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WTO Agreement on Agriculture: A Decade of Dumping

United States Dumping on Agricultural Markets

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The Institute for Agriculture and Trade Policy promotes resilient family farms, rural communities and ecosystems around the world through research and education, science and technology, and advocacy.

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WTO Agreement on Agriculture: A Decade of Dumping

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WTO Agreement on Agriculture: A Decade of Dumping

United States Dumping on World Agricultural Markets

January 1, 2005 marked the 10-year anniversary of the World Trade Organization's Agreement on Agriculture (AoA). When governments launched the agreement, they hailed it as a victory for farmers around the world: farmers were to benefit from more trade, greater access to markets and higher prices. A decade later, there is unquestionably more trade in agricultural products. However, higher and fair prices for farmers seem further away than ever. It is hard to make the case that the Agreement on Agriculture has done anything to benefit farmers anywhere in the world.

Since the WTO's inception, widespread agricultural dumping—the selling of products at below their cost of production—by global agribusiness companies based in the United States and European Union has wreaked havoc on global agricultural markets. Hit the hardest are farmers in poor countries who are often pushed off the farm by dumped agricultural commodities.

An examination of U.S. government data indicates that since the WTO began, U.S.-based companies have engaged in steady, high levels of agricultural dumping in their global sales of the five most exported commodities. While global food companies have greatly benefited from the low prices for the raw materials of their products, farmers around the world, including U.S. farmers, are going out of business.

Rampant dumping by U.S.-based global food companies continues

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 14 years. The U.S. is one of the world's largest sources of dumped agricultural commodities. This analysis is based on the most recent numbers available—2003. It updates IATP's more comprehensive dumping report issued in 2001. This analysis provides

dumping calculations from 1990 to 2003 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. The methodology used to calculate the portion of the price that is dumped can be found at the end of this report.

The latest numbers available show a continued trend of widespread agricultural dumping from U.S.-based global food and agribusiness companies. In 2003, agriculture exports continued to be sold well below the cost of production:

- **Wheat** was exported at an average price of 28 percent below cost of production.
- **Soybeans** were exported at an average price of 10 percent below cost of production.
- **Corn** was exported at an average price of 10 percent below cost of production.
- **Cotton** was exported at an average price of 47 percent below cost of production.
- **Rice** was exported at an average price of 26 percent below cost of production.

Full details on the dumping calculations for each commodity can be found at the end of this paper.

The 2003 data indicated an across the board decrease in levels of dumping from the previous year for all five commodities. However, this decrease is widely recognized to be the result of reduced supply, caused by bad weather and pest infestation, bumped up prices. The decrease was not the result of any changes in international trade rules or domestic farm programs. The 2003 levels of dumping are very consistent with the trend of high levels of dumping for all five commodities since the WTO's inception in 1995. Ominously, U.S. commodity prices for several crops, particularly

corn, have plunged in 2004, suggesting dumping levels will increase again when final numbers are available for 2004.

The harmful effects of dumping on farmers

Dumping is one of the most damaging of all current distortions in world trade. Developing country agriculture, vital for food security, rural livelihoods, poverty reduction and generating foreign exchange, 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 who raise 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 of subsidies and credit, they have to abandon their land. When this happens, the farm economy shrinks, in turn shrinking the rural economy as a whole and sending rural people into trade-related migration. Second, developing country farmers who sell their products to exporters find their global market share undermined by the policy of a depressed "global price." The cascading effects of dumping are felt around the world in places as far apart as Jamaica, Burkina Faso and the Philippines.

The 2003 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 3,600 farms grew to more than 2,000 acres, according to the U.S. Department of Agriculture. And despite the high levels of dumping, U.S. agricultural exports have not gained market share around the world. In fact, U.S. agricultural exports lost value between1995 ($80 billion) to 2003 ($76 billion) and the U.S. share of the world agriculture export market declined from 14 percent in 1990 to 11.3 percent in 2003 (www.wto.org/english/res_e/statis_e/its2004_e/its04_bysector_e.pdf). Additionally, most experts, including the USDA, project that the U.S. will become a net agricultural importer sometime in 2005.

Allowing sales of agricultural products at prices that do not touch actual production costs to go on for almost a decade is no way to do business.

U.S. Farm Bills and dumping

Dumping by U.S.-based corporations is possible because commodity production is badly managed. The 1996 and 2002 U.S. Farm Bills have produced a vast structural, price-depressing oversupply of most major agricultural commodities. This oversupply has driven prices down. Both the 1996 and 2002 Farm Bills were driven by efforts to make them compliant with WTO rules. The result has been the institutionalization of agricultural dumping by U.S. farm policy.

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 from the marketplace. They cost the taxpayer relatively little. The pre-1996 commodity programs in effect set a floor price that commodity buyers had to pay farmers. The programs helped to correct a structural flaw in agricultural markets: with millions of producers and only a handful of processors, commodity markets do not function according to the textbook theories of sellers and buyers having equal supply/demand information and negotiating power at the moment of sale. Given this structural imbalance in market power between farmers and agribusiness corporations, the government traditionally intervened to ensure competitive markets and prevent anti-competitive business practices.

In 1996, the U.S. government abandoned intervention mechanisms at the behest of agribusiness lobbyists, supported by "free" trade economists. The result: U.S. agricultural prices went into freefall. Without the supply control programs and other interventions, commodity buyers were able to drive prices below the costs of production and leave them there. To prevent the collapse of U.S. agriculture, Congress then set up "counter-cyclical payments" to make up part of the losses resulting from the Farm Bill "reforms." Counter-cyclical payments adopted as part of the 2002 Farm Bill,

mask the price "signals" that farmers were supposed to be using to make their planting and livestock investment decisions. The U.S. now has very expensive farm programs that distort market signals while doing nothing to correct the deeper distortion inherent in the unbalanced market power between farmers and commodity buyers and processors. The system is a mess.

The influence of the 1996 Farm Bill on dumping is significant. Each of the five major export commodities saw a significant jump in export dumping when comparing the seven years (1990-1996) prior to the 1996 Farm Bill to the subsequent seven years (1997-2003):

- **Wheat** dumping levels increased from an average of 27 percent per year pre-1996 Farm Bill to 37 percent per year post-1996 Farm Bill.
- **Soybean** dumping levels increased from an average of 2 percent per year pre-1996 Farm Bill to 11.8 percent post-1996 Farm Bill.
- **Maize** dumping levels increased from an average of 6.8 percent per year pre-1996 Farm Bill to 19.2 percent post-1996 Farm Bill.
- **Cotton** dumping levels increased from an average of 29.4 percent pre-1996 Farm Bill to an average of 48.4 percent post-1996 Farm Bill.
- **Rice** dumping levels increased from an average of 13.5 percent pre-1996 Farm Bill to an average of 19.2 percent post-1996 Farm Bill.

The effect of subsidies vs. supply management on dumping

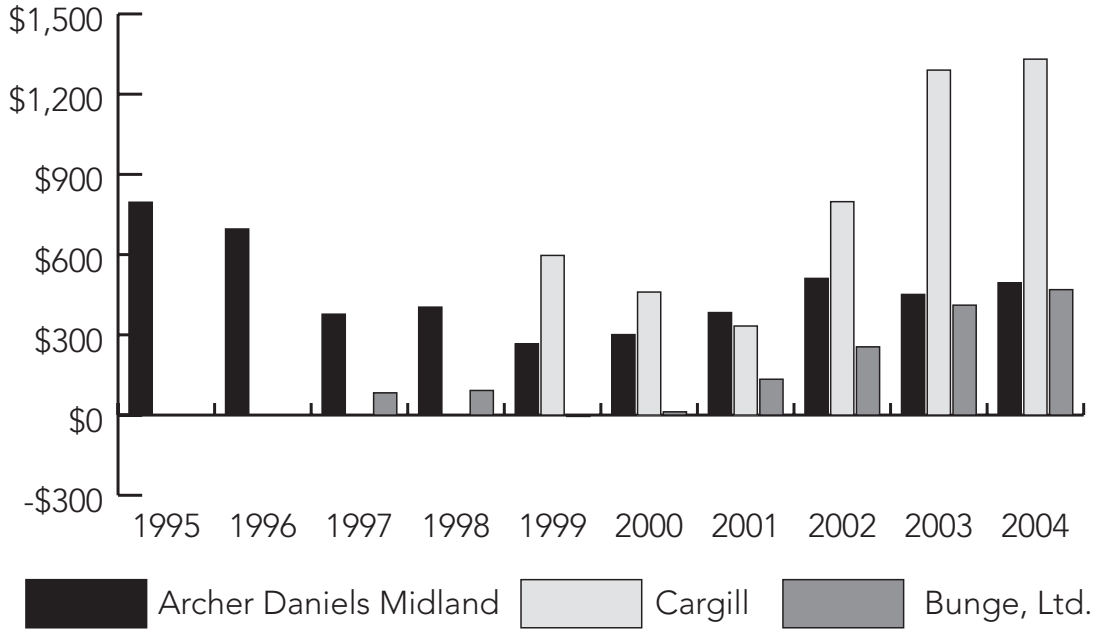
Research by the Agricultural Policy Analysis Center (APAC) at the University of Tennessee-Knoxville concludes that even the total elimination of U.S. farm subsidies, would result in only negligible increases in U.S. prices for corn, wheat and soybeans (www.agpolicy.org/blueprint.html). The small price increase would then gradually decline to nothing over nine years, as the price rise encouraged new production, oversupply and a resulting price depression. And while there would be more sustained, modest increases in prices for cotton and rice, those increases would not be enough to cover the cost of production, so dumping would continue. APAC concludes that to raise prices structurally for these commodities, some form of supply management is required.

Without supply management policies, farmers (and, increasingly,

the farm corporations that are taking over production) will over-produce whether or not they have access to subsidies. The elimination of subsidies, in the absence of a supply management strategy, will simply move the U.S. agricultural landscape even further away from small, diversified family farms toward larger, corporate farms. The total amount of farmland in production will remain largely unchanged.

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.

Graph 1. Net earnings of major global grain companies, 1995-2004 *(in millions of U.S. dollars)*



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Eliminating 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 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 the use of WTO rules to discipline dumping is the political reality of the multilateral trading system. When the ultimate threat against dumping is to impose prohibitive tariffs, the tool is a lot easier for a big country such as the U.S. to use than for a small country like Bangladesh. 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, with the WTO deadlocked over agricultural negotiations and the major powers refusing to tackle this form of trade distortion, it may be time to turn to other international institutions to address dumping. In June 2004, the United Nations Committee on Trade and Development (UNCTAD) met in São Paulo, Brazil and established an international commodity task force to look at, among other issues, agricultural dumping. UNCTAD has historically focused directly on promoting development through trade and has been home to global commodity agreements that have attempted to address chronic oversupply—such as the International Coffee Agreement. In the face of another year of high dumping levels, some governments are showing renewed interest in cooperative, multilateral approaches to better regulate commodity markets.

In addition, the U.S. Congress and the European Commission need to radically restructure their farm programs. Decoupled payments are a failure. Rather than doling out production and income support that goes overwhelmingly to the largest farmers, the European Commission and U.S. Congress should focus agricultural reforms on controlling overproduction and redressing the gross disparity in market power between millions of producers and the three to six firms per commodity that dominate the trade, processing and shipments of agricultural commodities.

Recommendations

These latest numbers on agricultural dumping by U.S. agribusiness once again illustrate the need for immediate action at the international level. First steps include:

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

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

3. The publication of annual full-cost of production estimates for OECD countries. To fully address agricultural dumping, governments must develop a more thorough and transparent methodology to measure the problem and make the relevant data publicly available within six months of the close of the fiscal year.

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 oversupply 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, the consequences are serious. 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. For the vast majority of farmers in the world, that means they, too, go hungry. 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 increase food security and rural employment and to decrease 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 tradeobservatory.org.

Table 1. Wheat

Year	Farmer production costs (US$/bushel)	Government support costs (PSE)	Transportation and handling costs (US$/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	0.11	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	6.23	3.5	44%
2002	6.30	0.12	0.82	7.24	4.09	43%
2003	4.69	0.12	0.82	5.63	4.04	28%

Table 1 shows the calculation of the percent of export dumping for wheat. The government support cost and the cost of transportation and 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$/bushel)	Government support costs (PSE)	Transportation and handling costs (US$/bushel)	Full cost (US$/bushel)	Export price (US$/bushel)	Percent of export dumping
1990	5.76	0.20	0.54	6.50	6.24	4%
1991	5.87	0.20	0.54	6.61	6.05	8%
1992	5.51	0.17	0.54	6.22	6.01	3%
1993	6.71	0.20	0.54	7.45	6.53	12%
1994	5.29	0.16	0.54	5.99	6.52	-9%
1995	6.30	0.20	0.54	7.03	6.5	8%
1996	6.30	0.22	0.54	7.06	7.88	-12%
1997	5.72	0.18	0.54	6.43	7.94	-23%
1998	5.76	0.15	0.54	6.44	6.37	1%
1999	6.23	0.15	0.54	6.91	5.02	27%
2000	6.20	0.15	0.54	6.89	5.26	24%
2001	6.14	0.15	0.54	6.83	4.93	28%
2002	5.80	0.19	0.54	6.53	5.48	16%
2003	6.62	0.26	0.54	7.42	6.7	10%

Table 2 shows the calculation of the percent of export dumping for soybeans. The government support cost and the cost of transportation and 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$/bushel)	Government support costs (PSE)	Transportation and handling costs (US$/bushel)	Full cost (US$/bushel)	Export price (US$/bushel)	Percent of export dumping
1990	2.49	0.08	0.54	3.12	2.79	10%
1991	2.65	0.09	0.54	3.28	2.75	16%
1992	2.26	0.07	0.54	2.87	2.66	7%
1993	2.90	0.08	0.54	3.52	2.62	26%
1994	2.25	0.07	0.54	2.86	2.74	4%
1995	2.88	0.10	0.54	3.52	3.13	11%
1996	2.70	0.08	0.54	3.32	4.17	-26%
1997	2.77	0.07	0.54	3.38	2.98	12%
1998	2.64	0.06	0.54	3.25	2.58	21%
1999	2.68	0.06	0.54	3.28	2.29	30%
2000	2.72	0.06	0.54	3.32	2.24	33%
2001	2.39	0.07	0.54	3.00	2.45	18%
2002	2.46	0.08	0.54	3.08	2.75	11%
2003	2.35	0.09	0.54	2.98	2.68	10%

Table 3 shows the calculation of the percent of export dumping for maize. The government support cost and the cost of transportation and 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$/pound)	Income support payment rate	Transportation and handling costs (US$/pound)	Full cost (US$/pound)	Export price (US$/pound)	Percent of export dumping
1990	0.842	0.131	0.080	1.053	0.712	32%
1991	0.760	0.067	0.080	0.908	0.696	23%
1992	0.751	0.101	0.080	0.931	0.539	42%
1993	0.802	0.203	0.080	1.085	0.553	49%
1994	0.706	0.186	0.080	0.971	0.732	25%
1995	1.034	0.046	0.080	1.160	0.934	19%
1996	0.848	0	0.080	0.927	0.779	16%
1997	0.746	0.088	0.080	0.914	0.696	24%
1998	0.961	0.076	0.080	1.117	0.670	40%
1999	0.836	0.122	0.080	1.038	0.523	50%
2000	0.910	0.157	0.080	1.147	0.574	50%
2001	0.834	0.152	0.080	1.066	0.396	63%
2002	0.862	0.126	0.080	1.068	0.370	65%
2003	0.838	0.137	0.080	1.054	0.562	47%

Table 4 shows the calculation of the percent of export dumping for cotton. The government support cost and the cost of transportation and 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$/cwt.)	Government support costs (PSE)	Transportation and handling costs (US$/cwt.)	Full cost (US$/cwt.)	Export price (US$/cwt.)	Percent of export dumping
1990	9.61	0.27	9.49	19.38	15.52	20%
1991	9.94	0.30	9.49	19.73	16.46	17%
1992	9.16	0.21	9.49	18.86	16.8	11%
1993	9.95	0.28	9.49	19.72	16.12	18%
1994	9.90	0.22	9.49	19.61	19.14	2%
1995	11.31	0.29	9.49	21.09	16.68	21%
1996	11.06	0.30	9.49	20.85	19.64	6%
1997	11.70	0.29	9.49	21.47	20.88	3%
1998	12.02	0.30	9.49	21.81	18.95	13%
1999	11.42	0.21	9.49	21.12	16.99	20%
2000	8.51	0.20	9.49	18.21	14.83	19%
2001	8.61	0.15	9.49	18.25	14.55	20%
2002	8.26	0.17	9.49	17.92	11.8	34%
2003	8.65	0.28	9.49	18.43	13.68	26%

Table 5 shows the calculation of the percent of export dumping for rice. The government support cost and the cost of transportation and 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	6.30
2003	191.41	40.8	4.69

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$mn)	Production (1,000 bushels)	PSE Per Bushel (US$/bushel)	Production (1,000 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	0.11	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	201.0	1,619,001	0.12	44,062.0
2003	291.0	2,337,010	0.12	63,603.0

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.

Table 1.3. Export price

Year	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
2003	4.04

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

Table 1.4. Transportation and handling costs

Year	Export price (US$/bushel)	Market year average prices (Kan.)	Transportation and handling costs (US$/bushel)	Total cost (US$/bushel)	Transportation percentage of total cost
1990	3.72	2.61	1.11	5.62	20%
1991	3.52	2.81	0.71	5.56	13%
1992	4.13	3.13	1.00	5.57	18%
1993	3.83	3.00	0.83	5.56	15%
1994	4.09	3.32	0.77	5.50	14%
1995	4.82	4.59	0.23	5.69	4%
1996	5.63	4.63	1.00	7.07	14%
1997	4.35	3.16	1.19	6.31	19%
1998	3.44	2.53	0.91	4.98	18%
1999	3.04	2.25	0.79	5.17	15%
2000	3.17	2.65	0.52	5.24	10%
2001	3.5	2.69	0.81	6.22	13%
2002	4.09	3.41	0.68	7.10	10%
2003	4.04	3.15	0.89	5.71	16%
Average			0.82		

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 U.S. average price received by farmers (5). Total Cost is the sum of production costs, support payments and transportation costs. Transportation costs are averaged for the analysis of dumping margins.

Notes:

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

(1) USDA/ERS, U.S. Wheat Production Costs and Returns, 1989-2004. (http://www.ers.usda.gov/data/costsandreturns/testpick.htm)

(2) Producer Support Estimate by Commodity, Source OECD. (http://www.oecd.org/document/58/0,2340,en_2649_33773_32264698_119656_1_1_1,00.html)

(3) USDA/ERS, Agricultural Outlook, 1992-2004, Table 24. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

(4) USDA/NASS, Agricultural Statistics, 1994-2004. (http://www.usda.gov/nass/pubs/agstats.htm)

(5) USDA/ERS, Agricultural Outlook, 1992-2004, Table 5. (http://www.ers.usda.gov/publications/agoutlook/aotables/)

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	232	40	5.80	6.08
2003	238.49	36	6.62	6.57

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$mn)	Production (1,000 bushels)	PSE Per Bushel (US$/bushel)	Production (1,000 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	526.0	2,749,017	0.19	74,816.0
2003	626.0	2,452,017	0.26	66,733.0

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
2003	6.7

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

Table 2.4. Transportation and handling costs

Year	Export price (US$/bushel)	Market year average prices (Iowa)	Transportation and handling costs (US$/bushel)	Total cost (US$/bushel)	Transportation percentage of total cost
1990	6.24	5.74	0.50	6.46	8%
1991	6.05	5.51	0.54	6.61	8%
1992	6.01	5.54	0.47	6.16	8%
1993	6.53	6.34	0.19	7.10	3%
1994	6.52	5.43	1.09	6.54	17%
1995	6.5	6.65	(0.15)	6.34	-2%
1996	7.88	7.36	0.52	7.04	7%
1997	7.94	6.33	1.61	7.50	21%
1998	6.37	4.79	1.58	7.49	21%
1999	5.02	4.53	0.49	6.87	7%
2000	5.26	4.49	0.77	7.12	11%
2001	4.93	4.35	0.58	6.87	8%
2002	5.48	5.54	(0.06)	5.93	-1%
2003	6.7	7.30	(0.60)	6.28	-10%
Average			0.54		

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 export price at the Gulf. It should be noted that, since this value was not calculated previous to 1991, the 1990 price is a U.S. average price received by farmers (5). Negative transportation and handling costs are likely caused by the imperfect method of calculation (subtracting farmer received prices from export prices). This may be a result of using averages and representative prices, or it is possible that in these particular years, prices were so high that exporters sought commodities elsewhere and the supply was used locally. Total cost is the sum of production costs, support payments and transportation costs. Transportation costs are averaged for the analysis of dumping margins.

Notes:

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

(1) USDA/ERS, U.S. Soybeans Production Costs and Returns, 1989-2004. (http://www.ers.usda.gov/data/costsandreturns/testpick.htm)

(1a) Iowa State University Extension, Estimated Crop Production Costs in Iowa - 2004 (http://www.extension.iastate.edu/Publications/FM1712.pdf)

(2) Producer Support Estimate by Commodity, Source OECD. (http://www.oecd.org/document/58/0,2340,en_2649_33773_32264698_119656_1_1_1,00.html)

(3) USDA/ERS, Agricultural Outlook, 1992-2004, Table 24. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

(4) USDA/NASS, Agricultural Statistics, 1994-2004. (http://www.usda.gov/nass/pubs/agstats.htm)

(5) USDA/ERS, Agricultural Outlook, 1992-2004, Table 5. (http://www.ers.usda.gov/publications/agoutlook/aotables/)

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
2003	349.78	149	2.35	3.06

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 corn 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$mn)	Production (1,000 bushels)	PSE Per Bushel (US$/bushel)	Production (1,000 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	731.0	9,008,028	0.08	228,816.0
2003	896.0	10,278,040	0.09	261,076.0

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	2.45
2002	2.75
2003	2.68

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

Table 3.4. Transportation and handling costs

Year	Export price (US$/bushel)	Market year average prices (Iowa)	Transportation and handling costs (US$/bushel)	Total cost (US$/bushel)	Transportation percentage of total cost
1990	2.79	2.28	0.51	3.08	17%
1991	2.75	2.30	0.45	3.19	14%
1992	2.66	2.00	0.66	2.99	22%
1993	2.62	2.44	0.18	3.16	6%
1994	2.74	2.22	0.52	2.83	18%
1995	3.13	3.20	(0.07)	2.90	-2%
1996	4.17	2.60	1.57	4.34	36%
1997	2.98	2.33	0.65	3.49	19%
1998	2.58	1.86	0.72	3.42	21%
1999	2.29	1.72	0.57	3.31	17%
2000	2.24	1.75	0.49	3.27	15%
2001	2.45	1.90	0.55	3.01	18%
2002	2.75	2.22	0.53	3.07	17%
2003	2.68	2.40	0.28	2.71	10%
Average			0.54		

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 U.S. average price received by farmers (5). Negative transportation and handling costs are likely caused by the imperfect method of calculation (subtracting farmer received prices from export prices). This may be a result of using averages and representative prices, or it is possible that in that particular year (1995), prices were so high that exporters sought commodities elsewhere and the supply was used locally. Total Cost is the sum of production costs, support payments and transportation costs. Transportation costs are averaged for the analysis of dumping margins.

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

(1) USDA/ERS, U.S. Corn Production Costs and Returns, 1989-2004. (http://www.ers.usda.gov/data/costsandreturns/testpick.htm)

(1a) Iowa State University Extension, Estimated Crop Production Costs in Iowa - 2004 (http://www.extension.iastate.edu/Publications/FM1712.pdf)

(2) Producer Support Estimate by Commodity, Source OECD. (http://www.oecd.org/document/58/0,2340,en_2649_33773_32264698_119656_1_1_1,00.html)

(3) USDA/ERS, Agricultural Outlook, 1992-2004, Table 24. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

(4) USDA/NASS, Agricultural Statistics, 1994-2004. (http://www.usda.gov/nass/pubs/agstats.htm)

(5) USDA/ERS, Agricultural Outlook, 1992-2004, Table 5. (http://www.ers.usda.gov/publications/agoutlook/aotables/)

Cotton

Table 4.1. Farmer cost of production

Year	Total economic cost of production (US$/acre)	Yield (pounds/planted acre)	Cost of production (US$/pound)
1990	508.49	603.64	0.842
1991	436.65	574.36	0.760
1992	420.46	560.07	0.751
1993	441.02	549.6	0.802
1994	464.26	657.87	0.706
1995	502.07	485.5	1.034
1996	500.58	590.53	0.848
1997	516.27	692	0.746
1998	461.16	480	0.961
1999	488.07	584	0.836
2000	517.66	569	0.910
2001	530.52	636	0.834
2002	529.02	614	0.862
2003	545.25	651	0.838

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$mn)	Production (1,000 pounds)	PSE (US$/pound)	Income support payment rate (US$/pound)	Production (1,000 bales)
1990	N/A	7,442,592	—	0.131	15,505.4
1991	N/A	8,454,864	—	0.067	17,614.3
1992	N/A	7,784,880	—	0.101	16,218.5
1993	N/A	7,744,128	—	0.203	16,133.6
1994	N/A	9,437,760	—	0.186	19,662.0
1995	N/A	8,591,904	—	0.046	17,899.8
1996	N/A	9,092,160	—	0	18,942.0
1997	N/A	9,020,640	—	0.088	18,793.0
1998	N/A	6,680,736	—	0.076	13,918.2
1999	N/A	8,144,640	—	0.122	16,968.0
2000	N/A	8,250,384	—	0.157	17,188.3
2001	N/A	9,745,344	—	0.152	20,302.8
2002	N/A	8,260,128	—	0.126	17,208.6
2003	N/A	8,747,520	—	0.137	18,224.0

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. Payment rates for 1997-2002 were calculated based on the Production Flexibility Contract (PFC) program, which included supplemental PFC payments from 1998 through 2001. Payment rates after 2002 are calculated according to the provisions of the Direct Payment program. 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$/bushel)
1990	0.712
1991	0.696
1992	0.539
1993	0.553
1994	0.732
1995	0.934
1996	0.779
1997	0.696
1998	0.670
1999	0.523
2000	0.574
2001	0.396
2002	0.370
2003	0.562

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

Table 4.4. Transportation and handling costs

Year	Export price (US$/pound)	Market year average prices (Texas)	Transportation and handling costs (US$/pound)	Total cost (US$/pound)	Transportation percentage of total cost
1990	0.712	0.671	0.041	1.015	4%
1991	0.696	0.536	0.160	0.989	16%
1992	0.539	0.491	0.048	0.900	5%
1993	0.553	0.535	0.018	1.024	2%
1994	0.732	0.696	0.036	0.928	4%
1995	0.934	0.746	0.188	1.269	15%
1996	0.779	0.656	0.123	0.971	13%
1997	0.696	0.601	0.095	0.929	10%
1998	0.670	0.561	0.109	1.146	10%
1999	0.523	0.410	0.113	1.071	11%
2000	0.574	0.459	0.115	1.183	10%
2001	0.396	0.284	0.112	1.099	10%
2002	0.370	0.4	-0.029	0.958	-3%
2003	0.562	0.582	-0.019	0.955	-2%
Average			0.080		

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 U.S. average price received by farmers (5). Negative transportation and handling costs are likely caused by the imperfect method of calculation (subtracting farmer received prices from export prices). This may be a result of using averages and representative prices, or it is possible that in recent years, prices were so high that exporters sought commodities elsewhere and the supply was used locally. Total Cost is the sum of production costs, support payments and transportation costs. Transportation costs are averaged for the analysis of dumping margins.

Notes:

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

(1) USDA/ERS, U.S. Cotton Production Costs and Returns, 1989-2004. (http://www.ers.usda.gov/data/costsandreturns/testpick.htm)

(2) Producer Support Estimate by Commodity, Source OECD. (http://www.oecd.org/document/58/0,2340,en_2649_33773_32264698_119656_1_1_1,00.html)

(3) USDA/ERS, Agricultural Outlook, 1992-2004, Table 24. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)

(4) USDA/NASS, Agricultural Statistics, 1994-2004. (http://www.usda.gov/nass/pubs/agstats.htm)

(5) USDA/ERS, Agricultural Outlook, 1992-2004, Table 5. (http://www.ers.usda.gov/publications/agoutlook/aotables/)

(6) USDA/NASS, Agricultural Statistics, 1994-2004, Table2-4. (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
2003	614.37	71.00	8.65

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$mn)	Production (1,000 cwt.)	PSE Per Bushel (US$/cwt.)	Production (1,000 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	215,301	0.15	9,766.0
2002	36.0	211,002	0.17	9,571.0
2003	56.0	198,194	0.28	8,990.0

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	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
2003	13.68

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

Table 5.4. Transportation and handling costs

Year	Milled rice export price (US$/cwt.)	Rough rice market year average prices (Ark.)	Transportation and handling costs (US$/cwt.)	Total cost (US$/cwt.)	Transportation percentage of total cost
1990	15.52	6.70	8.82	18.71	47%
1991	16.46	7.69	8.77	19.01	46%
1992	16.8	5.93	10.87	20.24	54%
1993	16.12	7.97	8.15	18.38	44%
1994	19.14	6.52	12.62	22.74	55%
1995	16.68	9.14	7.54	19.14	39%
1996	19.64	10.20	9.44	20.80	45%
1997	20.88	9.87	11.01	23.00	48%
1998	18.95	8.87	10.08	22.40	45%
1999	16.99	5.71	11.28	22.91	49%
2000	14.83	5.60	9.23	17.95	51%
2001	14.55	3.93	10.62	19.38	55%
2002	11.8	4.16	7.64	16.07	48%
2003	13.68	6.90	6.78	15.72	43%
Average			9.49		

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 U.S. average price received by farmers (5). Total Cost is the sum of production costs, support payments and transportation costs. Transportation costs are averaged for the analysis of dumping margins.

Notes:
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(1) USDA/ERS, U.S. Rice Production Costs and Returns, 1989-2004. (http://www.ers.usda.gov/data/costsandreturns/testpick.htm)
(2) Producer Support Estimate by Commodity, Source OECD. (http://www.oecd.org/document/58/0,2340,en_2649_33773_32264698_119656_1_1_1,00.html)
(3) USDA/ERS, Agricultural Outlook, 1992-2004, Table 24. (http://www.ers.usda.gov/publications/Agoutlook/AOTables.htm)
(4) USDA/NASS, Agricultural Statistics, 1994-2004. (http://www.usda.gov/nass/pubs/agstats.htm)
(5) USDA/ERS, Agricultural Outlook, 1992-2004, Table 5. (http://www.ers.usda.gov/publications/agoutlook/aotables/)

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