.7
New Mexico	.1	0	.7	4.8	0	5.6	.1	100.0	0	0	.7
Arizona	1.2	.3	1.4	6.5	0	9.4	.1	99.5	0	.5	1.9
Utah	.7	.4	2.5	25.5	0	29.2	.3	99.6	0	.4	18.7
Nevada	.9	.1	1.1	1.0	0	3.1	0	96.1	0	3.9	2.1
Mountain	18.0	7.2	8.9	80.3	2.6	116.9	1.3	94.9	3.8	1.3	29.7
Washington	10.4	.3	1.0	11.4	0	23.0	.2	91.4	0	8.6	4.4
Oregon	13.3	.2	.2	10.0	0	23.7	.3	81.9	0	18.1	12.9
California	138.0	60.2	71.9	199.2	0	469.4	5.1	96.6	.1	3.4	117.0
Alaska	1.5	0	0	0	0	1.5	0	87.0	0	13.0	.2
Hawaii	1.0	0	0	2.3	0	3.3	0	93.9	0	6.1	.2
Pacific	164.2	60.7	73.1	223.0	0	520.9	5.6	95.6	0	4.3	134.7
U.S. total 4/	2,151.5	1,665.0	1,828.1	3,610.3	25.4	9,280.2	100.0	94.8	4.9	.3	1,153.9

1/ Marketing year beginning August 1.

2/ Excludes Government distribution to States and military use because State shipment data are not available. Also excludes shipments to territories but includes repackagers. May include rice reported by a mill that has a facility in another State.

3/ Includes parboiled, precooked, aromatic, and brown rice. Specialty rice is included in total by package size and proportion by type.

4/ Totals may not add due to rounding.

Table 12--Milled rice distributed to domestic processors by rice millers and repackagers from specified mill areas, by type of rice and product, 1986/87 1/

Item	Type of product 2/										Total 4/	Share of total
	Cereal	Soup	Baby food	Beer	Rice cakes	Package mixes 3/	Frozen dinners	Candy	Pet food	Other		
	1,000 cwt											Percent
Long grains:												
Arkansas	992.4	53.0	0	257.3	202.9	439.1	19.6	0	0	0	1,964.1	13.2
Louisiana-Florida	1.8	0	0	70.0	0	234.7	3.0	0	0	0	309.5	2.1
Texas-Mississippi	0	22.6	13.4	0	1.3	68.3	38.6	0	0.6	0	144.7	1.0
Total South	994.2	75.6	13.4	327.3	204.2	742.0	61.1	0	.6	0	2,418.3	16.2
California	0	0	0	0	0	0	0	0	0	0	0	0
U.S. total	994.2	75.6	13.4	327.3	204.2	742.1	61.1	0	.6	0	2,418.4	16.2
Medium grain:												
Arkansas	951.3	0	0	0	0	123.1	0	0	0	0	1,074.4	7.2
Louisiana-Florida	490.7	0	0	128.7	0	0	0	46.8	0	0	666.2	4.5
Texas-Mississippi	0	0	0	60.0	0	0	0	0	0	0	60.7	.4
Total South	1,441.9	0	0	189.4	0	123.1	0	46.8	0	0	1,801.3	12.1
California	697.8	0	1.8	136.7	0	13.8	0	0	0	0	850.1	5.7
U.S. total	2,139.8	0	1.8	326.2	0	136.9	0	46.8	0	0	2,651.4	17.8
Short grain:												
Arkansas	0	0	0	0	0	30.0	0	0	0	0	30.0	.2
Louisiana-Florida	0	0	0	0	0	0	0	0	0	0	0	0
Texas-Mississippi	0	0	0	0	0	0	0	0	0	0	0	0
Total South	0	0	0	0	0	30.0	0	0	0	0	30.0	.2
California	54.4	0	0	0	83.3	0	0	.1	0	0	137.7	.9
U.S. total	54.4	0	0	0	83.3	30.0	0	.1	0	0	167.7	1.1
Total head rice:												
Arkansas	1,943.6	53.0	0	257.3	202.9	592.2	19.6	0	0	0	3,068.5	20.6
Louisiana-Florida	492.5	0	0	198.7	0	234.7	3.0	46.8	.6	0	975.7	6.5
Texas-Mississippi	0	22.6	13.4	60.7	1.3	67.8	38.6	0	0	0	204.9	1.4
Total South	2,436.1	75.6	13.4	516.7	204.2	894.7	61.1	46.8	.6	0	4,249.1	28.5
California	752.2	0	1.8	136.7	83.3	13.8	0	.1	0	0	987.9	6.6
U.S. total	3,188.3	75.6	15.2	653.4	287.5	908.5	61.1	46.9	.6	0	5,237.0	35.1

See footnotes at end of table.

Continued--

Table 12--Milled rice distributed to domestic processors by rice millers and repackagers from specified mill areas, by type of rice and product, 1986/87 1/--Continued

Item	Type of product 2/										Total 4/	Share of total
	Cereal	Soup	Baby food	Beer	Rice cakes	Package mixes 3/	Frozen dinners	Candy	Pet food	Other		
	1,000 cwt											Percent
Brokens:												
Arkansas	205.6	0	0	2,164.9	0	0	0	0	73.5	0	2,443.9	16.4
Louisiana-Florida	55.9	0	0	559.7	0	40.5	0	40.0	38.1	0	734.2	4.9
Texas-Mississippi	0	0	0	1,140.2	0	0	0	0	69.1	0	1,209.3	8.1
Total South	261.4	0	0	3,864.8	0	40.5	0	40.0	180.7	0	4,387.2	29.4
California	1,155.6	0	6.3	3,307.1	0	0	0	59.9	245.3	0	4,774.2	32.0
U.S. total	1,417.0	0	6.3	7,171.9	0	40.5	0	99.9	426.0	0	9,161.7	61.5
Rice flour:												
Arkansas	34.9	0	22.2	0	0	0	0	0	0	6.3	63.4	.4
Louisiana-Florida	68.0	0	87.0	0	0	0	0	0	0	53.0	208.0	1.4
Texas-Mississippi	73.7	0	91.8	0	0	0	0	0	0	24.2	189.7	1.3
Total South	176.6	0	201.0	0	0	0	0	0	0	83.5	461.1	3.1
California	17.7	0	10.0	0	0	0	0	0	0	7.7	39.9	.3
U.S. total	194.3	0	211.0	0	0	0	0	0	0	91.2	501.0	3.4
Total all types:												
Arkansas	2,184.1	53.0	22.2	2,422.2	202.9	592.2	19.6	0	73.5	6.3	5,575.9	37.4
Louisiana-Florida	616.4	0	87.0	758.5	0	275.2	3.0	86.8	38.1	53.0	1,917.9	12.9
Texas-Mississippi	73.7	22.6	105.2	1,200.9	1.3	68.3	38.5	0	69.7	24.2	1,604.4	10.8
Total South	2,874.1	75.6	214.4	4,381.6	204.2	935.7	61.1	86.8	180.7	83.5	9,098.2	61.1
California	1,925.9	0	18.1	3,443.8	83.3	13.8	0	60.0	245.3	7.7	5,802.0	38.9
U.S. total 5/	4,799.7	75.6	232.5	7,825.4	287.5	949.5	61.1	146.8	426.0	91.2	14,900.2	100.0

1/ Marketing year beginning August 1.

2/ Based on main product produced.

3/ Does not include 555,200 cwt shipped directly by mills as packaged rice mixes.

4/ Totals do not include purchases from the Commodity Credit Corporation or imports but do include shipments by repackagers.

5/ Totals may not add due to rounding.



Table 13--Distribution of milled rice by Louisiana-Florida mills for direct food use, by State, region, package size, and type, 1986/87 1/

Destination	Package size (pounds)					Total 2/	Per-centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	Bulk			Long	Medium	Short	
	1,000 cwt							Percent			1,000 cwt
Maine	2.4	0.9	0.1	0	0	3.4	0.1	84.0	16.0	0	0.6
New Hampshire	.9	.4	0	0	0	1.3	0	84.0	16.0	0	.2
Vermont	5.1	2.0	.1	0	0	7.2	.2	84.0	16.0	0	1.3
Massachusetts	20.8	7.9	.6	0	0	29.2	.8	65.0	35.0	0	5.0
Rhode Island	3.6	1.4	.1	0	0	5.0	.1	84.0	16.0	0	.9
Connecticut	31.0	11.8	.9	0	0	43.7	1.2	84.0	16.0	0	7.9
New England	63.8	24.3	1.8	0	0	89.9	2.5	77.8	22.2	0	15.9
New York	135.6	120.4	73.5	16.4	0	345.9	9.6	98.0	2.0	0	26.2
New Jersey	186.8	85.2	19.1	0	0	291.2	8.1	33.0	67.0	0	85.7
Pennsylvania	65.9	25.1	1.9	0	0	92.9	2.6	58.0	42.0	0	14.9
Middle Atlantic	388.4	230.7	94.4	16.4	0	730.0	20.2	67.0	33.0	0	126.8
Ohio	23.8	9.1	.7	0	0	33.6	.9	84.0	16.0	0	6.0
Indiana	2.1	.8	.1	0	0	2.9	.1	84.0	16.0	0	.5
Illinois	54.9	20.9	1.5	0	0	77.3	2.1	84.0	16.0	0	13.9
Michigan	61.8	23.5	1.7	0	0	87.0	2.4	70.0	30.0	0	17.4
Wisconsin	3.0	1.1	.1	0	0	4.2	.1	84.0	16.0	0	.8
East North Central	145.5	55.3	4.1	0	0	205.0	5.7	78.1	21.9	0	38.6
Minnesota	19.9	8.2	.5	.3	0	28.9	.8	85.4	14.6	0	4.7
Iowa	0	0	0	0	0	0	0	0	0	0	0
Missouri	30.3	11.5	.9	0	0	42.7	1.2	84.0	16.0	0	7.7
North Dakota	.8	.3	0	0	0	1.1	0	84.0	16.0	0	.2
South Dakota	.1	0	0	0	0	.1	0	84.0	16.0	0	0
Nebraska	4.5	1.7	.1	0	0	6.4	.2	84.0	16.0	0	1.1
Kansas	5.1	1.9	.1	0	0	7.1	.2	84.0	16.0	0	1.3
West North Central	60.6	23.7	1.7	.3	0	86.3	2.4	84.5	15.5	0	15.1
Delaware	.2	.1	0	0	0	.3	0	84.0	16.0	0	.1
Maryland	11.1	4.2	.3	0	0	15.7	.4	84.0	16.0	0	2.8
DC	.1	.1	0	0	0	.2	0	84.0	16.0	0	0
Virginia	27.1	10.3	.8	0	0	38.2	1.1	84.0	16.0	0	6.9
West Virginia	1.3	.5	0	0	0	1.8	.1	84.0	16.0	0	.3
North Carolina	40.7	15.5	1.1	0	0	57.3	1.6	91.0	9.0	0	9.2
South Carolina	75.9	29.7	2.1	1.6	0	109.4	3.0	65.8	34.2	0	9.5
Georgia	69.7	26.5	2.0	0	0	98.1	2.7	85.0	15.0	0	17.7
Florida	65.0	81.1	233.4	85.9	0	465.4	12.9	92.3	7.7	0	14.8
South Atlantic	291.2	168.0	239.7	87.6	0	786.5	21.7	87.0	13.0	0	61.2

See footnotes at end of table.

Continued--

Table 13--Distribution of milled rice by Louisiana-Florida mills for direct food use, by State, region, package size, and type, 1986/87 1/--Continued

Destination	Package size (pounds)					Total 2/	Per-centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	Bulk			Long	Medium	Short	
	1,000 cwt							Percent			1,000 cwt
Kentucky	4.3	1.7	0.1	0	0	6.1	0.2	84.0	16.0	0	1.1
Tennessee	1.3	.5	0	0	0	1.8	.1	84.0	16.0	0	.3
Alabama	12.7	4.8	.4	0	7.1	24.9	.7	85.7	14.3	0	3.2
Mississippi	25.1	9.5	.7	0	0	35.3	1.0	84.0	16.0	0	6.4
East South Central	43.4	16.5	1.2	0	7.1	68.2	1.9	84.6	15.4	0	11.0
Arkansas	466.3	177.3	13.1	0	13.1	669.9	18.5	84.3	15.7	0	118.2
Louisiana	138.3	236.2	27.4	12.8	37.5	452.2	12.5	72.4	27.6	0	18.5
Oklahoma	0	0	0	0	0	0	0	0	0	0	0
Texas	92.7	35.2	2.6	15.6	0	146.2	4.0	84.1	15.9	0	23.5
West South Central	697.3	448.8	43.2	28.4	50.6	1,268.3	35.1	80.0	20.0	0	160.2
Montana	1.1	.4	0	0	0	1.6	0	84.0	16.0	0	.3
Idaho	.8	.3	0	0	0	1.1	0	84.0	16.0	0	.2
Wyoming	.1	0	0	0	0	.1	0	84.0	16.0	0	0
Colorado	6.2	2.3	.2	0	0	8.7	.2	100.0	0	0	1.6
New Mexico	0	0	0	0	0	0	0	0	0	0	0
Arizona	17.9	6.8	.5	.4	0	25.6	.7	84.3	15.7	0	4.5
Utah	.3	.1	0	0	0	.5	0	84.0	16.0	0	.1
Nevada	.6	.2	0	0	0	.9	0	84.0	16.0	0	.2
Mountain	27.0	10.3	.8	.4	0	38.5	1.1	87.8	12.2	0	6.8
Washington	7.8	3.0	.2	0	0	11.1	.3	84.0	16.0	0	2.0
Oregon	9.5	3.6	.3	0	0	13.4	.4	84.0	16.0	0	2.4
California	143.8	133.5	10.8	16.3	12.7	317.1	8.8	86.3	13.7	0	32.6
Alaska	.3	.1	0	0	0	.4	0	84.0	16.0	0	.1
Hawaii	1.8	.7	0	0	0	2.5	.1	84.0	16.0	0	.4
Pacific	163.3	140.9	11.3	16.3	12.7	344.5	9.5	86.1	13.9	0	37.5
U.S. total 4/	1,880.5	1,118.5	398.2	149.4	70.4	3,617.0	100.0	79.6	20.4	0	473.1

1/ Marketing year beginning August 1.

2/ Excludes Government distribution to States and military use because State shipment data are not available. Also excludes shipments to territories but includes repackagers. May include rice reported by a mill that has a facility in another State.

3/ Includes parboiled, precooked, aromatic, and brown rice. Specialty rice is included in total by package size and proportion by type.

4/ Totals may not add due to rounding.

Table 14--Distribution of milled rice by Texas-Mississippi mills for direct food use, by State, region, package size, and type, 1986/87 1/

Destination	Package size (pounds)					Total 2/	Per-centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	Bulk			Long	Medium	Short	
	1,000 cwt							Percent			1,000 cwt
Maine	8.1	0.3	1.7	0.7	0	10.8	0.2	98.2	1.8	0	10.4
New Hampshire	6.4	.8	.3	.7	0	8.3	.1	100.0	0	0	8.2
Vermont	7.4	1.2	1.1	.2	0	9.9	.2	100.0	0	0	9.9
Massachusetts	50.0	26.3	31.6	21.3	3.2	132.3	2.2	91.7	8.3	0	103.3
Rhode Island	6.6	2.0	1.0	4.1	0	13.8	.2	100.0	0	0	9.1
Connecticut	31.9	13.0	6.9	2.3	0	54.2	.9	99.7	.2	0	53.8
New England	110.5	43.6	42.7	29.5	3.2	229.4	3.8	95.0	4.9	0	194.6
New York	170.7	272.2	152.7	165.5	0	761.1	12.7	97.6	2.4	0	315.7
New Jersey	92.7	43.7	30.3	27.6	0	194.3	3.2	98.1	1.9	0	188.0
Pennsylvania	84.9	18.6	21.5	30.5	0	155.5	2.6	99.5	.5	0	137.2
Middle Atlantic	348.3	334.5	204.5	223.6	0	1,111.0	18.5	98.0	2.0	0	640.9
Ohio	56.1	6.5	17.4	16.6	0	96.6	1.6	99.8	.2	0	91.8
Indiana	31.2	1.9	5.4	3.1	0	41.5	.7	98.7	1.3	0	38.6
Illinois	63.7	5.3	35.8	48.8	0	153.7	2.6	94.7	5.3	0	108.9
Michigan	52.3	6.9	27.4	15.9	0	102.5	1.7	97.5	2.5	0	81.1
Wisconsin	35.3	.9	5.1	1.3	0	42.6	.7	99.6	.4	0	41.1
East North Central	238.7	21.4	91.0	85.6	0	436.8	7.3	97.3	2.7	0	361.6
Minnesota	29.1	.7	6.5	5.9	0	42.2	.7	99.6	.4	0	40.5
Iowa	13.1	.5	3.0	1.3	0	18.0	.3	100.0	0	0	17.6
Missouri	27.5	1.3	7.6	3.2	0	39.5	.7	98.3	1.7	0	36.6
North Dakota	3.9	.2	.6	.2	0	4.9	.1	100.0	0	0	4.9
South Dakota	3.0	.1	.4	0	0	3.5	.1	100.0	0	0	3.5
Nebraska	9.6	.8	2.4	.4	0	13.2	.2	99.4	.6	0	12.4
Kansas	17.0	.6	4.0	6.0	0	27.6	.5	99.5	.5	0	21.1
West North Central	103.1	4.1	24.5	17.1	0	148.9	2.5	99.3	.7	0	136.6
Delaware	2.6	.1	0	1.6	0	4.3	.1	100.0	0	0	3.9
Maryland	35.0	35.5	24.7	3.0	0	98.2	1.6	100.0	0	0	81.1
DC	1.9	2.4	18.0	2.7	0	25.1	.4	100.0	0	0	13.0
Virginia	53.1	12.7	13.0	15.3	0	94.2	1.6	100.0	0	0	64.9
West Virginia	9.0	.3	.5	0	0	9.9	.2	100.0	0	0	9.9
North Carolina	123.6	14.9	10.7	15.6	0	164.8	2.8	100.0	0	0	81.1
South Carolina	129.5	52.5	41.5	61.8	0	285.3	4.8	100.0	0	0	51.9
Georgia	47.0	4.2	7.8	12.7	0	71.7	1.2	100.0	0	0	52.7
Florida	153.0	204.6	173.6	335.2	.5	867.0	14.5	100.0	0	0	232.0
South Atlantic	554.8	327.3	289.8	448.1	.5	1,620.5	27.1	100.0	0	0	590.5

See footnotes at end of table.

Continued--

Table 14--Distribution of milled rice by Texas-Mississippi mills for direct food use, by State, region, package size, and type, 1986/87 1/--Continued

Destination	Package size (pounds)					Total 2/	Per-centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	Bulk			Long	Medium	Short	
	1,000 cwt							Percent			1,000 cwt
Kentucky	14.1	1.1	2.7	0.8	0	18.7	0.3	100.0	0	0	17.5
Tennessee	25.3	3.5	8.8	4.2	0	41.9	.7	97.5	2.5	0	32.4
Alabama	22.3	3.1	6.3	2.2	0	33.9	.6	99.9	.1	0	32.3
Mississippi	7.7	.3	6.3	1.4	0	15.6	.3	100.0	0	0	13.5
East South Central	69.3	8.0	24.0	8.6	0	110.0	1.8	99.0	1.0	0	95.6
Arkansas	9.3	.4	.7	.1	0	10.6	.2	100.0	0	0	10.5
Louisiana	27.5	16.3	10.9	85.4	0	140.1	2.3	93.2	6.8	0	48.2
Oklahoma	18.7	2.4	3.2	2.3	0	26.6	.4	97.4	2.6	0	23.6
Texas	306.5	98.1	142.6	277.7	12.2	837.1	15.0	92.3	7.7	0	300.6
West South Central	362.0	117.3	157.4	365.6	12.2	1,014.4	16.9	92.7	7.3	0	382.9
Montana	3.9	.2	.8	0	0	5.0	.1	99.9	0	0	5.0
Idaho	4.2	0	.9	.9	.4	6.5	.1	100.0	0	0	5.4
Wyoming	4.7	0	.1	0	0	4.9	.1	100.0	0	0	4.9
Colorado	20.9	1.5	10.4	20.0	0	52.9	.9	100.0	0	0	38.0
New Mexico	7.3	.6	3.3	7.5	0	18.9	.3	100.0	0	0	13.3
Arizona	19.5	3.8	6.8	13.7	0	43.7	.7	100.0	0	0	29.5
Utah	13.2	1.5	4.7	2.8	0	22.2	.4	97.4	2.6	0	14.9
Nevada	13.2	1.5	2.3	10.2	0	27.1	.5	100.0	0	0	23.0
Mountain	86.9	9.0	29.5	55.1	.4	181.0	3.0	99.7	.3	0	133.9
Washington	16.8	2.7	10.3	18.9	0	48.7	.8	100.0	0	0	33.0
Oregon	13.1	1.2	6.0	10.4	0	30.7	.5	100.0	0	0	21.4
California	173.0	204.7	188.2	481.6	0	1,047.4	17.5	100.0	0	0	254.7
Alaska	1.0	.7	1.4	.3	0	3.4	.1	100.0	0	0	3.4
Hawaii	.9	2.6	0	3.7	0	7.2	.1	100.0	0	0	7.2
Pacific	204.8	211.8	206.0	514.9	0	1,137.5	19.0	100.0	0	0	319.6
U.S. total 4/	2,078.3	1,077.0	916.1	1,748.2	16.3	5,989.5	100.0	98.0	2.0	0	2,856.4

1/ Marketing year beginning August 1.

2/ Excludes Government distribution to States and military use because State shipment data are not available. Also excludes shipments to territories but includes repackagers. May include rice reported by a mill that has a facility in another State.

3/ Includes parboiled, precooked, aromatic, and brown rice. Specialty rice is included in total by package size and proportion by type.

4/ Totals may not add due to rounding.

Table 15--Distribution of milled rice by California mills for direct food use, by State, region, package size, and type, 1986/87 1/

Destination	Package size (pounds)					Total 2/	Per- centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	bulk			Long	Medium	Short	
	1,000 cwt							Percent			1,000 cwt
Maine	0	0.1	0.1	0	0	0.2	0	19.0	81.0	0	0
New Hampshire	0.1	.2	0	0	0	.3	0	10.0	90.0	0	0
Vermont	0	0	0	0	0	0	0	0	0	0	0
Massachusetts	0	.1	.2	0	0	.3	0	10.0	90.0	0	0
Rhode Island	0	.4	.7	1.4	0	2.5	0.1	0	100.0	0	0
Connecticut	0	0	0	0	0	0	0	0	0	0	0
New England	.1	.8	.9	1.4	0	3.2	.1	2.7	97.3	0	0
New York	0	33.0	.3	43.1	84.7	161.1	3.5	11.2	79.9	9.0	0
New Jersey	.3	22.4	0	1.3	84.7	108.7	2.4	16.6	80.5	2.9	0
Pennsylvania	.6	16.8	90.6	1.4	0	109.4	2.4	3.0	97.0	0	0.1
Middle Atlantic	.9	72.2	90.9	45.7	169.4	379.2	8.3	10.4	85.0	4.6	.1
Ohio	.1	.1	.3	0.5	0	1.0	0	16.3	83.7	0	0
Indiana	0	0	.1	0	0	.2	0	17.0	83.0	0	0
Illinois	6.0	3.0	6.1	19.7	0	34.7	.8	7.1	89.4	3.5	4.1
Michigan	0	0	0	25.5	0	25.5	.6	.1	99.9	0	0
Wisconsin	0	.1	.3	16.2	0	16.6	.4	.3	99.7	0	0
East North Central	6.1	3.3	6.7	61.8	0	78.0	1.7	3.5	94.9	1.6	4.2
Minnesota	0	.1	.3	13.0	0	13.4	.3	5.1	94.9	0	0
Iowa	0	0	0	0	0	0	0	0	0	0	0
Missouri	0	0	0	0	0	.1	0	29.0	71.0	0	0
North Dakota	0	.1	.2	0	0	.3	0	29.0	71.0	0	0
South Dakota	0	0	.1	0	0	.1	0	23.0	77.0	0	0
Nebraska	0	0	0	0	0	0	0	0	0	0	0
Kansas	0	0	0	0.1	0	.2	0	16.9	83.1	0	0
West North Central	.1	.3	.6	13.1	0	14.1	.3	6.0	94.0	0	0
Delaware	0	0	0	0	0	0	0	0	0	0	0
Maryland	.2	2.8	4.5	21.7	0	29.1	.6	3.4	96.6	0	0
DC	0	0	.5	.2	0	.8	0	0	100.0	0	0
Virginia	.5	5.2	23.3	0	0	29.0	.6	2.0	98.0	0	.1
West Virginia	0	.1	.2	0	0	.4	0	30.0	70.0	0	0
North Carolina	0	1.1	2.0	3.3	1.1	7.5	.2	.8	92.1	7.0	.2
South Carolina	.1	.2	.4	0	0	.7	0	18.0	82.0	0	0
Georgia	0	.1	.3	3.7	0	4.1	.1	0	100.0	0	0
Florida	.1	6.7	6.7	7.0	0	20.4	.5	3.3	69.2	27.5	0
South Atlantic	.9	16.2	37.9	35.8	1.1	91.9	2.0	2.8	90.6	6.7	.4

See footnotes at end of table.

Continued--

Table 15--Distribution of milled rice by California mills for direct food use, by State, region, package size, and type, 1986/87 1/--Continued

Destination	Package size (pounds)					Total 2/	Per- centage of U.S. total	Grain type			Specialty rice 3/
	Under 5	5-9	10-24	25-100	Bulk			Long	Medium	Short	
	1,000 cwt							Percent			1,000 cwt
Kentucky	0	0	0	0.1	0	0.1	0	0	100.0	0	0
Tennessee	0	0	0	0	0	.1	0	0	100.0	0	0
Alabama	0.1	0.1	0.2	.5	0	.9	0	4.7	95.3	0	0
Mississippi	.1	.3	.4	0	0	.7	0	18.0	82.0	0	0
East South Central	.1	.4	.6	.6	0	1.8	0	9.7	90.3	0	0
Arkansas	0	.1	.3	.6	0	.9	0	2.7	97.3	0	0
Louisiana	0	0	.1	1.0	0	1.2	0	.6	99.4	0	0
Oklahoma	.1	.2	.4	.8	0	1.5	0	19.4	80.6	0	0
Texas	2.0	14.0	8.2	27.1	0	51.3	1.1	5.2	94.8	0	0
West South Central	2.1	14.3	9.0	29.5	0	54.9	1.2	5.4	94.6	0	0.1
Montana	0	.1	.3	.3	0	.6	0	52.0	48.0	0	0
Idaho	0	.3	.7	6.6	0	7.7	.2	26.9	73.1	0	.1
Wyoming	0	.0	0	0	0	0	0	0	0	0	0
Colorado	.1	.9	2.5	45.1	0	48.6	1.1	4.8	95.2	0	0
New Mexico	.1	.5	.5	0	0	1.0	0	26.0	74.0	0	0
Arizona	.9	.6	.8	10.2	0	12.5	.3	25.7	74.3	0	.4
Utah	0	.1	1.2	2.0	0	3.3	.1	68.9	31.1	0	.3
Nevada	.1	.5	1.5	7.7	0	9.7	.2	77.0	23.0	0	0
Mountain	1.2	3.0	7.5	71.9	0	83.5	1.8	21.5	78.5	0	.9
Washington	11.0	21.3	35.4	83.7	0	151.4	3.3	29.9	70.1	0	10.8
Oregon	.2	7.4	6.5	45.8	0	59.8	1.3	41.2	58.8	0	.4
California	298.8	377.4	284.1	1,333.6	829.0	3,122.8	68.8	23.9	71.8	4.2	79.2
Alaska	.5	.3	.8	7.1	0	8.6	.2	2.3	97.5	.2	.4
Hawaii	43.7	44.5	299.8	104.8	0	492.9	10.9	1.7	95.3	3.0	19.4
Pacific	354.3	450.9	626.5	1,575.0	829.0	3,835.6	84.4	21.5	74.6	3.8	110.2
U.S. total 4/	365.7	561.4	780.7	1,834.8	999.5	4,542.1	100.0	19.7	76.6	3.8	116.0

1/ Marketing year beginning August 1.

2/ Excludes Government distribution to States and military use because State shipment data are not available. Also excludes shipments to territories but includes repackagers. May include rice reported by a mill that has a facility in another State.

3/ Includes parboiled, precooked, aromatic, and brown rice. Specialty rice is included in total by package size and proportion by type.

4/ Totals may not add due to rounding.

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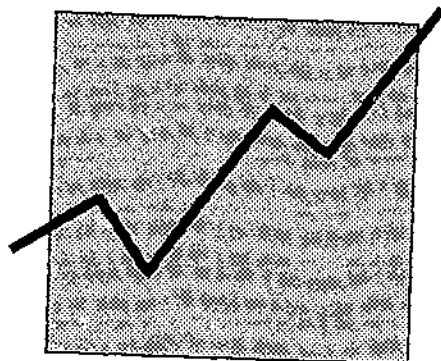
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