Implications of a GATT Agreement for World Commodity Markets, 1993-98: An Analysis of the Dunkel Text on Agriculture

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The Dunkel Proposal

The Food and Agricultural Policy Research Institute (FAPRI) received a request in mid-February to analyze the proposed changes to agriculture and agricultural trade made by Arthur Dunkel. These changes essentially fall into three areas.

- **Export Competition.** Subsidies are subject to reduction in two ways. Expenditures are to be reduced by 36 percent and quantities exported with the benefit of subsidies are to be reduced by 24 percent from 1986-90 average levels.
- **Internal Support.** Using a world reference price based on the 1986-88 average level, internal supports as measured by an aggregate measure of support (AMS) are to be reduced by 20 percent from 1986 levels. Credit will be given for support reductions made since 1986.
- **Market Access.** Import restrictions are to be converted to tariffs and reduced across the board by a simple average of 36 percent. Tariffs on individual commodities are to be reduced by at least 15 percent. Where import barriers are in place, either minimum access of 3 percent of domestic consumption in 1993, rising to 5 percent in 1999, or minimum access of 1986-88 average import levels is to be provided, whichever is greater.

Required Program Changes

Credits for changes made since 1986 place the United States in a position where relatively few modifications to programs are required for compliance. Wheat, feed-grain, cotton, soybean, and rice programs are left unchanged. The cane sugar support price is reduced from 18.0 cents per pound in the baseline scenario to 14.8 cents per pound in the Dunkel scenario in 1993, with further reductions

for increased production in subsequent years. The support price for milk is also reduced, but not until 1998. The Canadian poultry and dairy sectors will be required to make substantial program changes to comply and their crop programs will need modest changes in the first few years of an agreement based on the Dunkel text. The European Community will also need to make changes in rice, soybean, sugar, beef, pork, poultry, and dairy programs.

Summary of Results

The Dunkel scenario analysis was conducted using the January 1992 FAPRI baseline as the benchmark. The same modeling system used in developing the FAPRI baseline was utilized in the Dunkel scenario analysis. The baseline projects that grain prices will vary through the early 1990s but will weaken in the mid-1990s as feed demand weakens in response to lower animal numbers in the former USSR and little growth in livestock inventories in the European Community and Japan. Most grain prices recover in the late 1990s as livestock inventories begin to rebuild.

World and U.S. prices for wheat, feed grains, and rice increase in the Dunkel scenario relative to those in the baseline. In the Dunkel scenario in 1998, corn prices are 7 percent higher, wheat prices are 6 percent higher, and rice prices are 3 percent higher than baseline levels. Price increases for wheat and feed grains would have been greater, but the Dunkel scenario assumes that baseline Acreage Reduction Program (ARP) levels will be reduced, increasing supplies of these grains. World trade in these commodities declines with the higher prices in the Dunkel scenario compared with baseline levels. Although world trade decreases slightly, EC trade declines substantially with reductions in the quantity of subsidized grain. The United States captures a significant share of the markets given up by the European Community, resulting in higher U.S. exports in the Dunkel scenario. This finding is one of the most important conclusions of the study.

Cotton markets in the United States respond to two policy adjustments in the Dunkel scenario. First, increased textile imports into the United States reduce domestic mill demand. U.S. cotton

exports increase somewhat to provide the cotton used to produce the imported textiles. Second, cotton imports occur with the opening of the market. Although cotton imports are assumed to be minor (only 180,000 bales in 1998), importing is assumed to occur. Cotton prices decrease by more than 5 percent in the Dunkel scenario compared with the baseline scenario. Cotton production also decreases with lower prices and higher ARP rates in the out years under the Dunkel scenario.

Assumptions regarding the implementation of the Dunkel proposal for sugar are critical. Reducing imports well below 1990 levels could provide prices near baseline levels. With the reduction in the loan rate, however, it is assumed in the Dunkel scenario that sugar import quotas, or tariff equivalents, would be relaxed to provide prices at the new loan rate. Although the assumptions made are very important for the entire analysis, this is nowhere more true than for sugar.

The livestock sector benefits from changes brought on by the Dunkel proposal. Pork in particular shows major gains. Pork exports in 1998 are more than twice baseline levels, and pork prices are 6 percent greater than baseline levels. Broiler exports also increase by more than 50 percent by 1998 and broiler prices are 6 percent to 7 percent greater than baseline levels. Beef exports are not expected to increase markedly because the baseline incorporates relaxation of import barriers in the Japanese beef market.

Overall, U.S. agriculture benefits from the Dunkel proposal under the assumptions included in this analysis. Cash receipts to farming increase by more than $4 billion, and government payments decline by $0.9 billion. Production expenses increase by nearly $3 billion, resulting in an increase in net farm income of $0.8 billion.

Caution

As with any analysis, the assumptions underlying the Dunkel analysis are critical to the outcome. A major caveat regarding the analysis is included in this report. It should also be noted that the modeling system may not adequately represent longer-term responses to changing policies in

other countries. Will financing of agriculture continue in the same manner as it has in the past with producers exposed to more risk? Will this result in further reductions in production and additional U.S. export opportunities compared with those in this analysis? Conversely, will other countries strive to meet the letter, but not the spirit, of the proposal? Although "tied" export sales are prohibited, what police force will ensure that they do not occur?

It is stated several times that this analysis represents only one way the Dunkel text could be implemented. There are literally thousands of other scenarios that could have been run. The correct set of assumptions will not be known until 1998.

IMPLICATIONS OF A GATT AGREEMENT FOR WORLD COMMODITY MARKETS, 1993-98: AN ANALYSIS OF THE DUNKEL TEXT ON AGRICULTURE

A Caveat

There are many reasons for differences between analysts' perceptions of the Dunkel text (Dunkel 1991). The "draft final" text provides general guidelines for reform of world agriculture and agricultural trade. The main areas of guidance provided by the text are market access, export subsidies, and internal support. In each of these general areas, there are many ways the text could be implemented, and each set of assumptions regarding implementation could result in different analyses. Thus, the set of assumptions one makes with respect to implementation is very important. The methodology used to develop an assumption set for this analysis is discussed later.

It is important to note what this analysis does *not* cover. It does not deal with fruits, vegetables, and horticultural products, nor does it deal with tobacco or peanuts. Nor does the analysis assume that any reductions in U.S. program outlays are redistributed to producers. The analysis uses the same macroeconomic assumptions as those used by the Food and Agricultural Policy Research Institute (FAPRI) for the January 1992 baseline and documented in FAPRI Staff Report #1-92 (FAPRI Forthcoming). Additional economic activity may occur if the Dunkel text is adopted, but such growth is not assumed here. In essence, this is a ceteris paribus analysis, with the only change being agricultural policy.

Also of importance is the starting point for any analysis. This analysis uses the FAPRI January 1992 baseline as the starting point, or benchmark.

Market Access

The Dunkel text requires that countries provide access to their markets equal to 3 percent to 5 percent of domestic utilization. For markets that currently exceed minimum access levels, the text states that access "shall be maintained and increased over the implementation period" (Dunkel 1991, L.19). No definition of "increased over the implementation period" is given. One may develop several different interpretations. In this analysis, the commodity of most concern in this regard is sugar. It may be possible to tighten imports to 1986-88 levels and to hold prices at levels higher than the U.S. loan rate, but doing so would result in substantially lower market access levels than those in the 1990/91 through 1992/93 marketing years.

It is critically important to determine how market protection through tariffs is provided. The Dunkel text requires a simple average 36 percent reduction in tariff rates and a minimum 15 percent tariff reduction for any given commodity. One could assume 36 percent reductions across the board or a 15 percent reduction in important, protected-industry tariff rates and greater reductions in tariffs for goods of little or no importance. This analysis assumes that commodities of particular importance in any country undergo only a 15 percent reduction. An infinite number of other assumptions could be made that would still comply with the Dunkel text.

Export Subsidies

The Dunkel text proposes to reduce both the quantity of subsidized exports and the level of export subsidy expenditures. It further states the following:

> Any participant which claims that any quantity exported in excess of a reduction commitment level is not subsidized must establish that no export subsidy, . . ., has been granted in respect of the quantity of the exports in question (Dunkel 1991, L.9).

In other words, commercial shipments are not to be tied to subsidized exports. Although this analysis assumes that tied sales or other subsidization schemes are not used, policing and enforcing this

provision may be difficult. Any agreement that allows circumvention of this provision would substantially alter the analysis.

Domestic Support

Reducing domestic support for any industry in any country is politically difficult. Reducing support for agriculture in the European Community seems to be very difficult. Although this analysis assumes that the domestic support reductions in the European Community loosely follow the general framework of recent Common Agricultural Policy (CAP) reform proposals, nothing requires the European Community to follow that path. One suggested scenario would establish an ethanol industry in the European Community, significantly increasing EC grain demand and substantially lowering the need for imported protein meals. Such a scenario would alter the analysis developed here but could meet some of the reductions in domestic and export support required by the Dunkel text. Similarly, the United States may decide on some form of domestic support other than that described by the Food, Agriculture, Conservation, and Trade Act of 1990.

Although the assumptions used are important for the entire analysis, sugar is one of the best examples of the potential ambiguity regarding implementation of the Dunkel text. For example, this analysis assumes that the aggregate measure of support (AMS) would be calculated by using the raw sugar market price, the world reference price would be calculated on a calendar year basis, and imports would enter the United States to provide the lowest price to consumers consistent with the legal requirement of zero government cost. Just changing the calculation of support from the loan rate and changing from a calendar year basis to a fiscal year basis substantially alters the results: the support rate for the 1998/99 crop year decreases to 14.8 cents per pound compared with the decrease to 13.2 cents per pound obtained in this analysis. These implementation changes, subtle though they may be, change the value of sugar production in the United States by more than $300 million in the 1998/99 crop year.

It is also important to note that this analysis does *not* assume that any of the reductions in government spending resulting from the Dunkel text are returned to producers. For the United States, these savings average $400 million in the early years of the Dunkel scenario and increase to

$1.3 billion by 1998. These funds could be retained in agriculture through various programs consistent with the Dunkel text.

Baseline

The starting point for the analysis is critical. The FAPRI January 1992 baseline used in this analysis assumes that ARP levels for wheat in future years average 5 percent. Increased export demand in this analysis is met in part by reducing ARP levels below baseline levels, which somewhat mitigates the market price increases. Similar differences among baselines in exchange rates, economic growth, or meat demand can lead to very different results when comparing separate analyses.

Summary

There are many ways to implement the Dunkel text. This analysis was developed by using a set of assumptions put together after a series of discussions with trade and industry experts. The experts and the assumptions used here may well be wrong. This analysis should be viewed as but one of hundreds of scenarios that could be analyzed and not as the definitive answer with regard to the Dunkel text.

Introduction

FAPRI received a request in mid-February from Congress to examine the draft final proposal prepared by the GATT Secretariat on 20 December 1991, as it relates to agriculture and trade in agricultural products. The proposal, commonly referred to as the Dunkel text, covers three major areas: export competition, internal support, and market access. The request asked that FAPRI look not only at U.S. agriculture, but that world trade in general and agriculture in the European Community, Japan, Australia, and other countries be examined in particular. This report compares the outlook for the years 1993 through 1998 (the final year covered by the agreement) under a continuation of current worldwide policies with what is expected under the Dunkel text.

As discussed elsewhere in this analysis, this is but one way in which the Dunkel text could affect agriculture. A series of assumptions have been made regarding implementation, but several other forms could have been chosen.

An analysis of both policy scenarios—the continuation of current programs and conditions under the Dunkel text—was conducted utilizing the agricultural commodity models of FAPRI. The baseline, or the scenario developed by assuming a continuation of current policies, was developed in January 1992. The baseline utilizes information that was current at that time. Although no major changes have occurred at the time of this writing, major events that occur subsequently may alter the projected outcomes.

The Analytical System

FAPRI maintains a set of econometric models that describe activity in agricultural commodity markets. The models estimate the supply, use, net trade, and prices of most major commodities: wheat, feed grains, cotton, rice, soybeans, hay, sugar, and high-fructose corn syrup. FAPRI also maintains a set of econometric models for livestock that describe the beef, pork, poultry, and dairy sectors in the United States, the European Community, and Japan. Synthetic models of the Canadian

livestock sector were developed using elasticities estimated in the Food and Agricultural Regional Model by Agriculture Canada. Synthetic models were also developed for other major livestock producing and consuming countries and for world dairy and sugar markets.

The modeling system includes components to estimate U.S. government program costs and net farm income. The models are dynamic, reflecting both short- and long-term effects of policy changes. Also, the models are solved in a simultaneous framework. This framework allows for cross-commodity effects in particular to be accounted for. Taken together with the dynamic nature of the system, it provides a method of examining changes in crop programs and the initial effects of these changes on the livestock sector, followed by downstream feedback from livestock changes on crops. This feedback is an important characteristic of the modeling system. All the models are calibrated to reproduce the recent historical period and are used to make plausible projections forward in time.

The "real time" operational capability of the models is important to this analysis. The base periods to be utilized as benchmarks for program change are subsets of the period 1986-90. Yet there have been several modifications to various agricultural policies in several countries since the end of the respective reference periods. The analysis provided by this modeling system allows for adjustment to the policy changes.

The Baseline Scenario

FAPRI baseline projections are based on assumptions about the general economy, agricultural policies, technological change, and the weather. Macroeconomic assumptions for the United States were taken from The WEFA Group. For other countries and regions, the macroeconomic assumptions were obtained from Project LINK.

We have assumed that 1991 agricultural policies will be continued for all regions. This assumption does not mean that policy levels will always be set at 1991 levels, but that programs will

continue to be implemented in a manner consistent with the way policies were implemented in 1991. For example, support reduction triggers in the European Community will be allowed to reduce effective support levels when guaranteed production levels are exceeded. Average weather conditions and historical rates of technological change are also assumed to prevail during the projection period. Important assumptions of the January 1992 FAPRI baseline are summarized in Table 1.

Macroeconomic Assumptions

- Economic recovery is projected for the United States and Canada in 1992 and 1993. Economic growth is projected to increase in Europe during the same period. Moderate growth is expected for the remainder of the 1990s in the developed economies. Continued contraction of the Eastern European economies is projected through 1992 and for the republics of the former USSR through 1993, after which time moderate growth is assumed. The developing regions are led by high growth rates in the Pacific Basin, with slower growth in Africa and Latin America.

- The value of the U.S. dollar is projected to fall gradually against the currencies of Europe, Japan, Canada, and some of the newly industrialized nations. Appreciation of the dollar against currencies of many of the nonindustrial developing nations is projected.

Agricultural Policies

- Nominal agricultural policy prices are generally assumed to remain constant through the analysis period. For example, U.S. target prices and Japanese grain purchase prices are held at 1991 levels. This translates into significant reductions in real support prices resulting from inflation over time.

- Exceptions to constant policy prices include EC policy prices. Consistent with our assumption of maintaining the policies that were in place in 1991, EC policy prices are modified by policy triggers already in place by 1991 for grains and those assumed to be implemented in 1992 for oilseeds.

- Japanese beef prices are determined by the effects of beef import liberalization and respond to world price changes.

- Canadian butter support prices increase in nominal terms because of inflation adjustments consistent with current policy.

Table 1. Baseline macroeconomic and policy assumptions

	1991	1992	1993	1994	1995	1996	1997	1998
Real GDP Growth				(Percent Change)				
United States	-0.6	2.3	3.2	3.1	3.5	3.4	3.2	2.9
European Community	1.6	2.5	2.9	2.6	2.5	2.2	2.1	2.2
Japan	4.5	3.9	4.4	4.4	4.6	4.4	4.3	4.3
Canada	-1.0	3.6	4.7	4.2	4.2	3.4	3.4	3.4
Inflation Rate (GDP Defl.)				(Percent Change)				
United States	3.6	1.8	2.5	3.0	3.1	3.8	4.2	4.2
European Community	5.4	4.4	4.3	4.3	4.4	3.8	3.9	3.8
Japan	2.5	1.1	1.6	1.7	1.5	1.5	1.5	1.5
Canada	2.6	2.8	3.4	4.0	3.6	3.3	3.4	3.4
Exchange Rate				(Local Currency per U.S. Dollar)				
European Community	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76
Japan	134.5	129.7	127.2	124.6	122.1	119.7	117.3	114.9
Canada	1.17	1.17	1.17	1.16	1.16	1.15	1.15	1.14
U.S. Policy Prices				(U.S. Dollars per Bushel)				
Wheat Target	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Corn Target	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
				(U.S. Dollars per Hundredweight)				
Rice Target	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71
Milk Support	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10
				(U.S. Dollars per Pound)				
Cotton Target	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729
EC Policy Prices				(ECUs per Metric Ton)				
Wheat Intervention	169	164	159	154	150	145	140	136
Barley Intervention	160	155	150	146	141	137	132	128
Soybean Minimum	273	352	337	344	345	343	335	339
Milk Target	268	268	268	268	268	268	268	268
EC Policy-Determined Prices				(ECUs per Metric Ton)				
Beef Wholesale	2,611	2,600	2,600	2,600	2,600	2,600	2,600	2,600
Pork Wholesale	1,611	1,600	1,600	1,600	1,600	1,600	1,600	1,600
Poultry Wholesale	1,452	1,450	1,450	1,450	1,450	1,450	1,450	1,450
Japanese Policy Prices				(Yen per Kilogram)				
Rice Purchase	275	275	275	275	275	275	275	275
Wheat Purchase	154	154	154	154	154	154	154	154
Barley Purchase	132	132	132	132	132	132	132	132
Japanese Policy-Determined Prices				(Yen per Kilogram)				
Beef Wholesale	988	821	748	725	699	690	698	705
Milk Farm	89	89	89	89	89	89	89	89
Canadian Policy Price				(Canadian Dollars per Metric Ton)				
Butter Support	5,330	5,330	5,437	5,545	5,656	5,769	5,885	6,002

Baseline Projections

- Details of the baseline projections for production, domestic use, trade, and prices of major commodities are documented in FAPRI Staff Reports #1-92 and #2-92 (FAPRI forthcoming). Highlights of the baseline projections follow.

- Grain prices vary throughout the early 1990s but are generally weaker in the mid-1990s as feed demand softens with decreased livestock inventories in the former USSR and little growth in animal numbers in the European Community and Japan. Most grain prices strengthen in the late 1990s. Livestock prices vary cyclically.

- World grain trade decreases in 1992 in response to lower imports by the former USSR resulting from increased production compared with 1991 levels and reduced livestock inventories. Trade expands from 1993 through the end of the 1990s, with much of the increase in import demand coming from the developing regions. Import requirements by Eastern Europe and the former USSR are expected to be fairly constant.

- Although the United States meets most of the increase in soybean import demand, Argentina and Brazil account for most of the increases in meal trade.

- EC beef production continues to be constrained by the reduced milk delivery quotas, and EC beef net exports are greatly affected by intervention stocks. With German unification, the European Community becomes the largest exporter of pork and is expected to remain so throughout the projection period.

- Japanese beef imports are expected to double by 2001 in response to the elimination of beef import quotas and scheduled reductions in beef import tariffs. Despite strong growth in pork consumption, imports are limited by the protective levies still in place.

- Current events in the former USSR will significantly affect meat production, consumption, and imports. Liquidation of cattle and hog inventories is expected to continue until the projected economic turnaround in 1994.

- The recent trend of increased broiler consumption in most countries increases exports by major exporters such as the United States, the European Community, Brazil, and Thailand.

- The dairy sectors in the European Community, Japan, Canada, and the United States (to a certain extent) continue to be highly protected. Domestic prices in these countries will remain well above world prices. Nevertheless, world market prices are expected to strengthen throughout the 1990s in response to growing global demand.

- The reduction in the EC milk delivery quota results in declining milk cow inventories and lower milk production.

- New Zealand is projected to build its dairy cow inventory, increase milk production, and export more butter, cheese, and nonfat dry milk in response to strong world prices.

Uncertainties

- In the FAPRI models, technological assumptions are used in estimating productivity. This rate of technological change is assumed to remain constant for the projection period. Even when prices decrease, these assumptions result in increasing productivity.
- No risk factors are incorporated into the FAPRI models. Liberalization of a commodity would cause world price variation to be transmitted into certain markets, and participants in those markets would presumably behave differently. These effects are not taken into account.
- "Average" weather is assumed in these projections. It is certain that the weather will be uncertain, and average weather is unlikely to occur over a period as long as this projection period.
- There are major uncertainties in developing any baseline that includes the former USSR. This uncertainty is a major source of potential error in the baseline, as are projections for any country making the transition from a centrally planned to a market-oriented economy. This uncertainty is described in detail in FAPRI #1-92.

The Dunkel Scenario

As previously mentioned, several alternative assumptions regarding implementation of the Dunkel text could have been made. The assumption finally decided upon for this analysis is the sole responsibility of FAPRI, but it was developed after a series of discussions. Meetings and conversations were held with individuals within appropriate government agencies. Discussions were also held with staff members from both the majority and minority in the House and Senate. Representatives of numerous commodity groups and farm organizations were contacted and all provided input. We are grateful for the time, effort, and assistance each of these individuals provided.

General Assumptions

- Policy changes in this analysis are consistent with the "Text on Agriculture" submitted by Arthur Dunkel (the Dunkel text).
- The implementation period for the agreement is from 1993 until 1999. It is assumed that reductions made through 1999 will be maintained after 1999.

- Export subsidies are subject to reduction in two ways. Expenditures are reduced by 36 percent from the 1986-90 average level, and quantities exported with subsidies are reduced by 24 percent from the 1986-90 average level.

- Nontariff barriers are converted into tariff equivalents and reduced by a simple average over all agricultural goods (as described in Annex 2 to the Dunkel text) of 36 percent from the 1986-88 average tariff equivalent. Tariffs are required to be reduced by a minimum of 15 percent for individual commodities.

- Where import barriers are in place, minimum access to the domestic market is required to be the greater of 3 percent of domestic consumption in 1993, increasing to 5 percent by 1999, or minimum access of 1986-88 average import levels.

- Internal support, as measured by an aggregate measure of support (AMS) using fixed reference prices, is reduced by 20 percent from the 1986 level. This support is to be measured as closely to the producer level as possible.

Export Competition

- Export subsidies are based on the difference between the world price and the internal market price and are not explicitly tied to support prices.

- Export subsidy expenditures are reduced by 36 percent from the 1986-90 average level.

- Subsidized export quantities are reduced by 24 percent from the 1986-90 average level.

- Average 1986-90 export subsidy expenditures are computed as the difference between domestic and world prices, multiplied by the quantity exported with a subsidy.

- Export subsidy expenditures are reduced from the 1986-90 average level by fixed annual amounts for six years: 6 percent in 1993, 12 percent in 1994, 18 percent in 1995, 24 percent in 1996, 30 percent in 1997, and 36 percent in 1998 and thereafter.

- Average export levels are reduced from the 1986-90 average level by fixed annual amounts for six years: 4 percent in 1993, 8 percent in 1994, 12 percent in 1995, 16 percent in 1996, 20 percent in 1997, and 24 percent in 1998 and thereafter.

- Export subsidies under bona fide food aid programs are not subject to reduction.

- Deficiency payments on quantities exported are not considered export subsidies.

- "Internal transport and freight charges on export shipments, provided or mandated by governments, on terms more favorable than for domestic shipments" are subject to reduction (Dunkel 1991, L.32).

Internal Support

- The reference price is calculated as the average world price for each commodity during the 1986-88 base period and is taken as the FOB price for exporting countries and the CIF price for importing countries. Where such prices are not available, appropriate prices from other countries are substituted and adjusted for transportation costs.

- An AMS is calculated by multiplying the difference between the reference price and the domestic support price by production eligible for support plus other direct producer payments or by using budgetary outlays.

- Specific agricultural levies or fees paid by producers are deducted from the AMS.

- Support resulting from border measures is excluded from AMS calculations.

- The AMS is reduced from the 1986 level by 3.3 percent in 1993, 6.7 percent in 1994, 10 percent in 1995, 13.3 percent in 1996, 16.7 percent in 1997, and 20 percent in 1998 and thereafter.

- With the exception of Canadian butter, administered policy prices are not allowed to exceed the 1992 policy price. This constraint is binding for some countries and some commodities.

- If obligations under export competition or import access require that internal prices be less than the support price calculated under internal support commitments, the support price is allowed to be maintained at a level greater than the internal price through mechanisms such as deficiency payments so long as the AMS reduction requirements are met.

- Credit is allowed for reductions in AMS implemented since 1986.

Market Access

- Average tariffs or tariff equivalents are computed for 1986-88 by comparing internal and external prices for imported commodities.

- Nontariff barriers are converted to tariffs in 1993 and reduced by a simple average of 36 percent from 1993 to 1999. Minimum tariff reductions are 15 percent.

- For tariffs reduced by 36 percent, reductions from the 1986-88 level are 6 percent in 1993, 12 percent in 1994, 18 percent in 1995, 24 percent in 1996, 30 percent in 1997, and 36 percent in 1998 and thereafter.

- For tariffs reduced by 15 percent, reductions from the 1986-88 level are 2.5 percent in 1993, 5 percent in 1994, 7.5 percent in 1995, 10 percent in 1996, 12.5 percent in 1997, and 15 percent in 1998 and thereafter.

- Any tariff reduction resulting in increased imports of a commodity for a specific country is reduced by the 15 percent minimum, assuming that the simple average of 36 percent will be met through other tariff reductions that result in less impact on that commodity.

- For commodities with import barriers, market access of a minimum of 3 percent of domestic consumption in 1993, increasing to 5 percent in 1998 and thereafter, is required. If the average import level during the base period is greater than the 3 percent to 5 percent requirement, minimum access is required to be the average import level during the base period.

Policy Implications of the Baseline and Dunkel Scenarios

- Table 2 reports policy measures for the respective reference periods for each type of commitment and for 1998 for the baseline scenario. In addition, the levels allowed with GATT reductions based on the Dunkel text and the levels actually used in the analysis are reported for 1998.

- In 1998, where the GATT allowed level is less than the baseline level, the reduction commitment is binding and a reduction in the policy relative to the baseline is required. Where the GATT allowed level is greater than or equal to the baseline level, no reduction is required for that commodity in that country. This is consistent with credit exceeding the required reduction level.

- In 1998, where the GATT actual level is equal to the GATT allowed level, the reduction is exactly binding. Where the GATT actual level is less than the GATT allowed level, the reduction commitment is more than met. This is often the result of the way in which a program was run in a country (e.g., the selection of a set-aside rate) and does not necessarily reflect a nonbinding commitment relative to the baseline.

- Calculations of tariffs and subsidies are dependent on exchange rates for 1998. If a currency appreciates against the U.S. dollar, as is the case with the European Currency Unit (ECU), EC prices increase in dollar terms, resulting in larger subsidies and tariffs. Because the AMS is calculated by using a fixed reference price, these calculations are not affected by exchange rate changes.

- In the United States, internal support levels for only sugar and milk must be reduced relative to the baseline to meet Dunkel text commitments. No reductions are necessary for grains, cotton, and meats.

- For purposes of this analysis, the U.S. sugar AMS was calculated by using the raw sugar market price as the U.S. policy price because import quotas are triggered to roughly maintain this price. As a result, to comply with AMS reduction requirements, sugar import quotas are relaxed by an amount sufficient to reduce the price to the maximum allowable level.

- U.S. imports of raw cotton are assumed to increase by half of the amount allowed by the minimum access requirements by 1998, given the limited availability of high-quality cotton supplies in South and Central America. The textile agreement is assumed to cause an increase in U.S. textile imports of more than 10 percent by 1998.

- No U.S. import tariff equivalents need to be reduced in 1998. Subsidized export levels and export subsidy expenditures must be reduced for wheat, resulting in a substantial cutback in the Export Enhancement Program (EEP).

Table 2. Policy measures of the baseline and Dunkel scenarios

	Reference Period				1998			
	U.S.	EC	Japan	Canada	U.S.	EC	Japan	Canada
Wheat								
Internal Support AMS				(Million Local Currency)				
Baseline	2,856	4,286	142,717	1,240	1,619	675	98,413	841
GATT Allowed					2,285	3,428	114,174	992
GATT Actual					1,650	2,948	98,413	992
Import Tariff (or Equivalent)				(Local Currency per Metric Ton)				
Baseline	NA	110	42,684	NA	NA	104	38,225	NA
GATT Allowed					NA	94	36,280	NA
GATT Actual					NA	71	36,280	NA
Subsidized Export Quantity				(Million Metric Tons)				
Baseline	15.1	17.2	NA	NA	18.8	19.5	NA	NA
GATT Allowed					11.5	13.0	NA	NA
GATT Actual					11.5	13.0	NA	NA
Export Subsidy Expenditure				(Million Local Currency)				
Baseline	413	824	NA	NA	606	340	NA	NA
GATT Allowed					264	526	NA	NA
GATT Actual					254	281	NA	NA
Corn								
Internal Support AMS				(Million Local Currency)				
Baseline	6,160	2,284	NA	NA	3,570	1,147	NA	NA
GATT Allowed					4,928	1,827	NA	NA
GATT Actual					3,637	1,827	NA	NA
Import Tariff (or Equivalent)				(Local Currency per Metric Ton)				
Baseline	NA	130	NA	NA	NA	124	NA	NA
GATT Allowed					NA	111	NA	NA
GATT Actual					NA	84	NA	NA
Barley								
Internal Support AMS				(Million Local Currency)				
Baseline	198	4,075	51,343	368	66	1,191	44,821	318
GATT Allowed					158	3,260	41,074	294
GATT Actual					74	2,931	41,074	294
Import Tariff (or Equivalent)				(Local Currency per Metric Ton)				
Baseline	NA	133	40,250	NA	NA	133	37,701	NA
GATT Allowed					NA	113	34,220	NA
GATT Actual					NA	85	34,220	NA
Subsidized Export Quantity				(Million Metric Tons)				
Baseline	1.7	7.3	NA	NA	1.9	7.8	NA	NA
GATT Allowed					1.3	5.5	NA	NA
GATT Actual					1.3	5.5	NA	NA
Export Subsidy Expenditure				(Million Local Currency)				
Baseline	59	451	NA	NA	66	311	NA	NA
GATT Allowed					37	286	NA	NA
GATT Actual					37	203	NA	NA

Table 2. Continued

	Reference Period				1998			
	U.S.	EC	Japan	Canada	U.S.	EC	Japan	Canada
Rice								
Internal Support AMS				(Million Local Currency)				
Baseline	979	88	2,886,033	NA	389	117	2,125,741	NA
GATT Allowed					783	70	2,308,826	NA
GATT Actual					403	70	2,125,741	NA
Import Tariff (or Equivalent)				(Local Currency per Metric Ton)				
Baseline	NA	297	265,930	NA	NA	264	260,461	NA
GATT Allowed					NA	252	226,040	NA
GATT Actual					NA	252	202,951	NA
Soybeans								
Internal Support AMS				(Million Local Currency)				
Baseline	NA	248	NA	NA	NA	212	NA	NA
GATT Allowed					NA	197	NA	NA
GATT Actual					NA	182	NA	NA
Cotton								
Internal Support AMS				(Million Local Currency)				
Baseline	1,479	NA	NA	NA	731	NA	NA	NA
GATT Allowed					1,183	NA	NA	NA
GATT Actual					860	NA	NA	NA
Sugar								
Internal Support AMS				(Million Local Currency)				
Baseline	1,479	3,361	66,408	NA	2,016	3,356	53,097	NA
GATT Allowed					1,184	2,689	53,126	NA
GATT Actual					1,184	2,689	48,939	NA
Import Tariff (or Equivalent)				(Local Currency per Metric Ton)				
Baseline	275	487	75,953	NA	223	451	69,969	NA
GATT Allowed					234	416	64,560	NA
GATT Actual					59	407	63,287	NA
Subsidized Export Quantity				(Million Metric Tons)				
Baseline	NA	3.6	NA	NA	NA	3.6	NA	NA
GATT Allowed					NA	2.7	NA	NA
GATT Actual					NA	2.7	NA	NA
Export Subsidy Expenditure				(Million Local Currency)				
Baseline	NA	280	NA	NA	NA	380	NA	NA
GATT Allowed					NA	191	NA	NA
GATT Actual					NA	170	NA	NA

Table 2. Continued

	Reference Period				1998			
	U.S.	EC	Japan	Canada	U.S.	EC	Japan	Canada
Beef								
Internal Support AMS				(Million Local Currency)				
Baseline	NA	13,138	NA	NA	NA	12,575	NA	NA
GATT Allowed					NA	10,510	NA	NA
GATT Actual					NA	10,510	NA	NA
Import Tariff (or Equivalent)				(Local Currency per Metric Ton)				
Baseline	NA	691	878,064	NA	NA	474	313,174	NA
GATT Allowed					NA	587	746,354	NA
GATT Actual					NA	378	313,174	NA
Subsidized Export Quantity				(Million Metric Tons)				
Baseline	NA	1.05	NA	NA	NA	0.97	NA	NA
GATT Allowed					NA	0.80	NA	NA
GATT Actual					NA	0.80	NA	NA
Export Subsidy Expenditure				(Million Local Currency)				
Baseline	NA	1,024	NA	NA	NA	753	NA	NA
GATT Allowed					NA	655	NA	NA
GATT Actual					NA	543	NA	NA
Pork								
Internal Support AMS				(Million Local Currency)				
Baseline	NA	7,846	NA	NA	NA	6,431	NA	NA
GATT Allowed					NA	6,277	NA	NA
GATT Actual					NA	6,277	NA	NA
Import Tariff (or Equivalent)				(Local Currency per Metric Ton)				
Baseline	NA	NA	142,323	NA	NA	NA	268,270	NA
GATT Allowed					NA	NA	120,975	NA
GATT Actual					NA	NA	120,975	NA
Subsidized Export Quantity				(Million Metric Tons)				
Baseline	NA	0.53	NA	NA	NA	0.43	NA	NA
GATT Allowed					NA	0.40	NA	NA
GATT Actual					NA	0.19	NA	NA
Export Subsidy Expenditure				(Million Local Currency)				
Baseline	NA	77	NA	NA	NA	159	NA	NA
GATT Allowed					NA	49	NA	NA
GATT Actual					NA	49	NA	NA

Table 2. Continued

	Reference Period				1998			
	U.S.	EC	Japan	Canada	U.S.	EC	Japan	Canada
Poultry								
Import Tariff (or Equivalent)				(Local Currency per Metric Ton)				
Baseline	NA	NA	NA	798	NA	NA	NA	1,573
GATT Allowed					NA	NA	NA	679
GATT Actual					NA	NA	NA	679
Subsidized Export Quantity				(Million Metric Tons)				
Baseline	NA	0.41	NA	NA	NA	0.59	NA	NA
GATT Allowed					NA	0.31	NA	NA
GATT Actual					NA	0.25	NA	NA
Export Subsidy Expenditure				(Million Local Currency)				
Baseline	NA	109	NA	NA	NA	257	NA	NA
GATT Allowed					NA	70	NA	NA
GATT Actual					NA	70	NA	NA
Milk								
Internal Support AMS				(Million Local Currency)				
Baseline	8,193	19,074	570,000	2,101	6,714	16,247	608,306	2,965
GATT Allowed					6,555	15,260	456,059	1,681
GATT Actual					6,555	15,260	456,059	1,681
Butter								
Import Tariff (or Equivalent)				(Local Currency per Metric Ton)				
Baseline	1,753	2,581	NA	4,067	58	1,928	NA	4,448
GATT Allowed					1,490	2,194	NA	3,457
GATT Actual					0	1,928	NA	2,934
Subsidized Export Quantity				(Million Metric Tons)				
Baseline	0.037	0.432	NA	0.002	0.066	0.273	NA	0.004
GATT Allowed					0.020	0.329	NA	0.001
GATT Actual					0.020	0.307	NA	0.001
Export Subsidy Expenditure				(Million Local Currency)				
Baseline	60	1,067	NA	7	32	526	NA	18
GATT Allowed					38	683	NA	5
GATT Actual					5	591	NA	4

Table 2. Continued

	Reference Period				1998			
	U.S.	EC	Japan	Canada	U.S.	EC	Japan	Canada
Cheese								
Import Tariff (or Equivalent)				(Local Currency per Metric Ton)				
Baseline	1,267	2,398	NA	4,707	625	1,767	NA	4,812
GATT Allowed					1,077	2,038	NA	4,001
GATT Actual					21	1,294	NA	4,001
Subsidized Export Quantity				(Million Metric Tons)				
Baseline	NA	0.336	NA	NA	NA	0.388	NA	NA
GATT Allowed					NA	0.255	NA	NA
GATT Actual					NA	0.255	NA	NA
Export Subsidy Expenditure				(Million Local Currency)				
Baseline	NA	968	NA	NA	NA	561	NA	NA
GATT Allowed					NA	620	NA	NA
GATT Actual					NA	479	NA	NA
Nonfat Dry Milk								
Import Tariff (or Equivalent)				(Million Local Currency)				
Baseline	505	782	NA	1,687	41	327	NA	1,742
GATT Allowed					413	665	NA	1,434
GATT Actual					0	1	NA	1,434
Subsidized Export Quantity				(Million Metric Tons)				
Baseline	0.229	0.367	NA	0.05	0.023	0.359	NA	0.031
GATT Allowed					0.251	0.279	NA	0.037
GATT Actual					0.023	0.279	NA	0.026
Export Subsidy Expenditure				(Million Local Currency)				
Baseline	225	177	NA	79	11	118	NA	61
GATT Allowed					217	113	NA	51
GATT Actual					6	0	NA	37

- Internal support levels in the European Community are subject to reduction relative to the baseline in 1998 for rice, soybeans, sugar, beef, pork, and milk. Because of reductions in support under the stabilizer programs, wheat and feed grains are projected to more than meet required reduction commitments.

- Significant reductions in EC subsidized exports are projected to be required in 1998 for wheat, barley, sugar, beef, poultry, cheese, and nonfat dry milk. For wheat and barley, export reduction commitments are met by reducing production through a set-aside scheme.

- EC export subsidy expenditure reductions in 1998 relative to the baseline are required for barley, sugar, meat, and nonfat dry milk. Because of the grain stabilizer program, domestic wheat prices are reduced in the baseline by more than enough to meet export expenditure commitments.

- Because of reductions in purchase prices made since 1986, the only internal support reductions required of Japan are for milk and barley in 1998. For rice, the combination of a reduced purchase price and lower production results in adequate reduction of the AMS throughout the period of the Dunkel scenario.

- Japan would be subject to tariff equivalent reductions for wheat, barley, rice, sugar, and pork. Although Japan is required to reduce tariff equivalents for rice relative to the baseline scenario, the required minimum access levels of 5 percent of domestic consumption in 1998 are effective and override the 15 percent minimum reduction in tariff equivalent. As of this writing, Japan has refused to subject rice to tariffication requirements or minimum access.

- Canada is required to reduce the AMS for wheat only in the first few years of the Dunkel scenario. Because returns from the Gross Revenue Insurance Program (GRIP) begin to decline after 1993 for wheat, the AMS decreases quickly. The reference period was a time of high support for Canada, with the Special Canadian Grains Program and Western Grains Stabilization Act payments, so a relatively high AMS is the basis for reduction. AMS reductions are required for other Canadian grains, poultry, and milk.

- Canadian butter, cheese, and nonfat dry milk import barriers must be converted to tariff equivalents and reduced.

- Because internal transportation subsidies, which are equivalent for domestic consumption and exports, are not subject to reduction under export subsidies, no export quantity or expenditure reductions are required for Canadian grains.

Credit toward Meeting Commitments

- Credit toward meeting reduction commitments can be given for reductions made since the reference period. Credit is the result of world price and/or policy changes.

- Changes in policy prices, market prices, and subsidized quantities have occurred since the respective reference periods for each type of commitment. These changes are accounted for in the Dunkel scenario, and credit is given where applicable. Table 3 reports credits for 1993, the first year of implementation under the Dunkel scenario, and for 1998, the sixth year of implementation. Credits are measured as percentages of the respective reference period subsidy, tariff, or AMS.

- Import tariff commitments are met by reducing the difference between world and internal prices from the 1986-88 average difference. The reduction in this price gap can be a result of holding internal prices constant if world prices increase or of decreasing internal prices if world prices are constant or decrease. In reality, several effects combine to produce the desired outcome.

- Minimum access requirements are met by increasing import levels where significant trade barriers exist. Imports must be increased to the 1986-88 average level or 3 percent of domestic consumption in 1993, increasing to 5 percent in 1995, whichever is greater. Credit for minimum access is given for increasing imports in the market, provided that the import level is greater than the 1986-88 average.

Table 3. Credits for policy and world price changes, 1993 and 1998

	1993				1998			
	U.S.	EC	Japan	Canada	U.S.	EC	Japan	Canada
				(Percent)				
Wheat								
Internal Support AMS	42.4	45.1	19.0	-25.0	43.3	84.2	31.0	32.2
Import Tariff (or Equivalent)	NA*	-1.2	9.8	NA	NA	5.7	10.4	NA
Subsidized Export Quantity	4.6	-9.8	NA	NA	-24.5	-13.9	NA	NA
Export Subsidy Expenditure	-12.3	-1.6	NA	NA	-26.7	58.7	NA	NA
Corn								
Internal Support AMS	41.4	27.4	NA	NA	42.0	49.8	NA	NA
Import Tariff (or Equivalent)	NA	10.0	NA	NA	NA	4.6	NA	NA
Barley								
Internal Support AMS	68.8	46.3	10.8	-37.0	66.4	70.8	12.7	13.6
Import Tariff (or Equivalent)	NA	7.2	11.5	NA	NA	0.0	6.4	NA
Subsidized Export Quantity	38.8	1.0	NA	NA	-11.4	-7.0	NA	NA
Export Subsidy Expenditure	40.5	18.8	NA	NA	-7.7	31.0	NA	NA
Rice								
Internal Support AMS	53.4	-24.0	28.0	NA	60.3	-33.2	26.3	NA
Import Tariff (or Equivalent)	NA	5.4	1.9	NA	NA	10.9	2.1	NA
Soybeans								
Internal Support AMS	NA	20.2	NA	NA	NA	14.1	NA	NA
Sugar								
Internal Support AMS	-29.8	0.0	20.4	NA	-36.3	0.0	20.0	NA
Import Tariff (or Equivalent)	9.3	2.3	1.5	NA	9.9	14.9	1.4	NA
Subsidized Export Quantity	NA	0.6	NA	NA	NA	0.6	NA	NA
Export Subsidy Expenditure	NA	28.0	NA	NA	NA	-27.67	NA	NA
Beef								
Internal Support AMS	NA	3.4	NA	NA	NA	4.3	NA	NA
Import Tariff (or Equivalent)	NA	32.0	62.2	NA	NA	31.3	64.3	NA
Subsidized Export Quantity	NA	-4.7	NA	NA	NA	7.7	NA	NA
Export Subsidy Expenditure	NA	17.1	NA	NA	NA	26.5	NA	NA
Pork								
Internal Support AMS	NA	19.3	NA	NA	NA	18.0	NA	NA
Import Tariff (or Equivalent)	NA	NA	-75.6	NA	NA	NA	-88.5	NA
Subsidized Export Quantity	NA	1.0	NA	NA	NA	17.5	NA	NA
Export Subsidy Expenditure	NA	-159.6	NA	NA	NA	-105.6	NA	NA
Poultry								
Import Tariff (or Equivalent)	NA	NA	4.8	-69.5	NA	NA	4.8	-97.0
Subsidized Export Quantity	NA	-38.4	NA	NA	NA	-43.9	NA	NA
Export Subsidy Expenditure	NA	-122.0	NA	NA	NA	-136.0	NA	NA

Table 3. Continued

	1993				1998			
	U.S.	EC	Japan	Canada	U.S.	EC	Japan	Canada
				(Percent)				
Milk								
Internal Support AMS	22.0	14.8	-1.7	-20.3	18.1	14.8	-6.7	-41.1
Butter								
Import Tariff (or Equivalent)	92.6	27.2	NA	1.4	96.7	25.3	NA	-9.4
Subsidized Export Quantity	-147.5	29.5	NA	-122.2	-79.5	36.9	NA	-122.2
Export Subsidy Expenditure	16.7	46.4	NA	-122.3	47.5	50.7	NA	-144.0
Cheese								
Import Tariff (or Equivalent)	43.7	20.7	NA	-0.9	50.7	26.3	NA	-2.2
Subsidized Export Quantity	NA	-12.6	NA	NA	NA	-15.7	NA	NA
Export Subsidy Expenditure	NA	10.4	NA	NA	NA	42.1	NA	NA
Nonfat Dry Milk								
Import Tariff (or Equivalent)	50.8	45.3	NA	4.6	92.0	58.2	NA	-3.3
Subsidized Export Quantity	71.3	-7.7	NA	20.6	90.1	1.9	NA	37.7
Export Subsidy Expenditure	80.5	4.4	NA	10.0	95.4	33.4	NA	23.4

*NA indicates that the requirement does not apply.

Note: Credits are measured as percentages of the reference period subsidy, tariff, or quantity. A positive credit indicates that the measured subsidy or tariff has been reduced from the reference period value. A negative credit indicates an increase in the measured subsidy, tariff, or quantity. Factors affecting credits include changes in policies, changes in quantities subsidized, and changes in world prices and exchange rates.

- Credit toward export quantity commitments under the export competition requirement can only be obtained by reducing the quantity exported under subsidy from the 1986-90 average level.

- Credit toward export expenditure commitments can be obtained by reducing the quantity exported under subsidy or by reducing the per-unit subsidy so that total expenditures on export subsidies are less than the 1986-90 average level.

- Internal support (AMS) credit can be obtained only by reducing the quantity eligible for support or the support price from the 1986 level. Because the AMS is based on a fixed reference price, changes in world price levels in any currency do not affect internal support obligations.

- Because of increases in world prices of some commodities and reduced import barriers in many countries since 1986-88, tariff equivalents have generally been reduced and significant credits toward meeting tariff equivalent commitments have been earned. Notable exceptions are pork in Japan and poultry in Canada.

- Exports of many commodities are projected to increase above 1986-90 average levels in the baseline scenario, resulting in negative credit in some cases (e.g., EC wheat) in 1993. The percentage increase from the reference period must be reduced in 1993, in addition to the required 4 percent export quantity reduction. Because of negative credits, reductions for some commodities for some countries in the first year of implementation will be drastic.

- Even with increased world commodity prices and reductions in domestic market prices, export expenditures in some countries for some commodities are greater now than during the reference period because of increased export levels. This translates into negative credits or a requirement in some countries for some commodities that reductions will be needed just to return to reference levels. In addition to these reductions, the countries will be required to reduce budgetary outlays even further to meet the first-year 6 percent expenditure reduction requirements. In other cases, prior reductions in domestic market price levels are more than adequate to meet export expenditure commitments, as in the case of EC wheat in 1998.

- Because of reductions in support levels since 1986 in the United States, the European Community, and Japan, substantial credit is given for AMS reductions in these countries for 1993. Because of these support reductions and the relatively small reductions (20 percent) required in the Dunkel text, very little additional reduction is required to meet AMS commitments. With relatively high support levels from the GRIP, Canada will need to make substantial reductions to meet AMS reductions for grains and oilseeds in 1993.

- The reported credits are dependent on baseline assumptions and projections. For the United States, sufficient reductions for most commodities were already incorporated into the baseline scenario, requiring little or no additional reduction in target prices and other subsidies. Likewise, the EC grain stabilizer program was sufficient to meet the GATT requirements in the baseline scenario. However, if the 1991 level of policy prices was held constant in the European Community, substantial reductions would have been necessary.

- The increase in world prices for most livestock and dairy products in 1993 compared with those for the 1986-90 reference period average implies that most countries have earned some credits toward meeting their commitments to reduce import tariffs and export subsidy expenditures.

- Projected strengthening of the ECU and production increases result in negative credits under the export subsidy expenditure commitment for EC pork and poultry.

- Negative credits also accrue for EC cheese under the subsidized export quantity commitment as a result of the projected increase in cheese production and exports in response to the higher 1993 world price.

- Positive credits are given to Japan under the beef import access commitment for eliminating the beef import quota and for the agreed-upon reduction in the beef import tariff in 1992 and 1993. Note that these policy features are already incorporated into the baseline projections. The strengthening yen and prevailing protective levies for pork result in negative credit for pork.

- Substantial increases in the projected Canadian wholesale broiler price, coupled with a relatively stable world price, imply significant negative credits with regard to Canadian import access (tariff equivalent) commitments.

- Although the European Community has made some progress toward reducing internal support for milk, Japan and Canada have increased internal supports compared to the reference level through increased milk production and increased domestic milk price, respectively. These increases result in negative credits for Japan and Canada with respect to milk, which implies that significant internal dairy support policy changes will be required relative to current policy paths.

Dunkel Scenario Effects on World Commodity Trade and Prices

Wheat, Feed Grains, and Rice

- Baseline estimates of net exports for wheat, feed grains, and rice are presented in Table 4 for 1991, 1993, and 1998. Changes for the Dunkel scenario are reported for 1993 and 1998. Figures 1 through 9 illustrate price levels and net exports in the two scenarios.

- Subsidized export quantity reduction commitments require the European Community to reduce wheat and barley exports by substantial amounts. This is one of the most significant results of the Dunkel analysis. Because baseline export levels are greater than those in the 1986-90 reference period, export reductions are greater than the required reductions from the reference period. Tariffication results in little change in corn and rice import levels, but minimum access requirements cause imports of both grains to increase.

- AMS reductions are binding only for barley in 1998 in Japan. Thus, grain production is not significantly changed. Given baseline levels of substantial wheat, corn, and barley imports, minimum access does not lead to increased imports. Higher world wheat prices and increased rice imports result in decreased wheat imports. Higher feed-grain prices and lower meat and milk production result in lower feed-grain imports.

- Minimum access requirements override the minimum 15 percent tariff equivalent reductions, and Japanese rice imports increase according to the 3 percent to 5 percent commitments from 1993 through 1998. Increases in Japanese and EC rice imports result in a 3 percent increase in the world rice price.

- The decrease in EC wheat and feed-grain exports more than offsets decreases in imports by other regions, and world grain prices rise by approximately 6 percent for wheat, 7 percent for corn, and 7 percent for barley by the end of the implementation period compared with baseline levels.

- World prices could increase more, but the United States reduces set-aside rates, resulting in increased grain production. Other exporting countries such as Canada, Australia, Argentina, and Thailand increase production in response to the higher prices, thereby increasing exportable supplies. The United States is able to capture much of the trade demand given up by the European Community as the European Community reduces subsidized export quantities. Both absolute quantities and market shares improve for the United States.

- Although the increase in the Gulf port price of wheat is less than the FOB prices of feed grains, Canadian wheat production increases by more than does feed-grain production by 1998 because of the effects of reducing EEP expenditures. Even though GRIP support is reduced by the late 1990s in the baseline scenario, these AMS reductions do not offset the price increase attributable to the EEP reductions and decreases in EC exports.

Table 4. World wheat, feed-grain, and rice trade under the baseline and Dunkel scenarios

	1991	1993		1998	
	Baseline Level	Baseline Level	Dunkel (Change)	Baseline Level	Dunkel (Change)
Net Wheat Exports			(1,000 Metric Tons)		
United States	32,824	28,837	2,262	35,623	1,929
European Community	21,170	18,782	-3,275	19,357	-7,282
Japan	-5,751	-5,657	17	-5,961	147
Canada	24,558	21,456	30	22,322	566
Australia	6,811	11,995	-6	14,148	399
Developing	-64,246	-67,817	575	-78,539	2,951
Former USSR	-22,444	-13,817	497	-14,808	1,252
Rest of World	7,077	6,220	-100	7,857	38
Net Feed-Grain Exports			(1,000 Metric Tons)		
United States	46,028	47,810	2,520	55,269	4,794
European Community	5,549	5,248	-2,825	6,076	-5,960
Japan	-21,157	-21,376	30	-21,935	941
Canada	5,022	4,763	-26	6,333	-115
Australia	2,257	2,758	48	2,966	55
Thailand	1,191	1,352	9	1,419	12
Developing	-31,801	-37,311	93	-44,315	276
Former USSR	-14,624	-12,796	82	-13,796	128
Rest of World	7,534	9,553	68	7,983	-130
Net Rice Exports			(1,000 Metric Tons)		
United States	1,907	1,910	76	2,081	218
European Community	120	-58	-119	-76	-394
Japan	0	0	-282	0	-470
Thailand	4,507	5,322	125	6,054	102
Pakistan	1,169	1,213	-7	1,432	-17
India	499	383	6	535	46
Indonesia	-648	-217	15	-292	17
Rest of World	-7,554	-8,553	186	-9,734	498
World Prices			(U.S. Dollars per Metric Ton)		
Wheat (FOB Gulf)	138.36	126.02	7.49	141.69	7.95
Corn (FOB Gulf)	110.68	102.65	3.55	100.03	6.57
Barley (FOB Pacific Northwest)	105.24	107.60	6.03	100.90	7.20
Sorghum (FOB Gulf)	112.01	101.48	1.90	96.28	2.06
Rice (FOB Bangkok)	329.41	327.12	13.85	366.61	10.17

Note: For the baseline columns, positive numbers indicate that the country or group of countries is a net exporter and negative numbers indicate a net importer. For the Dunkel scenario columns, a positive number indicates an increase in exports and/or a reduction in imports, and a negative number indicates a reduction in exports and/or an increase in imports.

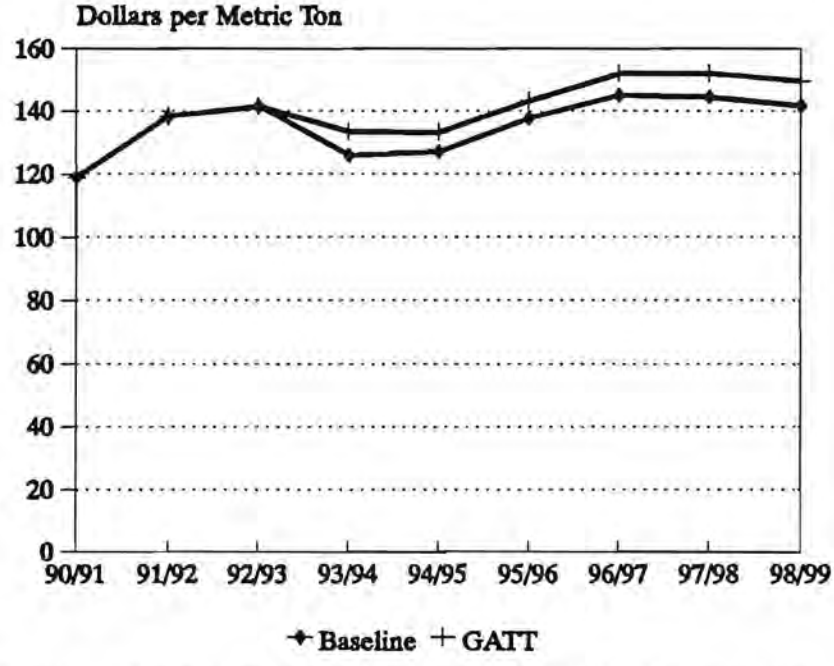

Figure 1. Wheat price under the baseline and GATT (Dunkel) scenarios (FOB U.S. Gulf)

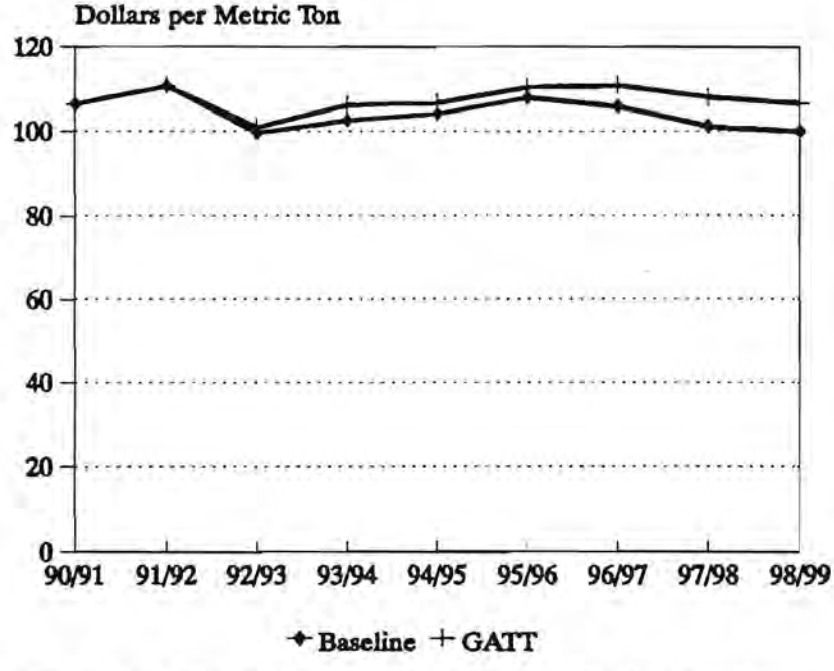

Figure 2. Corn price under the baseline and GATT (Dunkel) scenarios (FOB U.S. Gulf)

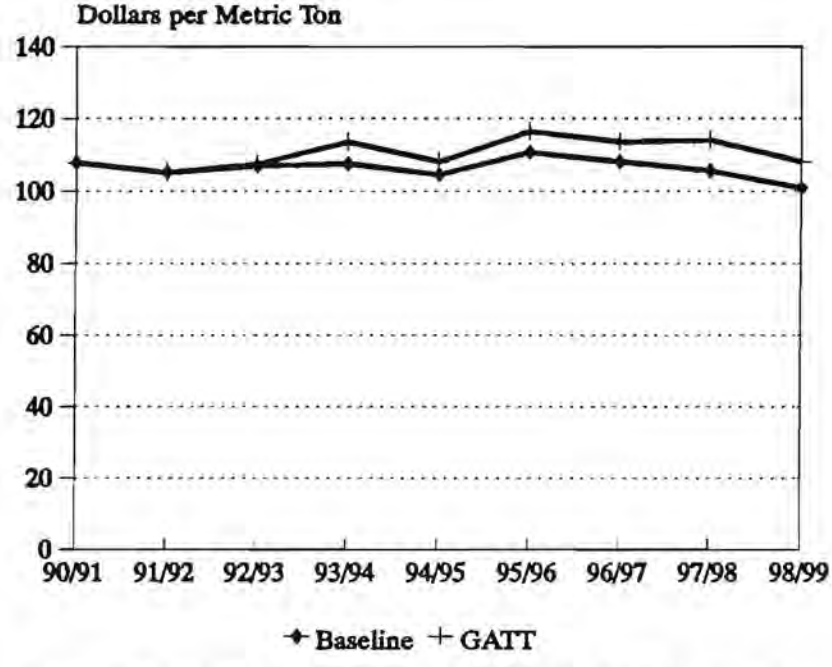

Figure 3. Barley price under the baseline and GATT (Dunkel) scenarios (FOB Pacific Northwest)

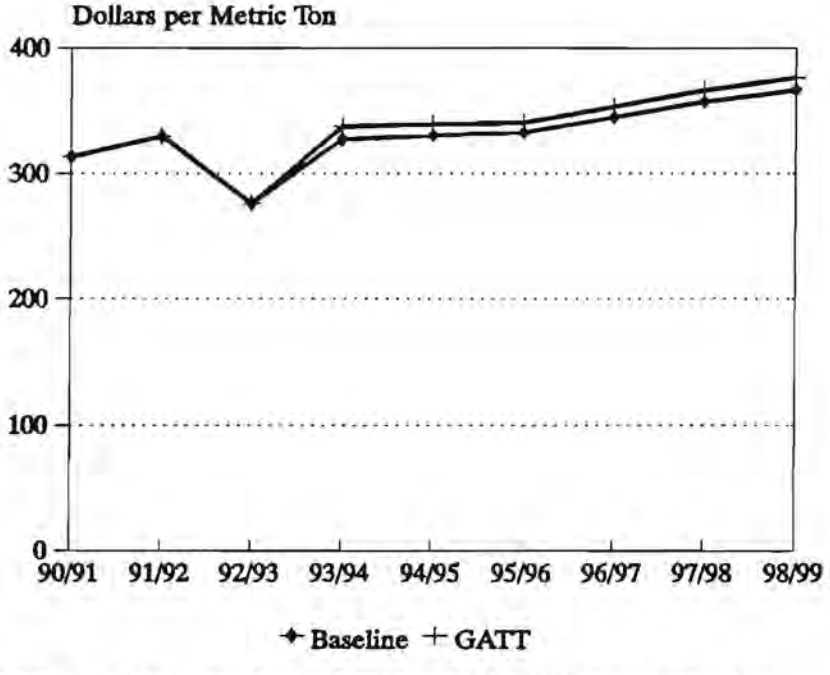

Figure 4. Rice price under the baseline and GATT (Dunkel) scenarios (FOB Bangkok)

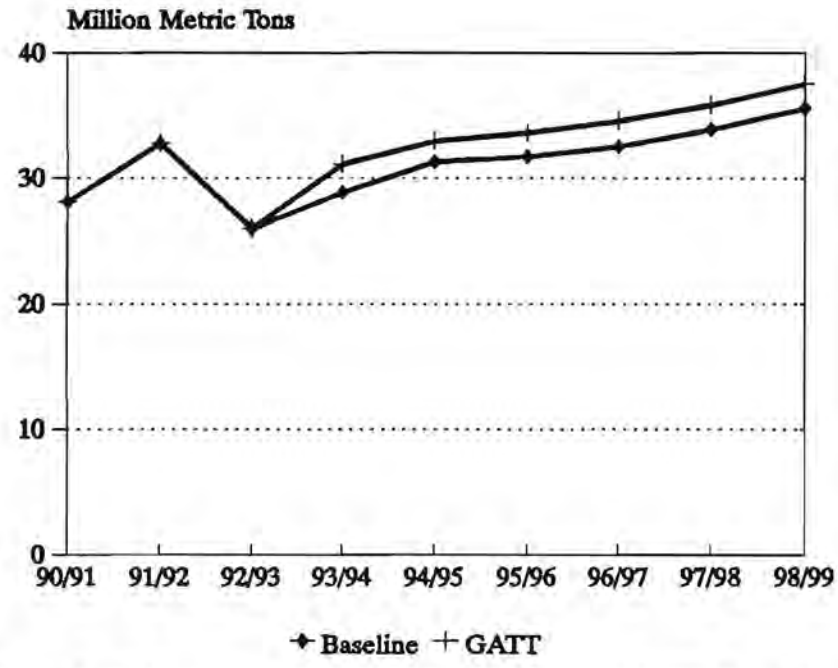

Figure 5. U.S. net wheat exports under the baseline and GATT (Dunkel) scenarios

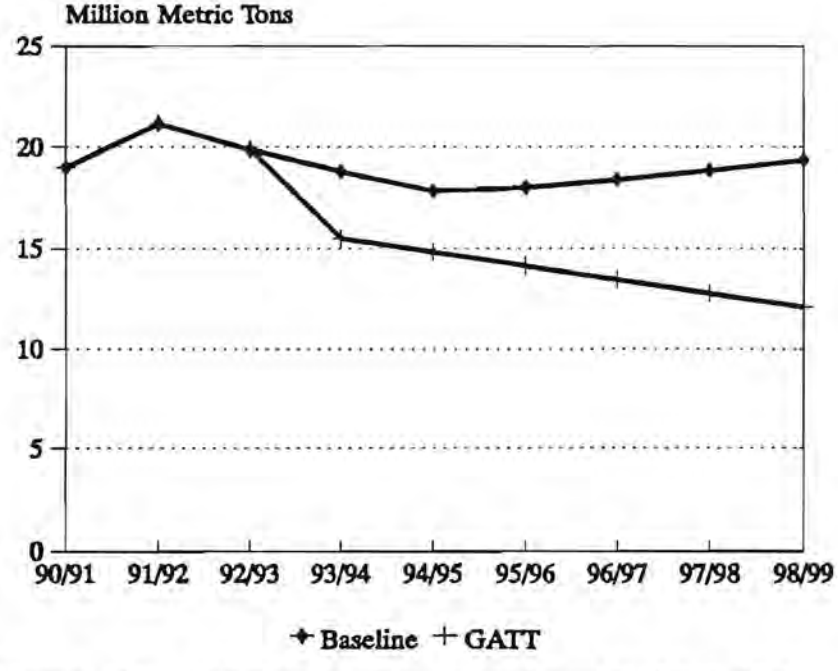

Figure 6. EC net wheat exports under the baseline and GATT (Dunkel) scenarios

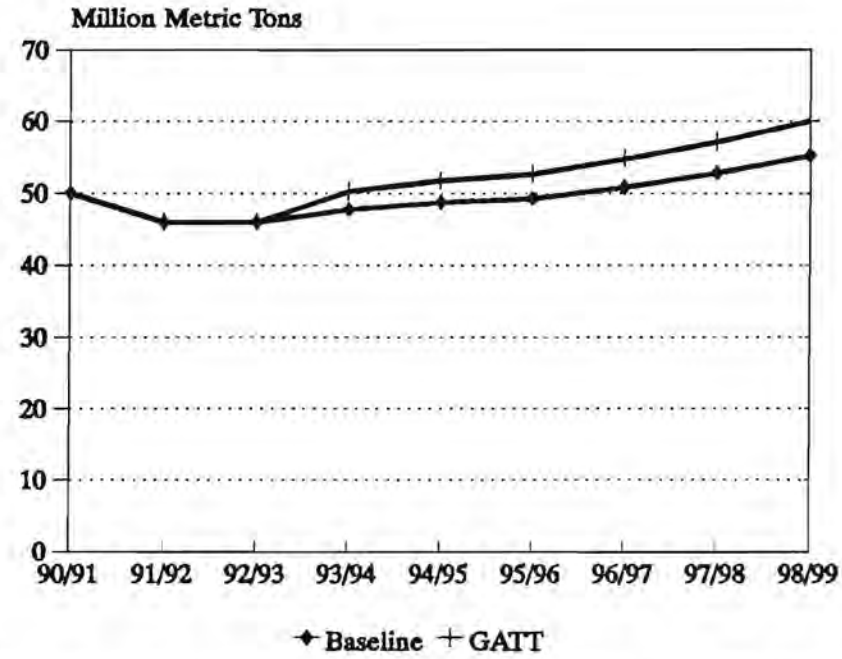

Figure 7. U.S. net feed-grain exports under the baseline and GATT (Dunkel) scenarios

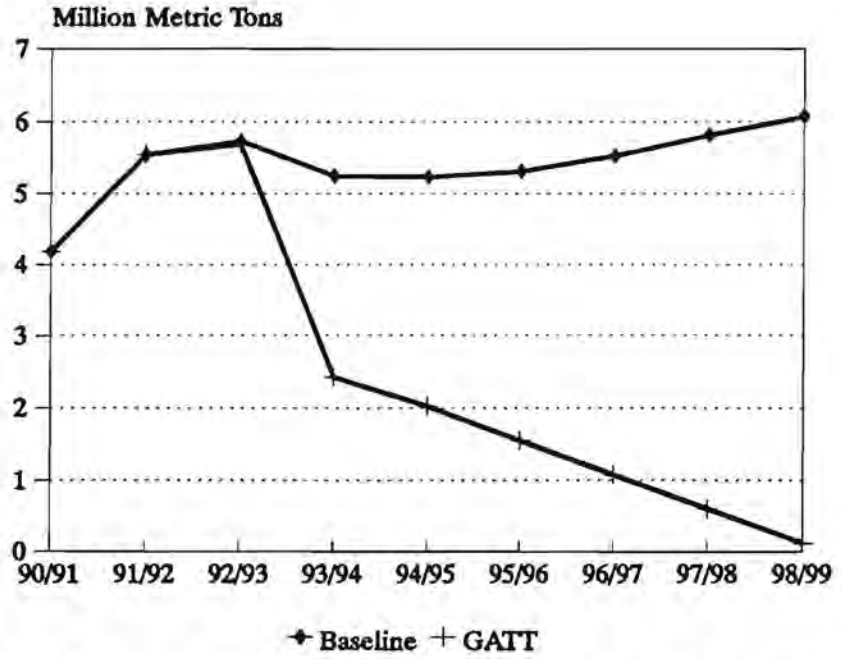

Figure 8. EC net feed-grain exports under the baseline and GATT (Dunkel) scenarios

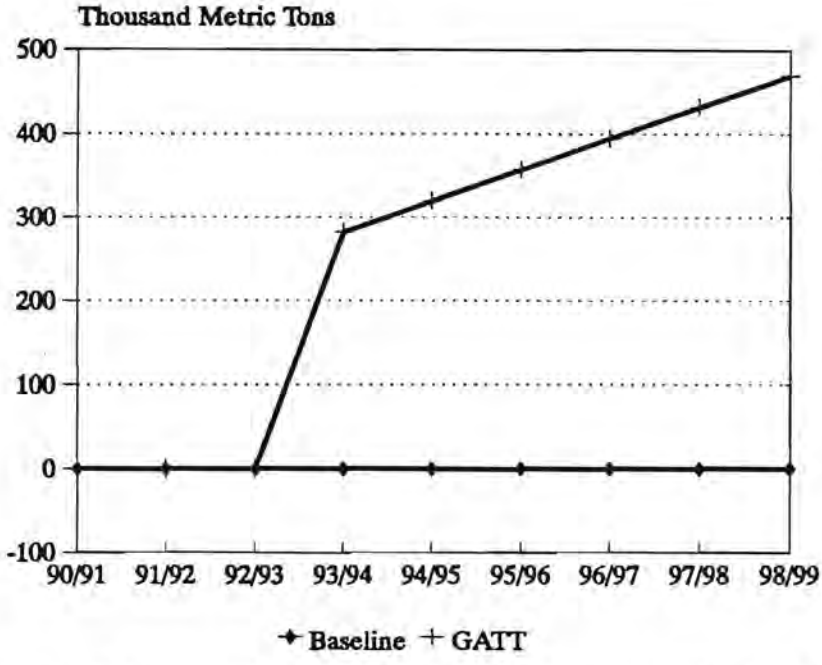

Figure 9. Japanese net rice imports under the baseline and GATT (Dunkel) scenarios

- Higher world prices result in less imports by importing countries. The price increase is exacerbated for wheat as larger increases in import prices occur in many regions because of the reduction in EEP exports and subsidized EC exports.

- World rice trade is not of the same volume as world wheat or feed-grain trade, but increased EC and Japanese rice imports allow for increased exports by several countries. The United States and Thailand capture the majority of these increased exports.

Soybeans and Soybean Products

- Baseline and Dunkel scenario results for the soybean complex are reported in Table 5 and illustrated in Figure 10.

- Several factors contribute to increased soybean complex prices in the Dunkel scenario. Increased pork and poultry production in the United States requires increased meal use. Increased crush in the European Community expands soybean exports, and reduced EC soybean oil exports strengthen the oil price on the world market.

Table 5. World soybean and soybean product trade under the baseline and Dunkel scenarios

	1991	1993		1998	
	Baseline Level	Baseline Level	Dunkel (Change)	Baseline Level	Dunkel (Change)
Net Soybean Exports			(1,000 Metric Tons)		
United States	17,880	18,868	143	20,598	480
European Community	-12,754	-12,666	-102	-12,748	-533
Japan	-4,407	-4,758	0	-5,074	2
Argentina	3,252	3,025	-3	3,422	8
Brazil	2,931	2,845	-19	2,760	51
Developing	-6,909	-7,737	-7	-9,186	-23
Former USSR	-800	-941	0	-933	0
Rest of World	808	1,365	-13	1,161	15
Net Soybean Meal Exports			(1,000 Metric Tons)		
United States	5,511	5,597	-108	5,889	-464
European Community	-10,086	-10,272	51	-10,286	304
Japan	-640	-559	5	-740	7
Argentina	5,449	5,881	4	6,520	24
Brazil	7,475	7,695	16	8,883	92
Developing	-4,602	-5,431	34	-7,001	48
Former USSR	-3,005	-2,778	0	-2,888	0
Rest of World	-104	-134	-1	-377	-12
Net Soybean Oil Exports			(1,000 Metric Tons)		
United States	539	430	86	501	37
European Community	739	688	-119	664	-92
Japan	-3	11	0	5	0
Argentina	1,075	1,154	1	1,285	5
Brazil	454	488	9	642	26
Developing	-2,465	-2,558	13	-2,845	17
Former USSR	-201	-209	8	-253	7
Rest of World	-136	-3	-3	1	0
World Prices			(U.S. Dollars per Metric Ton)		
Soybeans (FOB Gulf)	216.78	225.79	11.77	211.45	14.16
Meal (FOB Decatur)	192.61	208.62	6.69	180.65	8.06
Oil (FOB Decatur)	411.30	362.48	38.55	451.85	34.81

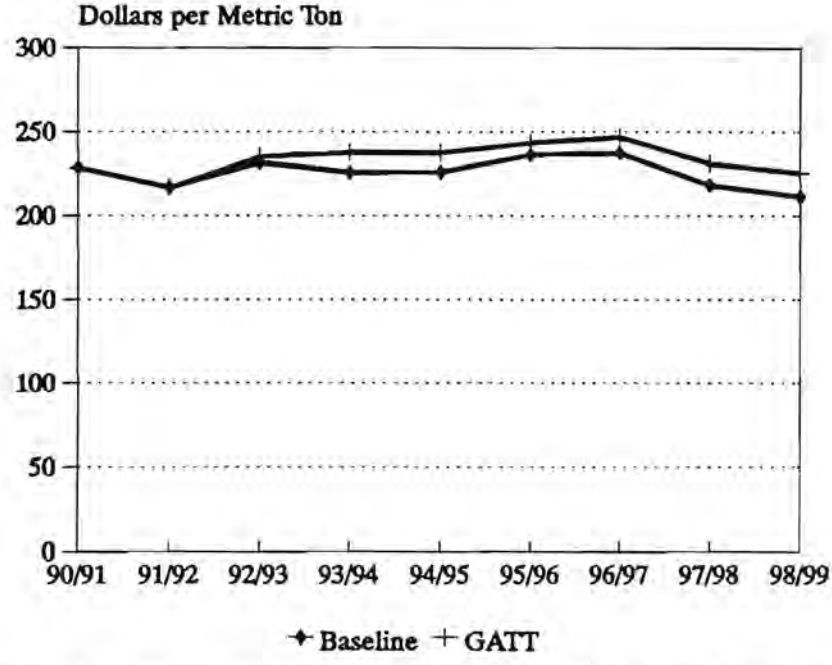

Figure 10. Soybean price under the baseline and GATT (Dunkel) scenarios (FOB U.S. Gulf)

- Despite reduced livestock, poultry, and dairy production and higher world prices of soybeans and products, the European Community is expected to import more soybeans under the Dunkel scenario than are projected under the baseline scenario as lower rapeseed production decreases the quantity of domestic rapeseed available to crushers. The increase in soybean imports more than offsets the decrease in soybean meal imports.

- Argentina and Brazil increase soybean production and processing in response to higher world prices. Exports of soybeans and soybean products increase from these two countries.

- U.S. soybean exports increase in response to increased EC soybean demand. Soybean meal exports decrease as EC imports fall and increased competition from South America replaces U.S. meal exports. Soybean oil exports increase because South American export increases are not sufficiently large to offset the decrease in exports from the European Community. The United States receives incremental increases in market share for soybeans and oil but loses share in meal markets.

- World soybean prices are nearly 7 percent greater under the Dunkel scenario than under the baseline scenario in 1998, whereas meal prices are less than 5 percent higher as meal prices weaken relative to oil prices on the world market. Oil prices are projected to increase by approximately 8 percent in 1998 because demand for oil does not weaken, despite reduced EEP expenditures.

Sugar

- Baseline and Dunkel scenario results for the sugar sector are reported in Table 6 and illustrated in Figure 11.

- In the European Community, the reduction in sugar production is caused by the lower B sugar quota necessary to comply with the subsidized export reduction requirement. Partly offsetting this effect is the increase in C sugar production, which responds to higher world prices. With the higher world sugar price in the Dunkel scenario, the tariffication and reduction of EC consumption prices are not sufficient to significantly affect sugar consumption. EC net exports of sugar are lower in the Dunkel scenario relative to the baseline because increases in C sugar exports are not sufficient to offset reductions in B quota sugar exports.

- Recent declines in support price levels to Japanese sugar producers limit the need for further reductions in the support price needed to comply with the AMS reduction requirement after 1996/97. The marginal decrease in production subsequent to the 1996/97 AMS reductions are offset by increased imports.

- Declining wholesale sugar prices in Japan since 1986 combined with an increasing world sugar price in the Dunkel scenario result in no required change in consumer prices from tariffication reduction requirements, and sugar consumption is unchanged relative to the baseline level.

- In the Dunkel scenario, U.S. internal sugar prices are reduced by as much as 20 percent to meet the maximum AMS requirement. Production decreases and consumption increases because lower sugar prices and higher corn prices reduce the competitiveness of high-fructose corn syrup, causing imports to expand by nearly 600 thousand metric tons by 1998/99.

- With increased U.S. import demand and reduced EC exports, the world price of sugar increases by more than 2.6 cents per pound over the baseline level by 1998/99.

Table 6. World sugar trade under the baseline and Dunkel scenarios

	1991	1993		1998	
	Baseline Level	Baseline Level	Dunkel (Change)	Baseline Level	Dunkel (Change)
			(1,000 Metric Tons)		
Net Raw Sugar Exports					
United States	-1,511	-1,345	-299	-1,178	-572
European Community	2,827	3,219	-87	3,571	-700
Japan	-1,874	-1,939	0	-1,985	-5
Australia	2,225	2,683	31	2,732	103
Brazil	1,300	1,649	111	1,701	591
Thailand	3,000	3,181	36	3,628	143
Rest of World	-5,967	-7,448	209	-8,469	440
			(U.S. Cents per Pound)		
FOB Caribbean Price	9.05	9.52	1.03	10.12	2.64

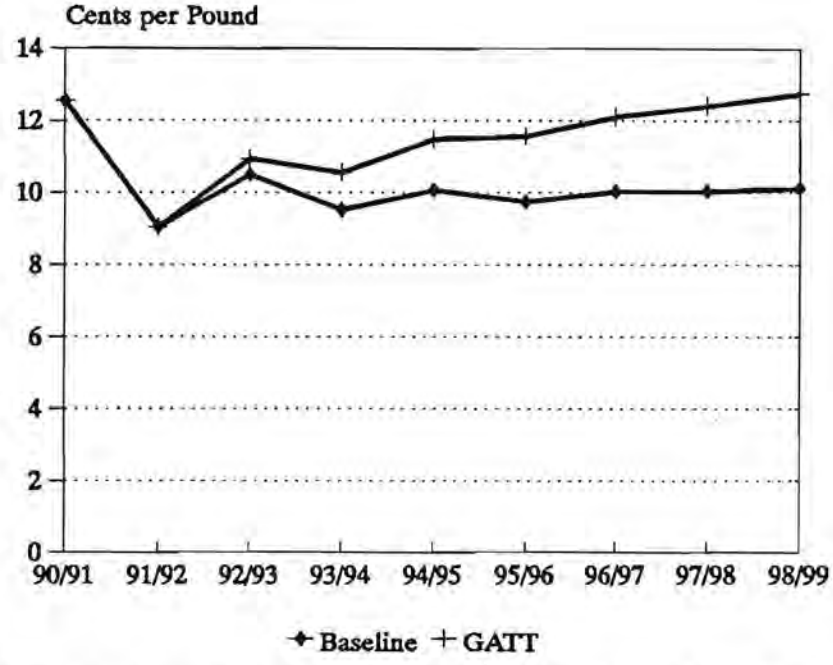

Figure 11. Sugar price under the baseline and GATT (Dunkel) scenarios (FOB Caribbean)

- Increased world prices result in increased production and exports in Australia, Brazil, and Thailand and reduced imports by the rest of the world.

Meat

- Baseline and Dunkel scenario results for world meat trade are reported in Table 7 and illustrated in Figures 12 through 18.

- In the Dunkel scenario, world net beef and pork exports decline and net broiler exports increase by 1 percent in 1998 compared with the baseline level. U.S. market prices for beef, pork, and poultry rise, with pork showing the greatest increase. The major factors contributing to these impacts follow.
  - Required reductions in the export subsidy/tariff in the EC meat sector result in lower domestic producer prices, resulting in lower production and exports. In addition, the European Community is required to import more broilers (e.g., 42 percent more in 1998) to satisfy the market access (volume) commitment. Opening the market under minimum access commitments causes increased imports of broilers from other sources, primarily the United States.

Table 7. World meat trade under the baseline and Dunkel scenarios

	1991	1993		1998	
	Baseline Level	Baseline Level	Dunkel (Change)	Baseline Level	Dunkel (Change)
Net Beef Exports			(1,000 Metric Tons)		
United States	-522	-431	7	28	-10
European Community	618	653	-92	522	-172
Japan	-510	-658	26	-887	28
Canada	-85	-86	3	-107	9
Australia	981	1,083	-2	1,050	24
New Zealand	410	409	-5	426	18
Argentina	360	371	1	308	11
Brazil	100	212	7	124	9
Eastern Europe	-6	23	8	59	4
Rest of World	-1,346	-1,576	48	-1,524	80
Net Pork Exports			(1,000 Metric Tons)		
United States	-246	-179	261	9	510
European Community	623	565	-195	457	-247
Japan	-550	-615	-185	-775	-416
Canada	287	296	11	309	35
Eastern Europe	315	351	41	320	38
Taiwan	240	216	4	228	7
Mexico	-29	-47	13	-70	7
Rest of World	-640	-588	50	-478	65
Net Broiler Exports			(1,000 Metric Tons)		
United States	535	505	122	651	340
European Community	281	330	-167	346	-362
Japan	-320	-351	31	-567	43
Canada	-42	-50	-62	-60	-157
Brazil	330	380	15	458	21
Thailand	150	173	3	225	4
Eastern Europe	58	59	8	63	9
Saudi Arabia	-211	-222	3	-245	4
Rest of World	-781	-822	48	-872	99
U.S. Market Prices			(Dollars per Hundredweight)		
Omaha Steers	74.35	72.22	1.73	77.51	0.73
Barrows and Gilts	49.03	44.98	3.57	50.35	2.95
12-City Broilers	52.15	52.60	2.64	54.90	3.57

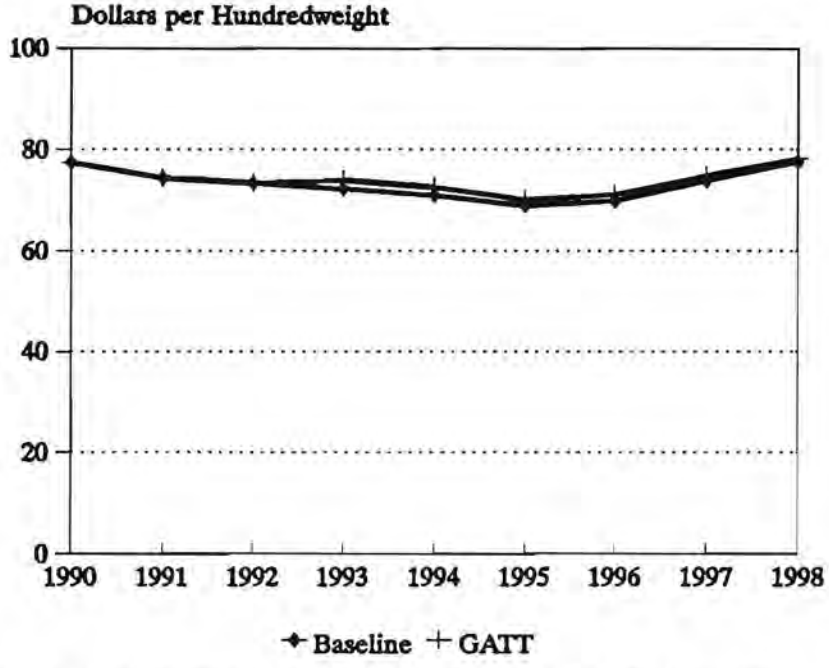

Figure 12. Beef price under the baseline and GATT (Dunkel) scenarios (Omaha steers)

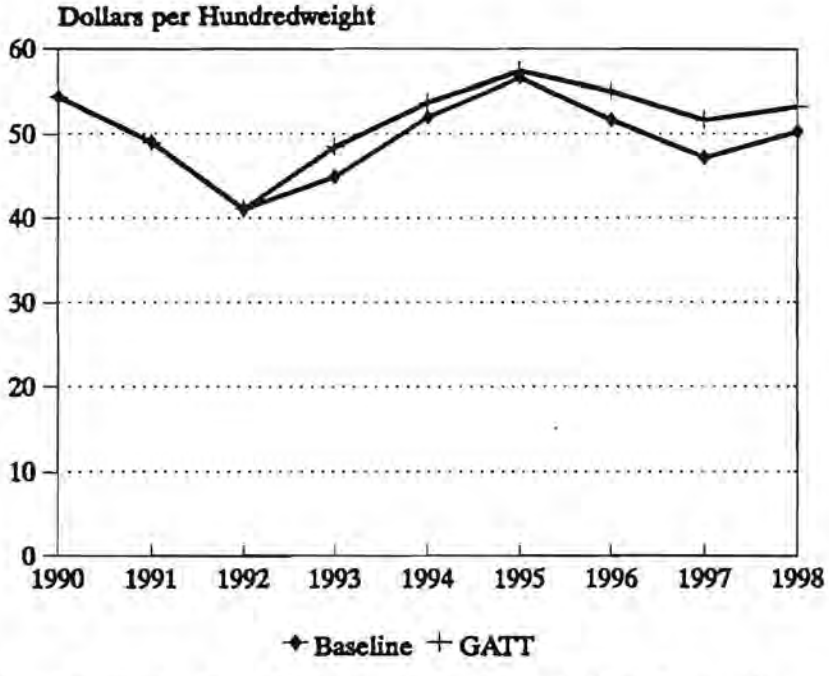

Figure 13. Pork price under the baseline and GATT (Dunkel) scenarios (U.S. 7-market barrows and gilts)

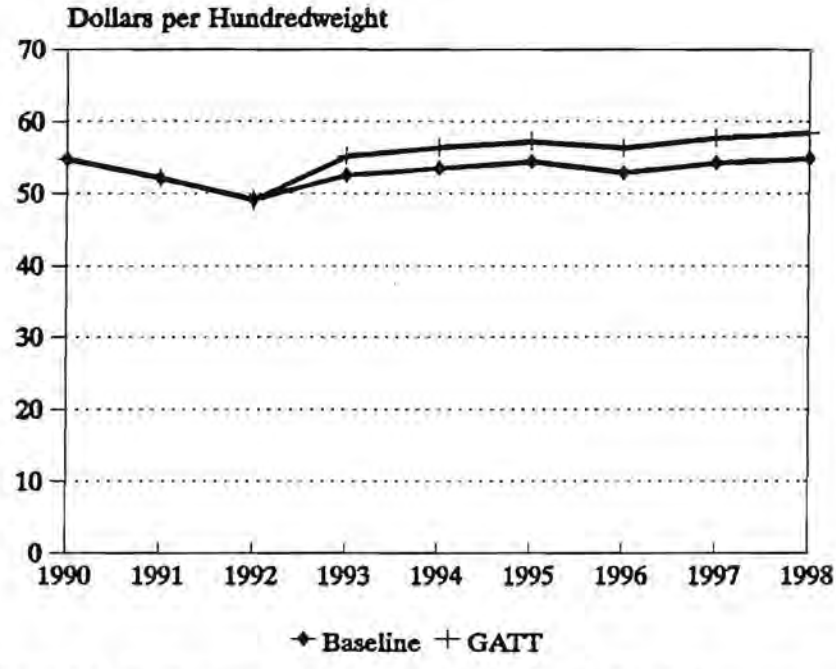

Figure 14. Broiler price under the baseline and GATT (Dunkel) scenarios (U.S. 12-city wholesale)

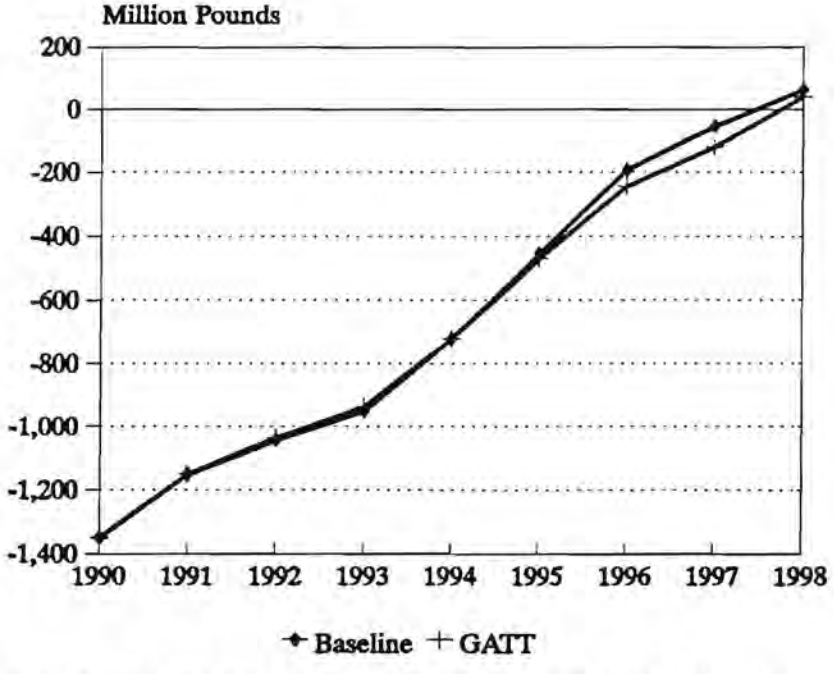

Figure 15. U.S. net beef exports under the baseline and GATT (Dunkel) scenarios

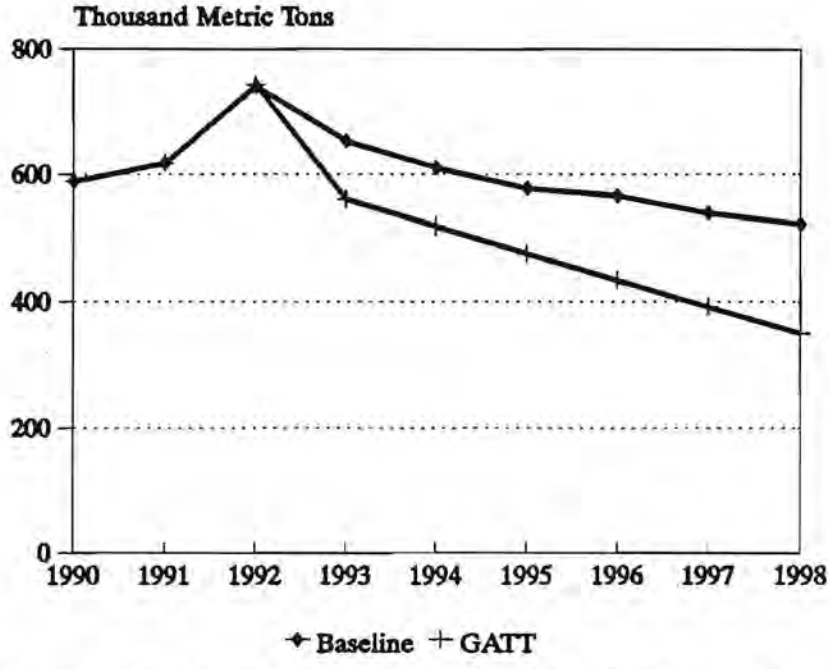

Figure 16. EC net beef exports under the baseline and GATT (Dunkel) scenarios

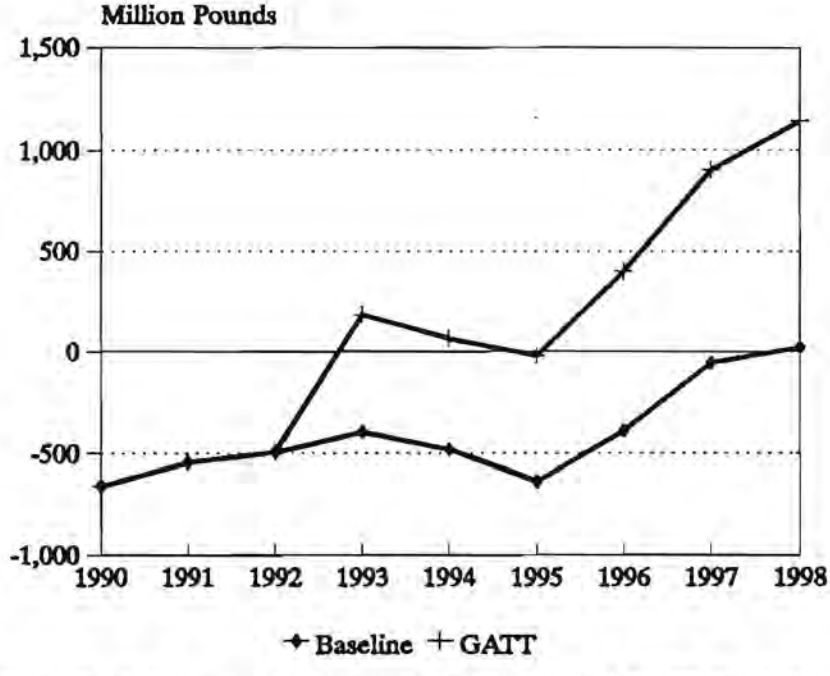

Figure 17. U.S. net pork exports under the baseline and GATT (Dunkel) scenarios

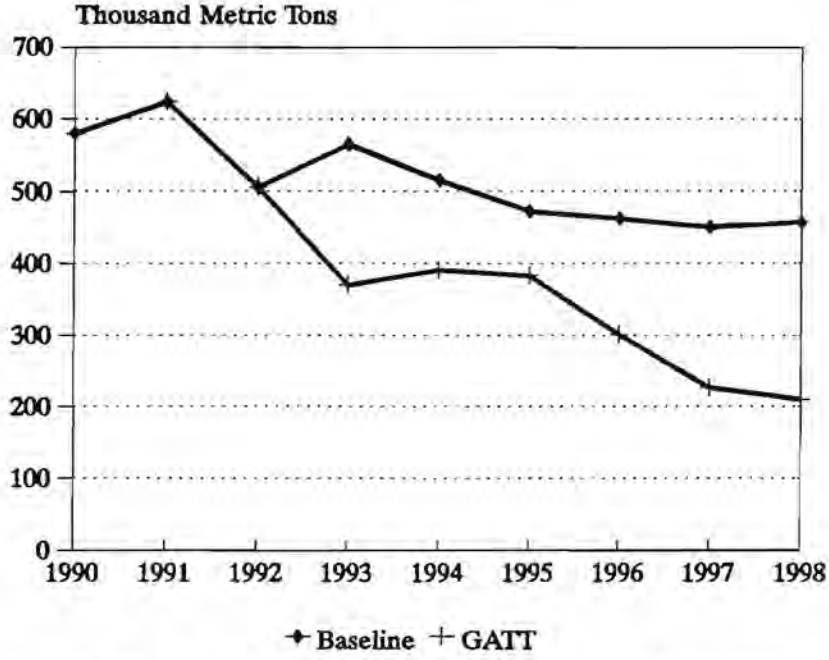

Figure 18. EC net pork exports under the baseline and GATT (Dunkel) scenarios

- Required reductions in Japanese pork import tariffs lower domestic wholesale prices and increase consumption and imports significantly.
- Significant reductions are required in Canadian support levels for broilers to comply with AMS commitments. This reduction should lead to increased consumption and increased import demand as domestic production decreases in response to reduced prices.

- EC net exports of beef, pork, and poultry decline significantly under the Dunkel scenario. The reduction in world exportable supplies strengthens world prices for meats. By the end of the analysis period, the European Community shifts from a net exporter to a net importer of poultry products.

- As net beef imports decline in response to higher domestic prices, the United States moves toward a net exporter status by 1998. The short-run impact of higher beef prices on beef production (hence exports) in Australia and New Zealand is negative as more heifers are moved into beef cow herds. In the long run, however, beef export market shares held by Australia and New Zealand increase considerably.

- The world pork price increases as EC pork exports are reduced to meet the export subsidy expenditure commitment. In addition, a 30 percent increase in Japanese imports in 1993 compared with the baseline level, in response to required import tariff reductions, also contributes to the stronger world price. The United States and Eastern Europe are the main beneficiaries of this expanded export market. Canada and China also boost their respective export market shares modestly. Because of the higher world price, Mexico increases domestic production and reduces imports.

- The Canadian broiler wholesale price must be significantly reduced to comply with import access commitments. This price reduction lowers domestic production and boosts consumption. Hence, Canadian broiler imports increase significantly. EC broiler exports decline to meet export subsidy expenditure requirements. The net effect is modest growth in world net exports, the United States is the main beneficiary from this growth. Eastern Europe, Brazil, and Thailand also capture some of this increased market. Traditional importers such as Saudi Arabia reduce imports as world prices increase.

Dairy

- Baseline and Dunkel scenario results for world dairy trade are reported in Table 8 and illustrated in Figures 19 through 24.

- When the heavily subsidized dairy sectors of the European Community, Japan, and Canada are subjected to internal support reductions, their respective internal milk farm prices decline. Consequently, production of milk and dairy products in these countries declines. However, the impact of lower milk prices on milk production in the European Community and Canada is rather limited because of the restrictive milk marketing quotas currently in place.

- Lower farm prices for milk in the European Community, Japan, and Canada cause most domestic dairy product prices to decline. As a result, domestic consumption increases, prompting lower net exports by the European Community, higher net imports by Japan, and higher cheese net imports by Canada. The European Community must reduce subsidized cheese exports by approximately 15 percent in 1993 to satisfy the commitments of the Dunkel text.

- These developments contribute to rising world dairy product prices. In 1998, for example, the world butter price increases by 10 percent, the world cheese price increases by 28 percent, and the world nonfat dry milk price increases by 12 percent.

- Increased world prices and past reductions in U.S. milk support prices lead to minimal changes in the U.S. dairy program. As a result, U.S. dairy prices are more comparable to world market prices under the Dunkel scenario than under the baseline scenario. The United States remains a net exporter of butter and nonfat dry milk and a net importer of cheese under the Dunkel scenario.

- Major dairy exporters such as Australia and New Zealand benefit the most from higher world prices. These countries boost domestic production and exports of all three dairy products. However, rest-of-world importers reduce imports as they face more expensive dairy products in the world market.

Table 8. World dairy trade under the baseline and Dunkel scenarios

	1991 Baseline Level	1993 Baseline Level	1993 Dunkel (Change)	1998 Baseline Level	1998 Dunkel (Change)
Net Butter Exports			(1,000 Metric Tons)		
United States	18	88	-65	64	-45
European Community	319	266	-1	234	2
Japan	-15	-17	-3	-22	-21
Canada	3	3	-4	3	-7
Australia	56	59	5	55	6
New Zealand	182	218	12	244	21
Rest of World	-563	-618	57	-578	44
Net Cheese Exports			(1,000 Metric Tons)		
United States	-124	-126	0	-140	5
European Community	325	345	-51	357	-187
Japan	-116	-122	-0	-143	-6
Canada	-12	-16	-2	-20	-17
Australia	36	32	10	27	38
New Zealand	90	104	7	134	43
Rest of World	-199	-217	36	-215	124
Net Nonfat Dry Milk Exports			(1,000 Metric Tons)		
United States	29	65	-7	22	0
European Community	365	453	-42	418	-19
Japan	-118	-107	-8	-111	-50
Canada	44	39	-3	31	-8
Australia	126	109	5	104	6
New Zealand	172	163	8	180	14
Rest of World	-618	-722	47	-644	56
FOB Prices, N. Europe			(U.S. Dollars per Metric Ton)		
Butter	1,429	1,663	161	1,728	169
Cheese	1,726	1,924	207	2,205	624
Nonfat Dry Milk	1,389	1,621	187	1,841	215

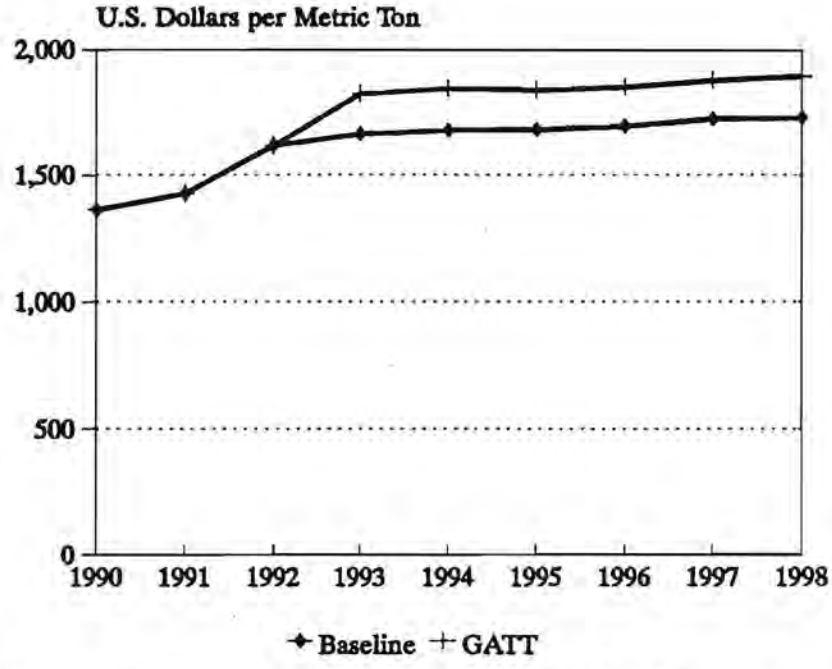

Figure 19. Butter price under the baseline and GATT (Dunkel) scenarios (FOB Northern Europe)

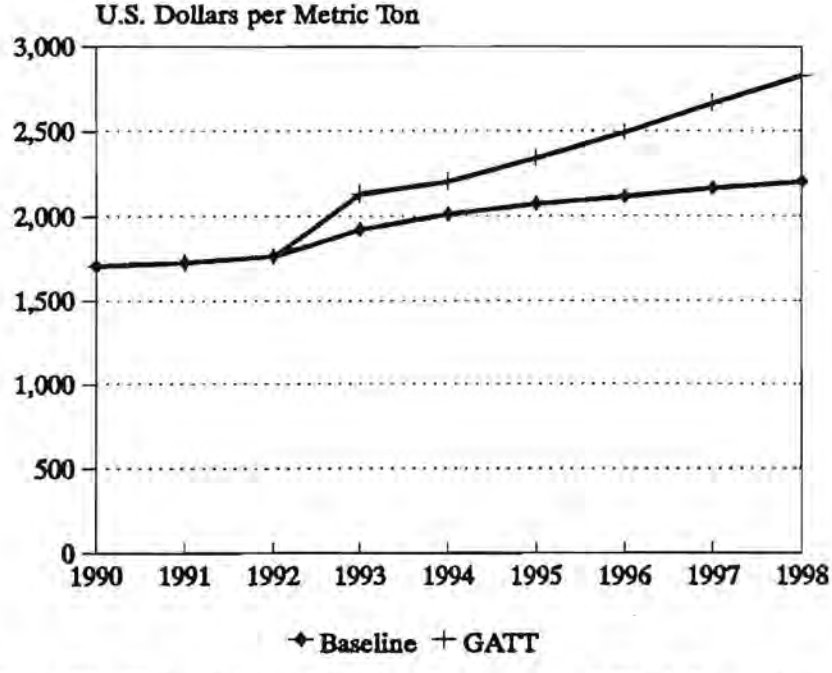

Figure 20. Cheese price under the baseline and GATT (Dunkel) scenarios (FOB Northern Europe)

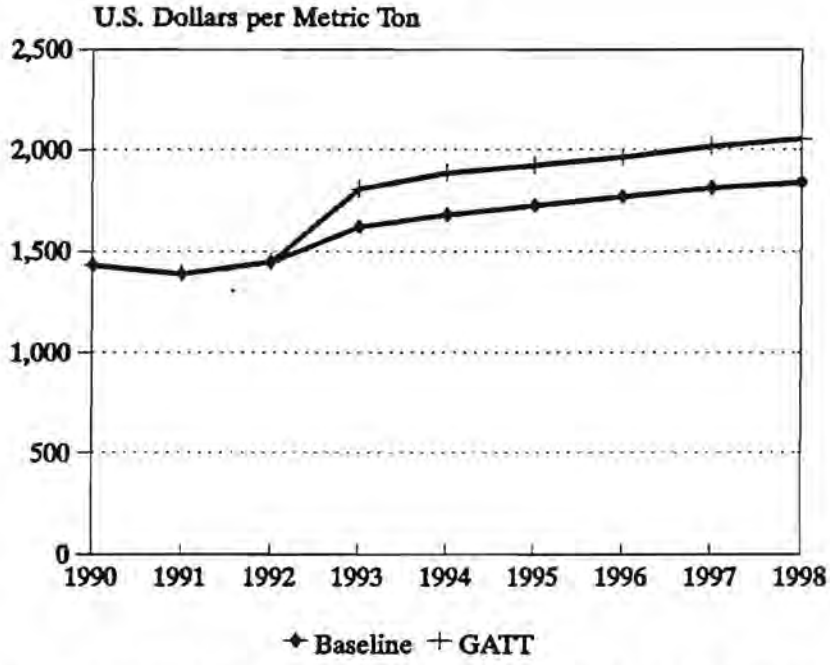

Figure 21. Nonfat dry milk price under the baseline and GATT (Dunkel) scenarios (FOB Northern Europe)

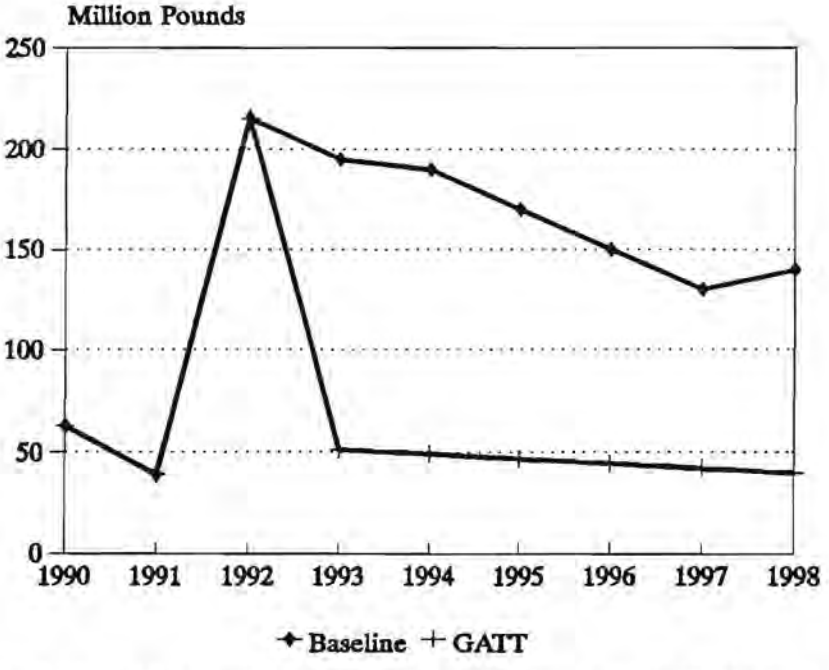

Figure 22. U.S. net butter exports under the baseline and GATT (Dunkel) scenarios

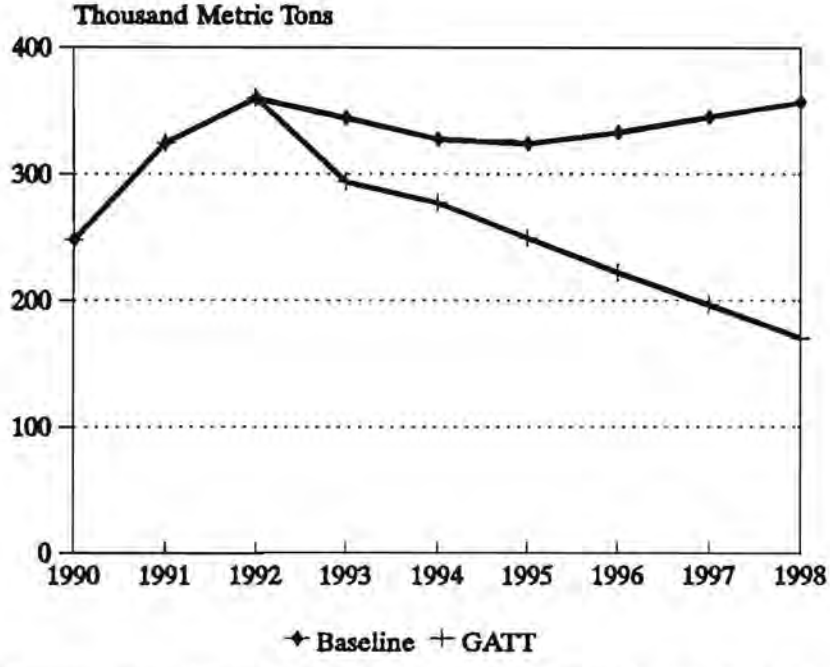

Figure 23. EC net cheese exports under the baseline and GATT (Dunkel) scenarios

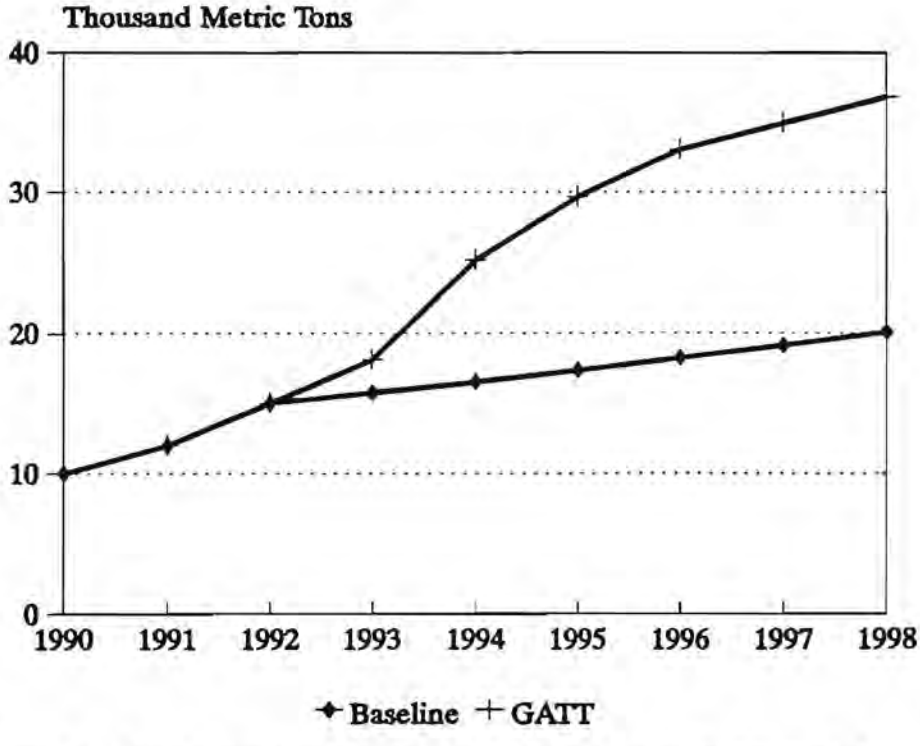

Figure 24. Canadian net cheese imports under the baseline and GATT (Dunkel) scenarios

Impacts of the Dunkel Scenario for Selected Countries

United States

- Results of the baseline and Dunkel scenarios for the United States are summarized in Table 9. Earlier sections of this report summarize the reasons for changes in world trade patterns and world prices. Detailed impact tables for the United States can be found in the Appendix.

- U.S. production of wheat, corn, barley, and rice increases in the Dunkel scenario relative to baseline levels in response to increased market prices and relaxed ARP rates. Soybean production increases only marginally relative to the baseline, despite the higher price, as acreage shifts to competing crops. Cotton production is lower in the Dunkel scenario because increasing acreage is enrolled in the 50-92 program and shifted into competing crops because of the lower price. Sugar production decreases in response to the lower price.

- Despite higher feed prices, increased pork and broiler production in the United States cause feed use of corn and soybean meal to increase. High prices cause wheat feed use to decline in 1993 relative to the baseline level. Wheat feed use then returns to levels slightly greater than the baseline level by 1998 as livestock numbers increase.

- The textile agreement is assumed to cause an increase in U.S. textile imports of more than 10 percent by 1998, causing mill use of cotton to decrease dramatically in the Dunkel scenario relative to the baseline, despite the lower cotton price. Some of the reduced demand is offset by growth in raw cotton export demand for use in foreign mills.

- Raw cotton imports are assumed to increase to more than 180 thousand bales by 1998 as import barriers are relaxed, only marginally offsetting reduced total supply caused by lower cotton production. This level represents roughly half of the amount allowed through the minimum access requirement by 1998, given the limited availability of supplies of high-quality cotton in South and Central America.

- U.S. rice use remains essentially unchanged from the baseline level, despite the higher price, because of the increase in the relative price of wheat.

- Net wheat, feed-grain, rice, and soybean exports increase, but net soybean meal exports decrease.

- For purposes of this analysis, the U.S. sugar AMS was calculated by using the raw sugar price as the U.S. policy price because import quotas are triggered to achieve a price sufficiently above the loan rate to maintain a no-cost-to-government program. As a result, to comply with AMS reduction requirements, sugar import quotas are relaxed by an amount sufficient to reduce the price to the maximum allowable level.

- Pork and broiler production increase relative to baseline levels as higher output prices more than offset the increase in feed costs. Beef production declines in 1993 relative to the baseline as additional heifers are removed from the market and added to the beef cow herd. Production increases for all three commodities in 1998 in response to higher returns.

Table 9. Impacts on U.S. agricultural products under the baseline and Dunkel scenarios

	1991 Baseline Level	1993 Baseline Level	1993 Dunkel (Change)	1998 Baseline Level	1998 Dunkel (Change)
Wheat			(Million Bushels)		
Production	1,981	2,435	40	2,611	73
Domestic Use	1,241	1,241	-12	1,273	2
Net Exports	1,205	1,060	83	1,309	71
Corn			(Million Bushels)		
Production	7,474	8,234	123	8,974	208
Domestic Use	6,332	6,594	37	7,054	49
Net Exports	1,582	1,661	83	1,880	155
Barley			(Million Bushels)		
Production	464	428	10	510	37
Domestic Use	398	393	-2	414	-4
Net Exports	65	41	14	91	39
Soybeans			(Million Bushels)		
Production	1,986	2,062	3	2,236	10
Domestic Use	1,330	1,350	7	1,463	-1
Net Exports	657	693	5	757	18
Soybean Meal			(1,000 Tons)		
Production	29,251	29,825	151	32,356	-29
Domestic Use	23,168	23,642	267	25,867	479
Net Exports	6,075	6,169	-119	6,492	-512
Cotton			(Million Bales)		
Production	17.54	17.67	-0.04	18.97	-1.25
Domestic Use	9.11	9.58	-0.41	10.16	-1.78
Net Exports	6.95	7.37	0.19	8.62	0.73
Rice			(Million Hundredweight)		
Production	154.5	155.8	3.5	174.1	7.3
Domestic Use	95.1	99.0	0.3	107.6	0.4
Net Exports	60.1	60.0	2.4	65.3	6.9
Sugar			(1,000 Tons)		
Production	7,345	7,620	-38	7,997	-394
Domestic Use	8,856	9,009	106	9,174	252
Net Imports	2,199	1,409	182	1,189	652
Farm Prices					
Wheat (Dollars/Bushel)	3.07	2.78	0.17	3.15	0.18
Corn (Dollars/Bushel)	2.45	2.26	0.08	2.20	0.15
Barley (Dollars/Bushel)	2.09	2.14	0.12	2.00	0.14
Soybeans (Dollars/Bushel)	5.44	5.67	0.31	5.30	0.37
Cotton (Cents/Pound)	59.3	60.4	-1.50	59.4	-3.30
Rice (Dollars/Cwt)	7.25	7.20	0.24	8.13	0.23
Sugar (Cents/Pound)	21.6	21.8	-3.17	21.8	-4.82

Table 9. Continued

	1991 Baseline Level	1993 Baseline Level	1993 Dunkel (Change)	1998 Baseline Level	1998 Dunkel (Change)
Beef			(Million Pounds)		
Production	22,917	24,101	34	24,853	97
Domestic Use	24,074	25,035	-48	24,795	118
Net Imports	1,150	950	-14	-63	22
Pork			(Million Pounds)		
Production	15,995	16,804	21	17,081	502
Domestic Use	16,407	17,224	-550	17,072	-636
Net Imports	543	394	-577	-21	-1,125
Broilers			(Million Pounds)		
Production	19,809	21,231	195	24,630	537
Domestic Use	18,615	20,114	-75	23,186	-213
Net Exports	1,180	1,112	268	1,436	750
Milk			(Million Pounds)		
Production	148,629	151,346	-241	158,936	-551
Fluid Use	56,385	57,673	21	60,213	-18
Cheese			(Million Pounds)		
Production	6,050	6,402	4	7,388	5
Domestic Use	6,284	6,624	4	7,642	-6
Net Imports	274	278	0	309	-10
Producer Prices			(Dollars per Hundredweight)		
Omaha Steers	74.35	72.22	1.73	77.51	0.74
Barrows and Gilts	49.03	44.98	3.57	50.35	2.95
12-City Broilers	52.15	52.60	2.64	54.90	3.57
All Milk	12.24	12.48	-0.06	12.90	0.06
Meat Consumption			(Pounds per Capita)		
Beef	66.80	68.15	-0.08	64.88	0.31
Pork	50.50	51.65	-1.65	49.20	-1.83
Broilers	73.27	77.67	-0.29	86.05	-0.79
Total	209.31	216.90	-2.07	221.93	-2.22
Total Meat Expenditures			(Billion Dollars)		
Retail Prices	95.33	100.09	1.83	113.26	2.10
Government Costs			(Billion Dollars)		
Net CCC Outlays	10.11	10.02	-0.42	8.29	-1.26
Farm Income			(Billion Dollars)		
Crop Receipts + Payments	90.51	92.51	0.49	99.81	0.66
Livestock Receipts	85.93	87.15	2.35	95.35	2.70
Net Farm Income	44.29	43.63	1.65	44.04	0.80

- Domestic consumption of beef, pork, and poultry declines as consumers respond to higher prices for meat products. Higher pork and poultry prices result from lower net imports of pork and higher net exports of broilers relative to baseline trade results. Beef price increases are primarily attributable to the cross-price effects of pork and poultry prices.

- Total per capita meat consumption declines by more than two pounds in 1998 as a result of increased meat prices. Retail meat expenditures in the United States increase by $2.1 billion in 1998 relative to the baseline level.

- Milk production in 1998 decreases by 550 million pounds relative to the baseline level as feed cost increases offset slight milk price increases. Domestic consumption of fluid milk products declines slightly relative to the baseline in response to the higher milk prices.

- U.S. crop receipts are $1.6 billion greater than baseline levels by 1998. Receipts are higher for all major crops, with the exceptions of cotton and sugar. Peanuts and tobacco are excluded from this analysis.

- U.S. livestock receipts are $2.7 billion greater than baseline levels by 1998. The largest increases occur for pork and poultry, and a modest increase occurs for beef. Dairy receipts remain at approximately baseline levels throughout the analysis.

- By 1998, total production expenses are $2.9 billion greater than baseline levels. The increased expenses can be attributed to higher production levels and higher prices of farm-origin inputs.

- Net farm income averages $1.3 billion more than baseline levels for 1993-98 and is $800 million more than the baseline level in 1998. Increases in crop and livestock receipts more than offset lower direct government payments and higher production expenses.

- In response to higher prices, net Commodity Credit Corporation outlays for feed grains and food grains are $1.1 billion less than baseline levels by 1998.

- Outlays for cotton are $290 million greater than the baseline level by 1998 in response to lower cotton prices.

- Government costs of U.S. farm programs are $1.3 billion lower than baseline levels by 1998 because of declining deficiency payment and program participation rates.

European Community

- Baseline and Dunkel scenario results for the European Community are reported in Table 10. Earlier sections of this report summarize the reasons for changes in world trade patterns and world prices. Detailed impact tables for the European Community can be found in the Appendix.

- Stabilizer programs for grains are replaced by a fixed policy price of 155 ECUs per metric ton, similar to the level proposed under CAP reform, resulting in higher support levels than those under the baseline. A deficiency payment is introduced to bridge the gap between the domestic market price and the policy price.

Table 10. Impacts on EC agricultural products under the baseline and Dunkel scenarios

	1991	1993		1998	
	Baseline Level	Baseline Level	Dunkel (Change)	Baseline Level	Dunkel (Change)
Wheat			(1,000 Metric Tons)		
Production	90,349	83,029	-4,101	87,735	-8,519
Domestic Use	64,789	65,444	-513	68,291	-1,144
Net Exports	21,170	18,782	-3,275	19,357	-7,282
Barley			(1,000 Metric Tons)		
Production	50,863	50,296	-1,683	52,222	-3,987
Domestic Use	42,996	43,530	112	44,613	405
Net Exports	7,995	6,931	-1,392	7,651	-4,404
Corn			(1,000 Metric Tons)		
Production	26,128	26,470	-862	27,443	-1,847
Domestic Use	28,886	27,948	615	28,816	-329
Net Imports	2,309	1,533	1,430	1,419	1,545
Soybeans			(1,000 Metric Tons)		
Production	1,680	1,864	21	1,964	-23
Domestic Use	14,424	14,526	119	14,709	509
Net Imports	12,754	12,666	102	12,748	533
Soybean Meal			(1,000 Metric Tons)		
Production	10,082	10,126	88	10,270	377
Domestic Use	20,296	20,401	34	20,551	72
Net Imports	10,086	10,272	-51	10,286	-304
Rice			(1,000 Metric Tons)		
Production	1,537	1,594	-159	1,713	-357
Domestic Use	1,600	1,646	0	1,784	38
Net Imports	-120	58	119	76	394
Sugar			(1,000 Metric Tons)		
Production	15,452	16,264	-110	16,691	-736
Domestic Use	12,840	12,967	-0	13,095	-0
Net Exports	2,827	3,219	-87	3,571	-700
Support Prices			(ECUs per Metric Ton)		
Wheat	155.07	146.14	8.86	125.37	29.63
Barley	146.65	137.72	17.28	117.07	37.93
Corn	155.07	146.14	8.86	125.49	29.39
Soybeans	273.06	332.80	9.23	325.50	-0.50
Raw Sugar					
A Intervention	431.4	431.4	-4.2	431.4	-45.8
B Intervention	299.3	299.3	-7.4	299.3	0.0

Table 10. Continued

	1991 Baseline Level	1993 Baseline Level	1993 Dunkel (Change)	1998 Baseline Level	1998 Dunkel (Change)
Beef			(1,000 Metric Tons)		
Production	8,346	8,263	45	8,191	-76
Domestic Use	7,612	7,651	124	7,677	110
Net Exports	618	653	-92	522	-172
Pork			(1,000 Metric Tons)		
Production	13,555	13,701	6	13,921	-146
Domestic Use	12,932	13,136	201	13,464	100
Net Exports	623	565	-195	457	-247
Poultry			(1,000 Metric Tons)		
Production	6,650	6,883	-22	7,371	-228
Domestic Use	6,345	6,514	169	6,980	186
Net Exports	305	368	-191	391	-415
Milk			(1,000 Metric Tons)		
Production	115,477	114,211	-1,211	113,888	-1,380
Fluid Use	30,823	30,905	183	30,904	226
Cheese			(1,000 Metric Tons)		
Production	4,850	4,942	-58	5,229	-141
Domestic Use	4,486	4,605	41	4,854	64
Net Exports	325	345	-51	357	-187
Prices			(ECUs per Metric Ton)		
Beef Producer	2,611	2,600	-93	2,600	-84
Pork Producer	1,611	1,600	-105	1,600	-57
Chicken Producer	1,452	1,450	-103	1,450	-98
Milk Farm Price	297	300	-11	306	-17
Meat Consumption			(Kilograms per Capita)		
Beef	15.5	15.5	0.3	15.4	0.2
Pork	26.3	26.6	0.4	27.0	0.2
Poultry	18.4	18.8	0.5	20.0	0.5
Total	60.2	60.9	1.2	62.4	0.9
Total Meat Expenditures			(Billion ECUs)		
Producer Prices	55.1	55.6	-1.9	57.2	-1.4

- Production is reduced to meet AMS and export quantity commitments through a set-aside scheme under which reductions are substantial. The result is higher domestic market grain prices than were projected under the baseline developed with the former stabilizer program.

- A version of the proposed oilseed regime was used in both the baseline and Dunkel scenarios. Under this regime, soybean production is reduced only slightly by 1998.

- With reduced livestock prices and slightly higher domestic market prices for grains, livestock and poultry production decrease modestly. The result is a decline in the quantity of feed consumed, particularly feed wheat. Some adjustments are expected to occur in the relative quantities of grains used in feed rations as less wheat and more feed grains are used.

- Decreases in pork, poultry, and milk production contribute to a decrease in protein meal consumption. Some substitution of soybean crush for domestic rapeseed crush occurs as rapeseed production is reduced. Soybean meal consumption is actually projected to increase slightly relative to the baseline as soybean meal replaces rapeseed meal decreases caused by production declines.

- Reductions in policy prices for beef and pork are required to meet the AMS commitment. For example, the beef intervention price must be reduced by 7 percent in 1998.

- Lower meat and dairy prices result in increased domestic consumption of meat and dairy products, except for butter. Lower production and increased consumption lead to decreases in meat and dairy product exports.

- The 1 percent reduction in the milk delivery quota and a slight decline in the milk equivalent price result in reduced milk production and processing. Production of butter, cheese, and nonfat dry milk decline accordingly.

- Significant increases in butter and cheese imports are needed to comply with the market access commitment. Although a sharp reduction in the cheese import tariff is required, the baseline tariff level for butter will meet the market access commitment. Deep reductions in the nonfat dry milk intervention price are required under the Dunkel scenario.

- It is likely that budgetary costs would decrease for the European Community in the first few years of the Dunkel scenario. Intervention buying and export restitutions are currently the largest expenditures under the CAP. Under the Dunkel scenario, intervention payments would be reduced to zero and export subsidy expenditures would be reduced by at least 36 percent. However, substantial deficiency payments would be made by the late 1990s, thereby increasing budgetary costs over time.

- Crop receipts would decrease in the early part of the implementation period relative to baseline levels. Because of deficiency payments maintaining grain support at 155 ECUs per metric ton, however, receipts by 1998 are likely to be higher than those projected in the baseline, despite the set-aside program.

- Livestock production costs would decrease in 1993 because of lower domestic market grain costs. By 1998, increased corn and feed wheat prices would more than offset the decrease in barley prices, thereby reducing livestock receipts. However, higher deficiency payments could be made and still meet AMS commitments, allowing the set-aside to be relaxed somewhat and thereby lowering domestic market prices. This could cause livestock production costs to decrease from baseline levels, thus increasing livestock receipts.

Japan

- Baseline and Dunkel scenario results for Japan are reported in Table 11. Earlier sections of this report summarize the reasons for changes in world trade patterns and world prices. Detailed impact tables for Japan can be found in the Appendix.

- The Dunkel scenario results in little change in producer prices for grains in Japan. Based on reductions in purchase prices made since 1986 and no production increases, Japan is expected to meet AMS reduction commitments for rice and wheat. Only barley supports require a small reduction, beginning in 1996.

- Minimum access commitments result in rice imports by Japan throughout the implementation period. The imports cause domestic rice prices to decrease below the level that would result from a 15 percent tariff equivalent reduction, so no rice above minimum access levels is imported. Rice consumption increases by approximately the quantity imported in each year.

- Increased rice consumption results in a slight decrease in wheat consumption, resulting in lower wheat imports.

- Little change in beef and poultry production and lower pork and milk production result in lower feed requirements. Higher world prices also contribute to moderate decreases in corn and barley consumption. Soybean meal use is virtually unchanged from the baseline.

- Although beef and poultry producer prices remain relatively unaffected in the Dunkel scenario, the pork producer price declines sharply compared to the baseline level. As a result, pork production declines and consumption increases. Pork imports increase by more than 50 percent from the baseline level in 1998 to bridge the widening gap between production and consumption.

- Beef and poultry consumption decline because of higher world prices. Japanese beef prices follow world prices because the baseline incorporates the beef trade liberalization agreement of 1988. However, pork consumption increases as lower tariffs reduce consumer price.

- As the milk farm price falls by 16 percent in 1998 to meet AMS commitments, milk cow inventories decline, thus reducing milk production. Production of cheese and nonfat dry milk declines in the Dunkel scenario, requiring more imports to meet increasing domestic demand.

- Although per capita beef and poultry consumption decrease by a small amount, per capita pork consumption increases by 1.0 kilogram in 1993 and by 1.6 kilogram by 1998. The overall impact on consumer budget outlays for meat is a modest decline of 0.1 billion yen in 1993.

Table 11. Impacts on Japanese agricultural products under the baseline and Dunkel scenarios

	1991	1993		1998	
	Baseline Level	Baseline Level	Dunkel (Change)	Baseline Level	Dunkel (Change)
Rice			(1,000 Metric Tons)		
Production	8,801	8,796	1	9,001	-2
Domestic Use	8,880	8,854	283	9,014	468
Net Exports	0	0	282	0	470
Wheat			(1,000 Metric Tons)		
Production		869	856	0	7,290
Domestic Use	6,602	6,613	-13	6,811	-131
Net Imports	5,754	5,783	-17	6,131	-147
Barley			(1,000 Metric Tons)		
Production	343	392	0	383	-16
Domestic Use	1,681	1,751	-4	1,745	-90
Net Imports	1,307	1,366	2	1,361	-76
Corn			(1,000 Metric Tons)		
Production	2	2	0	2	0
Domestic Use	16,246	16,329	-49	16,865	-553
Net Imports	16,204	16,331	-52	16,870	-553
Soybeans			(1,000 Metric Tons)		
Production	261	256	-1	270	0
Domestic Use	4,753	5,001	-1	5,336	-2
Net Imports	4,407	4,758	0	5,074	-2
Soybean Meal			(1,000 Metric Tons)		
Production	2,734	2,905	0	3,102	-1
Domestic Use	3,513	3,461	-5	3,838	-8
Net Imports	640	559	-5	740	-7
Sugar			(1,000 Metric Tons)		
Production	915	915	0	919	-6
Domestic Use	2,800	2,853	0	2,904	0
Net Imports	1,874	1,939	0	1,985	5
Support Prices			(1,000 Yen per Metric Ton)		
Rice	275.0	275.0	0.0	275.0	0.0
Wheat	153.7	153.7	0.0	153.7	0.0
Barley	131.8	131.8	0.0	131.8	-5.1
Soybeans	194.7	194.1	4.6	180.4	5.1
Sugar Beets	17.5	17.5	0.0	17.5	-0.8

Table 11. Continued

	1991 Baseline Level	1993 Baseline Level	1993 Dunkel (Change)	1998 Baseline Level	1998 Dunkel (Change)
Beef			(1,000 Metric Tons)		
Production	570	569	3	562	-5
Domestic Use	1,130	1,227	-23	1,449	-32
Net Imports	510	658	-26	887	-28
Pork			(1,000 Metric Tons)		
Production	1,490	1,504	2	1,519	-125
Domestic Use	2,040	2,119	186	2,293	291
Net Imports	550	615	185	775	416
Poultry			(1,000 Metric Tons)		
Production	1,435	1,463	0	1,556	0
Domestic Use	1,765	1,825	-31	2,133	-43
Net Imports	330	361	-31	577	-43
Milk			(1,000 Metric Tons)		
Production	8,180	8,217	-61	8,623	-523
Fluid Use	5,150	5,223	31	5,585	138
Cheese			(1,000 Metric Tons)		
Production	29	27	-1	28	-7
Domestic Use	142	149	-1	171	-1
Net Imports	116	122	0	143	6
Prices			(1,000 Yen per Metric Ton)		
Beef Wholesale	988	748	6	705	2
Pork Wholesale	529	520	-101	526	-140
Chicken Retail	1,117	1,097	14	1,070	17
Milk Farm Price	89	89	-7	89	-15
Meat Consumption			(Kilograms per Capita)		
Beef	6.3	6.8	-0.1	7.9	-0.2
Pork	11.4	11.7	1.0	12.4	1.6
Poultry	10.7	11.0	-0.2	12.6	-0.3
Total	28.4	29.5	0.7	32.9	1.1
Total Meat Expenditures			(Billion Yen)		
Retail Prices	12.6	12.9	-0.1	14.1	-0.2

- Consumers of dairy products and pork clearly benefit from the Dunkel text commitments. Reduced government outlays for dairy and pork support will lower receipts for producers of these products.

- Existing protective levies in the pork sector are assumed to continue in the baseline projections. To comply with the market access provisions, large tariff reductions are required under the Dunkel scenario.

- Baseline projections incorporate the features of beef trade liberalization and the planned reduction of tariffs in 1992 and 1993. Therefore, Japan is not required to make significant changes from baseline levels to comply with commitments for tariff reductions for beef.

- At the time of this writing, reduction commitment schedules have been submitted. Japan has refused to include rice on its list. Japan has also offered average tariff equivalent reductions of only 30 percent. These points are potential stumbling blocks in the GATT negotiations.

Canada

- Baseline and Dunkel scenario results for Canada are reported in Table 12. Earlier sections of this report summarize the reasons for changes in world trade patterns and world prices. Detailed impact tables for Canada can be found in the Appendix.

- Under the GRIP as incorporated into the baseline scenario, domestic support for crops is relatively high, particularly in the early 1990s. Because of high payments from the Special Canadian Grains Program and the Western Grains Stabilization Act, however, the reference period AMS is also relatively large. The AMS for grains requires reduction in the early years of implementation, but baseline AMS levels decline by the late 1990s.

- The wheat AMS under the baseline requires no reduction by 1998. The baseline AMS for barley must be reduced in 1998 but, because the magnitude of the AMS is not large, has little effect on barley production. Grain production actually begins to increase above baseline levels in 1998 as grain prices increase relative to canola prices.

- Wholesale broiler prices decline by 27 percent in 1998 to meet AMS commitments. This decrease results in lower production in 1998 and higher consumption levels. Imports increase sharply to fill the widening gap between production and consumption.

- Beef and pork production increase as world prices increase. Higher domestic prices reduce consumption to some extent. Thus, net beef imports decline and net pork exports increase.

- Although higher beef and pork prices reduce per capita consumption of these meats, a much lower broiler price increases per capita broiler consumption by almost 3 kilograms in 1998. The net result of these changes in meat prices is a savings of Canadian $0.4 billion in consumer expenditures.

- The farm price of milk declines by 12 percent in 1998 to satisfy the AMS reduction commitment. Because the restrictive effects of the existing milk marketing quota still bind most producers, the lower milk target price reduces milk production by only 2.5 percent in 1998.

Table 12. Impacts on Canadian agricultural products under the baseline and Dunkel scenarios

	1991 Baseline Level	1993 Baseline Level	1993 Dunkel (Change)	1998 Baseline Level	1998 Dunkel (Change)
Wheat			(1,000 Metric Tons)		
Production	32,810	28,612	-318	29,460	247
Domestic Use	6,857	7,114	21	7,144	-245
Net Exports	24,558	21,456	30	22,322	566
Barley			(1,000 Metric Tons)		
Production	12,462	13,677	33	14,786	21
Domestic Use	8,502	8,608	-13	8,646	-2
Net Exports	4,597	4,905	40	6,095	15
Corn			(1,000 Metric Tons)		
Production	7,316	6,447	-76	6,987	-127
Domestic Use	7,270	7,079	4	7,167	3
Net Exports	25	-592	-66	-212	-130
Prices			(Canadian Dollars per Metric Ton)		
Wheat (Off Board)	103.30	89.31	10.34	103.91	29.19
Barley (Off Board)	71.95	73.51	5.28	65.83	6.14
Corn	112.56	103.92	3.56	99.38	6.44
Beef			(1,000 Metric Tons)		
Production	890	921	0	933	8
Domestic Use	978	1,007	-2	1,039	-1
Net Imports	85	86	-3	107	-9
Pork			(1,000 Metric Tons)		
Production	1,134	1,163	1	1,186	26
Domestic Use	847	868	-11	877	-9
Net Exports	287	296	11	309	35
Broilers			(1,000 Metric Tons)		
Production	595	632	-27	720	-80
Domestic Use	641	682	36	780	78
Net Imports	42	50	62	60	157
Milk			(1,000 Metric Tons)		
Production	7,950	7,707	-52	7,812	-194
Fluid Use	2,815	2,852	17	2,974	50
Cheese			(1,000 Metric Tons)		
Production	255	249	1	266	-10
Domestic Use	265	264	2	286	7
Net Imports	12	16	2	20	17

Table 12. Continued

	1991 Baseline Level	1993 Baseline Level	1993 Dunkel (Change)	1998 Baseline Level	1998 Dunkel (Change)
Prices		(Canadian Dollars per Metric Ton)			
Beef Liveweight	1,917	1,855	44	1,951	18
Pork Liveweight	1,264	1,155	92	1,268	74
Broiler Wholesale	2,657	2,704	-507	2,955	-804
Milk Farm Price	524	542	-23	596	-75
Meat Consumption		(Kilograms per Capita)			
Beef	36.4	36.6	-0.1	35.9	-0.0
Pork	31.5	31.6	-0.4	30.2	-0.3
Broilers	23.8	24.8	1.3	26.9	2.7
Total	91.7	93.0	0.8	93.0	2.4
Total Meat Expenditures		(Billion Canadian Dollars)			
Producer Prices	4.6	4.7	-0.2	5.4	-0.4

- The lower milk price in turn lowers the domestic price for all dairy products. Hence, domestic production of all dairy products declines and consumption increases. Butter and nonfat dry milk exports decline and cheese imports increase. As more butter imports are required under the market access commitment, Canada becomes a net importer of butter in the Dunkel scenario.

- Although dairy receipts would decline under the Dunkel scenario, receipts from beef and pork production would increase. Significant government and consumer benefits are likely as a result of lower dairy and broiler prices.

- Fluid milk trade, especially between the United States and Canada, could become an issue requiring further attention under the auspices of a GATT agreement based on the Dunkel text.

- Crop receipts likely would fall during the first four or five years of implementation because of reductions in prices and production. As AMS reduction commitments are met and world prices increase, grain production will increase and receipts should recover. Livestock receipts would show increases from pork and beef, but these increases likely would be more than offset by reductions in poultry and dairy receipts.

- Government cost savings would come in the early part of the implementation period as GRIP layouts would have to be reduced. As long as the AMS receives adequate reductions, the transportation subsidies could be left intact, so little or no savings would come from this area.

APPENDIX

Table A1. Impacts of the baseline and Dunkel scenarios on U.S. wheat

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
ARP Rate					(Percent)				
Baseline	5.00	15.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
GATT Change	0.00	0.00	0.00	-2.50	-2.50	-2.50	-2.50	-2.50	-2.50
Planted Area					(Million Acres)				
Baseline	77.2	69.9	72.8	74.6	72.1	71.9	73.2	76.5	78.5
GATT Change	0.0	0.0	0.0	1.5	2.4	2.2	2.0	2.1	2.2
Annual Idled Area					(Million Acres)				
Baseline	7.5	15.4	8.5	7.7	9.2	9.2	8.4	8.7	9.5
GATT Change	0.0	0.0	0.0	-1.4	-2.3	-2.1	-1.9	-2.1	-2.2
Production					(Million Bushels)				
Baseline	2,736	1,981	2,390	2,435	2,349	2,359	2,431	2,548	2,611
GATT Change	0	0	0	40	80	72	66	71	73
Feed Use					(Million Bushels)				
Baseline	489	363	286	331	344	332	318	317	309
GATT Change	0	0	3	-15	-7	-9	-9	-3	0
Total Domestic Use					(Million Bushels)				
Baseline	1,375	1,241	1,187	1,241	1,263	1,261	1,260	1,270	1,273
GATT Change	0	0	5	-12	-5	-6	-6	0	2
Net Exports					(Million Bushels)				
Baseline	1,032	1,205	953	1,060	1,151	1,165	1,195	1,246	1,309
GATT Change	0	0	2	83	61	71	76	72	71
Ending Stocks					(Million Bushels)				
Baseline	866	401	651	785	722	654	629	661	689
GATT Change	0	0	-7	-38	-15	-7	-10	-11	-11
Farm Price					(Dollars per Bushel)				
Baseline	2.61	3.07	3.14	2.78	2.81	3.06	3.23	3.21	3.15
GATT Change	0.00	0.00	0.00	0.17	0.14	0.13	0.16	0.17	0.18
Market Returns					(Dollars per Acre)				
Baseline	50.25	51.46	65.53	50.86	50.19	58.02	62.82	59.87	55.06
GATT Change	0.00	0.00	-0.09	6.12	5.07	4.59	5.83	6.52	6.92

Table A2. Impacts of the baseline and Dunkel scenarios on U.S. corn

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
ARP Rate					(Percent)				
Baseline	10.00	7.50	5.00	7.50	7.50	5.00	5.00	7.50	7.50
GATT Change	0.00	0.00	0.00	-2.50	-2.50	-2.50	-2.50	-2.50	-2.50
Planted Area					(Million Acres)				
Baseline	74.2	76.0	77.8	74.6	75.0	76.1	76.4	76.1	75.9
GATT Change	0.0	0.0	0.0	1.4	1.5	1.4	1.4	1.7	2.0
Annual Idled Area					(Million Acres)				
Baseline	10.7	7.4	5.3	7.8	7.4	5.9	5.6	7.8	8.4
GATT Change	0.0	0.0	0.0	-1.6	-1.8	-1.7	-1.7	-1.9	-2.1
Production					(Million Bushels)				
Baseline	7,934	7,474	8,456	8,234	8,391	8,613	8,777	8,879	8,974
GATT Change	0	0	0	123	145	130	134	177	208
Feed Use					(Million Bushels)				
Baseline	4,710	4,974	5,117	5,122	5,207	5,338	5,355	5,322	5,321
GATT Change	0	0	31	39	29	8	30	54	51
Total Domestic Use					(Million Bushels)				
Baseline	6,035	6,332	6,533	6,594	6,734	6,918	6,987	7,007	7,054
GATT Change	0	0	30	37	28	7	27	52	49
Net Exports					(Million Bushels)				
Baseline	1,723	1,582	1,576	1,661	1,685	1,704	1,746	1,813	1,880
GATT Change	0	0	-2	83	95	115	125	142	155
Ending Stocks					(Million Bushels)				
Baseline	1,521	1,081	1,427	1,405	1,376	1,367	1,410	1,470	1,509
GATT Change	0	0	-27	-25	-2	6	-13	-30	-25
Farm Price					(Dollars per Bushel)				
Baseline	2.28	2.45	2.19	2.26	2.30	2.39	2.34	2.23	2.20
GATT Change	0.00	0.00	0.03	0.08	0.06	0.06	0.12	0.16	0.15
Market Returns					(Dollars per Acre)				
Baseline	130.52	124.08	119.91	127.71	130.18	137.73	128.74	112.25	105.46
GATT Change	0.00	0.00	3.69	9.24	6.50	6.16	13.68	19.27	18.88

Table A3. Impacts of the baseline and Dunkel scenarios on U.S. sorghum

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
ARP Rate					(Percent)				
Baseline	10.00	7.50	5.00	7.50	7.50	5.00	5.00	7.50	7.50
GATT Change	0.00	0.00	0.00	-2.50	-2.50	-2.50	-2.50	-2.50	-2.50
Planted Area					(Million Acres)				
Baseline	10.5	11.0	12.0	10.3	10.6	10.6	10.7	10.8	10.8
GATT Change	0.0	0.0	0.0	0.3	0.3	0.2	0.2	0.3	0.3
Annual Idled Area					(Million Acres)				
Baseline	3.3	2.3	1.8	2.5	2.3	2.2	2.1	2.7	3.1
GATT Change	0.0	0.0	0.0	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4
Production					(Million Bushels)				
Baseline	573	579	703	608	641	649	672	691	700
GATT Change	0	0	0	18	17	12	12	21	22
Total Domestic Use					(Million Bushels)				
Baseline	418	394	444	396	413	422	435	442	440
GATT Change	0	0	0	13	13	13	13	19	21
Net Exports					(Million Bushels)				
Baseline	233	211	239	226	226	229	234	243	256
GATT Change	0	0	2	4	2	0	0	2	0
Ending Stocks					(Million Bushels)				
Baseline	143	117	138	125	127	124	128	134	137
GATT Change	0	0	-1	0	1	1	0	1	2
Farm Price					(Dollars per Bushel)				
Baseline	2.12	2.37	2.05	2.14	2.13	2.21	2.17	2.06	2.02
GATT Change	0.00	0.00	0.02	0.04	0.02	0.01	0.05	0.06	0.05
Market Returns					(Dollars per Acre)				
Baseline	65.13	69.80	63.15	68.38	66.32	70.28	66.06	57.05	52.89
GATT Change	0.00	0.00	1.25	2.69	1.12	0.79	3.41	4.02	3.14

Table A4. Impacts of the baseline and Dunkel scenarios on U.S. barley

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
ARP Rate					(Percent)				
Baseline	10.00	7.50	5.00	7.50	7.50	5.00	5.00	7.50	7.50
GATT Change	0.00	0.00	0.00	-2.50	-2.50	-2.50	-2.50	-2.50	-2.50
Planted Area					(Million Acres)				
Baseline	8.2	8.9	8.4	8.1	8.7	8.5	8.9	8.8	9.4
GATT Change	0.0	0.0	0.0	0.2	0.5	0.2	0.6	0.4	0.7
Annual Idled Area					(Million Acres)				
Baseline	2.9	2.1	2.1	2.2	2.1	2.2	1.9	2.5	2.9
GATT Change	0.0	0.0	0.0	-0.2	-0.6	-0.4	-0.7	-0.6	-0.8
Production					(Million Bushels)				
Baseline	422	464	439	428	462	454	479	480	510
GATT Change	0	0	0	10	25	12	31	22	37
Domestic Use					(Million Bushels)				
Baseline	383	398	396	393	397	399	403	407	414
GATT Change	0	0	0	-2	-2	-4	-4	-3	-4
Net Exports					(Million Bushels)				
Baseline	65	64	43	41	61	58	74	75	91
GATT Change	0	0	1	14	24	19	32	29	39
Ending Stocks					(Million Bushels)				
Baseline	135	137	136	130	134	131	133	131	136
GATT Change	0	0	-1	-3	0	-3	-1	-3	-1
Farm Price					(Dollars per Bushel)				
Baseline	2.14	2.09	2.12	2.14	2.08	2.20	2.15	2.10	2.00
GATT Change	0.00	0.00	0.01	0.12	0.07	0.11	0.11	0.16	0.14
Market Returns					(Dollars per Acre)				
Baseline	61.98	56.44	63.04	63.35	58.22	63.97	58.57	54.56	47.27
GATT Change	0.00	0.00	0.58	6.60	3.48	6.32	5.65	9.27	7.65

Table A5. Impacts of the baseline and Dunkel scenarios on U.S. oats

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
ARP Rate					(Percent)				
Baseline	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GATT Change	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Harvested Area					(Million Acres)				
Baseline	5.9	4.8	4.5	5.1	4.8	4.9	4.8	5.2	5.2
GATT Change	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	-0.1
Production					(Million Bushels)				
Baseline	358	243	276	310	296	308	299	329	331
GATT Change	0	0	0	-2	-8	2	-6	1	-9
Total Domestic Use					(Million Bushels)				
Baseline	414	370	355	373	371	378	374	390	396
GATT Change	0	0	0	-2	-6	-1	-5	-2	-6
Net Imports					(Million Bushels)				
Baseline	70	64	69	70	73	71	72	69	68
GATT Change	0	0	0	-1	0	-1	-1	-1	0
Ending Stocks					(Million Bushels)				
Baseline	171	108	98	104	101	102	99	107	109
GATT Change	0	0	0	-1	-3	-1	-3	-2	-4
Farm Price					(Dollars per Bushel)				
Baseline	1.14	1.15	1.30	1.21	1.28	1.29	1.36	1.23	1.22
GATT Change	0.00	0.00	0.01	0.04	0.06	0.02	0.07	0.05	0.10
Market Returns					(Dollars per Acre)				
Baseline	37.25	24.52	47.03	39.72	41.76	40.08	41.97	31.36	28.07
GATT Change	0.00	0.00	0.33	2.27	3.97	1.60	4.42	3.46	6.50

Table A6. Impacts of the baseline and Dunkel scenarios on U.S. soybeans

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Planted Area				(Million Acres)					
Baseline	57.8	59.1	58.2	60.1	60.3	60.2	60.7	62.6	62.5
GATT Change	0.0	0.0	0.0	0.1	0.5	0.8	0.7	0.5	0.4
Production				(Million Bushels)					
Baseline	1,926	1,986	1,989	2,062	2,090	2,108	2,144	2,216	2,236
GATT Change	0	0	0	3	13	21	18	12	10
Total Domestic Use				(Million Bushels)					
Baseline	1,281	1,330	1,331	1,350	1,377	1,399	1,416	1,440	1,463
GATT Change	0	0	3	7	4	3	5	3	-1
Net Exports				(Million Bushels)					
Baseline	555	657	685	693	708	719	726	740	757
GATT Change	0	0	1	5	7	10	15	18	18
Ending Stocks				(Million Bushels)					
Baseline	329	328	301	319	325	316	318	355	370
GATT Change	0	0	-4	-12	-10	-2	-4	-13	-19
Farm Price				(Dollars per Bushel)					
Baseline	5.75	5.44	5.83	5.67	5.68	5.95	5.98	5.48	5.30
GATT Change	0.00	0.00	0.09	0.31	0.30	0.19	0.25	0.34	0.37
Market Returns				(Dollars per Acre)					
Baseline	120.54	108.63	127.56	121.60	122.69	132.80	133.05	113.40	107.82
GATT Change	0.00	0.00	3.16	10.75	10.18	6.05	8.54	11.71	13.34

Table A7. Impacts of the baseline and Dunkel scenarios on U.S. soybean products

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Meal Production					(1,000 Tons)				
Baseline	28,325	29,251	29,422	29,825	30,442	30,923	31,278	31,824	32,356
GATT Change	0	0	63	151	78	66	105	78	-29
Oil Production					(Million Pounds)				
Baseline	13,408	13,947	13,878	14,069	14,359	14,587	14,754	15,011	15,262
GATT Change	0	0	30	71	37	31	50	37	-14
Meal Domestic Use					(1,000 Tons)				
Baseline	23,257	23,168	23,202	23,642	24,274	24,780	24,978	25,415	25,867
GATT Change	0	0	193	267	270	325	425	514	479
Oil Domestic Use					(Million Pounds)				
Baseline	12,185	12,286	12,768	13,058	13,311	13,550	13,711	13,918	14,109
GATT Change	0	0	18	-98	-122	-108	-78	-65	-78
Meal Net Exports					(1,000 Tons)				
Baseline	5,101	6,075	6,227	6,169	6,164	6,148	6,292	6,395	6,492
GATT Change	0	0	-125	-119	-195	-261	-314	-434	-512
Oil Net Exports					(Million Pounds)				
Baseline	763	1,188	1,014	948	991	1,005	1,056	1,045	1,105
GATT Change	0	0	5	190	159	132	115	103	82
Meal Decatur Price					(Dollars per Ton)				
Baseline	169.90	174.74	193.20	189.26	189.58	196.82	191.56	172.44	163.89
GATT Change	0.00	0.00	6.03	6.06	2.36	-1.02	4.61	8.44	7.32
Oil Decatur Price					(Dollars per Hundredweight)				
Baseline	21.00	18.66	16.24	16.44	17.16	18.13	19.50	19.85	20.50
GATT Change	0.00	0.00	-0.32	1.75	2.16	1.96	1.45	1.24	1.58

Table A8. Impacts of the baseline and Dunkel scenarios on U.S. cotton

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
ARP Rate					(Percent)				
Baseline	12.50	5.00	10.00	5.00	5.00	5.00	5.00	5.00	5.00
GATT Change	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50
Planted Area					(Million Acres)				
Baseline	12.35	14.14	13.05	13.63	13.36	13.27	13.23	13.68	13.91
GATT Change	0.00	0.00	0.00	-0.04	-0.31	-0.32	-0.36	-0.49	-0.82
Annual Idled Area					(Million Acres)				
Baseline	1.96	0.93	1.84	1.15	1.21	1.21	1.18	1.31	1.44
GATT Change	0.00	0.00	0.00	0.00	0.05	0.07	0.11	0.14	0.47
Production					(Million Bales)				
Baseline	15.51	17.54	16.57	17.67	17.43	17.50	17.71	18.53	18.97
GATT Change	0.00	0.00	0.00	-0.04	-0.47	-0.51	-0.60	-0.80	-1.25
Domestic Mill Use					(Million Bales)				
Baseline	8.66	9.11	9.13	9.58	9.66	9.89	10.03	10.09	10.16
GATT Change	0.00	0.00	0.00	-0.41	-0.69	-0.95	-1.21	-1.49	-1.78
Net Exports					(Million Bales)				
Baseline	7.79	6.95	7.26	7.37	7.71	7.74	7.86	8.23	8.62
GATT Change	0.00	0.00	-0.01	0.19	0.36	0.47	0.61	0.66	0.73
Ending Stocks					(Million Bales)				
Baseline	2.34	3.93	4.21	5.03	5.19	5.16	5.07	5.38	5.66
GATT Change	0.00	0.00	0.01	0.19	0.05	0.02	0.03	0.06	-0.14
Farm Price					(Dollars per Pound)				
Baseline	0.681	0.593	0.620	0.604	0.603	0.618	0.623	0.606	0.594
GATT Change	0.000	0.000	0.001	-0.015	-0.019	-0.026	-0.032	-0.031	-0.033
Market Returns					(Dollars per Acre)				
Baseline	206.01	133.50	147.38	136.78	133.11	140.77	140.25	119.80	103.44
GATT Change	0.00	0.00	1.04	-6.52	-10.40	-16.20	-20.87	-20.18	-20.76

Table A9. Impacts of the baseline and Dunkel scenarios on U.S. rice

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
ARP Rate					(Percent)				
Baseline	20.00	5.00	0.00	5.00	5.00	5.00	5.00	5.00	5.00
GATT Change	0.00	0.00	0.00	-2.50	-2.50	-2.50	-2.50	-2.50	-2.50
Planted Area					(Million Acres)				
Baseline	2.90	2.86	3.04	2.74	2.86	2.88	2.87	2.89	2.93
GATT Change	0.00	0.00	0.00	0.07	0.13	0.14	0.14	0.14	0.15
Annual Idled Area					(Million Acres)				
Baseline	1.02	0.65	0.41	0.74	0.56	0.56	0.57	0.54	0.51
GATT Change	0.00	0.00	0.00	-0.09	-0.12	-0.12	-0.11	-0.11	-0.11
Production					(Million Hundredweight)				
Baseline	156.1	154.5	168.8	155.8	163.4	166.3	167.3	170.1	174.1
GATT Change	0.0	0.0	0.0	3.5	6.4	7.0	7.1	7.2	7.3
Total Domestic Use					(Million Hundredweight)				
Baseline	91.7	95.1	97.7	99.0	100.6	102.6	104.5	106.2	107.6
GATT Change	0.0	0.0	0.1	0.3	0.3	0.3	0.4	0.4	0.4
Net Exports					(Million Hundredweight)				
Baseline	66.1	60.1	66.3	60.0	61.7	62.7	62.4	63.2	65.3
GATT Change	0.0	0.0	-0.1	2.4	5.0	6.1	6.6	6.8	6.9
Ending Stocks					(Million Hundredweight)				
Baseline	24.6	23.9	28.6	25.4	26.6	27.7	28.1	28.8	30.0
GATT Change	0.0	0.0	0.0	0.8	1.9	2.4	2.5	2.6	2.6
Farm Price					(Dollars per Hundredweight)				
Baseline	6.70	7.25	5.99	7.20	7.27	7.33	7.62	7.91	8.13
GATT Change	0.00	0.00	0.00	0.24	0.21	0.18	0.20	0.22	0.23
Market Returns					(Dollars per Acre)				
Baseline	37.04	66.39	-2.22	71.57	67.24	63.59	73.28	82.65	87.40
GATT Change	0.00	0.00	0.07	12.28	9.24	7.49	8.24	9.42	10.47

Table A10. Impacts of the baseline and Dunkel scenarios on U.S. sugar

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Sugarcane Loan Rate				(Cents per Pound)					
Baseline	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
GATT Change	0.00	0.00	0.00	-3.17	-3.47	-3.72	-4.08	-4.44	-4.82
Sugar Beet Area Harvested				(1,000 Acres)					
Baseline	1,377	1,389	1,381	1,369	1,378	1,380	1,380	1,371	1,370
GATT Change	0	0	0	-12	-59	-83	-96	-106	-103
Sugarcane Area Harvested				(1,000 Acres)					
Baseline	726	848	850	855	861	867	873	868	867
GATT Change	0	0	0	-10	-19	-25	-28	-19	-14
Sugar Production				(1,000 Short Tons, Raw Value)					
Baseline	6,335	7,345	7,453	7,620	7,706	7,813	7,908	7,962	7,997
GATT Change	0	0	0	-38	-174	-315	-390	-415	-394
Sugar Domestic Use				(1,000 Short Tons, Raw Value)					
Baseline	8,699	8,856	8,955	9,009	9,050	9,095	9,121	9,143	9,174
GATT Change	0	0	4	106	177	200	220	238	252
High-Fructose Corn Syrup Domestic Use				(1,000 Short Tons, Dry Weight)					
Baseline	6,190	6,290	6,415	6,537	6,655	6,763	6,882	7,007	7,121
GATT Change	0	0	-4	-46	-70	-77	-88	-97	-103
Sugar Net Imports				(1,000 Short Tons, Raw Value)					
Baseline	2,147	2,199	1,488	1,409	1,360	1,298	1,224	1,189	1,189
GATT Change	0	0	6	182	378	523	618	659	652
New York Spot Sugar Price				(Cents per Pound)					
Baseline	23.25	21.57	21.75	21.75	21.75	21.75	21.75	21.75	21.75
GATT Change	0.00	0.00	0.00	-3.17	-3.47	-3.72	-4.08	-4.44	-4.82
Wholesale High-Fructose Corn Syrup Price				(Cents per Pound)					
Baseline	19.69	20.80	19.09	19.26	19.41	19.59	19.81	20.07	20.35
GATT Change	0.00	0.00	0.00	-1.68	-2.70	-2.92	-3.17	-3.46	-3.91

Table A11. Impacts of the baseline and Dunkel scenarios on U.S. dairy

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998
Dairy Cows on Farms				(1,000 Head)					
Baseline	10,127	10,011	9,883	9,783	9,686	9,592	9,493	9,400	9,315
GATT Change	0	0	-1	-14	-21	-21	-16	-14	-17
Milk Production				(Billion Pounds)					
Baseline	148.28	148.63	149.51	151.35	152.87	154.24	155.59	157.01	158.94
GATT Change	0.00	0.00	-0.01	-0.24	-0.61	-0.57	-0.47	-0.44	-0.55
CCC Net Removals				(Billion Pounds, Total Milk Solids Basis)					
Baseline	4.64	6.73	5.92	5.69	5.25	4.83	4.33	3.84	3.56
GATT Change	0.00	0.00	0.00	-0.07	-0.19	-0.24	-0.23	-0.20	-0.34
Net Product Imports				(Billion Pounds, Total Milk Solids Basis)					
Baseline	2.02	1.84	-1.14	-0.05	0.19	0.60	1.01	1.40	1.40
GATT Change	0.00	0.00	0.00	1.37	1.37	1.15	0.93	0.77	0.78
Milk Support Price				(Dollars per Hundredweight)					
Baseline	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10	10.10
GATT Change	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.09
All Milk Price				(Dollars per Hundredweight)					
Baseline	13.73	12.24	12.29	12.48	12.61	12.79	12.93	12.98	12.90
GATT Change	0.00	0.00	0.01	-0.06	0.06	0.04	0.04	0.07	0.06
Net Returns				(Dollars per Hundredweight)					
Baseline	4.23	2.88	2.73	2.73	2.63	2.61	2.64	2.66	2.63
GATT Change	0.00	0.00	0.01	-0.10	0.00	-0.01	0.00	-0.01	-0.05

Table A12. Impacts of the baseline and Dunkel scenarios on U.S. livestock

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998
Beef				(Million Pounds)					
Baseline	22,743	22,917	23,409	24,101	24,634	25,238	25,565	25,313	24,853
GATT Change	0	0	9	-34	-61	-45	-1	52	97
Pork				(Million Pounds)					
Baseline	15,354	15,995	16,983	16,804	16,026	15,782	16,525	17,157	17,081
GATT Change	0	0	-1	21	268	416	210	195	502
Broiler				(Million Pounds)					
Baseline	18,660	19,809	20,609	21,231	21,890	22,651	23,234	23,882	24,630
GATT Change	0	0	-5	196	206	269	405	517	538
Livestock Prices									
Omaha 10-1100				(Dollars per Hundredweight)					
Baseline	77.40	74.35	73.35	72.22	70.94	68.90	69.82	73.81	77.51
GATT Change	0.00	0.00	-0.03	1.73	1.59	1.20	1.24	0.99	0.74
Kansas City 6-700				(Dollars per Hundredweight)					
Baseline	90.86	89.14	87.04	85.43	83.76	80.68	81.36	86.17	88.80
GATT Change	0.00	0.00	-0.07	2.10	2.12	1.41	1.37	1.00	0.62
7-Market Barrow and Gilt				(Dollars per Hundredweight)					
Baseline	54.45	49.03	41.08	44.98	52.04	56.71	51.67	47.23	50.35
GATT Change	0.00	0.00	0.01	3.57	1.73	0.75	3.40	4.45	2.95
12-City Broiler				(Dollars per Hundredweight)					
Baseline	54.80	52.15	49.17	52.60	53.55	54.52	52.95	54.29	54.90
GATT Change	0.00	0.00	-0.04	2.64	2.88	2.77	3.43	3.45	3.57
Returns									
Cow Calf				(Dollars per Cow)					
Baseline	90.95	87.23	74.93	58.17	38.99	14.11	10.16	29.52	39.23
GATT Change	0.00	0.00	-0.54	9.69	9.44	6.08	5.56	2.98	0.81
Farrow-to-Finish				(Dollars per Hundredweight)					
Baseline	11.83	6.36	-2.29	1.36	7.90	11.53	4.76	0.19	4.42
GATT Change	0.00	0.00	-0.09	3.10	0.98	0.24	3.06	3.49	1.54
Broilers				(Cents per Pound)					
Baseline	8.37	5.38	1.37	4.39	4.76	4.97	2.53	3.93	5.01
GATT Change	0.00	0.00	-0.13	2.23	2.41	2.51	3.18	2.79	2.69
Retail									
Total Meat Consumption				(Pounds per Person)					
Baseline	206.10	209.31	214.90	216.90	217.15	219.26	221.31	222.35	221.93
GATT Change	0.00	0.00	0.01	-2.07	-1.78	-1.55	-2.23	-2.43	-2.22
Total Meat Expenditures				(Dollars per Person)					
Baseline	383.72	375.23	374.69	386.48	393.07	397.53	397.59	401.76	420.35
GATT Change	0.00	0.00	-0.05	7.07	6.29	5.43	7.75	8.32	7.80

Table A13. Impacts of the baseline and Dunkel scenarios on U.S. net farm income

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998
Crop Receipts				(Billion Dollars)					
Baseline	80.36	82.01	82.80	83.85	85.68	88.65	91.78	92.94	93.43
GATT Change	0.00	0.00	0.21	0.77	1.19	0.86	0.90	1.34	1.56
Livestock Receipts				(Billion Dollars)					
Baseline	89.62	85.93	84.61	87.15	89.05	90.59	91.08	92.77	93.35
GATT Change	0.00	0.00	-0.02	2.35	2.21	1.86	2.63	2.91	2.70
Government Payments				(Billion Dollars)					
Baseline	9.30	8.50	7.91	8.66	8.22	7.12	6.46	6.11	6.38
GATT Change	0.00	0.00	-0.07	-0.28	-0.49	-0.35	-0.46	-0.75	-0.91
Other Income				(Billion Dollars)					
Baseline	13.00	13.61	13.61	13.92	14.22	14.57	14.90	15.34	15.86
GATT Change	0.00	0.00	0.00	0.17	0.16	0.14	0.19	0.21	0.20
Production Expenses				(Billion Dollars)					
Baseline	144.31	145.81	147.22	150.09	153.54	158.28	163.70	166.77	167.50
GATT Change	0.00	0.00	0.23	1.74	2.06	1.61	1.69	2.53	2.92
Net Cash Income				(Billion Dollars)					
Baseline	61.82	57.86	54.81	57.03	57.98	58.08	56.95	57.15	60.26
GATT Change	0.00	0.00	-0.09	1.16	0.94	0.84	1.45	1.07	0.57
Net Farm Income				(Billion Dollars)					
Baseline	50.87	44.29	43.19	43.63	44.77	43.77	41.51	41.15	44.04
GATT Change	0.00	0.00	-0.12	1.66	1.28	0.90	1.62	1.36	0.79

Table A14. Impacts of the baseline and Dunkel scenarios on net CCC outlays

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998
Feed Grains					(Billion Dollars)				
Baseline	2.72	2.72	2.39	3.79	3.01	1.98	2.26	2.61	3.04
GATT Change	0.00	0.00	-0.07	-0.27	-0.34	-0.20	-0.39	-0.65	-0.81
Wheat					(Billion Dollars)				
Baseline	0.81	2.96	1.85	2.11	1.96	1.81	1.53	1.38	1.47
GATT Change	0.00	0.00	0.00	-0.13	-0.05	-0.17	-0.19	-0.25	-0.27
Cotton					(Billion Dollars)				
Baseline	-0.08	0.38	1.07	0.69	0.83	0.83	0.57	0.59	0.77
GATT Change	0.00	0.00	0.00	0.02	0.17	0.22	0.26	0.27	0.29
Rice					(Billion Dollars)				
Baseline	0.67	0.87	0.56	0.82	0.53	0.47	0.44	0.37	0.32
GATT Change	0.00	0.00	0.00	-0.01	-0.07	-0.06	-0.04	-0.02	-0.02
Dairy					(Billion Dollars)				
Baseline	0.50	0.84	0.46	0.42	0.37	0.32	0.41	0.36	0.33
GATT Change	0.00	0.00	0.00	-0.01	-0.02	-0.03	-0.03	-0.03	-0.04
Export Programs					(Billion Dollars)				
Baseline	-0.01	0.83	0.84	0.98	1.04	1.10	1.11	1.12	1.16
GATT Change	0.00	0.00	0.00	0.00	-0.08	-0.18	-0.25	-0.30	-0.40
Other					(Billion Dollars)				
Baseline	1.86	1.52	-2.18	1.22	1.21	0.96	0.86	0.99	1.20
GATT Change	0.00	0.00	0.00	-0.02	-0.01	0.01	0.00	-0.01	-0.01
Total					(Billion Dollars)				
Baseline	6.47	10.11	9.34	10.02	8.95	7.48	7.17	7.42	8.29
GATT Change	0.00	0.00	-0.07	-0.42	-0.40	-0.42	-0.63	-0.98	-1.26

Table A15. Impacts of the baseline and Dunkel scenarios on EC agricultural products

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Wheat									
Production				(1,000 Metric Tons)					
Baseline	84,615	90,349	82,605	83,029	83,861	84,764	85,721	86,708	87,735
GATT Change	0	0	0	-4,101	-3,464	-4,485	-6,370	-7,427	-8,519
Domestic Use				(1,000 Metric Tons)					
Baseline	63,703	64,789	64,760	65,444	66,096	66,694	67,248	67,782	68,291
GATT Change	0	0	-6	-513	-462	-533	-1,271	-1,249	-1,144
Net Exports				(1,000 Metric Tons)					
Baseline	19,003	21,170	19,866	18,782	17,835	18,010	18,394	18,843	19,357
GATT Change	0	0	15	-3,275	-3,014	-3,875	-4,947	-6,082	-7,282
Barley									
Production				(1,000 Metric Tons)					
Baseline	50,773	50,863	50,338	50,296	50,611	50,976	51,374	51,791	52,222
GATT Change	0	0	0	-1,683	-1,559	-2,504	-2,974	-3,462	-3,987
Domestic Use				(1,000 Metric Tons)					
Baseline	42,106	42,996	43,304	43,530	43,760	43,986	44,190	44,389	44,613
GATT Change	0	0	12	112	4	37	46	247	405
Net Exports				(1,000 Metric Tons)					
Baseline	7,834	7,995	7,397	6,931	6,956	7,070	7,246	7,453	7,651
GATT Change	0	0	-10	-1,392	-1,813	-2,402	-3,052	-3,732	-4,404
Corn									
Production				(1,000 Metric Tons)					
Baseline	21,613	26,128	26,308	26,470	26,631	26,806	26,999	27,209	27,443
GATT Change	0	0	0	-862	-761	-1,211	-1,405	-1,616	-1,847
Domestic Use				(1,000 Metric Tons)					
Baseline	26,898	28,886	27,769	27,948	28,147	28,354	28,511	28,641	28,816
GATT Change	0	0	29	615	627	155	-28	-167	-329
Net Imports				(1,000 Metric Tons)					
Baseline	3,566	2,309	1,519	1,533	1,570	1,599	1,559	1,478	1,419
GATT Change	0	0	28	1,430	1,394	1,365	1,404	1,485	1,545
Soybeans									
Production				(1,000 Metric Tons)					
Baseline	2,135	1,680	1,878	1,864	1,898	1,921	1,935	1,935	1,964
GATT Change	0	0	5	21	3	6	6	-3	-23
Domestic Use				(1,000 Metric Tons)					
Baseline	14,340	14,424	14,472	14,526	14,610	14,627	14,613	14,658	14,709
GATT Change	0	0	12	119	216	326	425	486	509
Net Imports				(1,000 Metric Tons)					
Baseline	12,281	12,754	12,620	12,666	12,716	12,708	12,679	12,726	12,748
GATT Change	0	0	7	102	216	324	422	491	533

Table A15. Continued

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Soybean Meal									
Production				(1,000 Metric Tons)					
Baseline	10,036	10,082	10,082	10,126	10,190	10,204	10,197	10,231	10,270
GATT Change	0	0	9	88	160	241	315	360	377
Domestic Use				(1,000 Metric Tons)					
Baseline	20,200	20,296	20,393	20,401	20,396	20,375	20,424	20,499	20,551
GATT Change	0	0	-61	34	31	75	157	123	72
Net Imports				(1,000 Metric Tons)					
Baseline	10,144	10,086	10,279	10,272	10,209	10,174	10,230	10,273	10,286
GATT Change	0	0	-71	-51	-125	-162	-155	-236	-304
Rice									
Production				(1,000 Metric Tons)					
Baseline	1,609	1,537	1,569	1,594	1,618	1,641	1,665	1,689	1,713
GATT Change	0	0	0	-159	-325	-333	-342	-350	-357
Domestic Use				(1,000 Metric Tons)					
Baseline	1,654	1,600	1,628	1,646	1,671	1,697	1,726	1,754	1,784
GATT Change	0	0	0	0	7	17	25	31	38
Net Imports				(1,000 Metric Tons)					
Baseline	125	-120	67	58	59	62	67	72	76
GATT Change	0	0	0	119	291	348	365	378	394
Sugar									
Production				(1,000 Metric Tons)					
Baseline	17,010	15,452	15,947	16,264	16,330	16,431	16,498	16,596	16,691
GATT Change	0	0	0	-110	-217	-343	-465	-602	-736
Domestic Use				(1,000 Metric Tons)					
Baseline	12,816	12,840	12,914	12,967	13,014	13,054	13,066	13,083	13,095
GATT Change	0	0	-1	0	-1	0	-1	-1	-1
Net Exports				(1,000 Metric Tons)					
Baseline	3,948	2,827	2,984	3,219	3,283	3,348	3,409	3,489	3,571
GATT Change	0	0	1	-88	-190	-311	-433	-566	-700

Table A15. Continued

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Support Prices									
Wheat				(ECUs per Metric Ton)					
Baseline	163.65	155.07	150.66	146.14	141.61	137.36	133.24	129.25	125.37
GATT Change	0.00	0.00	0.00	8.86	13.39	17.64	21.76	25.75	29.63
Barley				(ECUs per Metric Ton)					
Baseline	155.23	146.65	142.24	137.72	133.34	129.08	124.96	120.96	117.07
GATT Change	0.00	0.00	0.00	17.28	21.66	25.92	30.04	34.04	37.93
Corn				(ECUs per Metric Ton)					
Baseline	163.65	155.07	150.66	146.14	141.76	137.50	133.38	129.38	125.49
GATT Change	0.00	0.00	0.00	8.86	13.24	17.50	21.62	25.62	29.39
Soybeans				(ECUs per Metric Ton)					
Baseline	360.15	273.06	300.24	332.80	331.92	337.87	336.27	325.50	325.50
GATT Change	0.00	0.00	2.44	9.23	8.91	5.59	5.27	3.81	-0.50
Sugar (A Intervention)				(ECUs per Metric Ton)					
Baseline	43.14	43.14	43.14	43.14	43.14	43.14	43.14	43.14	43.14
GATT Change	0.00	0.00	0.00	-0.42	-1.34	-2.19	-2.98	-3.78	-4.58
Sugar (B Intervention)				(ECUs per Metric Ton)					
Baseline	29.93	29.93	29.93	29.93	29.93	29.93	29.93	29.93	29.93
GATT Change	0.00	0.00	0.00	-0.73	0.00	0.00	0.00	0.00	0.00
Beef									
Production				(1,000 Metric Tons)					
Baseline	8,272	8,346	8,295	8,263	8,247	8,236	8,221	8,202	8,191
GATT Change	0	0	2	45	10	-35	-17	-47	-76
Domestic Use				(1,000 Metric Tons)					
Baseline	7,407	7,612	7,643	7,651	7,661	7,673	7,667	7,674	7,677
GATT Change	0	0	0	124	106	82	117	110	110
Net Exports				(1,000 Metric Tons)					
Baseline	589	618	740	653	610	578	566	539	522
GATT Change	0	0	1	-92	-92	-102	-132	-147	-172
Pork									
Production				(1,000 Metric Tons)					
Baseline	14,087	13,555	13,558	13,701	13,730	13,760	13,802	13,855	13,921
GATT Change	0	0	-1	6	-1	-43	-80	-104	-146
Domestic Use				(1,000 Metric Tons)					
Baseline	13,507	12,932	13,052	13,136	13,215	13,287	13,340	13,404	13,464
GATT Change	0	0	0	201	123	46	81	119	100
Net Exports				(1,000 Metric Tons)					
Baseline	580	623	506	565	515	472	462	450	457
GATT Change	0	0	-1	-195	-124	-89	-161	-223	-247

Table A15. Continued

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Poultry									
Production				(1,000 Metric Tons)					
Baseline	6,512	6,650	6,770	6,883	6,990	7,088	7,181	7,275	7,371
GATT Change	0	0	7	-22	-73	-108	-152	-199	-228
Domestic Use				(1,000 Metric Tons)					
Baseline	6,216	6,345	6,425	6,514	6,607	6,701	6,788	6,884	6,980
GATT Change	0	0	0	169	155	158	183	173	186
Net Exports				(1,000 Metric Tons)					
Baseline	296	305	345	368	383	387	393	391	391
GATT Change	0	0	7	-191	-229	-266	-334	-372	-415
Milk									
Production				(1,000 Metric Tons)					
Baseline	117,957	115,477	114,452	114,211	114,123	114,046	113,975	113,918	113,888
GATT Change	0	0	7	-1,211	-1,189	-1,225	-1,272	-1,324	-1,380
Fluid Use				(1,000 Metric Tons)					
Baseline	30,850	30,823	30,852	30,905	30,945	30,973	30,944	30,927	30,904
GATT Change	0	0	0	183	67	123	165	196	226
Butter									
Production				(1,000 Metric Tons)					
Baseline	1,982	1,801	1,759	1,734	1,715	1,697	1,681	1,664	1,650
GATT Change	0	0	0	-41	-48	-37	-28	-19	-10
Domestic Use				(1,000 Metric Tons)					
Baseline	1,580	1,546	1,529	1,498	1,476	1,459	1,441	1,426	1,409
GATT Change	0	0	0	-9	-15	-17	-17	-16	-15
Net Exports				(1,000 Metric Tons)					
Baseline	179	319	304	266	247	237	235	235	234
GATT Change	0	0	0	-1	-18	-19	-14	-7	2
Cheese									
Production				(1,000 Metric Tons)					
Baseline	4,752	4,850	4,892	4,942	4,998	5,054	5,112	5,170	5,229
GATT Change	0	0	0	-58	-31	-61	-88	-115	-141
Domestic Use				(1,000 Metric Tons)					
Baseline	4,459	4,486	4,546	4,605	4,662	4,717	4,762	4,809	4,854
GATT Change	0	0	0	41	12	30	43	54	64
Net Exports				(1,000 Metric Tons)					
Baseline	248	325	360	345	328	324	333	346	357
GATT Change	0	0	0	-51	-50	-75	-111	-149	-187

Table A15. Continued

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Nonfat Dry Milk									
Production				(1,000 Metric Tons)					
Baseline	1,716	1,569	1,484	1,459	1,440	1,422	1,406	1,389	1,375
GATT Change	0	0	0	-41	-48	-37	-28	-19	-10
Domestic Use				(1,000 Metric Tons)					
Baseline	1,043	1,077	1,070	1,038	1,015	998	982	968	953
GATT Change	0	0	0	35	17	10	8	6	6
Net Exports				(1,000 Metric Tons)					
Baseline	460	365	473	453	435	427	424	421	418
GATT Change	0	0	0	-42	-54	-49	-40	-28	-19
Prices									
Beef Producer				(ECUs per Metric Ton)					
Baseline	2,814	2,611	2,600	2,600	2,600	2,600	2,600	2,600	2,600
GATT Change	0	0	0	-93	-82	-67	-93	-83	-84
Pork Producer				(ECUs per Metric Ton)					
Baseline	1,635	1,611	1,600	1,600	1,600	1,600	1,600	1,600	1,600
GATT Change	0	0	0	-105	-68	-30	-49	-66	-57
Chicken Producer				(ECUs per Metric Ton)					
Baseline	1,444	1,452	1,450	1,450	1,450	1,450	1,450	1,450	1,450
GATT Change	0	0	0	-103	-91	-85	-101	-95	-98
Milk Farm				(ECUs per Metric Ton)					
Baseline	301	297	299	300	301	303	304	305	306
GATT Change	0	0	0	-11	-4	-8	-12	-14	-17
Meat Consumption									
Beef				(Kilograms per Capita)					
Baseline	15.1	15.5	15.5	15.5	15.5	15.5	15.4	15.4	15.4
GATT Change	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.2	0.2
Pork				(Kilograms per Capita)					
Baseline	27.5	26.3	26.5	26.6	26.7	26.8	26.8	26.9	27.0
GATT Change	0.0	0.0	0.0	0.4	0.2	0.1	0.2	0.2	0.2
Poultry				(Kilograms per Capita)					
Baseline	18.1	18.4	18.6	18.8	19.1	19.3	19.5	19.8	20.0
GATT Change	0.0	0.0	0.0	0.5	0.4	0.5	0.5	0.5	0.5
Total Meat Expenditures									
Producer Price				(Billion ECUs)					
Baseline	57.2	55.1	55.3	55.6	56.0	56.3	56.6	56.9	57.2
GATT Change	0.0	0.0	0.0	-1.9	-1.4	-1.0	-1.4	-1.5	-1.4

Table A16. Impacts of the baseline and Dunkel scenarios on Japanese agricultural products

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Rice									
Production				(1,000 Metric Tons)					
Baseline	9,602	8,801	8,787	8,796	8,821	8,857	8,901	8,949	9,001
GATT Change	0	0	0	1	0	-1	-3	1	-2
Domestic Use				(1,000 Metric Tons)					
Baseline	9,620	8,880	8,855	8,854	8,868	8,894	8,928	8,969	9,014
GATT Change	0	0	0	283	321	357	394	434	468
Net Imports				(1,000 Metric Tons)					
Baseline	0	0	0	0	0	0	0	0	0
GATT Change	0	0	0	282	320	358	395	433	470
Wheat									
Production				(1,000 Metric Tons)					
Baseline	996	869	875	856	834	811	785	758	729
GATT Change	0	0	0	0	0	0	0	0	0
Domestic Use				(1,000 Metric Tons)					
Baseline	6,615	6,602	6,508	6,613	6,649	6,689	6,728	6,769	6,811
GATT Change	0	0	0	-13	-39	-65	-88	-109	-131
Net Exports				(1,000 Metric Tons)					
Baseline	5,603	5,754	5,618	5,783	5,847	5,916	5,985	6,057	6,131
GATT Change	0	0	0	-17	-48	-78	-103	-124	-147
Barley									
Production				(1,000 Metric Tons)					
Baseline	345	343	385	392	395	396	394	390	383
GATT Change	0	0	0	0	0	0	-4	-10	-16
Domestic Use				(1,000 Metric Tons)					
Baseline	1,751	1,681	1,724	1,751	1,759	1,768	1,764	1,753	1,745
GATT Change	0	0	0	-4	-32	-62	-82	-84	-90
Net Imports				(1,000 Metric Tons)					
Baseline	1,399	1,307	1,311	1,366	1,368	1,375	1,371	1,362	1,361
GATT Change	0	0	0	2	-38	-73	-86	-77	-76
Corn									
Domestic Use				(1,000 Metric Tons)					
Baseline	16,340	16,246	16,255	16,329	16,410	16,512	16,635	16,755	16,865
GATT Change	0	0	-12	-49	-166	-269	-363	-465	-553
Net Imports				(1,000 Metric Tons)					
Baseline	16,041	16,204	16,262	16,331	16,412	16,511	16,640	16,763	16,870
GATT Change	0	0	-13	-52	-166	-269	-366	-467	-553

Table A16. Continued

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Soybeans									
Production				(1,000 Metric Tons)					
Baseline	220	261	255	257	259	261	265	268	270
GATT Change	0	0	0	-1	0	1	0	0	0
Domestic Use				(1,000 Metric Tons)					
Baseline	4,713	4,753	4,898	5,001	5,082	5,151	5,214	5,276	5,336
GATT Change	0	0	0	-1	-2	-2	-1	-2	-2
Net Imports				(1,000 Metric Tons)					
Baseline	4,402	4,407	4,668	4,758	4,834	4,899	4,958	5,016	5,074
GATT Change	0	0	1	0	-2	-2	-2	-2	-2
Soybean Meal									
Production				(1,000 Metric Tons)					
Baseline	2,687	2,734	2,837	2,905	2,956	2,997	3,033	3,068	3,102
GATT Change	0	0	0	0	-1	-1	-1	-1	-1
Domestic Use				(1,000 Metric Tons)					
Baseline	3,430	3,513	3,397	3,461	3,529	3,597	3,674	3,758	3,838
GATT Change	0	0	-3	-5	-4	-2	-6	-8	-8
Net Imports				(1,000 Metric Tons)					
Baseline	834	640	562	559	576	603	644	693	740
GATT Change	0	0	-4	-5	-3	-1	-5	-8	-7
Sugar									
Production				(1,000 Metric Tons)					
Baseline	925	915	914	915	915	916	917	918	919
GATT Change	0	0	0	0	0	0	0	-2	-6
Domestic Use				(1,000 Metric Tons)					
Baseline	2,800	2,800	2,832	2,853	2,862	2,876	2,884	2,895	2,904
GATT Change	0	0	0	0	0	0	0	0	0
Net Imports				(1,000 Metric Tons)					
Baseline	1,849	1,874	1,915	1,939	1,948	1,960	1,968	1,977	1,985
GATT Change	0	0	0	0	0	0	0	2	5

Table A16. Continued

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Producer Prices									
Rice				(1,000 Yen per Metric Ton)					
Baseline	275.0	275.0	275.0	275.0	275.0	275.0	275.0	275.0	275.0
GATT Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wheat				(1,000 Yen per Metric Ton)					
Baseline	153.7	153.7	153.7	153.7	153.7	153.7	153.7	153.7	153.7
GATT Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Barley				(1,000 Yen per Metric Ton)					
Baseline	131.8	131.8	131.8	131.8	131.8	131.8	131.8	131.8	131.8
GATT Change	0.0	0.0	0.0	0.0	0.0	-0.1	-2.8	-4.3	-5.1
Soybeans				(1,000 Yen per Metric Ton)					
Baseline	205.0	194.7	198.2	194.1	192.4	194.6	193.1	184.5	180.4
GATT Change	0.0	0.0	1.4	4.6	4.4	2.7	3.6	4.6	5.1
Sugar Beets				(1,000 Yen per Metric Ton)					
Baseline	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
GATT Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.8
Beef									
Production				(1,000 Metric Tons)					
Baseline	549	570	576	569	567	563	558	562	562
GATT Change	0	0	1	3	4	2	0	-2	-5
Domestic Use				(1,000 Metric Tons)					
Baseline	1,075	1,130	1,175	1,227	1,270	1,331	1,379	1,413	1,449
GATT Change	0	0	0	-23	-24	-25	-29	-32	-32
Net Imports				(1,000 Metric Tons)					
Baseline	537	510	573	658	703	768	821	851	887
GATT Change	0	0	-1	-26	-28	-27	-29	-29	-28
Pork									
Production				(1,000 Metric Tons)					
Baseline	1,555	1,490	1,506	1,504	1,507	1,513	1,517	1,519	1,519
GATT Change	0	0	0	2	-18	-51	-78	-101	-125
Domestic Use				(1,000 Metric Tons)					
Baseline	2,043	2,040	2,084	2,119	2,150	2,183	2,224	2,264	2,293
GATT Change	0	0	0	186	192	200	231	271	291
Net Imports				(1,000 Metric Tons)					
Baseline	488	550	578	615	643	670	706	745	775
GATT Change	0	0	0	185	209	250	309	372	416

Table A16. Continued

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Poultry									
Production				(1,000 Metric Tons)					
Baseline	1,451	1,435	1,447	1,463	1,481	1,499	1,517	1,536	1,556
GATT Change	0	0	0	0	0	1	1	1	0
Domestic Use				(1,000 Metric Tons)					
Baseline	1,752	1,765	1,798	1,825	1,882	1,941	2,020	2,072	2,133
GATT Change	0	0	0	-31	-33	-32	-39	-40	-43
Net Imports				(1,000 Metric Tons)					
Baseline	301	330	351	361	401	442	503	536	577
GATT Change	0	0	0	-31	-34	-33	-40	-41	-43
Milk									
Production				(1,000 Metric Tons)					
Baseline	8,190	8,180	8,243	8,217	8,250	8,326	8,404	8,499	8,623
GATT Change	0	0	0	-61	-131	-216	-314	-415	-523
Fluid Use				(1,000 Metric Tons)					
Baseline	5,060	5,150	5,155	5,223	5,294	5,367	5,440	5,513	5,585
GATT Change	0	0	0	31	51	73	95	116	138
Butter									
Production				(1,000 Metric Tons)					
Baseline	76	70	75	73	72	72	72	73	74
GATT Change	0	0	0	-2	-5	-8	-11	-14	-18
Domestic Use				(1,000 Metric Tons)					
Baseline	88	89	89	90	91	92	93	95	96
GATT Change	0	0	0	1	1	1	2	2	3
Net Imports				(1,000 Metric Tons)					
Baseline	7	15	13	17	19	20	21	22	22
GATT Change	0	0	0	3	6	9	13	17	21
Cheese									
Production				(1,000 Metric Tons)					
Baseline	28	29	28	27	27	27	27	27	28
GATT Change	0	0	0	-1	-2	-3	-4	-5	-7
Domestic Use				(1,000 Metric Tons)					
Baseline	138	142	146	149	153	158	162	166	171
GATT Change	0	0	0	-1	0	0	0	-1	-1
Net Imports				(1,000 Metric Tons)					
Baseline	106	116	118	122	127	131	135	139	143
GATT Change	0	0	0	0	2	3	4	5	6

Table A16. Continued

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Nonfat Dry Milk									
Production				(1,000 Metric Tons)					
Baseline	179	170	175	169	167	167	168	169	172
GATT Change	0	0	0	-6	-11	-18	-26	-33	-42
Domestic Use				(1,000 Metric Tons)					
Baseline	270	295	275	276	278	279	280	282	283
GATT Change	0	0	0	2	3	4	6	7	8
Net Imports				(1,000 Metric Tons)					
Baseline	81	118	100	107	111	112	113	112	111
GATT Change	0	0	0	8	15	23	31	40	50
Prices									
Beef Wholesale				(1,000 Yen per Metric Ton)					
Baseline	1,223	988	821	748	725	699	690	698	705
GATT Change	0	0	0	6	5	4	4	3	2
Pork Wholesale				(1,000 Yen per Metric Ton)					
Baseline	514	529	513	520	527	530	526	523	526
GATT Change	0	0	0	-101	-103	-106	-117	-132	-140
Chicken Retail				(1,000 Yen per Metric Ton)					
Baseline	1,165	1,117	1,086	1,097	1,094	1,091	1,076	1,075	1,070
GATT Change	0	0	0	14	15	14	17	17	17
Milk Farm				(1,000 Yen per Metric Ton)					
Baseline	89	89	89	89	89	89	89	89	89
GATT Change	0	0	0	-3	-5	-7	-10	-12	-14
Meat Consumption									
Beef				(Kilograms per Capita)					
Baseline	6.1	6.3	6.5	6.8	7.0	7.3	7.6	7.7	7.9
GATT Change	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2
Pork				(Kilograms per Capita)					
Baseline	11.4	11.4	11.5	11.7	11.8	12.0	12.1	12.3	12.4
GATT Change	0.0	0.0	0.0	1.0	1.1	1.1	1.3	1.5	1.6
Poultry				(Kilograms per Capita)					
Baseline	10.7	10.7	10.9	11.0	11.3	11.6	12.0	12.3	12.6
GATT Change	0.0	0.0	0.0	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3
Total Meat Expenditures				(Billion Yen at Retail Prices)					
Baseline	12.5	12.6	12.7	12.9	13.2	13.4	13.6	13.9	14.1
GATT Change	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2

Table A17. Impacts of the baseline and Dunkel scenarios on Canadian agricultural products

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Wheat									
Production				(1,000 Metric Tons)					
Baseline	32,710	32,810	28,815	28,612	28,919	29,036	29,098	29,276	29,460
GATT Change	0	0	0	-318	-579	-512	-268	-18	247
Domestic Use				(1,000 Metric Tons)					
Baseline	6,703	6,857	6,937	7,114	7,137	7,330	7,364	7,213	7,144
GATT Change	0	0	47	21	-34	-182	-261	-219	-245
Net Exports				(1,000 Metric Tons)					
Baseline	22,106	24,558	22,421	21,456	21,679	22,069	22,335	22,339	22,322
GATT Change	0	0	-49	30	-220	-300	-188	181	566
Barley									
Production				(1,000 Metric Tons)					
Baseline	13,925	12,462	13,250	13,677	14,012	14,282	14,481	14,634	14,786
GATT Change	0	0	0	33	9	-30	-28	-3	21
Domestic Use				(1,000 Metric Tons)					
Baseline	8,691	8,502	8,584	8,608	8,605	8,576	8,600	8,606	8,646
GATT Change	0	0	11	-13	-10	-20	-4	-4	-2
Net Exports				(1,000 Metric Tons)					
Baseline	4,377	4,597	4,655	4,905	5,298	5,619	5,814	5,978	6,095
GATT Change	0	0	-11	40	20	0	-21	-4	15
Corn									
Production				(1,000 Metric Tons)					
Baseline	7,157	7,316	6,188	6,447	6,638	6,775	6,871	6,936	6,987
GATT Change	0	0	0	-76	-115	-139	-146	-145	-127
Domestic Use				(1,000 Metric Tons)					
Baseline	7,063	7,270	7,057	7,079	7,042	7,034	7,075	7,132	7,167
GATT Change	0	0	0	4	-4	11	3	5	3
Net Exports				(1,000 Metric Tons)					
Baseline	-411	25	-499	-592	-415	-285	-236	-231	-212
GATT Change	0	0	1	-66	-96	-141	-144	-146	-130

Table A17. Continued

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Beef									
Production				(1,000 Metric Tons)					
Baseline	924	890	910	921	930	937	938	934	933
GATT Change	0	0	0	0	2	3	5	7	8
Domestic Use				(1,000 Metric Tons)					
Baseline	1,001	978	997	1,007	1,017	1,028	1,035	1,037	1,039
GATT Change	0	0	0	-2	-2	-2	-2	-2	-1
Net Imports				(1,000 Metric Tons)					
Baseline	75	85	88	86	87	91	97	103	107
GATT Change	0	0	0	-3	-4	-5	-7	-8	-9
Pork									
Production				(1,000 Metric Tons)					
Baseline	1,134	1,134	1,185	1,163	1,132	1,164	1,195	1,202	1,186
GATT Change	0	0	0	1	12	15	10	18	26
Domestic Use				(1,000 Metric Tons)					
Baseline	836	847	879	868	852	843	863	881	877
GATT Change	0	0	0	-11	-5	-2	-10	-13	-9
Net Exports				(1,000 Metric Tons)					
Baseline	262	287	306	296	281	321	332	321	309
GATT Change	0	0	0	11	17	18	20	31	35
Broilers									
Production				(1,000 Metric Tons)					
Baseline	572	595	614	632	653	671	687	703	720
GATT Change	0	0	0	-27	-52	-62	-69	-75	-80
Domestic Use				(1,000 Metric Tons)					
Baseline	613	641	661	682	703	722	743	762	780
GATT Change	0	0	0	36	55	61	68	73	78
Net Imports				(1,000 Metric Tons)					
Baseline	48	42	46	50	50	52	55	58	60
GATT Change	0	0	0	62	107	123	137	148	157

Table A17. Continued

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Milk									
Production				(1,000 Metric Tons)					
Baseline	7,975	7,950	7,778	7,707	7,715	7,718	7,734	7,777	7,812
GATT Change	0	0	-7	-52	-95	-118	-149	-178	-194
Fluid Use				(1,000 Metric Tons)					
Baseline	2,800	2,815	2,821	2,852	2,879	2,905	2,927	2,950	2,974
GATT Change	0	0	0	17	28	36	42	46	50
Butter									
Production				(1,000 Metric Tons)					
Baseline	97	100	99	95	92	90	89	88	87
GATT Change	0	0	0	-4	-4	-4	-5	-7	-7
Domestic Use				(1,000 Metric Tons)					
Baseline	94	91	87	87	86	86	85	84	83
GATT Change	0	0	0	2	2	2	3	3	3
Net Exports				(1,000 Metric Tons)					
Baseline	3	3	3	3	3	3	3	3	3
GATT Change	0	0	0	-4	-5	-5	-6	-6	-7
Cheese									
Production				(1,000 Metric Tons)					
Baseline	250	255	250	249	253	256	259	263	266
GATT Change	0	0	0	1	-5	-7	-9	-10	-10
Domestic Use				(1,000 Metric Tons)					
Baseline	261	265	260	264	268	273	277	281	286
GATT Change	0	0	0	2	4	5	6	6	7
Net Imports				(1,000 Metric Tons)					
Baseline	10	12	15	16	17	17	18	19	20
GATT Change	0	0	0	2	9	12	15	16	17
Nonfat Dry Milk									
Production				(1,000 Metric Tons)					
Baseline	95	93	89	85	83	80	79	79	78
GATT Change	0	0	0	-4	-3	-4	-5	-6	-7
Domestic Use				(1,000 Metric Tons)					
Baseline	47	47	46	46	46	47	47	47	47
GATT Change	0	0	0	0	0	0	0	0	1
Net Exports				(1,000 Metric Tons)					
Baseline	43	44	42	39	36	34	32	32	31
GATT Change	0	0	0	-3	-3	-4	-5	-7	-8

Table A17. Continued

Variable	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99
Prices									
Beef Liveweight				(Canadian Dollars per Metric Ton)					
Baseline	1,990	1,917	1,890	1,855	1,815	1,755	1,772	1,866	1,951
GATT Change	0	0	-1	44	41	31	31	25	18
Pork Liveweight				(Canadian Dollars per Metric Ton)					
Baseline	1,400	1,264	1,058	1,155	1,331	1,445	1,311	1,194	1,268
GATT Change	0	0	0	92	44	19	86	112	74
Broiler Wholesale				(Canadian Dollars per Metric Ton)					
Baseline	2,645	2,657	2,668	2,704	2,787	2,832	2,868	2,911	2,955
GATT Change	0	0	0	-507	-584	-634	-719	-753	-804
Milk Farm Price				(Canadian Dollars per Metric Ton)					
Baseline	511	524	536	542	554	566	577	587	596
GATT Change	0	0	1	-23	-38	-50	-61	-68	-75
Meat Consumption									
Beef				(Kilograms per Capita)					
Baseline	37.6	36.4	36.7	36.6	36.6	36.6	36.4	36.1	35.9
GATT Change	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0
Pork				(Kilograms per Capita)					
Baseline	31.4	31.5	32.3	31.6	30.6	30.0	30.4	30.7	30.2
GATT Change	0.0	0.0	0.0	-0.4	-0.2	-0.1	-0.4	-0.5	-0.3
Poultry				(Kilograms per Capita)					
Baseline	23.0	23.8	24.3	24.8	25.3	25.7	26.2	26.5	26.9
GATT Change	0.0	0.0	0.0	1.3	2.0	2.2	2.4	2.5	2.7
Total Meat Expenditures At Liveweight Price				(Billion Canadian Dollars)					
Baseline	4.8	4.6	4.6	4.7	4.9	5.1	5.1	5.2	5.4
GATT Change	0.0	0.0	0.0	-0.2	-0.2	-0.3	-0.3	-0.3	-0.4

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