# UNITED STATES DUMPING ON WORLD AGRICULTURAL MARKETS

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## Dumping at the Center of Stalled Trade Negotiations

At the World Trade Organization (WTO) Ministerial in Cancun in September 2003, one of the main reasons talks collapsed was the failure of rich countries to tackle agricultural dumping. Since the WTO's inception, widespread agricultural dumping—the selling of products at below their cost of production—by global food companies based in the United States and the European Union has wreaked havoc on global agricultural markets. In Cancun, developing countries refused to move forward on negotiations until agricultural dumping by developed countries was addressed. In early 2004, WTO members remain in a stalemate on agricultural negotiations.

Agriculture is also at the core of the stalled Free Trade Area of the Americas (FTAA) negotiations, which broke off without agreement at the latest Ministerial Conference, held in Miami in November 2003. Latin American countries, particularly Brazil, have refused to agree to a deal that does not include significant reform of U.S. agricultural policies. Similarly, the proposed free trade agreement between Australia and the U.S. is held up in part by U.S. inflexibility on agriculture.

## Dumping from U.S.-based Global Food Companies Continues at High Levels

The Institute for Agriculture and Trade Policy (IATP) has documented export dumping from U.S.-based multinational corporations onto world agricultural markets for the last 12 years. Dumping is one of the most damaging of all current distortions in world trade practices. Developing country agriculture, vital for food security, rural livelihoods, poverty reduction and trade, is crippled by the competition from major commodities sold at well below cost of production prices in world markets.

The structural price depression associated with agricultural dumping has two major effects on developing country farmers raising competing products. First, below-cost imports drive developing country farmers out of their local markets. If the farmers do not have access to a safety net, they have to abandon their land. When this happens, the farm economy shrinks, in turn shrinking the rural economy as a whole. This is happening around the world, in places as far apart as Jamaica, Burkina Faso and the Philippines. Secondly, developing country farmers who sell their products to exporters find their global market share undermined by the under-priced competition.

The U.S. is one of the world's largest sources of dumped agricultural commodities. This updated analysis is based on the most recent numbers available—2002. These latest numbers are an update to IATP's more comprehensive dumping report issued last year. This analysis provides dumping calculations from 1990 to 2002 for five commodities grown in the U.S. and sold on the world market: wheat, corn (maize), soybean, rice and cotton. Data from the U.S. Department of Agriculture (USDA) and the Organization for Economic Cooperation and Development (OECD) are used to compare the cost of production, including producer input costs paid by the government (a portion of the subsidies calculated in the OECD's producer support estimate, or PSE) with the export price. (Methodology details can be found in IATP's full report—www.tradeobservatory.org)

The latest numbers available show a continued trend of widespread agricultural dumping from U.S.-based global food companies. In 2002, exports continued to be sold well below the cost of production:

- Wheat was exported at an average price of 43 percent below cost of production;
- Soybeans were exported at an average price of 25 percent below cost of production;
- Corn was exported at an average price of 13 percent below cost of production;
- Cotton was exported at an average price of 61 percent below cost of production;
- Rice was exported at an average price of 35 percent below cost of production.

While the 2002 data indicate an increase in dumping for cotton and rice, a decline for corn and soybeans, and a constant level for wheat, they are consistent with the trend of high levels of dumping for all five commodities over the last decade.

The 2002 dumping numbers also illustrate the disastrous impact of U.S. agricultural policy on U.S. farmers, who face prices well below their cost of production for these five major crops. While the U.S. government has put in place support programs to make up some of the income farmers lose from low prices, it is seldom enough. Larger, corporate farms receive the bulk of subsidy payments. From 1997 to 2002, the U.S. lost over 90,000 farms of below 2,000 acres, while farms above 2,000 acres increased by over 3,600, according to the U.S. Department of Agriculture. In the U.S., the steady erosion of independent family farms, the near-necessity of off-farm income to ensure a farm family can continue to farm, and the decline in net farm income, all point to the cost of policies that facilitate the sale of commodities at less than cost of production prices.

## Causes of Dumping

U.S. farm subsidies are frequently blamed for agricultural dumping, yet they are only a symptom of a much deeper market failure. The sharp increases in agricultural dumping in the U.S. can be traced to the 1996 U.S. Farm Bill, which stripped away already weakened programs that were designed to manage supply. These supply management programs helped to balance supply with demand, ensuring a fair return to farmers. When these supply control programs were removed, commodity buyers were able to drive prices below the costs of production.

Research by University of Tennessee agricultural economist Daryll Ray makes clear that deep cuts to, or even the total elimination of U.S. farm subsidies alone, would result in negligible increases in domestic farm prices for corn, wheat and soybeans. The small price increase would then gradually decline to nothing over nine years time, as the price rise encourages further production. And while there would be more sustained, modest increases in prices for cotton and rice, those increases would not rise enough to cover the cost of production, and thus eliminate dumping.

Without supply management policies, farmers will over-produce regardless of whether subsidies are in place or not. The elimination or reduction of subsidies, without addressing supply, would simply move the U.S. agriculture landscape even further away from smaller family farms toward larger, corporate farms—

while keeping comparable levels of farmland in production.

The evidence from countries that have largely eliminated agricultural subsidies without addressing over-supply—Canada, Australia or Argentina in their wheat production, for example—have actually seen production rise. (See p. 12 of the full IATP report on dumping for more detail.)

Ray also has examined the probable impact of recreating supply management mechanisms and price supports for U.S. farm policy. He predicts significantly higher prices across the board for all five major U.S. food crops and a first step at addressing chronic global over-supply. (Ray's full analysis can be found at: www.agpolicy.org/blueprint)

There is little question that the largest commodity traders, who are now dominant in financing trades, processing and shipping, are the biggest beneficiaries of agricultural dumping. These vertically integrated companies buy their raw material—agricultural commodities—at extremely cheap prices. They control the value-added stages of production and so are sure of a significant profit from the final sales. Nearly all of these companies have seen their profits skyrocket in recent years.

## Addressing Agricultural Dumping

Article Six of the General Agreement on Tariffs and Trade (GATT), which is one of the agreements overseen by the WTO, sets rules that prohibit dumping. However, the rules make it complicated, in practice, for smaller, poorer countries, to establish grounds for anti-dumping duties because of the requirements to demonstrate harm to the sector involved.

Underlying the technical challenges that inhibit use of WTO rules to stop dumping is the political reality of the multilateral trading system. When the ultimate threat is the imposition of sanctions—the suspension of trade—then the tool is a lot easier to apply when the U.S. challenges Bangladesh than vice versa. Just under half of Bangladesh's exports are destined for the U.S.; this isn't a trade relationship Bangladesh can afford to jeopardize.

Governments need to make it easier for poor countries to challenge agricultural dumping. The easiest and most WTO-legal approach is for the importing country to have the ability to immediately impose countervailing and anti-dumping duties to bring the dumped prices up to cost of production levels.

However, as the WTO remains deadlocked over agricultural negotiations, it may be time to turn to other international institutions to address dumping. In June, the United Nations Committee on Trade and Development (UNCTAD) will meet in Sao Paulo, Brazil. UNCTAD has historically focused directly on promoting development through trade. UNCTAD has been home to global commodity agreements that have attempted to address chronic over-supply—such as the coffee agreement. The UNCTAD meeting in Sao Paulo will be another opportunity to bring agricultural dumping to the forefront of international discussions, and to debate a variety of solutions.

## Recommendations

These latest numbers on agricultural dumping by U.S. agribusiness once again demand immediate action to address this critical problem:

1. The elimination of visible export subsidies, as well as the establishment of strong disciplines on export credit and food aid, as quickly as possible.

2. A commitment from exporting countries to keep out of world markets those products priced below the cost of production.

3. The publication of annual full-cost of production estimates for OECD countries. To fully address agricultural dumping, the development of a more thorough methodology with transparent data must be put in place.

4. Agreement on strong international rules to prohibit restrictive business practices among the oligopolies that dominate trade in most agricultural commodities.

In the longer term, governments must again turn their attention to the need for global commodity agreements that manage the supply-side problems. When global over-supply drives prices down for farmers around the world, global commodity agreements have restored the critical balance between supply and demand that has been damaged by the "race to the bottom" results of free trade. When supply and demand are out of balance in agriculture there is trouble. When there is not enough supply, people suffer or go hungry. When there is too much supply, prices drop, farmers suffer and many go out of business. Modern trade agreements that enable countries to restore the balancing mechanisms for supply and demand would help the world's farmers, while respecting the needs of consumers, particularly the human right to adequate, appropriate and nutritious food.

Developing countries need healthy agricultural sectors to eliminate poverty. To achieve this, agricultural commodities must be priced fairly. Dumping is a gross distortion of commodity markets. It undermines the livelihoods of 70 percent of the world's poorest people. Trade rules provide the tools needed to address agricultural dumping. These rules should be strengthened, implemented and enforced.

IATP's full report, United States Dumping on World Agricultural Markets, and latest analysis can be found at: www.tradeobservatory.org

Table 1. Wheat

| Year | Farmer Production Costs (US$/bushel) | Government Support Costs (PSE) | Transportation & Handling Costs (US$/bushel) | Full Cost (US$/bushel) | Export Price (US$/bushel) | Percent of Export Dumping |
|---|---|---|---|---|---|---|
| 1990 | 4.41 | 0.10 | 0.82 | 5.32 | 3.72 | 30% |
| 1991 | 4.74 | 0.11 | 0.82 | 5.66 | 3.52 | 38% |
| 1992 | 4.46 | 0.11 | 0.82 | 5.39 | 4.13 | 23% |
| 1993 | 4.62 | 0.10 | 0.82 | 5.54 | 3.83 | 31% |
| 1994 | 4.63 | 0.11 | 0.82 | 5.55 | 4.09 | 26% |
| 1995 | 5.33 | 0.13 | 0.82 | 6.28 | 4.82 | 23% |
| 1996 | 5.94 | 0.12 | 0.82 | 6.88 | 5.63 | 18% |
| 1997 | 5.02 | 0.10 | 0.82 | 5.93 | 4.35 | 27% |
| 1998 | 3.99 | 0.08 | 0.82 | 4.89 | 3.44 | 30% |
| 1999 | 4.30 | 0.08 | 0.82 | 5.20 | 3.04 | 42% |
| 2000 | 4.62 | 0.09 | 0.82 | 5.53 | 3.17 | 43% |
| 2001 | 5.31 | 0.10 | 0.82 | 6.24 | 3.5 | 44% |
| 2002 | 6.29 | 0.12 | 0.82 | 7.23 | 4.09 | 43% |

Table 1 shows the calculation of the percent of export dumping for wheat. The government support cost and the cost of transportation & handling are added to the farmer production cost to calculate the full cost of production. The percent of export dumping is the difference between the full cost of production and the export price, divided by the full cost of production.

Table 2. Soybeans

| Year | Farmer Production Costs (US$/bushel) | Government Support Costs (PSE) | Transportation & Handling Costs (US$/bushel) | Full Cost (US$/bushel) | Export Price (US$/bushel) | Percent of Export Dumping |
|---|---|---|---|---|---|---|
| 1990 | 5.76 | 0.20 | 0.69 | 6.65 | 6.24 | 6% |
| 1991 | 5.87 | 0.20 | 0.69 | 6.76 | 6.05 | 10% |
| 1992 | 5.51 | 0.17 | 0.69 | 6.37 | 6.01 | 6% |
| 1993 | 6.71 | 0.20 | 0.69 | 7.59 | 6.53 | 14% |
| 1994 | 5.29 | 0.16 | 0.69 | 6.14 | 6.52 | -6% |
| 1995 | 6.30 | 0.20 | 0.69 | 7.18 | 6.5 | 9% |
| 1996 | 6.30 | 0.22 | 0.69 | 7.21 | 7.88 | -9% |
| 1997 | 5.72 | 0.18 | 0.69 | 6.58 | 7.94 | -21% |
| 1998 | 5.76 | 0.15 | 0.69 | 6.59 | 6.37 | 3% |
| 1999 | 6.23 | 0.15 | 0.69 | 7.06 | 5.02 | 29% |
| 2000 | 6.20 | 0.15 | 0.69 | 7.04 | 5.26 | 25% |
| 2001 | 6.14 | 0.15 | 0.69 | 6.98 | 4.93 | 29% |
| 2002 | 6.49 | 0.17 | 0.69 | 7.34 | 5.48 | 25% |

Table 2 shows the calculation of the percent of export dumping for soybeans. The government support cost and the cost of transportation & handling are added to the farmer production cost to calculate the full cost of production. The percent of export dumping is the difference between the full cost of production and the export price, divided by the full cost of production.

### Table 3. Maize

| Year | Farmer Production Costs (US$/bushel) | Government Support Costs (PSE) | Transportation & Handling Costs (US$/bushel) | Full Cost (US$/bushel) | Export Price (US$/bushel) | Percent of Export Dumping |
|---|---|---|---|---|---|---|
| 1990 | 2.49 | 0.08 | 0.54 | 3.11 | 2.79 | 10% |
| 1991 | 2.65 | 0.09 | 0.54 | 3.27 | 2.75 | 16% |
| 1992 | 2.26 | 0.07 | 0.54 | 2.86 | 2.66 | 7% |
| 1993 | 2.90 | 0.08 | 0.54 | 3.51 | 2.62 | 25% |
| 1994 | 2.25 | 0.07 | 0.54 | 2.85 | 2.74 | 4% |
| 1995 | 2.88 | 0.10 | 0.54 | 3.51 | 3.13 | 11% |
| 1996 | 2.70 | 0.08 | 0.54 | 3.31 | 4.17 | -26% |
| 1997 | 2.77 | 0.07 | 0.54 | 3.37 | 2.98 | 12% |
| 1998 | 2.64 | 0.06 | 0.54 | 3.24 | 2.58 | 20% |
| 1999 | 2.68 | 0.06 | 0.54 | 3.27 | 2.29 | 30% |
| 2000 | 2.72 | 0.06 | 0.54 | 3.31 | 2.24 | 32% |
| 2001 | 2.39 | 0.07 | 0.54 | 2.99 | 2.28 | 24% |
| 2002 | 2.46 | 0.08 | 0.54 | 3.08 | 2.69 | 13% |

Table 3 shows the calculation of the percent of export dumping for maize. The government support cost and the cost of transportation & handling are added to the farmer production cost to calculate the full cost of production. The percent of export dumping is the difference between the full cost of production and the export price, divided by the full cost of production.

### Table 4. Cotton

| Year | Farmer Production Costs (US$/pound) | Income Support Payment Rate (US$/pound) | Transportation & Handling Costs (US$/pound) | Full Cost (US$/pound) | Export Price (US$/pound) | Percent of Export Dumping |
|---|---|---|---|---|---|---|
| 1990 | 0.8424 | N/A | 0.10 | 0.9396 | 0.7125 | 24% |
| 1991 | 0.7602 | N/A | 0.10 | 0.8574 | 0.6969 | 19% |
| 1992 | 0.7507 | N/A | 0.10 | 0.8479 | 0.539 | 36% |
| 1993 | 0.8024 | N/A | 0.10 | 0.8996 | 0.5536 | 38% |
| 1994 | 0.7057 | N/A | 0.10 | 0.8029 | 0.7324 | 9% |
| 1995 | 1.0341 | N/A | 0.10 | 1.1313 | 0.9344 | 17% |
| 1996 | 0.8477 | N/A | 0.10 | 0.9449 | 0.7793 | 18% |
| 1997 | 0.7461 | N/A | 0.10 | 0.8432 | 0.6962 | 17% |
| 1998 | 0.9608 | N/A | 0.10 | 1.0579 | 0.6704 | 37% |
| 1999 | 0.8357 | N/A | 0.10 | 0.9329 | 0.523 | 44% |
| 2000 | 0.9098 | N/A | 0.10 | 1.0070 | 0.5747 | 43% |
| 2001 | 0.8342 | N/A | 0.10 | 0.9313 | 0.3968 | 57% |
| 2002 | 0.8616 | N/A | 0.10 | 0.9588 | 0.3701 | 61% |

Table 4 shows the calculation of the percent of export dumping for cotton. The government support cost and the cost of transportation & handling are added to the farmer production cost to calculate the full cost of production. The percent of export dumping is the difference between the full cost of production and the export price, divided by the full cost of production.

### Table 5. Rice

| Year | Farmer Production Costs (US$/cwt.) | Government Support Costs (PSE) | Transportation & Handling Costs (US$/cwt.) | Full Cost (US$/cwt.) | Export Price (US$/cwt.) | Percent of Export Dumping |
|---|---|---|---|---|---|---|
| 1990 | 9.61 | 0.27 | 9.85 | 19.74 | 15.52 | 21% |
| 1991 | 9.94 | 0.30 | 9.85 | 20.09 | 16.46 | 18% |
| 1992 | 9.16 | 0.21 | 9.85 | 19.22 | 16.8 | 13% |
| 1993 | 9.95 | 0.28 | 9.85 | 20.08 | 16.12 | 20% |
| 1994 | 9.90 | 0.22 | 9.85 | 19.97 | 19.14 | 4% |
| 1995 | 11.31 | 0.29 | 9.85 | 21.45 | 16.68 | 22% |
| 1996 | 11.06 | 0.30 | 9.85 | 21.21 | 19.64 | 7% |
| 1997 | 11.70 | 0.29 | 9.85 | 21.84 | 20.88 | 4% |
| 1998 | 12.02 | 0.30 | 9.85 | 22.17 | 18.95 | 15% |
| 1999 | 11.42 | 0.21 | 9.85 | 21.48 | 16.99 | 21% |
| 2000 | 8.51 | 0.20 | 9.85 | 18.56 | 14.83 | 20% |
| 2001 | 8.61 | 0.15 | 9.85 | 18.62 | 14.55 | 22% |
| 2002 | 8.26 | 0.15 | 9.85 | 18.26 | 11.8 | 35% |

Table 5 shows the calculation of the percent of export dumping for rice. The government support cost and the cost of transportation & handling are added to the farmer production cost to calculate the full cost of production. The percent of export dumping is the difference between the full cost of production and the export price, divided by the full cost of production.

# Wheat

## Table 1.1 Farmer Cost of Production

| Year | Total Economic Cost of Production (US$/acre) | Yield (bushels/ planted acre) | Cost of Production (US$/bushel) |
|---|---|---|---|
| 1990 | 149.49 | 33.91 | 4.41 |
| 1991 | 133.96 | 28.28 | 4.74 |
| 1992 | 150.67 | 33.77 | 4.46 |
| 1993 | 153.32 | 33.18 | 4.62 |
| 1994 | 154.52 | 33.4 | 4.63 |
| 1995 | 170.03 | 31.92 | 5.33 |
| 1996 | 180.48 | 30.36 | 5.94 |
| 1997 | 180.27 | 35.9 | 5.02 |
| 1998 | 165.19 | 41.4 | 3.99 |
| 1999 | 166.15 | 38.63 | 4.30 |
| 2000 | 173.86 | 37.6 | 4.62 |
| 2001 | 183.34 | 34.5 | 5.31 |
| 2002 | 175.63 | 27.9 | 6.29 |

Table 1.1 shows how the farmer paid cost of production per unit was calculated. Total economic costs are full ownership costs (cash and noncash) for operating the business. They include variable and fixed cash expenses (except interest payments), capital replacement, input costs of land, unpaid labor, and capital invested in production inputs and machinery. The total economic costs (1) are divided by the yield (1) to calculate the total cost of production per bushel of wheat.

**Table 1.2 Government Cost of Production**

| Year | Payments Based on Input Use (US$mn) | Production (1000 bushels) | PSE Per Bushel (US$/bushel) | Production (1000 tons) |
|---|---|---|---|---|
| 1990 | 265.4 | 2,729,778 | 0.10 | 74,292.4 |
| 1991 | 218.0 | 1,980,140 | 0.11 | 53,890.6 |
| 1992 | 262.4 | 2,466,799 | 0.11 | 67,135.3 |
| 1993 | 251.5 | 2,396,439 | 0.10 | 65,220.4 |
| 1994 | 245.0 | 2,320,982 | 0.11 | 63,166.8 |
| 1995 | 293.6 | 2,182,708 | 0.13 | 59,403.6 |
| 1996 | 278.0 | 2,277,389 | 0.12 | 61,980.4 |
| 1997 | 236.0 | 2,481,467 | 0.10 | 67,534.5 |
| 1998 | 212.3 | 2,547,319 | 0.08 | 69,326.7 |
| 1999 | 189.2 | 2,298,998 | 0.08 | 62,568.5 |
| 2000 | 203.2 | 2,232,000 | 0.09 | 60,745.1 |
| 2001 | 193.7 | 1,956,999 | 0.10 | 53,260.8 |
| 2002 | 190.7 | 1,615,999 | 0.12 | 43,980.3 |

Table 1.2 shows the government paid cost of production, which is represented by the Producer Support Estimate (PSE), Payments Based on Input Use (2). The figure is an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on the use of a specific input or a specific group of inputs or factors of production. These payments are divided by total production (2), converted from tons to bushels using 1 metric ton = 36.7437 bushels, in order to calculate the cost of production paid by government.

The Producer Support Estimate (PSE) is an indicator of the annual monetary value of gross transfers from consumers and taxpayers to support agricultural producers, measured at farm gate level, arising from policy measures, regardless of their nature, objectives or impacts on farm production or income.

Payments Based on Input Use is an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on the use of a specific input or a specific group of input or factors of production. This figure is conditional on the on-farm use of specific fixed or variable input; it includes explicit and implicit payment affecting specific variable input costs. Policies included are: Agricultural Credit Program (or Agricultural Credit Insurance Program), Energy Payments, Irrigation Payments, Grazing Payments, Feed Assistance (or Emergency Feed Assistance Program, Forage Assistance Program, and Disaster Reserve Assistance Program), Extension Service, Agricultural Cooperative Service, Outreach for Socially Disadvantaged Farms, Grazing Land Conservation Initiative, Pet and Disease Control, Emergency Conservation Program, and Farmland Protection Program.

| support agricultural producers, measured at farm gate level, arising from | Export Price (US$/bushel) |
|---|---|
| 1990 | 3.72 |
| 1991 | 3.52 |
| 1992 | 4.13 |
| 1993 | 3.83 |
| 1994 | 4.09 |
| 1995 | 4.82 |
| 1996 | 5.63 |
| 1997 | 4.35 |
| 1998 | 3.44 |
| 1999 | 3.04 |
| 2000 | 3.17 |
| 2001 | 3.5 |
| 2002 | 4.09 |

Table 1.3 shows the export price for wheat, valued at f.o.b. at Gulf Ports (3).

## Table 1.4 Transportation & Handling Costs

| Year | Export Price (US$/bushel) | Market Year Average Prices (Kansas) | Transportation & Handling Costs (US$/bushel) | Full Cost (US$/bushel) | Transportation Percentage of Full Cost | Average Transportation Cost (US$/bushel) |
|---|---|---|---|---|---|---|
| 1990 | 3.72 | 2.61 | 1.11 | 5.32 | 21% | 0.81 |
| 1991 | 3.52 | 2.81 | 0.71 | 5.66 | 13% | |
| 1992 | 4.13 | 3.13 | 1.00 | 5.39 | 19% | |
| 1993 | 3.83 | 3.00 | 0.83 | 5.54 | 15% | |
| 1994 | 4.09 | 3.32 | 0.77 | 5.55 | 14% | |
| 1995 | 4.82 | 4.59 | 0.23 | 6.28 | 4% | |
| 1996 | 5.63 | 4.63 | 1.00 | 6.88 | 15% | |
| 1997 | 4.35 | 3.16 | 1.19 | 5.93 | 20% | |
| 1998 | 3.44 | 2.53 | 0.91 | 4.89 | 19% | |
| 1999 | 3.04 | 2.25 | 0.79 | 5.20 | 15% | |
| 2000 | 3.17 | 2.65 | 0.52 | 5.53 | 9% | |
| 2001 | 3.5 | 2.69 | 0.81 | 6.24 | 13% | |
| 2002 | 4.09 | 3.45 | 0.64 | 7.23 | 9% | |

Table 1.4 shows the calculation of the transportation costs. The market year average price received by farmers in Kansas (4) is subtracted from the export price at the gulf. It should be noted that, since this value was not calculated previous to 1991, the 1990 price is a US average price received by farmers (5).

Notes:

* Figures are presented in current year dollars, and are thus not adjusted for inflation.

(1) Source: USDA/ERS, *U.S. Wheat Production Costs and Returns* , 1989-2002. (http://www.ers.usda.gov/data/costsandreturns/testpick.htm)

(2) Source: *Producer Support Estimate by Commodity* , Source OECD. (http://www.sourceoecd.org/content/html/index.htm)

(3) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 24. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

(4) Source: USDA/NASS, *Agricultural Statistics* , 1994-2003. (http://www.usda.gov/nass/pubs/agstats.htm)

(5) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 5. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

(5) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 5. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

## Soybeans

### Table 2.1 Farmer Cost of Production

| Year | Total Economic Cost of Production (US$/acre) | Yield (bushels/ planted acre) | Cost of Production (US$/bushel) | Iowa Cost of Production (US$/bushel) |
|---|---|---|---|---|
| 1990 | 190.54 | 33.1 | 5.76 | 5.96 |
| 1991 | 196.63 | 33.48 | 5.87 | 6.29 |
| 1992 | 203.02 | 36.83 | 5.51 | 5.89 |
| 1993 | 204.17 | 30.45 | 6.71 | 5.19 |
| 1994 | 218.4 | 41.27 | 5.29 | 5.32 |
| 1995 | 219.79 | 34.91 | 6.30 | 5.48 |
| 1996 | 233.77 | 37.1 | 6.30 | 5.62 |
| 1997 | 245.83 | 43 | 5.72 | 5.87 |
| 1998 | 247.56 | 43 | 5.76 | 5.99 |
| 1999 | 249.02 | 40 | 6.23 | 6.01 |
| 2000 | 254.1 | 41 | 6.20 | 6.02 |
| 2001 | 264.08 | 43 | 6.14 | 6.03 |
| 2002 | 266.04 | 41 | 6.49 | 6.08 |

Table 2.1 shows how the farmer paid cost of production per unit was calculated. Total economic costs are full ownership costs (cash and noncash) for operating the business. They include variable and fixed cash expenses (except interest payments), capital replacement, input costs of land, unpaid labor, and capital invested in production inputs and machinery. The total economic costs (1) are divided by the yield (1) to calculate the total cost of production per bushel of soybeans.

The cost of production for soybeans following corn (1a) is estimated by the Iowa State University Extension.

**Table 2.2 Government Cost of Production**

| Year | Payments Based on Input Use (US$mn) | Production (1000 bushels) | PSE Per Bushel (US$/bushel) | Production (1000 tons) |
|---|---|---|---|---|
| 1990 | 389.4 | 1,925,947 | 0.20 | 52,415.7 |
| 1991 | 390.3 | 1,986,541 | 0.20 | 54,064.8 |
| 1992 | 378.3 | 2,190,354 | 0.17 | 59,611.7 |
| 1993 | 377.6 | 1,869,718 | 0.20 | 50,885.4 |
| 1994 | 408.5 | 2,514,867 | 0.16 | 68,443.5 |
| 1995 | 424.4 | 2,174,253 | 0.20 | 59,173.5 |
| 1996 | 480.1 | 2,177,002 | 0.22 | 59,248.3 |
| 1997 | 477.9 | 2,688,750 | 0.18 | 73,175.8 |
| 1998 | 409.9 | 2,741,014 | 0.15 | 74,598.2 |
| 1999 | 401.4 | 2,654,001 | 0.15 | 72,230.1 |
| 2000 | 427.1 | 2,758,000 | 0.15 | 75,060.5 |
| 2001 | 423.2 | 2,891,002 | 0.15 | 78,680.2 |
| 2002 | 447.5 | 2,689,999 | 0.17 | 73,209.8 |

Table 2.2 shows the government paid cost of production, which is represented by the Producer Support Estimate (PSE), Payments Based on Input Use (2). The figure is an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on the use of a specific input or a specific group of inputs or factors of production. These payments are divided by total production (2), converted from tons to bushels using 1 metric ton = 36.7437 bushels, in order to calculate the cost of production paid by government.

**Table 2.3 Export Price**

| Year | Export Price (US$/bushel) |
|---|---|
| 1990 | 6.24 |
| 1991 | 6.05 |
| 1992 | 6.01 |
| 1993 | 6.53 |
| 1994 | 6.52 |
| 1995 | 6.5 |
| 1996 | 7.88 |
| 1997 | 7.94 |
| 1998 | 6.37 |
| 1999 | 5.02 |
| 2000 | 5.26 |
| 2001 | 4.93 |
| 2002 | 5.48 |

Table 2.3 shows the export price for soybeans, valued at f.o.b. at Gulf Ports (3).

**Table 2.4 Transportation & Handling Costs**

| Year | Export Price | Market Year Average Prices (Iowa) | Transportation & Handling Costs (US$/bushel) | Full Cost (US$/bushel) | Transportation Percentage of Full Cost | Average Transportation Cost (US$/bushel) |
|---|---|---|---|---|---|---|
| 1990 | 6.24 | 5.74 | 0.50 | 6.65 | 8% | 0.64 |
| 1991 | 6.05 | 5.51 | 0.54 | 6.76 | 8% | |
| 1992 | 6.01 | 5.54 | 0.47 | 6.37 | 7% | |
| 1993 | 6.53 | 6.34 | 0.19 | 7.59 | 3% | |
| 1994 | 6.52 | 5.43 | 1.09 | 6.14 | 18% | |
| 1995 | 6.5 | 6.65 | (0.15) | 7.18 | -2% | |
| 1996 | 7.88 | 7.36 | 0.52 | 7.21 | 7% | |
| 1997 | 7.94 | 6.33 | 1.61 | 6.58 | 24% | |
| 1998 | 6.37 | 4.79 | 1.58 | 6.59 | 24% | |
| 1999 | 5.02 | 4.53 | 0.49 | 7.06 | 7% | |
| 2000 | 5.26 | 4.49 | 0.77 | 7.04 | 11% | |
| 2001 | 4.93 | 4.35 | 0.58 | 6.98 | 8% | |
| 2002 | 5.48 | 5.40 | 0.08 | 7.34 | 1% | |

Table 2.4 shows the calculation of the transportation costs. The market year average price received by farmers in Iowa (4) is subtracted from the

Notes:

* Figures are presented in current year dollars, and are thus not adjusted for inflation.

(1) Source: USDA/ERS, *U.S. Soybeans Production Costs and Returns* , 1989-2002.

(1a) Source: Iowa State University Extension, *Estimated Crop Production Costs in Iowa - 2003*
(http://www.extension.iastate.edu/Publications/FM1712.pdf)

(2) Source: *Producer Support Estimate by Commodity* , Source OECD. (http://www.sourceoecd.org/content/html/index.htm)

(3) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 24. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

(3) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 24. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

(5) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 5. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

## Maize

### Table 3.1 Farmer Cost of Production

| Year | Total Economic Cost of Production (US$/acre) | Yield (bushels/ planted acre) | Cost of Production (US$/bushel) | Iowa Cost of Production (US$/bushel) |
|---|---|---|---|---|
| 1990 | 292.52 | 117.5 | 2.49 | 2.66 |
| 1991 | 292.55 | 110.38 | 2.65 | 2.73 |
| 1992 | 302.33 | 133.82 | 2.26 | 2.56 |
| 1993 | 287.1 | 99.15 | 2.90 | 2.56 |
| 1994 | 321.47 | 143.15 | 2.25 | 2.20 |
| 1995 | 333.42 | 115.85 | 2.88 | 2.31 |
| 1996 | 350.53 | 130 | 2.70 | 2.79 |
| 1997 | 360.29 | 130 | 2.77 | 2.91 |
| 1998 | 359.46 | 136 | 2.64 | 2.94 |
| 1999 | 361.3 | 135 | 2.68 | 2.94 |
| 2000 | 374.84 | 138 | 2.72 | 2.89 |
| 2001 | 343.9 | 144 | 2.39 | 3.05 |
| 2002 | 329.54 | 134 | 2.46 | 3.04 |

Table 3.1 shows how the farmer paid cost of production per unit was calculated.  Total economic costs are full ownership costs (cash and noncash) for operating the business.  They include variable and fixed cash expenses (except interest payments), capital replacement, input costs of land, unpaid labor, and capital invested in production inputs and machinery.  The total economic costs (1) are divided by the yield (1) to calculate the total cost of production per bushel of corn.

The cost of production for soybeans following corn (1a) is estimated by the Iowa State University Extension.

**Table 3.2 Government Cost of Production**

| Year | Payments Based on Input Use (US$mn) | Production (1000 bushels) | PSE Per Bushel (US$/bushel) | Production (1000 tons) |
|---|---|---|---|---|
| 1990 | 655.1 | 7,934,022 | 0.08 | 201,534.8 |
| 1991 | 641.4 | 7,475,019 | 0.09 | 189,875.5 |
| 1992 | 626.7 | 9,477,023 | 0.07 | 240,729.1 |
| 1993 | 514.8 | 6,336,016 | 0.08 | 160,943.3 |
| 1994 | 688.7 | 10,050,544 | 0.07 | 255,297.3 |
| 1995 | 709.1 | 7,400,070 | 0.10 | 187,971.7 |
| 1996 | 700.8 | 9,232,579 | 0.08 | 234,519.9 |
| 1997 | 623.1 | 9,206,856 | 0.07 | 233,866.5 |
| 1998 | 581.4 | 9,759,024 | 0.06 | 247,892.3 |
| 1999 | 568.6 | 9,431,026 | 0.06 | 239,560.7 |
| 2000 | 639.9 | 9,915,024 | 0.06 | 251,854.9 |
| 2001 | 659.8 | 9,507,026 | 0.07 | 241,491.2 |
| 2002 | 724.1 | 9,003,025 | 0.08 | 228,688.9 |

Table 3.2 shows the government paid cost of production, which is represented by the Producer Support Estimate (PSE), Payments Based on Input Use (2). The figure is an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on the use of a specific input or a specific group of inputs or factors of production. These payments are divided by total production (2), converted from tons to bushels using 1 metric ton = 39.368 bushels, in order to calculate the cost of production paid by government.

**Table 3.3 Export Price**

| Year | Export Price (US$/bushel) |
|---|---|
| 1990 | 2.79 |
| 1991 | 2.75 |
| 1992 | 2.66 |
| 1993 | 2.62 |
| 1994 | 2.74 |
| 1995 | 3.13 |
| 1996 | 4.17 |
| 1997 | 2.98 |
| 1998 | 2.58 |
| 1999 | 2.29 |
| 2000 | 2.24 |
| 2001 | 2.28 |
| 2002 | 2.69 |

Table 3.3 shows the export price for maize, valued at f.o.b. at Gulf Ports (3).

**Table 3.4 Transportation & Handling Costs**

| Year | Export Price (US$/bushel) | Market Year Average Prices (Iowa) | Transportation & Handling Costs (US$/bushel) | Full Cost (US$/bushel) | Transportation Percentage of Full Cost | Average Transportation Cost (US$/bushel) |
|---|---|---|---|---|---|---|
| 1990 | 2.79 | 2.28 | 0.51 | 3.11 | 16% | 0.54 |
| 1991 | 2.75 | 2.30 | 0.45 | 3.27 | 14% | |
| 1992 | 2.66 | 2.00 | 0.66 | 2.86 | 23% | |
| 1993 | 2.62 | 2.44 | 0.18 | 3.51 | 5% | |
| 1994 | 2.74 | 2.22 | 0.52 | 2.85 | 18% | |
| 1995 | 3.13 | 3.20 | (0.07) | 3.51 | -2% | |
| 1996 | 4.17 | 2.60 | 1.57 | 3.31 | 47% | |
| 1997 | 2.98 | 2.33 | 0.65 | 3.37 | 19% | |
| 1998 | 2.58 | 1.86 | 0.72 | 3.24 | 22% | |
| 1999 | 2.29 | 1.72 | 0.57 | 3.27 | 17% | |
| 2000 | 2.24 | 1.75 | 0.49 | 3.31 | 15% | |
| 2001 | 2.28 | 1.90 | 0.38 | 2.99 | 13% | |
| 2002 | 2.69 | 2.25 | 0.44 | 3.08 | 14% | |

Table 3.4 shows the calculation of the transportation costs. The market year average price received by farmers in Iowa (4) is subtracted from the export price at the gulf. It should be noted that, since this value was not calculated previous to 1991, the 1990 price is a US average price received by farmers (5).

Notes:
* Figures are presented in current year dollars, and are thus not adjusted for inflation.

(1) Source: USDA/ERS, *U.S. Corn Production Costs and Returns* , 1989-2002. (http://www.ers.usda.gov/data/costsandreturns/testpick.htm)

(1a) Source: Iowa State University Extension, *Estimated Crop Production Costs in Iowa - 2003*

(2) Source: *Producer Support Estimate by Commodity* , Source OECD. (http://www.sourceoecd.org/content/html/index.htm)

(3) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 24. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

(4) Source: USDA/NASS, *Agricultural Statistics* , 1994-2003. (http://www.usda.gov/nass/pubs/agstats.htm)

(5) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 5. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

## Cotton

### Table 4.1 Farmer Cost of Production

| | Total Economic Cost of Production (US$/acre) | Yield (pounds/ planted acre) | Cost of Production (US$/pound) |
|---|---|---|---|
| 1990 | 508.49 | 603.64 | 0.8424 |
| 1991 | 436.65 | 574.36 | 0.7602 |
| 1992 | 420.46 | 560.07 | 0.7507 |
| 1993 | 441.02 | 549.6 | 0.8024 |
| 1994 | 464.26 | 657.87 | 0.7057 |
| 1995 | 502.07 | 485.5 | 1.0341 |
| 1996 | 500.58 | 590.53 | 0.8477 |
| 1997 | 516.27 | 692 | 0.7461 |
| 1998 | 461.16 | 480 | 0.9608 |
| 1999 | 488.07 | 584 | 0.8357 |
| 2000 | 517.66 | 569 | 0.9098 |
| 2001 | 530.52 | 636 | 0.8342 |
| 2002 | 529.02 | 614 | 0.8616 |

Table 4.1 shows how the farmer paid cost of production per unit was calculated. Total economic costs are full ownership costs (cash and noncash) for operating the business. They include variable and fixed cash expenses (except interest payments), capital replacement, input costs of land, unpaid labor, and capital invested in production inputs and machinery. The total economic costs (1) are divided by the yield (1) to calculate the total cost of production per pound of cotton.

**Table 4.2 Government Cost of Production**

| Year | Payments Based on Input Use (US$mn) | Production (1000 pounds) | PSE (US$/pound) | Income Support Payment Rate (US$/pound) | Production (1000 bales) |
|---|---|---|---|---|---|
| 1990 | N/A | 7,442,592 | - | 0.1310 | 15,505.4 |
| 1991 | N/A | 8,454,864 | - | 0.0679 | 17,614.3 |
| 1992 | N/A | 7,784,880 | - | 0.1010 | 16,218.5 |
| 1993 | N/A | 7,744,128 | - | 0.2030 | 16,133.6 |
| 1994 | N/A | 9,437,760 | - | 0.1860 | 19,662.0 |
| 1995 | N/A | 8,591,904 | - | 0.0460 | 17,899.8 |
| 1996 | N/A | 9,092,160 | - | 0 | 18,942.0 |
| 1997 | N/A | 9,020,640 | - | 0.0882 | 18,793.0 |
| 1998 | N/A | 6,680,736 | - | 0.0763 | 13,918.2 |
| 1999 | N/A | 8,144,640 | | 0.1224 | 16,968.0 |
| 2000 | N/A | 8,250,384 | | 0.1576 | 17,188.3 |
| 2001 | N/A | 9,745,344 | | 0.1521 | 20,302.8 |
| 2002 | N/A | 8,229,600 | | 0.1266 | 17,145.0 |

The Producer Support Estimate (PSE), Payments Based on Input Use, are not calculated for cotton by the OECD. Income Support Payment Rate (6) serves as a proxy for the Producer Support Estimate. Table 4.2 shows total annual cotton production, converted from bales to pounds using 1 bale = 480 lbs.

**Table 4.3 Export Price**

| Year | Export Price (US$/pound) |
|---|---|
| 1990 | 0.7125 |
| 1991 | 0.6969 |
| 1992 | 0.539 |
| 1993 | 0.5536 |
| 1994 | 0.7324 |
| 1995 | 0.9344 |
| 1996 | 0.7793 |
| 1997 | 0.6962 |
| 1998 | 0.6704 |
| 1999 | 0.523 |
| 2000 | 0.5747 |
| 2001 | 0.3968 |
| 2002 | 0.3701 |

Table 4.3 shows the export price for cotton, valued at 7-market spot (3).

**Table 4.4 Transportation & Handling Costs**

| Year | Export Price (US$/ pound) | Market Year Average Prices (Texas) | Transport. & Handling Costs (US$/ pound) | Full Cost (US$/pound) | Transport. % of Full Cost | Average Transport. Cost (US$/bushel) |
|---|---|---|---|---|---|---|
| 1990 | 0.7125 | 0.6710 | 0.0415 | 0.9396 | 4% | 0.0885 |
| 1991 | 0.6969 | 0.5360 | 0.1609 | 0.8574 | 19% | |
| 1992 | 0.539 | 0.4910 | 0.048 | 0.8479 | 6% | |
| 1993 | 0.5536 | 0.5350 | 0.0186 | 0.8996 | 2% | |
| 1994 | 0.7324 | 0.6960 | 0.0364 | 0.8029 | 5% | |
| 1995 | 0.9344 | 0.7460 | 0.1884 | 1.1313 | 17% | |
| 1996 | 0.7793 | 0.6560 | 0.1233 | 0.9449 | 13% | |
| 1997 | 0.6962 | 0.6010 | 0.0952 | 0.8432 | 11% | |
| 1998 | 0.6704 | 0.5610 | 0.1094 | 1.0579 | 10% | |
| 1999 | 0.523 | 0.4100 | 0.113 | 0.9329 | 12% | |
| 2000 | 0.5747 | 0.4590 | 0.1157 | 1.0070 | 11% | |
| 2001 | 0.3968 | 0.2840 | 0.1128 | 0.9313 | 12% | |
| 2002 | 0.3701 | 0.3830 | -0.0129 | 0.9588 | -1% | |

Table 4.4 shows the calculation of the transportation costs. The market year average price received by farmers in Texas (4) is subtracted from the export price at the 7-market average spot. It should be noted that, since this value was not calculated previous to 1991, the 1990 price is a US average price received by farmers (5).

Notes:
* Figures are presented in current year dollars, and are thus not adjusted for inflation.

(1) Source: USDA/ERS, *U.S. Cotton Production Costs and Returns* , 1989-2002. (http://www.ers.usda.gov/data/costsandreturns/testpick.htm)
(2) Source: *Producer Support Estimate by Commodity* , Source OECD. (http://www.sourceoecd.org/content/html/index.htm)
(3) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 24. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)
(4) Source: USDA/NASS, *Agricultural Statistics* , 1994-2003. (http://www.usda.gov/nass/pubs/agstats.htm)
(5) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 5. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)
(6) Source: USDA/NASS, Agricultural Statistics, 1994-2003. (http://www.usda.gov/nass/pubs/agstats.htm)

# Rice

## Table 5.1 Farmer Cost of Production

| Year | Total Economic Cost of Production (US$/acre) | Rough Rice Yield (cwt./ planted acre) | Cost of Production (US$/cwt.) |
|---|---|---|---|
| 1990 | 506.73 | 52.71 | 9.61 |
| 1991 | 539.23 | 54.24 | 9.94 |
| 1992 | 537.24 | 58.67 | 9.16 |
| 1993 | 551.8 | 55.45 | 9.95 |
| 1994 | 605.7 | 61.18 | 9.90 |
| 1995 | 630.17 | 55.72 | 11.31 |
| 1996 | 672.34 | 60.79 | 11.06 |
| 1997 | 684.75 | 58.55 | 11.70 |
| 1998 | 676.08 | 56.23 | 12.02 |
| 1999 | 671.04 | 58.78 | 11.42 |
| 2000 | 578.89 | 68.00 | 8.51 |
| 2001 | 594.12 | 69.00 | 8.61 |
| 2002 | 586.32 | 71.00 | 8.26 |

Table 5.1 shows how the farmer paid cost of production per unit was calculated. Total economic costs are full ownership costs (cash and noncash) for operating the business. They include variable and fixed cash expenses (except interest payments), capital replacement, input costs of land, unpaid labor, and capital invested in production inputs and machinery. The total economic costs (1) are divided by the yield (1) to calculate the total cost of production per cwt. of rice.

## Table 5.2 Government Cost of Production

| Year | Payments Based on Input Use (US$mn) | Rough Rice Production (1000 cwt.) | PSE (US$/cwt.) | Production (1000 tons) |
|---|---|---|---|---|
| 1990 | 42.8 | 156,099 | 0.27 | 7,080.6 |
| 1991 | 47.3 | 159,399 | 0.30 | 7,230.3 |
| 1992 | 38.0 | 179,699 | 0.21 | 8,151.1 |
| 1993 | 44.0 | 156,099 | 0.28 | 7,080.6 |
| 1994 | 43.8 | 197,799 | 0.22 | 8,972.1 |
| 1995 | 50.6 | 173,870 | 0.29 | 7,886.7 |
| 1996 | 50.9 | 171,599 | 0.30 | 7,783.7 |
| 1997 | 53.1 | 182,993 | 0.29 | 8,300.5 |
| 1998 | 54.8 | 184,399 | 0.30 | 8,364.3 |
| 1999 | 43.9 | 206,000 | 0.21 | 9,344.1 |
| 2000 | 38.7 | 190,901 | 0.20 | 8,659.2 |
| 2001 | 32.7 | 213,000 | 0.15 | 9,661.6 |
| 2002 | 32.5 | 212,001 | 0.15 | 9,616.3 |

Table 5.2 shows the government paid cost of production, which is represented by the Producer Support Estimate (PSE), Payments Based on Input Use (2). The figure is an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on the use of a specific input or a specific group of inputs or factors of production. These payments are divided by total production (2), converted from tons to cwt. using 1 metric ton = 22.046 cwt, in order to calculate the cost of production paid by government.

**Table 5.3 Export Price**

| Year | Milled Rice Export Price (US$/cwt.) |
|---|---|
| 1990 | 15.52 |
| 1991 | 16.46 |
| 1992 | 16.8 |
| 1993 | 16.12 |
| 1994 | 19.14 |
| 1995 | 16.68 |
| 1996 | 19.64 |
| 1997 | 20.88 |
| 1998 | 18.95 |
| 1999 | 16.99 |
| 2000 | 14.83 |
| 2001 | 14.55 |
| 2002 | 11.8 |

Table 5.3 shows the export price for rice, valued at f.o.b. in Houston (3).

## Table 5.4 Transportation & Handling Costs

| Year | Milled Rice Export Price (US$/cwt.) | Rough Rice Market Year Average Prices (Arkansas) | Transportation & Handling Costs (US$/cwt.) | Full Cost (US$/cwt.) | Transportation Percentage of Full Cost | Average Transportation Cost (US$/bushel) |
|---|---|---|---|---|---|---|
| 1990 | 15.52 | 6.70 | 8.82 | 19.74 | 45% | 9.74 |
| 1991 | 16.46 | 7.69 | 8.77 | 20.09 | 44% | |
| 1992 | 16.8 | 5.93 | 10.87 | 19.22 | 57% | |
| 1993 | 16.12 | 7.97 | 8.15 | 20.08 | 41% | |
| 1994 | 19.14 | 6.52 | 12.62 | 19.97 | 63% | |
| 1995 | 16.68 | 9.14 | 7.54 | 21.45 | 35% | |
| 1996 | 19.64 | 10.20 | 9.44 | 21.21 | 45% | |
| 1997 | 20.88 | 9.87 | 11.01 | 21.84 | 50% | |
| 1998 | 18.95 | 8.87 | 10.08 | 22.17 | 45% | |
| 1999 | 16.99 | 5.71 | 11.28 | 21.48 | 53% | |
| 2000 | 14.83 | 5.60 | 9.23 | 18.56 | 50% | |
| 2001 | 14.55 | 3.93 | 10.62 | 18.62 | 57% | |
| 2002 | 11.8 | 3.60 | 8.20 | 18.26 | 45% | |

Table 5.4 shows the calculation of the transportation costs. The market year average price received by farmers in Arkansas (4) is subtracted from the export price in Houston. It should be noted that, since this value was not calculated previous to 1991, the 1990 price is a US average price received by farmers (5).

Notes:

* Figures are presented in current year dollars, and are thus not adjusted for inflation.

(1) Source: USDA/ERS, *U.S. Rice Production Costs and Returns* , 1989-2002. (http://www.ers.usda.gov/data/costsandreturns/testpick.htm)

(2) Source: *Producer Support Estimate by Commodity* , Source OECD. (http://www.sourceoecd.org/content/html/index.htm)

(3) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 24. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

(4) Source: USDA/NASS, *Agricultural Statistics* , 1994-2003. (http://www.usda.gov/nass/pubs/agstats.htm)

(5) Source: USDA/ERS, *Agricultural Outlook* , 1992-2003, Table 5. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)