

## The New WTO Agricultural Trade Negotiations: Background and Issues for the U.S. Coarse Grain Market

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**Abstract:** New WTO negotiations are underway on agricultural trade, continuing the process of multilateral agricultural trade reform initiated by the 1994 Uruguay Round Agreement on Agriculture (URAA). The URAA implemented a process of agricultural trade liberalization by obtaining commitments from member countries to gradually reduce import barriers, export subsidies, and certain types of domestic support programs. Due in part to the continued presence of trade-distorting policies, however, coarse grain trade has expanded only slowly since the URAA was signed. In the recently initiated agricultural trade negotiations, increased market access, reduced domestic support, and an elimination of export subsidies will therefore be a continued focal point of discussions. In addition, the possibility of a “zero for zero” agreement for barley and malt trade, new disciplines on state trading enterprises, tighter disciplines on use of government-sponsored export credit programs, trade in products developed through new technologies, and export taxes are important issues surrounding the new negotiations. As the world’s leading coarse grain producer and exporter, the United States stands to gain from further liberalization of the coarse grain market.

**Keywords:** Coarse grains, trade policy, WTO, tariffs, tariff-rate quota, export subsidy, domestic support, export credit program, state trading enterprise, WTO accession, and biotechnology.

### Introduction

New WTO agricultural trade negotiations aimed at continuing the process of multilateral agricultural trade reform initiated by the Uruguay Round are currently underway.<sup>2</sup> As the leading producer and exporter of coarse grains, the United States has a large stake in the outcome of these negotiations. In recent years, exports have accounted for about one-fifth of U.S. coarse grain disappearance, and these exports comprise about 11 percent of total U.S. agricultural export earnings.

Although trade impediments in the world coarse grain market are typically lower than those on other commodities—such as wheat or rice—tariffs, tariff-rate quotas (TRQs), export subsidies, and domestic support programs are still a source of trade distortions (see USDA, 1996, for a glossary of terms). Among the coarse grains, trade distortions appear to be most significant in the barley, oats, and

rye sector. For example, export subsidies are mostly used for barley, oats, and rye, with the EU accounting for the largest share of these expenditures. Among coarse grains, expenditures on URAA-limited domestic support programs have also been used mostly for barley, particularly in the EU and Japan. Import tariffs on barley are low for many countries, but for some countries they are higher for processed barley malt—a situation known as tariff escalation.

In addition to trade distortions in the barley, oats, and rye market, potential barriers to trade in the corn sector remain a concern. High “bound” (maximum allowable) tariff rates on corn, for example, allow some countries the discretion to considerably raise current applied tariff rates. South Korea has a WTO over-quota tariff binding on corn in excess of 300 percent, while the EU and Japan have a corn over-quota tariff of slightly more than 100 percent AVE (ad valorem equivalent). The administration of import licenses for TRQs, the impact of state trading enterprise (STE) activities on coarse grain trade, export credit guarantees, and market access for products of new technologies, such as genetically modified corn, and export taxes have also emerged as issues. In addition, further liberalization in the world meat market could expand market opportunities for coarse grain producers.

This article examines the features of trade in the global and U.S. coarse grain market, discusses major accomplishments

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<sup>2</sup> WTO member countries submitted proposals setting out negotiating objectives during 2000 and early 2001, representing “Phase One” of the negotiations, which concluded in March 2001. “Phase Two” now commences with a more in-depth examination of the proposals. A WTO Ministerial will be held on November 9-13, 2001, in Doha, Qatar.

of the Uruguay Round, and examines issues relevant to the coarse grain sector that may be addressed in the new agricultural trade negotiations.

### **Global Coarse Grain Trade**

Coarse grains, feed wheat, and nongrain feedstuffs, such as tapioca, cassava, citrus pulp, and other byproducts are primary sources of energy for livestock, poultry, and hogs. Oilseed meals and other sources of protein are typically used to complement these energy sources. Of global coarse grain supplies, about two-thirds are used as animal feed, with the remainder going to seed, industrial, and food uses. Just over 10 percent of global coarse grain production is traded, and most is destined for feed use. Trade consists primarily of corn (slightly more than seven-tenths of global trade) and barley (nearly two-tenths), followed by sorghum, oats, and rye (table A-1). Income growth and corresponding changes in per capita meat consumption are therefore key factors driving consumption and trade patterns for coarse grains, but trade and domestic policies also play an important role.

### **Trends in Global Coarse Grain Trade and Production**

Between 1971/72 and 2000/2001, global coarse grain trade rose from 49.3 to 101.0 million metric tons, an annual compound growth rate of 2.42 percent (fig. A-1).<sup>3</sup> Coarse grain trade grew at an annual rate of 8.7 percent during the 1970s, experienced an annual decline of 1.0 percent in the 1980s, and rose only 0.9 percent per year in the 1990s. Since 1980/81, global coarse grain trade fluctuated between 82.7 million metric tons and 104.9 million tons with global import destinations changing dramatically. Western Europe experienced large declines in coarse grain imports in the mid-1980s as did the transition economies in the early 1990s, but partially offsetting these declines was import growth mainly from East Asia, Latin America, Mexico, North Africa, and the Middle East (fig. A-2).

Production of global coarse grains reached a high of 908.5 million metric tons in 1996/97, a 47-percent increase since 1971/72, before declining to 857.6 million tons for 2000/01. About three-fourths of global coarse grain is produced in the United States, China, EU, Brazil, India, Canada, Mexico, Argentina, Romania, and Ukraine. The United States, Argentina, EU, China, Australia, and Canada account for more than nine-tenths of global coarse grain exports. Major consuming countries include the United States, China, Brazil, Mexico, India, Russia, Canada, and Japan. Japan, South Korea, Mexico, Saudi Arabia, Taiwan, Egypt, EU, United States, Malaysia, and China account for about two-thirds of global coarse grain imports (table A-2).

### **Trade by End-Use**

Coarse grain trade is dominated by trade of unprocessed grains for feed use. However, imports for industrial uses, such as starch production, ethanol, and malting, although relatively small, are a growing source of trade. Japan, South Korea, Canada, and Mexico, for example, import coarse grains to produce starch, alcohol, and sweeteners. The largest global malting barley importers are China, the United States, and a few Latin America countries. Growth in China's economy and population will likely lead to increases in beer production and continued growth of malting barley imports, and U.S. imports from Canada are likely to experience continued growth in the near term. The potential for increased trade of coarse grains for food use is very limited, however. Food use of coarse grains is concentrated in parts of Latin America, Africa, and Asia, but consumption in these areas has generally declined over time as rising incomes have tended to shift demand toward wheat, rice and other foods. NAFTA has led to some increased imports of corn for food by Mexico, along with increased imports for feed and industrial processing, but trade in food-grade corn is usually low except in years of crop failures.

Trade in processed coarse grain products is also relatively small compared with trade in grain, but has some growth sectors. Barley malt is the main product that is widely traded, with smaller amounts of trade in products such as corn meal, flour, and sweeteners. Global trade in barley malt grew dramatically from the late 1960s through the mid-1980s, when it stagnated, but growth has resumed somewhat in recent years. A large component of this trade is subsidized, reflecting the dominant position of the EU, the leading malt exporter. Trade in manufactured feeds and pet foods is growing fairly rapidly, and some U.S. feed manufacturers have established plants in overseas markets, which then import coarse grains for local feed manufacturing.<sup>4</sup>

Byproducts of corn processing, such as corn gluten feed and meal are also traded. Global trade and U.S. exports of gluten feed and meal are down somewhat from the mid-1990s, but the United States remains the largest exporter of these products, accounting for about 80 percent of the 7.1 million tons exported in 1998. The EU and Japan are leading importers.

### **Impact of Policy Developments and Increased Trade of Meats**

Trade and domestic agricultural policies have had a major influence on the volume and direction of coarse grain trade in recent decades. For example, to encourage self-sufficiency, the EU's Common Agricultural Policy (CAP) established common external import barriers while at the same

<sup>3</sup> Excludes intra-EU trade.

<sup>4</sup> Exports of all U.S. feed grain products were 642,460 metric tons in fiscal 2000, up from 478,808 metric tons in fiscal 1990 (USDA, 2001b).

Table A-1--Leading individual coarse grain traders and producers (1997/98-1999/00 average) 1/

	Commodity's share of world coarse grain trade	Leading exporters (share of world exports)	Leading importers (share of world imports)	Commodity's share of world coarse grain production	Leading producers (share of world production)
Corn	71.5	United States 67.9 Argentina 14.4 China 9.5 Hungary 2.4 S. Africa 1.2	Japan 23.9 S. Korea 11.6 Mexico 7.3 Taiwan 6.9 Egypt 5.6 EU 3.5 Malaysia 3.4 Colombia 2.6 Brazil 2.0 S. Arabia 2.0 Venezuela 1.9	67.4	United States 40.4 China 20.5 EU 6.2 Brazil 5.3 Mexico 3.0 Argentina 2.8 India 1.8 Romania 1.7 Yugoslavia 1.6 South Africa 1.5
Barley	17.2	EU 45.4 Australia 20.2 Canada 9.7 U.S. 5.1 Turkey 4.7 Ukraine 4.6 Russia 3.6	S. Arabia 31.8 China 10.9 Japan 9.6 U.S. 4.0 Morocco 4.0 Algeria 3.7 Iran 3.6	15.8	EU 36.6 Russia 9.8 Canada 9.4 U.S. 5.1 Turkey 5.1 Ukraine 4.7
Sorghum	7.4	U.S. 78.6 Argentina 12.1 Australia 6.3	Mexico 53.8 Japan 35.0 EU 4.0	6.7	U.S. 25.0 India 14.4 Nigeria 12.3 Mexico 10.3 China 6.2 Sudan 5.7
Oats	2.2	Canada 61.2 EU 27.5 Australia 7.5	U.S. 83.0 Japan 4.1 Mexico 2.1	3.1	EU 23.3 Russia 22.7 Canada 13.7 U.S. 8.6 Poland 5.6 Australia 5.6
Rye	1.6	EU 81.7 Canada 5.2 Turkey 1.1 Russia 1.1	Japan 23.6 Russia 15.4 S. Korea 13.9 China 11.0 U.S. 5.7	2.5	EU 27.7 Poland 25.0 Russia 24.2 Belarus 7.7 Ukraine 5.3
Other 2/	0.1			4.5	

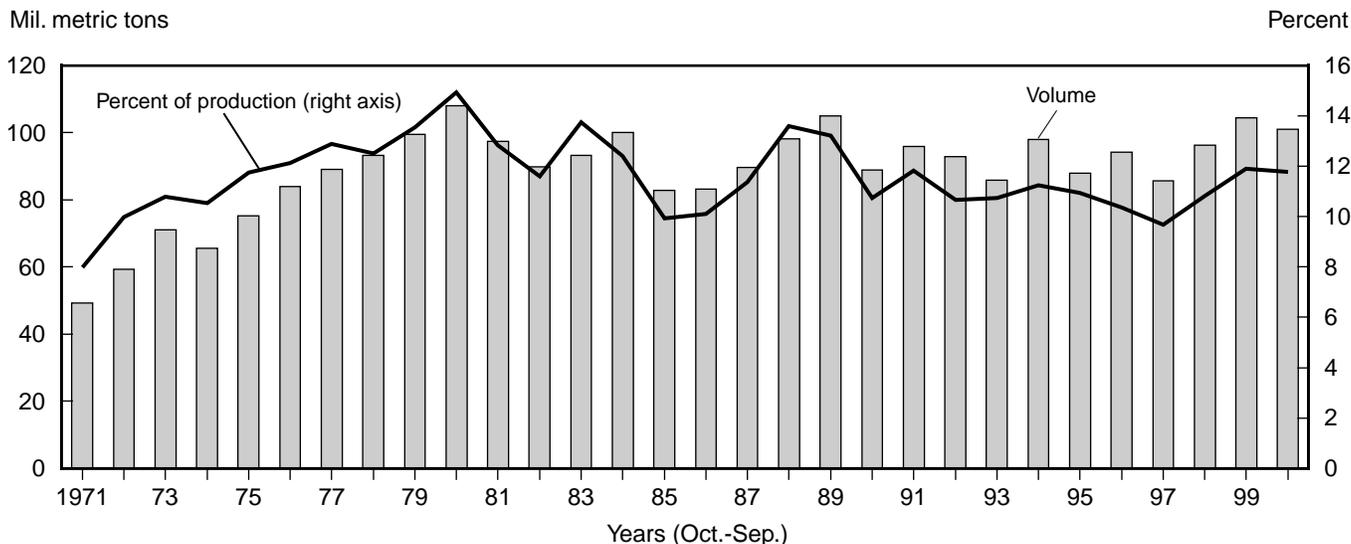
1/ Totals may not equal 100 percent due to rounding. Course grain production averaged 883.6 million metric tons and trade 95.3 million tons during this period. Trade figures exclude intra-EU trade.

2/ Other coarse grains include millet and mixed grains.

Source: (USDA, 2001f).

Figure A-1

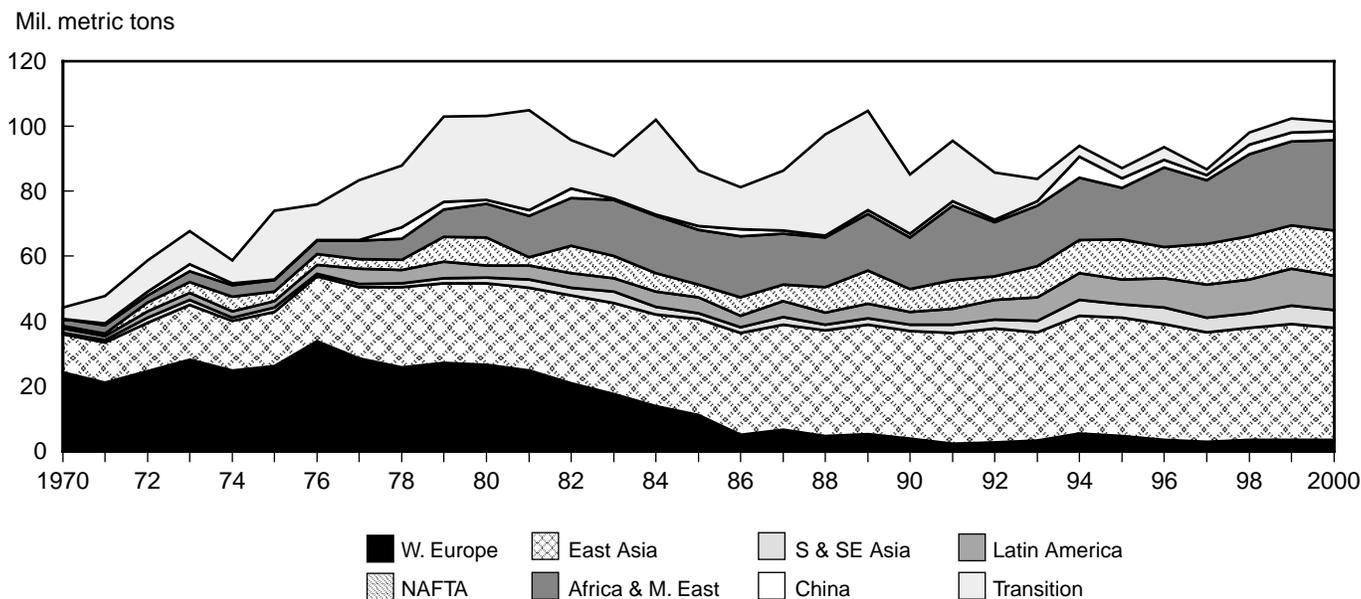
### Global coarse grain exports



Source: USDA, 2001f.

Figure A-2

### Global coarse grain imports by region



Source: USDA, 2001a.

time removing internal barriers to trade. As a result, coarse grain imports by the EU declined significantly between 1981 and 1986 and became minor thereafter (fig. A-2). In the former Soviet Union (FSU), artificially low food prices under the Communist system led to increased coarse grain imports for feed use between 1972 and 1992, but after the breakup of the Soviet Union, grain imports declined rapidly. The North American Free Trade Agreement (NAFTA), on

the other hand, has facilitated trade between the United States, Canada, and Mexico and contributed to recent growth in coarse grain trade between these countries (see box, "Impact of NAFTA on U.S. Coarse Grain Trade"). In other areas, such as Asia, Africa, and the Middle East, income growth and increased demand for meat and meat products have played a large role in stimulating greater coarse grain imports. World credit constraints and the substi-

Table A-2--Leading coarse grain producers, exporters, and importers (1997/98-1999/2000 average) 1/

Leading producers			Leading exporters			Leading importers		
Volume and share of world production			Volume and share of world exports			Volume and share of world imports		
	1,000 mt	Percent		1,000 mt	Percent		1,000 mt	Percent
United States	265,024	30.0	United States	52,736	55.3	Japan	20,791	21.8
China	132,216	15.0	Argentina	10,793	11.3	S. Korea	9,002	9.4
EU	106,016	12.0	EU	9,589	10.1	Mexico	8,235	8.6
Brazil	32,449	3.7	China	6,504	6.8	S. Arabia	6,546	6.9
India	31,034	3.5	Australia	3,936	4.1	Taiwan	4,929	5.2
Canada	26,149	3.0	Canada	3,422	3.6	Egypt	3,847	4.0
Mexico	24,616	2.8	Other	8,370	8.8	EU	2,735	2.9
Argentina	21,364	2.4	Total	95,350	100.0	United States	2,733	2.9
Romania	12,180	1.4				Malaysia	2,294	2.4
Ukraine	12,128	1.4				China	2,167	2.3
Other	220,466	24.8				Other	32,071	33.6
Total	883,642	100.0				Total	95,350	

1/ Totals may not equal 100 percent due to rounding. Trade figures exclude intra-EU trade.

Sources: (USDA, 2001f).

tution of meat for coarse grain imports have also influenced coarse grain trade over this time period.

In addition to policies and other developments that directly affect coarse grain trade, liberalization of the world meat market (beef, pork, and poultry) could provide indirect benefits to coarse grain producers. Since 1989, Japan's meat market liberalization has brought significant increases in its meat imports, for example. Although Japan has slightly reduced coarse grain imports, more U.S. corn is being exported in the form of higher value-added beef, pork, and poultry products. In the past, the U.S. coarse grain sector also gained from increased U.S. corn exports to Taiwan, which exported pork to Japan, and from reduced corn export competition from Thailand, which used more corn domestically to produce poultry for export to Japan and the EU (Lin et al., 1995). Since 1985, total U.S. exports of these products have risen from less than 1 billion pounds (4 percent of world exports) to over 9 billion pounds (19 percent) in 1999 (USDA, 2000a). Further liberalization in the world meat market could increase export opportunities and translate into more coarse grain exports, either directly or indirectly.

### U.S. Trade in the Global Coarse Grain Market

The United States is the world's largest exporter of corn and sorghum, a minor barley exporter, and the largest importer of oats (table A-1). In (fiscal) 2000, the United States exported 56.5 million metric tons of coarse grains, valued at \$5.3 billion. These exports represented 10 percent of total U.S. agricultural exports by value. Nearly seven-tenths of U.S. coarse grain exports go to Japan, Mexico, South Korea, Taiwan, and Egypt, while the remainder is dispersed among many countries (table A-3).

### U.S. Export Trends

The volume of U.S. coarse grain exports and the U.S. share of global exports have fluctuated over time. U.S. coarse grain exports experienced their greatest growth in the 1970s, when exports more than tripled, and reached a record high in 1979/80 along with a record market share of 70 percent (fig. A-3). Import growth in this period was largely attributed to the Soviet Union, but strong gains were also registered by Japan, Eastern Europe, and developing countries that experienced growing consumer demand for meat and meat products. In the early 1980s, world coarse grain trade slumped as widespread credit problems and economic difficulties cut import demand at the same time that U.S. prices were supported by high price supports, which contributed to increased market share by competing exporters. U.S. exports began to rebound during the latter part of the 1980s and the U.S. market share made a strong recovery, reflecting a more competitive U.S. farm policy (Lin, Riley, and Evans).

However, in the early 1990s, U.S. exports experienced another serious slump mainly due to external developments (fig. A-3). The breakup of the Soviet Union led to a severe drop in its imports, pulling down world trade, while China unexpectedly increased its corn exports. In 1993/94, U.S. market share of global coarse grain exports declined to 46 percent, its lowest level since 1985/86. U.S. market share rose again in the mid-1990s. Key factors boosting U.S. exports were a record-setting U.S. corn harvest, China's temporary switch from net exporter to net importer, and strength in global import demand despite insignificant imports by the former Soviet Union (FSU). A decline in the U.S. export market share after 1995/96 was due mostly to a decline in corn shipments to China and the East Asian countries, excluding Japan, due to the East Asian financial crisis,

## Impact of NAFTA on U.S. Coarse Grain Trade

Under WTO rules, a nation is normally required to extend trade concessions between two trading partners to all other WTO members. Exceptions are permitted so long as two or more countries agree to substantially remove barriers on all trade and refrain from violating other WTO commitments. The North American Free Trade Agreement (NAFTA) is an example of such an agreement. NAFTA was established on January 1, 1994, when the United States and Mexico agreed to eliminate, over a 15-year period, all tariffs, quotas, and import licenses acting as barriers to agricultural trade between the two nations. NAFTA also incorporated the agricultural trade liberalizing provisions agreed to by the United States and Canada in the 1989 Canada-U.S. Free Trade Agreement (CFTA). Provisions of the agreement affecting trade in coarse grains are discussed by Link (1997).

For most grains and grain products, the impact of NAFTA on U.S.-Canadian and U.S.-Mexican trade is small compared to the influence of other factors, but Canadian and Mexican markets have grown in importance to U.S. grain and feed traders (Link and Zahniser, 1999). In 1998, the most important U.S. grain and feed export to both countries was corn.

Recent growth of U.S. corn exports to Mexico is due mostly to agricultural policy reforms in Mexico and a severe drought in 1995. U.S. corn exports to Mexico averaged \$521 million per year after the NAFTA agreement, in contrast to \$400 million in 1990 and just \$35 million in 1993. A major change under NAFTA was Mexico's replacement of a corn import licensing scheme with a tariff-rate quota (TRQ), which will be eliminated in 2008. This reform gave the United States greater access to the Mexican corn market. However, it should be noted that, even prior to NAFTA, the Mexican Government usually allowed enough corn to be imported to meet domestic demand. After NAFTA, Mexico has allowed imports of U.S. corn to surpass the TRQ without applying the high over-quota tariff, except in 1997. However, more recently the Mexican Government required that over-quota tariffs had to be charged. Traditionally, the Government of Mexico has waived the enforcement of the over-quota tariff for corn because local production has been insufficient to meet demand and it has preferred to reduce inflationary threats through corn imports.

NAFTA's effect on U.S.-Canadian corn trade has not been dramatic, although corn trade became duty-free between the two countries only in 1998. U.S. corn exports to Canada averaged \$115 million during 1995-99, versus \$66 million during 1990-94. However, in November 2000, Canada imposed provisional countervailing and

antidumping duties on U.S. corn imports to western Canada amounting to \$1.58 per bushel, claiming that U.S. loan deficiency payments and other programs injured domestic corn producers. U.S. corn exports to western Canada averaged over 300,000 tons per year during the last 4 years, but reportedly have ceased since this action was taken (USDA, 2000k). However, in a judgment released on March 7, 2001, the Canadian International Trade Tribunal (CITT) found no evidence that subsidized U.S. corn caused injury to western Canada's corn producers and therefore overturned the \$1.58 per bushel provisional duty on U.S. corn imports to western Canada. Provisional duties collected since November will be refunded (USDA, 2001e). U.S. corn imports from Canada averaged \$31 million during 1995-99, nearly unchanged from 1992 and 1993 levels.

NAFTA's impact on sorghum trade between the United States, Canada, and Mexico was positive because it immediately removed all tariffs. It is likely that sorghum would have been less price-competitive with Mexico's corn imports and declined further. U.S. sorghum exports to Mexico dropped during 1995-97, a period in which many Mexican livestock producers switched to corn, but since then U.S. sorghum exports to Mexico have rebounded. The rise in U.S. sorghum exports is due to the size of the Mexican corn and sorghum crops and the administration of Mexico's corn quota. For example, Mexico's feed compounders have purchased more U.S. sorghum instead of corn because there is no tariff on sorghum and corn imports require an application to the Mexican Government for the compounders' share of corn quota, within- or over-quota, a process characterized by delays and uncertainty. Reduced tariffs in Canada help U.S. sorghum compete for that market, but potential growth is limited by transportation costs.

The impact of NAFTA on U.S. and Canadian barley trade has been minor. The U.S. routinely imports significant amounts of malting barley from Canada, reflecting a trend that began in the late 1980s. There has been a small positive impact on U.S. barley exports to Mexico due to NAFTA. NAFTA removed Mexico's barley tariffs and licenses and installed a TRQ with an annual 5-percent growth rate.

Oats trade between the United States and Canada has not been affected by NAFTA. U.S. tariffs on oats from Canada and other sources were already at zero. The United States is the largest global importer of oats, and Canada is the largest global exporter to the United States.

Table A-3--U.S. coarse grain exports by destination (selected countries, 1997-99 average) 1/

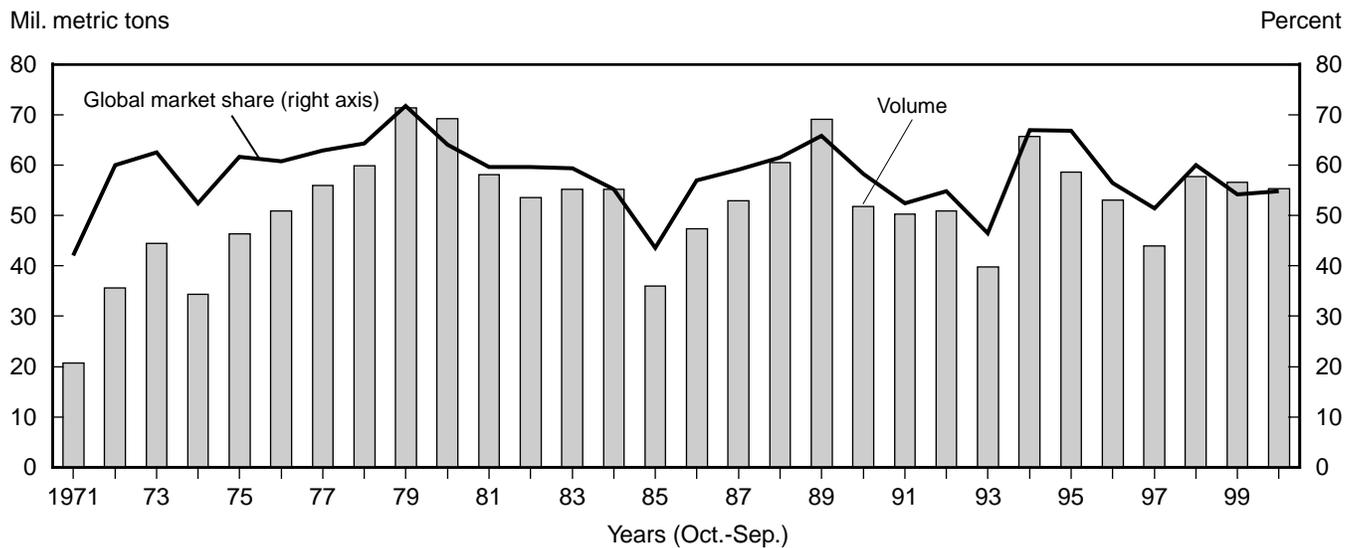
Item	Destination	Export quantity Mil. metric tons	Share of U.S. exports Percent	Item	Destination	Export quantity Mil. metric tons	Share of U.S. exports Percent	
Corn	Japan	14.9	32.2	Barley	Japan	0.4	50.0	
	Mexico	5.0	10.8		S. Arabia	0.2	25.0	
	S. Korea	4.4	9.5		Mexico	0.1	12.5	
	Taiwan	4.3	9.2		Other	0.1	12.5	
	Egypt	3.2	6.9		Total	0.8	100.0	
	Colombia	1.5	3.2					
	Canada	1.1	2.3					
	S. Arabia	1.1	2.3					
	Algeria	0.9	1.9					
	Dominican R.	0.8	1.7					
	Turkey	0.7	1.5					
	Morocco	0.5	1.1					
	Peru	0.5	1.1					
	Israel	0.4	1.0					
	Costa Rica	0.4	1.0					
	Chile	0.4	1.0					
	Other	5.2	11.1					
Total	46.3	100.0						
				Sorghum	Mexico	3.8	67.9	
					Japan	1.3	23.2	
					EU	0.2	3.6	
					Israel	0.1	1.8	
					Other	0.2	3.5	
					Total	5.6	100.0	

1/ Fiscal year average.

Sources: (USDA, ERS, DARTS).

Figure A-3

### U.S. coarse grain exports



Source: USDA, 2001f.

China's reemergence as a net exporter, and increased competition from Argentina.

### **Outlook for Coarse Grain Trade**

In the next 10 years (2001-2010), USDA anticipates a 2.6-percent annual compound growth rate for global coarse grain import demand, assuming no new trade agreements in agriculture (USDA, 2001a). U.S. coarse grain exports are anticipated to grow by an annual compound rate of 1.9 percent, leading to a slight decline in market share due to greater export competition from Argentina, Canada, Eastern Europe, and the former Soviet Union. Due to rising incomes, the largest increases in global imports are expected to come from China, North Africa, Southeast Asia, and Latin America. Imports by East Asian countries are expected to be relatively stable as they continue to maintain stable domestic livestock and poultry production, and imports of meat and poultry fulfill the need for rising meat demand. Coarse grain imports for Southeast Asia are expected to recover from the financial crisis and restore import growth. North Africa and the Middle East are also expected to be important sources of growth in coarse grain trade due mostly to rising incomes. Although the Soviet Union was the largest coarse grain importer during the 1980s, the FSU is expected to become a net exporter of barley since domestic demand for livestock feed is expected to increase only gradually. Under this scenario, global coarse grain exports are expected to rise to 131 million metric tons by 2010 and exceed the record of 108 million metric tons set in 1980/81 by the year 2003/04.

### **Accomplishments of the Uruguay Round and Issues for New Agricultural Negotiations**

The Uruguay Round continued the process of reducing trade barriers achieved in seven previous rounds under the General Agreement on Tariffs and Trade (GATT) and established the WTO as the successor organization to GATT. The URAA also represented the first comprehensive multilateral effort to address agricultural trade issues. Under the URAA, WTO members committed to eliminate non-tariff trade barriers, cut tariff levels on all agricultural products, lower the volume of and expenditures on subsidized exports, and reduce aggregate spending on certain trade-distorting domestic support programs for agriculture. A new process for settling trade disputes was also established, and the agreement contained a "peace" provision—due to expire in 2003—designed to protect certain subsidy policies from some WTO challenges (WTO).

Furthermore, under URAA Article 10.2, member countries agreed to work toward the development of internationally agreed disciplines on export credits, export credit guarantees, or insurance programs (WTO, 1995). The WTO's

"Understanding on Article XVII" also established a working definition of State Trading Enterprises (STEs), created stronger notification requirements for STEs, and established a working party to review countries' notifications and revise the questionnaire for countries' STE reports to the GATT (USDA, 1998).

The agriculture agreement also recognized the need for special and differential treatment for developing countries, granting them additional time to meet obligations and requiring smaller subsidy and tariff reductions than developed countries. Other special provisions were made for least developed countries and countries that rely on food imports.

Finally, the Uruguay Round established a new agreement on the use of sanitary and phytosanitary (SPS) measures. The SPS agreement requires that regulations for food safety and animal and plant health be based on science and that such regulations should not be arbitrary or discriminate between countries with similar conditions. This agreement increases the transparency of countries' SPS regulations and provides an improved means for settling SPS-related trade disputes (Roberts). If the trading partners demonstrate to each other that either country's measures achieve the same level of health protection, members should accept the sanitary and phytosanitary measures of others as equivalent.

Although the URAA was an important step toward identifying and disciplining trade distortions in agriculture, the impact of the agreement on global coarse grain markets is difficult to separate from other market-related events that occurred during the implementation period—such as the Asian financial crisis and increased exports by (non-WTO member) China. Average global coarse grain exports did rise slightly after the enactment of the URAA (from 92.3 million metric tons in 1990-94 to 94.8 million tons during 1995-2000), but the rate of growth was about the same as global production (fig. A-1). Average U.S. market share rose by 1.5 percentage points during this period, but this gain cannot be attributed solely to the URAA.

Recognizing that long-term fundamental reform would require further reductions of agricultural support and protection, Article 20 of the URAA mandated that new negotiations be initiated in 1999, one year before the end of the implementation period. In the new agricultural negotiations, issues important to the U.S. coarse grain industry include those raised in the Uruguay Round, such as increased market access and continued reduction in trade-distorting domestic support and export subsidies. Other issues that could be addressed by the WTO, or in other negotiating arenas, include disciplines on the operational activities of state trading enterprises, the treatment of export credits and credit guarantees as an export subsidy, trade in biotech

grains, a “zero-for-zero”<sup>5</sup> proposal for barley and malt trade, and a curb of export taxes.

The following sections discuss URAA accomplishments and key issues pertinent to coarse grains in the new agricultural trade negotiations. In each section, accomplishments are presented first, followed by a discussion of the issues. Further elaboration on many of these subjects can be found in (USDA, 1998) and the ERS WTO website (<http://www.ers.usda.gov/briefing/wto/>).

### **Continuing Issues**

**Market Access**—The URAA required WTO members to reduce and bind existing tariffs and to convert all non-tariff agricultural trade barriers—such as quotas or discretionary import licenses—into tariffs, a process referred to as “tariffication.” In some cases, the new bound (maximum) tariff levels were still prohibitively high, so a tariff-rate quota (TRQ) system was created to maintain pre-URAA import levels and/or assure minimum access import opportunities. The TRQ is a two-tiered tariff system, in which in-quota import quantities are subject to lower, generally non-prohibitive tariffs, but with higher tariffs on over-quota quantities. All bound tariffs (except in-quota rates) are to be reduced by an average of 36 percent (24 percent for developing countries) from “base” period (usually 1986-88) levels to the final bound level by the end of the implementation period (tables A-4, A-5, and A-6). The minimum tariff cut is 15 percent (10 percent for developing countries).

The majority of global coarse grain imports are concentrated among a small number of countries that currently maintain very low applied (actual) tariff rates, or have TRQs with low in-quota tariff rates. For example, four countries—Japan, Egypt, Malaysia, and Taiwan—account for 40 percent of world corn imports and have applied tariffs on corn of zero to one percent (table A-5). Five other countries—Colombia, EU, Mexico, South Korea, and Venezuela—account for 27 percent of corn imports and have TRQs, but often do not apply the over-quota rate, thus permitting imports equal to or well above quota levels (table A-6).

**Tariffs**—Countries that currently import large quantities of coarse grains generally have low applied tariff rates and/or large quotas. However, in many countries—including some that currently allow low tariff access—maximum allowable (bound) rates on over-quota imports were set at very high levels due to exaggerated estimates of the tariff-equivalent of non-tariff barriers, a process referred to as “dirty tariffication.” This practice potentially allows tariffs higher than

those that existed during the base period. The base period was also a time of high protection for agriculture generally, and many less-developed countries claimed base period tariffs that were much higher than actual rates during that time. Consequently, the actual reduction of base level tariffs to final bound rates was fairly modest. One study estimated that tariffs affecting less than 15 percent of world agricultural trade will be reduced from base period levels by the end of the URAA implementation period (Finger et al., 1996; cited in USDA, 1998).

In addition, although applied tariffs are often much lower than bound rates, this creates uncertainties for exporters due to the possibility of sudden tariff increases based on changing domestic supply and demand conditions or policy objectives. Brazil, Peru, Romania, and Turkey, for example, have bound tariffs on corn ranging from 55 to 240 percent, but much lower applied tariffs ranging from 10 percent to 50 percent (table A-5). In the past 2 years, Turkey has changed its applied tariff on corn several times. For example, in July 2000, it was raised from 30 percent to 50 percent, but as of February 16, 2001, it was lowered from 50 percent to 25 percent (USDA, 2001c). On April 25, 2001, the Turkish Ministry of Agriculture announced that Turkey would lower the applied tariff for corn to 10 percent in the near future. Very low tariffs on unprocessed coarse grain imports are also accompanied in many cases by higher tariffs on processed products (tariff escalation) in order to protect domestic processors. Japan, Turkey, and non-WTO members Russia and Saudi Arabia impose higher applied tariffs on barley malt than barley, for example (tables A-7 and A-8).

Trade patterns in coarse grains and products may not reflect nations’ comparative advantage due to other market access policies, such as regional trading arrangements that give preferential access to a group member or differential tariffs for substitute commodities. Brazil’s MERCOSUR partners (Argentina, Uruguay, and Paraguay) can export corn to Brazil duty-free, whereas non-MERCOSUR imports are subject to an 11-percent tariff. However, some Brazilian poultry or pork companies that export do not have to pay the tariff on non-MERCOSUR corn imports if they use a “draw-back,” which could increase the price competitiveness of U.S. corn for these selected buyers (USDA, 2000f). In addition, because coarse grains and other feeds are fairly substitutable, these products tend to be fairly price responsive, and any differences in tariff levels can therefore change the mix of coarse grains imported. The Philippines, for example, has a higher tariff (35 percent on in-quota and 65 percent on over-quota) on corn imports than other feed substitutes such as sorghum and feed wheat. When sorghum and feed wheat tariffs were further dropped—from 15 to 10 percent—this encouraged increased imports of these corn substitutes. Food wheat has a still lower tariff at 3 percent and some feed wheat imports were reportedly declared as food wheat (USDA, 2000b).

<sup>5</sup> Under this proposal, trade-distorting policies such as export subsidies, import restrictions, and export taxes would be eliminated. In addition, domestic support programs would continue to be decoupled from current production and prices, and state-trading enterprises would be required to eliminate exclusive trading rights and operate on market principles.

Table A-4--URAA Targets for Reducing Subsidies and Protection

Items	Percent reduction	
	Developed countries	Developing countries 1/
<b>Tariffs</b>		
Average cut for all agricultural products	36	24
Minimum cut per tariff	15	10
Base period: 1986 for existing tariffs 1986-88 for non-tariff barriers		
<b>Export subsidies</b>		
Reduction in volume	21	14
Reduction in budget expenditures	36	24
Base period: 1986-90		
<b>Domestic support</b>		
Reduction in total AMS	20	13
Base period: 1986-88		
Implementation period	6 years 1995-2000	10 years 1995-2004

1/ Least developed countries must bind all tariffs but are not required to make commitments to reduce tariffs, export subsidies, or subsidies.

Source: WTO (<http://www.wto.org/wto/about/agmnts3.htm>)

Table A-5--Base, bound, and applied tariff levels on corn, selected countries

Country	Base tariff rate	Bound tariff rate		Applied tariff 1/	1998 Imports -- 1,000 mt --
		-- Percent --			
Brazil	37	55		11	1,730
Canada 2/	1.5	1		0	1,210
Chile 3/	n/a	25		10	881
Egypt	5	5		1	3,040
India	0	0		0	0
Israel	50	38		0	510
Malaysia	6	5		0	1,840
Peru	141	68		12	1,170
Romania 4/	300	240		30	5
Turkey	200	180		50	770
U.S. 5/	2.3	0.6		1.8	300
Japan 6/	0	0		0	16,000
<b>Non-WTO members:</b>					
Russia	n/a	n/a		5	79
China	150	114		114	260
Taiwan	n/a	n/a		1	4,600
Algeria	n/a	n/a		5	1,020

n/a = Not available.

1/ Most Favored Nation (MFN) average for most recent year available (TRAINS database), unless noted otherwise.

2/ Yellow dent corn. Base and bound tariffs are ad valorem equivalents based on December 1999 U.S. dollar exchange rate and prices (U.S. gulf ports, #3 yellow).

3/ Applied rate on November 1999 (FAS GAIN Report #CI9046 "Chile – Grain and Feed: Corn, 1999," 11/12/99).

4/ Applied tariff information from FAS GAIN Report #RO9010 "Romania Grain and Feed Annual Report," 5/5/99.

5/ Tariff is an ad valorem equivalent based on December 1999 gulf port price (#3 yellow).

6/ Corn for feed.

Sources: For Base and Bound Tariffs - WTO, "The Results of the Uruguay Round" (CD-ROM), 1996; and FAS, USDA (<http://www.fas.usda.gov>); For Applied Tariffs - UNCTAD, Trade Analysis and Information System (TRAINS, CD-ROM), Winter 98/99 unless otherwise noted. 1998 imports are calendar year data from the UN Food and Agriculture Organization (FAO) website (<http://apps.fao.org>). Import data for China and Taiwan are 1998/99 marketing year data (FAS, USDA "Grain: World Markets and Trade," May 2000).

Table A-6--Corn TRQs: Provisions of selected countries

Country	Base rates		Final bound rate		Applied tariff rate 1/		Quota		1998 imports
	OQTR	IQTR	OQTR	IQTR	OQTR	IQTR	Initial	Final	
	----- Percent -----						----- 1,000 mt -----		
Colombia 2/	277	n/a	194	n/a	37		25	25	2,010
Morocco 3/	160.5	n/a	122	n/a	15+57		204	204	597
EU 4/	170	58	109	n/a	130		2,000	2,000	2,038
Dominican R. 5/	74	5	40	0	0		703	1,091	649
Mexico 6/	\$206/mt but no less than 215%	50	\$185/mt but no less than 194%	10	198		2,501	2,501	5,210
Costa Rica 7/	55	n/a	15	0	20		63	63	395
Philippines 8/	100	35	50	35	65		130	216	470
S. Korea 9/	365	3	328	2.5	346.5		6,102	6,102	7,100
S. Africa 10/	68	20	50	20	30		161	269	128
Venezuela 11/	135	20	122	n/a	15		583	583	1,140
India 12/	n/a	n/a	n/a	15	50		350	n/a	175

OQTR = Over-quota tariff rate. IQTR = In-quota tariff rate. n/a = Not available.

1/ Most Favored Nation (MFN) average.

2/ For applied OQTR: FAS GAIN Report #CO9026; 10/6/1999.

3/ The applied OQTR as of 2/23/99 includes a 15-percent import tax plus a 57-percent additional duty based on a threshold price of \$154.92/mt. An 11-percent base duty is also assessed (FAS GAIN Report #MO9005; 3/5/99).

4/ To be imported into Spain. Tariff rates are ad valorem equivalent, based on December, 1999 U.S. dollar/Euro exchange rate and prices (U.S. gulf port, yellow #3). 1998 imports exclude intra-EU trade.

5/ Source: FAS GAIN Report #DR9015 "Dominican Republic: Grain and Feed Annual-Revised," 8/20/99.

6/ Under NAFTA, Mexico was required to permit duty-free entry of 2.9 million metric tons of U.S. corn in 1999. Mexico normally allows duty-free entry of additional corn from the United States.

7/ Yellow corn (Amarillo).

8/ The applied OQTR is that scheduled to begin on July 1, 1999 (FAS GAIN Report RP9004; 2/6/99).

9/ Applied rates are for 1999 (FAS GAIN Report #KS9029; 4/13/99).

10/ According to its tariff schedule, South Africa "commits itself to fill the quotas as indicated at the tariff rates at a maximum of 20% of the bound rates for both the initial and final quantities." The applied OQTR is an ad valorem equivalent based on November, 1999, specific tariff rates and U.S. gulf port prices (# 3 yellow).

11/ The applied tariff rates are variable, subject to the Andean Price band (see FAS GAIN report #VE9012; 3/23/99).

12/ FAS GAIN Report #IN0010, February 20, 2000d, and FAS GAIN Report #IN0032, June 14, 2000k.

Sources: For Base and Bound Tariffs - WTO, "The Results of the Uruguay Round" (CD-ROM), 1996; and FAS, USDA (<http://www.fas.usda.gov>);

For Applied Tariffs - UNCTAD, Trade Analysis and Information System (TRAINS, CD-ROM), Winter 98/99 unless otherwise noted. 1998 Imports from the UN Food and Agriculture Organization (FAO) website (<http://apps.fao.org>).

**Tariff-Rate Quotas (TRQs)**—By replacing non-tariff barriers with TRQs, the URAA objective was to increase the transparency of protection in agriculture, to ensure that historical trade levels were maintained, and to expand trade through minimum access commitments. The URAA required minimum access opportunities in cases where imports had been less than 5 percent of domestic consumption during the base period (1986-88), and required that minimum access quotas rise to that percentage of consumption by the end of the implementation period. In cases where imports exceeded 5 percent of consumption, countries had to maintain existing access opportunities.

Although several of the larger U.S. corn importers have TRQs, very few were required to increase their quota level over the commitment period because they already met or exceeded the minimum access requirements (table A-5). Nevertheless, the URAA was expected to create new access commitments for about 1 million metric tons in coarse grains by 2004 (USDA, 2000d). New access commitments

by Japan (increase a zero-duty quota for industrial use corn by 450,000 metric tons and increase a tariff-rate quota for barley by 51,000 tons), South Korea (establish a tariff-rate quota for barley and barley products other than malting barley and barley malt which will grow to 23,582 tons), South Africa (establish a tariff-rate quota for corn of 260,000 tons), and the Philippines (establish a tariff-rate quota for corn that increases to 216,940 tons at the close of the implementation period) were expected to provide most of the increased trade opportunities.

For example, the Philippines was required to replace a ban on corn imports with a TRQ having a final quota level of 217,000 metric tons. Philippine corn imports subsequently rose from zero during 1991-93 to 500,000 tons in 1999, well above its quota level. Recently, India established a TRQ for corn with a quota of 350,000 tons, an in-quota tariff of 15 percent and an over-quota tariff of 50 percent. India imported virtually no corn between 1989 and 1997, but imported over 200,000 tons of corn in 1999, including the

Table A-7--Base, bound, and applied tariff levels on barley and malt, selected countries 1/

	Base tariff rate	Bound tariff rate	Applied tariff 2/	1998 Imports
	----- Percent -----			-- 1,000 mt --
EU 3/				
All barley	160	103	122	75
Malt, not roasted	74	47	65	9 (all malt)
United States 4/				
Malting barley	2.0	0.8	1.2	730 (all barley)
Other barley	4.2	1.8	2.5	
Malt, not roasted	2.3	1.0	1.4	42 (all malt)
Japan 5/				
Malt, not roasted	76.5	64.3	68.0	770 (all malt)
Turkey				
All barley	200	180	10	111
Malt (all)	30	23.1	27	1
Non-WTO members:				
China 6/				
All barley	120	91.2	91.2	1,960
Malt, not roasted	40	36	30	n/a
Russia				
Barley	n/a	n/a	5	242
Malt	n/a	n/a	10	214
Saudi Arabia				
Barley	n/a	n/a	0	4,950
Malt	n/a	n/a	12	<1

n/a = Not available.

1/ The base and bound tariff rates are the range given for the four categories listed in the EU's tariff schedule. The applied tariff is for malt, roasted (HS item 1107.20).

2/ Most Favored Nation (MFN) tariff for most recent year available (TRAINS database).

3/ Barley tariffs are ad valorem equivalents based on "all barley" U.S. farm prices and \$/ECU exchange rates for April 1999. Malt tariffs are ad valorem equivalents based on 1999 calendar year U.S. port prices for unroasted malt and 1999 Euro/\$ exchange rate. 1998 imports are for all barley and all malt.

4/ Ad valorem equivalents based on feed barley and malting barley farm prices for April 1999.

5/ Ad valorem equivalents based on U.S. export prices of unroasted malt and \$/yen exchange rates during calendar year 1999.

6/ China is not a member of the WTO, but did submit a schedule of base and bound tariffs for the URAA.

Sources: For Base and Bound Tariffs – WTO, "The Results of the Uruguay Round" (CD-ROM), 1996; and FAS, USDA (<http://www.fas.usda.gov/wto/ve/ve15.pdf>); For Applied Tariffs – UNCTAD, Trade Analysis and Information System (TRAINS, CD-ROM), Winter 1998/99. 1998 imports are from the UN Food and Agriculture Organization (FAO) website (<http://apps.fao.org>). Chinese barley imports are on a 1998/99 international year basis (FAS, USDA "Grain: World Markets and Trade," May 2000).

first ever commercial imports of 85,000 tons from the United States (USDA, 2000c; 2000i).

Despite some increased access opportunities created by the establishment of TRQs, a number of complications related to the administration of TRQs have emerged. One issue is the practice of allocating the quota to suppliers based on the historical distribution of trade. This practice can perpetuate past patterns of trade into the future despite changing market conditions. Some countries have also assigned import rights to state trading enterprises or producer associations. These organizations may lack the incentive to increase market access, resulting in quota "underfill," or may bias the quota distribution to favored suppliers. In Venezuela, for example, there have been some claims that licenses for in-quota imports have not been issued with the same degree of transparency as in the past (USDA, 2000e).

Other measures may also interfere with the TRQ system. For example, Colombia and Venezuela maintain a system of import licenses for corn and sorghum, sometimes referred to as absorption agreements. Venezuela's system requires importers to purchase 1 ton of domestically produced sorghum for every 2 tons of corn they wish to import. The import licenses for corn are used as a mechanism to ensure that domestically produced sorghum is absorbed by the feed industry. The Government can enforce these restrictions by withholding phytosanitary permits (USDA, 2000e).

Another potential hindrance to trade are the special emergency measures (agricultural "safeguards") that WTO members can use to protect domestic producers from a sudden drop in prices or a surge in imports. Some countries have used these provisions to restrict imports of sensitive products during the URAA implementation period, but they have been used only sparingly on coarse grains and prod-

Table A-8--Barley and product TRQs: Provisions of selected countries

Country	Base rates	Final bound rate		Applied tariff rate 1/		Quota		1998 imports
	OQTR	IQTR	OQTR	IQTR	OQTR	Initial	Final	
			----- Percent -----			----- 1,000 mt -----		
Japan 1/								
Barley	352	0	298	0	83	1,327	1,369	1,470
Canada 2/								
For malting	111.4	0.6	94.7	1.0	103	239.4	399	13 (total barley)
Other	25.1	1.2	21.3	1.3	23			
Whole malt 3/	42.0	0.7	36.2	1.0	38	11.5	19.1	5
Korea								
Malting barley	n/a	30	513	30	547	30	30	81 (total barley)
Unhulled barley 4/	n/a	20	324	20	345.6	14.1	23.6	
Malt 5/	299	30	269	30	293	40	40	57

n/a = Not available.

1/ The TRQ is for "barley and its processed products." The IQTR varies depending on the product. Tariffs for barley are in ad valorem equivalents based on April, 1999 exchange rates and 1999 calendar year CIF prices for U.S. imports of feed barley.

2/ Canadian dollars. The quota is for all barley. In-quota tariff rates for barley are ad valorem equivalents based on April 1999 exchange rates (U.S./Canadian) and prices (U.S. farm price for feed barley and malting barley).

3/ Roasted or not roasted. The quota is for all barley products. Malt tariffs are ad valorem equivalents based on 1999 \$Canadian/\$U.S. exchange rates and average 1999 U.S. export prices of unroasted malt.

4/ The bound OQTR for unhulled barley is 324 percent, but not less than 326 won/kg.

5/ For roasted and not roasted malt.

Sources: For Base and Bound Tariffs – WTO, "The Results of the Uruguay Round" (CD-ROM), 1996; and FAS, USDA

(<http://www.fas.usda.gov/wto/ve/ve15.pdf>); For Applied Tariffs – UNCTAD, Trade Analysis and Information System (TRAINS, CD-ROM),

Winter 1998/99. 1998 Imports are from the UN Food and Agriculture Organization.

ucts, and their use is subject to strictly defined conditions. Special safeguards are permitted only on products converted from non-tariff restrictions to TRQs and only on imports exceeding minimum access quota levels. The country imposing the safeguard also has to reserve the right to do so in its schedule of commitments on agriculture. About 20 countries have reserved this right for coarse grains.

While the URAA provided for some increased market access, there is potential for additional and more stable access if high bound tariff rates are reduced, tariff quotas are increased, or if out-of-quota duties are substantially reduced. This is especially true for some of the projected growth markets such as Latin America and Southeast Asia. The current U.S. objective on market access is to reduce tariff levels and tariff escalation among countries and to ensure market access opportunities for all products in all markets. Continued reduction of bound tariffs seems possible because of the often high tariff levels established through the UR negotiations. Additional U.S. objectives include expanding quota levels in countries with TRQs, improving TRQ administration, and eliminating the transitional special agricultural safeguard as defined in Article 5 of the Agreement on Agriculture (WTO, 2000b).

**Export Subsidies**—Export subsidies are among the most trade-distorting of government policies because they allow subsidizing countries to displace competitive producers in world markets. The URAA began the process of reducing the use of export subsidies in agricultural trade by

prohibiting their use on agricultural products unless the specific commodity is listed under the WTO member's schedule of export subsidy reduction commitments. Of the 140 member countries, 25 countries that had export subsidies in the base period agreed to reduce the volume and value of subsidized exports on specific commodities by a set percentage over a period of time (table A-4). The remaining countries and commodities are bound at zero subsidies.

Of the 25 countries making commitments, 12 notified the WTO of commitments to reduce export subsidies on coarse grains. The EU, a major global exporter of barley, oats, and rye, is the largest subsidizer of global coarse grains, accounting for 96 to 100 percent of all subsidized coarse grain exports between 1995 and 1997. The EU's export subsidies for coarse grains totaled \$397 million for 1995, \$493 million for 1996, and \$310 million for 1997. South Africa's coarse grain export subsidies amounted to \$11.5 million in 1995, but it eliminated export subsidies in 1997. Coarse grain subsidies by Hungary totaled \$4.9 million in 1995 and \$3.4 million in 1997, and Slovakia had expenditures of \$0.7 million in 1997 (table A-9).

The United States used the Export Enhancement Program (EEP) to subsidize coarse grain (mostly barley) and barley malt exports between 1985/86 and 1994/95. Coarse grain subsidies under EEP peaked in FY 1987 when about 3.5 million tons (with a bonus value of \$143 million) of coarse grain exports were assisted. However, since 1994/95, EEP has not been used for coarse grains, excluding the \$1.2

Table A-9--Export subsidy commitments and export subsidies (coarse grains)

	Volume		Value	
	Commitment	Actual	Commitment	Actual
	--1,000 metric tons--		--Million U.S. dollars--	
<b>European Union</b>				
Base period		12,624		n/a
1995	13,690	6,596	2,084	394
1996	13,121	11,845	1,868	486
1997	12,551	8,770	1,570	310
1998 1/	11,982	14,775	1,443	68
Final commitment	9,973	n/a	938	n/a
<b>United States</b>				
Base period		1,975		72
1995 2/	1,906	282	68	0
1996	1,837	0	63	0
1997	1,768	25	59	1
1998	1,699	0	55	n/a
Final commitment	1,560	n/a	46	n/a
<b>Mexico</b>				
Base period		3,578		157
1995	3,513	0	153	0
1996	3,450	n/a	149	n/a
1997	3,388	n/a	145	n/a
1998	3,326	n/a	141	n/a
Final commitment	2,951	n/a	116	n/a
<b>Canada</b>				
Base period		4,579		89
1995	4,419	0	80	0
1996	4,259	0	75	0
1997	4,098	0	69	0
1998	3,938	0	60	0
Final commitment	3,617	n/a	50	n/a
<b>Others 3/</b>				
Base period		4,041		
1995	4,368	1,060	n/a	n/a
1996	4,009	0	n/a	n/a
1997	3,645	31	n/a	n/a
1998	3,281	541	n/a	n/a
Final commitment	2,172	n/a	n/a	n/a

n/a = Not available.

Note: Mexico and the United States reported values in U.S. dollars. Canadian and EU values were converted to U.S. dollars using calendar year average exchange rates. Final commitment values for the EU and Canada are based on average 1999 exchange rates. The final commitment year is 2000 except for Brazil, Mexico, Venezuela, Turkey, and Romania, whose implementation period extends until 2004.

1/ The EU was permitted to exceed its 1998 volume commitment by rolling over unused export subsidies from previous years. This rollover will no longer be possible starting in 2000/01. Base period export subsidies by the EU were valued at about 1.38 billion ECU's.

2/ The discrepancy between actual value and volume is due to different reporting periods.

3/ Other countries notifying export subsidy commitments for coarse grains include Brazil, Czech Republic, Hungary, Romania, Slovak Republic, South Africa, Turkey, and Venezuela. Base period quantity for Brazil is not available. Turkey's volume commitments between 1995 and 1998 exceeded its base period levels. This is why the total volume commitment by "other" countries in 1995 exceeds base period amounts. Actual volume of subsidized exports may be slightly underreported in 1998 since notifications have not yet been received from Venezuela and Romania.

Sources: WTO, "The Results of the Uruguay Round" (CD-ROM), 1996; WTO, "Export Subsidies: Background Paper by the Secretariat" G/AF/NG/S/5, May 11, 2000.

million barley export subsidy made in 1997. All countries have remained within their commitment levels other than Hungary in 1995, when its actual subsidy was 282 percent of its commitment level. However, Hungary received a waiver that year under WTO Article XXVIII consultations.

As the largest user of coarse grain export subsidies, the EU could face the greatest challenge conforming to URAA subsidy limitations, particularly those on the volume (rather than value) of subsidized exports. Although the EU has not exceeded its commitment level on export subsidy expenditures for coarse grains, it has rolled over unused volumes from previous years and applied them to subsequent years. In 1998, the EU subsidized 14.8 million tons of coarse grain exports, about 2.8 million tons above its original 1998 commitment level. However, this rollover is no longer possible in 2000/01, when the commitment level is 9.97 million metric tons.

However, the recent depreciation of the EU currency and its Agenda 2000 reforms—which reduced the intervention (support) prices for grains—have lowered the per unit subsidy needed to match world prices (Leetmaa and Bernstein, 1999). During 2000, the EU exported barley without subsidies because of a depreciating currency. Whether the EU will need to provide subsidies on future coarse grain exports depends largely on exchange rate developments.

A current U.S. objective for the negotiations is the complete elimination of export subsidies, including both budgetary outlays and quantity commitments (WTO, 2000b). Some countries are opposed to such an approach, while others have focused on ways to prevent members from circumventing commitments through state trading enterprises or the use of subsidized export credits.

**Domestic Support**—Domestic policies that support prices or subsidize production may encourage excess production and distort trade flows by causing a decline in imports in some markets and/or increasing the use of export subsidies. The URAA distinguished between policies that are considered production distorting (“amber box”) and non-distorting (“green box”), and required WTO member countries to annually report and reduce amber-box support provided to domestic agricultural producers. The total value of support related to policies in the amber box is referred to as the “aggregate measurement of support” (AMS). Countries agreed to keep their AMS from exceeding limits specified by the URAA for 1995-2000. These limits declined from 97 percent of the 1986-88 base support level in 1995 to 80 percent of the base level in 2000 and beyond until a new agreement is reached (87 percent of the base level for developing countries by 2004).

Amber box policies subject to reduction include price supports, marketing loans, direct payments based on current production or price levels, input subsidies, and certain subsi-

dized loan programs. If support for a specific crop is equal to or less than 5 percent of its production value (10 percent for developing countries), it is not counted toward the AMS limits. This “*de minimis*” exemption provides some flexibility to a country in the design of its domestic support policies for specific commodities. But much more flexibility for commodity support is provided by the use of the aggregate support measure concept, since the reduction commitments do not apply to specific commodities, only to the total value of support for a country.

Direct producer payments under certain production-limiting programs (referred to as “blue box” policies) are exempt from reduction (not included in the current AMS) as long as they satisfy specific criteria. Specifically, the program must be production limiting, with payments based on fixed area and yield, or on 85 percent or less of the base level of production or fixed number of livestock.

Support from policies with minimal impacts on trade or production (green box policies) is also excluded from the AMS. Examples of these policies include public stockholding, natural disaster relief, marketing and promotion, inspection, extension services, pest and disease control, and research. They also include payments to producers that are minimally distorting to production, such as certain forms of decoupled income support not tied to production, like the U.S.’s production flexibility payments, assistance to help producers make structural adjustments, and direct payments under environmental and regional assistance programs.

Currently, 31 WTO member countries have AMS reduction commitments (WTO, 1999b). In 1997—the most recent year with comparable data—the EU, Japan, and the United States accounted for about 90 percent of total AMS notifications.<sup>6</sup> However, the coarse grain contribution to the AMS for each of these countries was relatively low (table A-10). For example, in 1997 the EU’s coarse grain (mostly barley and corn) non-exempt amber box payments totaled \$4.6 billion, or 5.2 percent of its commitment level. Barley was the only coarse grain receiving amber box support in Japan, and represented just 0.5 percent of its \$39.7 billion AMS commitment level that year. Although U.S. coarse grain (mostly corn) “amber box” expenditures totaled \$155 million in 1997, they were excluded from the AMS calculation due to the *de minimis* exemption.

Of these three countries, the EU and Japan have come closest to their AMS limits. In 1997, AMS outlays equaled about 66 percent of URAA limits for Japan, about 63 percent for the EU, and about 29 percent for the United States. Other smaller countries such as South Korea,

<sup>6</sup> WTO AMS notifications for 1998 are now available for the EU and Japan, but the United States has not made its notification since 1997.

Table A-10--Aggregate measure of support for the United States, EU, Japan, and other

	Aggregate measure of support		
	Commitment 1/	Actual 2/	Coarse grain contribution to AMS 3/
	Billion dollars		
United States			
Base	---	23.9	9.2
1995	23.1	6.2	0
1996	22.3	5.9	0
1997	21.5	6.2	0
2000	19.1		
European Union			
Base	---	104.3	4.4
1995	101.3	64.4	4.9
1996	91.6	61.2	4.6
1997	88.9	56.3	n/a
2000	80.6	n/a	
Japan			
Base	---	51.5	0.4
1995	49.8	36.4	0.3
1996	41.2	29.6	0.3
1997	39.7	26.2	0.2
2000	35.3	n/a	n/a
Other countries 4/			
Base	---	35.3	n/a
1995	n/a	16.6	n/a
1996	n/a	15.5	n/a
1997	n/a	n/a	n/a
2000	n/a	n/a	n/a

--- = Not applicable. n/a = Not available.

Note: Blue box values were included in the AMS in the base years 1986-88. All currency conversions are made based on the relevant year's average exchange rate. Values here may not match other sources due to differing exchange rate assumptions.

1/ The year 2000 AMS ceilings for the EU and Japan are estimated dollar figures based on preliminary exchange rates.

2/ The AMS for each country is amber box less "de minimis" exemptions. The U.S. base was revised to include revised crop insurance, which was de minimis.

3/ Includes only non-exempt payments.

4/ Amber box spending before "de minimis" exemptions. Small missing values for the base years were assumed to equal the 1995 value and small missing values for 1996 were assumed to equal the 1995 values.

Source: WTO notifications, compiled by Fred Nelson and Erik Dohlman, ERS.

Norway, Switzerland, Iceland, Israel, and Slovenia have come closer to their AMS limits during this time period.

Countries have stayed within their AMS commitment limits for two main reasons. First, reductions are being made from a base period (1986-88) which was characterized by high levels of domestic support. Second, several countries such as the EU, United States, Japan, South Korea, Switzerland, Norway, Iceland, Israel, and Slovenia have "re-instrumented" policies to meet these commitment levels. Commodity prices were also relatively high during 1995-97, so fewer domestic subsidies were needed during that period. When AMS levels are reported for more recent years, some countries are likely to be much closer to their commitment ceilings.

In the EU, policy changes since the base period have resulted in an increase of compensatory payments, which are classified as exempt blue box payments, since support is tied to production limitations based on a fixed area and yields. These

payments for EU corn and other cereals averaged about \$13 billion between 1995 and 1997. In contrast, the intervention market price support provided for EU coarse grains is counted as amber box payments and totaled about \$4.4 billion in 1995, \$4.9 billion in 1996, and \$4.6 billion in 1997. In coming years, the EU's Agenda 2000 reforms are expected to reduce the level of the EU's amber box price supports and increase the level of blue box income supports, continuing a policy direction which began with the MacSharry CAP reforms in 1992 (Leetmaa and Bernstein, 1999). This assumes the blue box will continue to be available to the EU, which relied on it heavily. One of the issues for the current round of negotiations is whether the blue box will be continued.

The major domestic support policies affecting the U.S. coarse grain sector are provided for in the Federal Agriculture Improvement and Reform (FAIR) Act of 1996. Previously, the Food, Agriculture, Conservation, and Trade (FACT) Act of 1990 provided for deficiency payments. Feed

grain deficiency payments were computed to be about \$3.5 billion in 1995.<sup>7</sup> These payments were classified as blue box payments because the United States used acreage base restrictions and the acreage reduction program as the basis for “production limitations” in qualifying for the blue box since deficiency payments could be received only if the restrictions and occasional acreage reductions were satisfied.

After 1996, deficiency payments for feed grains were replaced by (potential) marketing loan gains or loan deficiency payments, classified as amber box. Marketing loan benefits were not made during 1996 due to relatively strong prices, but feed grains did receive “amber box” interest subsidies of \$29.6 million related to participation in the Commodity Credit Corporation’s (CCC) commodity loan program. In 1997, \$52 million in interest subsidies and \$103 million in marketing loan gains (mostly to corn producers) were made, but payments in both years were excluded from the AMS because of the *de minimis* exemption. Crop and revenue insurance premiums subsidized by the Government are considered amber box non-commodity-specific support policies, but these subsidies have also been excluded from the AMS because of the *de minimis* exemption.

Feed grains are also eligible for production flexibility contract payments, which are classified as green box, since payments are not tied to current production or price, but are based on historical acreage and yields. Coarse grain producers received about \$3 billion of these payments in 1999. Because of declining farm incomes and weather-related disasters, the U.S. Congress also provided supplemental emergency assistance payments to recipients of production flexibility payments in 1998, 1999, and 2000.

Some countries have begun to shift away from amber-box policies and toward more green-box policies, which presumably reduces distortions to production and trade. Negotiations appear likely to focus on continued reduction of the AMS. The current U.S. objective on agricultural domestic support is to substantially reduce trade-distorting domestic support in a manner that corrects the disproportionate levels of support used by some WTO members. Specifically, the United States proposes that each country with current AMS commitments further reduce their AMS from final bound levels to a new level equal to a fixed percentage of the members’ value of total agricultural production in a fixed base period, and that the fixed percentage be the same for all members. The U.S. proposal also suggests simplifying the domestic support disciplines into two categories; exempt support, with

<sup>7</sup> The FACT ACT of 1990 provided much less than this in actual payments, \$149 million for crop year 1995, but the URAA defined a special measure of deficiency payments for measuring the AMS and the blue box—one in which the “price-related payment” could be recalculated using the current administered target price minus the fixed 1986-88 reference (market price) as the payment rate.

minimal trade-distorting effects on production, and non-exempt support subject to a reduction commitment (WTO, 2000b).

## Other Issues

**State Trading Enterprises (STEs)**—STE activities affect trade by influencing domestic and international prices (Ackerman and Dixit, 1999). A particular concern with STEs is that their lack of price transparency can be used to mask export subsidies or import barriers, and can therefore be used to circumvent URAA commitments on market access and export subsidies. STEs may also benefit from advantages unavailable to commercial firms that compete against them. Several factors influence the tariff/subsidy equivalents associated with STEs, including their degree of control over the domestic market, their policy objectives, the extent of their international market power, and their range of authorities and government support. State trading is also an issue that pertains to countries seeking WTO accession, such as China, Taiwan, Russia, and Vietnam, which use STEs extensively.

In 1995 and 1996, more than 30 WTO countries reported nearly 100 STE’s involved in their agriculture sectors. STEs are generally not as significant for coarse grains as they are for wheat, rice, and sugar, but state traders are important in the world barley market (Ackerman and Dixit, 1999). The Canadian Wheat Board and Australia’s Barley Board (ABB), for instance, maintain global export market shares of about 10 and 20 percent, respectively (table A-1). The Australian Barley Board (ABB) regulates both domestic and export markets (i.e., single-desk exporting powers). Although it was recommended that domestic and export powers by the board be phased out, thus far only Victoria has decided to do so beginning July 1, 2001 (USDA, 2001d). Victoria’s domestic market was already deregulated. Smaller exporters such as Turkey and Russia also use STEs to exercise some control over their exports.

On the import side, Saudi Arabia’s STE, the Grain Silos and Flour Milling Organization (GSFMO), accounted for an average of about a third of world barley imports during 1996/97-1998/99. China and Japan, which also manage imports with STEs, held world barley import shares of 11 and 10 percent, respectively. Saudi Arabia permitted private traders to import barley for the first time in 1998. In 1999, Japan began allocating a portion of its barley and wheat import quotas under a system known as Simultaneous Buy and Sell (SBS). Previously the Food Agency, an arm of the Ministry of Agriculture, Forestry, and Fisheries, acted as the importer for barley and feed wheat for Japan’s livestock feed industry. Under the SBS system, Japan’s feed mills can directly negotiate with specific exporting firms to arrange a shipment. The Food Agency determines which proposed contracts will be allowed under the SBS portion of the quota, but the new system increases the flexibility of the private firms in filling import needs.

Corn trade has also been affected by some STEs. South Africa, for example, had a maize marketing board but it was terminated in 1997. China's National Cereals, Oils and Foodstuffs Import and Export Corporation (COFCO) managed imports, and COFCO and the Jilian Grain Group are the only authorized exporters of corn. As part of its WTO accession agreement with the United States, China agreed to initially reserve 25 percent of TRQ imports for the private sector, rising to 40 percent by the end of the implementation period. China also agreed to allow out-of-quota trade through entities other than STEs when it becomes a WTO member.

Discussions on STEs are likely to revolve around strengthening WTO rules governing these enterprises and imposing additional disciplines on their exclusive authorities and the policies they implement. The current U.S. proposal regarding state trading enterprises calls for termination of exclusive import and export rights possessed by an STE, elimination of government funds or guarantees to support single-desk exporters, and promotion of increased transparency in STE operations.

**Export Credit Guarantees and Export Credits**—A potential issue related to the new negotiations in agriculture is the ongoing discussion on export credit guarantees and export credits being conducted in the Organization for Economic Cooperation and Development (OECD). Some U.S. competitors have argued that export credits and credit guarantees should be treated as an export subsidy. While negotiations to discipline government-sponsored credit and credit guarantee programs are ongoing in the OECD, some WTO members are calling for additional negotiations to take place in the WTO.

Export credit programs are used extensively by the United States and other countries. In fiscal 1999, about \$3 billion in U.S. export sales were conducted under these types of programs. U.S. credit guarantees are used for a portion of U.S. coarse grain exports, typically around 10 percent but as high as 20 percent in some years.

Under the URAA, Article 10.2, member countries agreed to work on disciplines for the use of government-sponsored export credit programs in agriculture (USDA, 1999b). These negotiations have been conducted in the OECD, and the United States prefers that negotiations continue in this forum since much of the work has already been completed there. The United States also takes the position that all WTO members offering such credits and export credit guarantees be included in any agreement.

**Food Aid**—Some countries may raise the issue of food aid disciplines in the negotiations as well. U.S. agricultural commodities are provided to countries in need of food assistance through direct donations and concessional programs. Food aid may be provided through three programs: Public Law 480 Program, Food for Progress Program, and the Section 416(b) Program. Typically only a small portion of

total U.S. coarse grain exports are distributed through food aid and concessional programs. For example, planned U.S. food aid for fiscal year 2000 included 51,790 metric tons of barley and 954,900 metric tons of corn, about 2 percent of total U.S. coarse grain exports for fiscal 2000. The U.S. proposal, in part, calls for a renewal to the commitment of food aid as expressed in the Uruguay Round's "Decision on Measures Concerning the Possible Negative Effects of the Reform Program on Least Developed and Net Food-Importing Developing Countries" and for a continuation of the WTO disciplines on food aid contained in Article 10.4 of the Uruguay Round Agreement on Agriculture.

**Country Accession to WTO**—Improved/increased market access or subsidy reduction may be the primary interest of many WTO members, but they will also have an interest in the implications of potential entrants into the WTO. While most of the world's major trading partners are members of the WTO, several key countries, including China, Taiwan, Russia, and Vietnam are not yet members and are therefore not subject to its disciplines. A U.S.-China agreement signed on November 15, 1999, and the subsequent decision by the United States to grant permanent normal trading relations (PNTR) to China in October 2000 represented a major step toward China's joining the World Trade Organization (Colby, Price, and Tuan). However, the PNTR takes effect only when China joins the WTO, just as China's agreed-to TRQs take effect only after it joins the WTO. China is the third largest exporter of corn with a global export market share of about 7 percent, and is a consistent importer of barley and rye. However, China is expected to increase its net imports of coarse grains with this agreement, which could provide an opportunity for U.S. corn exporters.

Presently, China has an applied tariff of 114 percent on all corn imports and these imports are managed by its state trading agency, COFCO. Terms of the bilateral agreement include the establishment of a TRQ for corn, with an initial quota of 4.5 million tons, rising to 7.2 million tons within 5 years.<sup>8</sup> Within-quota imports would be subject to a low duty (1 percent), while over-quota duties would be high—77 percent at the beginning of implementation and declining to 65 percent within 5 years. Non-state trade companies would initially be allocated 25 percent of the quota, rising gradually to 40 percent within 5 years. With China's accession to the WTO, its net corn imports are projected to increase by an average annual \$497 million beyond USDA's baseline estimates for the period 2000 to 2009 (Colby, Price, and Tuan).

**Trade in Genetically Engineered Commodities**—Foreign regulations and labeling initiatives that govern products from genetically engineered organisms have created

<sup>8</sup> The TRQ is not a minimum purchase requirement, but the agreement does require China to establish access opportunities for the full quota amount. The agreement also introduces private trade and increased transparency of the import process to maximize the likelihood that quotas will fill.

concerns among U.S. coarse grain producers and companies about the loss of corn exports, and potential loss in exports of processed byproducts such as corn gluten feed and meal (Lin, Chambers, and Harwood).<sup>9</sup> U.S. corn exports to the EU, for example, have recently declined about \$200 million per year because of an EU moratorium on approvals for new corn varieties being grown in the United States. The quantity of U.S. corn exports destined for the EU subsequently declined from over 3 million tons in fiscal year (FY) 1994/95 to less than 150,000 tons in FY 1999/2000. The value of U.S. corn byproduct exports to the EU totaled \$403 million in FY 1999 and \$394 in FY 2000, about 5 million metric tons in each year.

The EU recently adopted labeling regulations for foods containing biotech ingredients and is currently drafting feed labeling regulations. Japan has finalized its biotech labeling regulation and began its implementation in April 2001. South Korea has implemented biotech labeling regulations for unprocessed foods (such as corn or soybeans) in March 2001 and plans to implement biotech labeling for processed foods in July 2001. In addition, mandatory labeling policies for some bioengineered foods were implemented by Indonesia in 2000, were adopted by Australia and New Zealand, and are being proposed by Taiwan and other countries. In this climate, science-based risk assessments—as already required under the WTO's SPS rules—and a uniform set of rules and standards for all countries could facilitate world trade of genetically engineered organisms. The current U.S. proposal on this issue calls for a focus on disciplines to ensure that processes regarding trade in products developed through new technologies are transparent, predictable, and timely.

**“Zero for Zero”**—The International Barley and Malt Coalition for Free Trade, which includes barley producer organizations, malting companies, and malting industry representatives from Canada and the United States, is proposing an accelerated “zero-for-zero” trade liberalization for barley and malt. It should be noted that this is an industry and not a government proposal.

A “zero for zero” strategy was successfully used in the Uruguay Round to bring about complete elimination of tariffs on selected industrial goods, and some members explored this approach for the global oilseed market, but no agreement could be reached. By allowing market forces to determine production and trade flows, a “zero-for-zero” agreement could increase the market share of competitive barley producers, mainly because the EU would have to eliminate high levels of domestic support and export subsidies for these products.

<sup>9</sup> About 25 percent of U.S. corn acreage was planted to genetically engineered varieties in 2000 (USDA, 2000j).

**Export Taxes**—Discussions during the new agricultural trade negotiations could include consideration of a ban on export taxes, which have been used by some countries to generate government revenue and redistribute income. Export taxes restrict the availability of a commodity on the global market and consequently tend to raise global prices.

Argentina once taxed the export of corn and sorghum to subsidize its manufacturing sector. Although this policy has been abandoned, it tended to discourage domestic production of corn or sorghum and reallocate resources into the manufacturing sector. Argentine producers responded by maintaining a low-input agriculture. Another example is the EU's temporary tax on barley exports during its 1995/96 marketing year. By taxing exports, the EU's goal was to control tight internal supplies, ease prices for domestic grain users, and encourage the rebuilding of government-owned intervention stocks. The U.S. goal for the new agricultural trade negotiations is to prohibit the use of export taxes, including differential export taxes, for competitive advantage or supply management purposes (WTO, 2000b).

## Conclusions

Although the URAA was an important step toward identifying and disciplining trade distortions in agriculture, the agreement's impact on the global coarse grain market so far appears to be limited. Since the agreement, global coarse grain trade has risen slightly but well below growth in global production. However, it is difficult to separate the impact of the URAA from other market-related events that occurred during the implementation period—such as the Asian financial crisis and increased exports by (non-WTO member) China.

In the new WTO agricultural negotiations, improved market access and more market-oriented trade depend largely on progress in issues addressed during the Uruguay Round. These include increased market access by further lowering bound tariff rates, expanding quotas for products with TRQs and improving TRQ administration, continued reduction in export subsidies and domestic support. Additional issues could include a “zero for zero” proposal for barley and malt, tighter disciplines on state trading enterprises, and improved market access opportunities for genetically engineered coarse grains and products. Market opportunities for coarse grain producers could also be enhanced by further liberalization of the global meat market. Progress on these issues could expand the market opportunities for the U.S. coarse grain sector.

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