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BY THE COMPTROLLER GENERAL

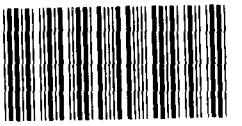
Report To The Congress

OF THE UNITED STATES

U.S. Sweetener/Sugar Issues And Concerns

The U.S. sugar price-support program affects how much of the sugar the United States uses is produced domestically and how much is imported, the price of the sugar, and the percentages of the program costs borne directly by U.S. sugar consumers and by the U.S. Treasury. The current program will be reconsidered in 1985.

This report discusses overall U.S. sweetener/sugar policy and presents information on the U.S. sugar industry, the current price-support program, and related issues.



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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

B-118622

To the President of the Senate and the
Speaker of the House of Representatives

This report discusses the status of sweetener use in the United States, the domestic sugar industry, international considerations, views of sugar producers and sugar users, and general sweetener/sugar policy questions.

We made the review to provide the Congress with information on sweetener/sugar issues that would be useful in debating the 1985 farm bill.

We are sending copies of this report to the Director, Office of Management and Budget, and the Secretary of Agriculture.

Charles A. Bowsher

Comptroller General
of the United States

D I G E S T

The United States is among the world's largest sugar users, consuming about 10 percent of the world's supply. In 1983 the United States used almost 9 million tons of sugar, producing about 64 percent of it and importing the rest. (See p. 4.)

Before the "Sugar Act" expired in 1974, production, marketing, and importation of sugar had been regulated under a quota system. Since 1977, sugar price-support programs have been considered with farm legislation enacted by the Congress every 4 years. The U.S. sugar price-support program now in effect is part of the 1981 farm legislation. (See p. 1.)

The current price-support program allows eligible U.S. processors to use their sugar stocks as collateral for federal loans at the government-established support price. Market prices must remain higher than the support price to avoid government acquisitions of sugar due to loan forfeitures. The market price has remained above the support price partly because import quotas, which were established by the President in May 1982, restricted the supply of sugar brought into the country. (See p. 1.)

GAO is presenting this report to be of assistance in congressional deliberations on the 1985 farm bill, under which the sugar price-support program will be considered for renewal. The report provides information on the domestic sugar industry--including American sugar consumption and the views of sugar producers and users--as well as general policy questions and international considerations.

U.S. PER CAPITA CONSUMPTION OF SUGAR HAS DECREASED

The United States is now in an era of multiple sweetener use. From a clearly commanding position in the U.S. sweetener market, sugar has moved to one of shared importance with other sweeteners, such as corn sweeteners and artificial substances. According to Department of Agriculture estimates, sugar consumption in 1972 was about 103 pounds per capita (about

79 percent of total sweetener use); by 1983 it had decreased to about 71 pounds per capita (53 percent of total sweetener use).

Consumption of corn sweeteners more than doubled between 1972 and 1983. Also, U.S. use of non- or low-calorie sweeteners such as saccharin and aspartame increased. (See pp. 7-10.)

DOMESTIC SUGAR PRODUCTION IS DECLINING

A lessening of the importance of sugar in the sweetener market has contributed to a decline in production of the domestic plants from which sugar is made. Sugarbeet production, active in about one quarter of the states, declined from 4 million tons in 1975, its peak crop year, to 2.6 million tons in 1983. Sugarbeet plant processing capacity has also fallen. In 1983 there were 14 fewer facilities than in 1975; processing capacity was down about 22 percent. The Department estimated that for crop year 1983 almost 9,800 farmers produced sugarbeets on an average of about 105 acres each. (See pp. 11-13.)

Sugarcane is grown in Florida, Louisiana, Texas, Hawaii, and Puerto Rico. Domestic production of sugarcane was about the same in 1983 as it was in 1975--about 3.1 million tons. Twenty-five processing facilities, however, representing about 14 percent of processing capacity, ceased operation during this time period. The Department estimated that for crop years 1982 and 1983 almost 2,900 farmers produced sugarcane on an average of about 261 acres each. (See pp. 13-16.)

INTERNATIONAL CONSIDERATIONS

The United States, as a major sugar importer, is important to the world sugar market. International considerations include economic effects on sugar-exporting countries; the recent U.S. initiative to promote economic development in the Caribbean region, which is a major U.S. supplier of sugar; and the effort to stabilize world sugar prices through an international sugar agreement.

The sugar price-support program may economically affect sugar-exporting countries.

Quotas--and how much sugar could have been sold (and at what price) if quotas were not in place--benefit or hurt countries subject to such limits. Nations without quotas can be hurt twice: they cannot sell sugar to the United States and may--due to lower demand--command lower prices on the world market. (See p. 19.)

In August 1983, the President signed the Caribbean Basin Economic Recovery Act (Public Law 98-67) which authorizes him to promote economic development in specific countries in the region by providing certain trade and tax incentives. The act, as implemented, allows certain Caribbean nations to increase their revenues from sugar exports to the United States because it gives duty-free status to sugar imported from them. (See p. 20.)

World sugar prices have fluctuated sharply over the years. In an effort to stabilize the world price of sugar, the United States and about 70 other nations entered into the International Sugar Agreement, 1977, which calls for using quotas when prices are too low and releasing sugar stock in reserve when prices are too high. The agreement was to expire in 1982 but has been extended through 1984.

The agreement has not been effective, according to the Department, in maintaining sugar prices within the prescribed range (now 13 to 23 cents per pound). One cause is the European Economic Community--which produces about one third of the world's beet sugar. Not a party to the agreement, it has not held sugar off the market during periods of low world prices. Attempts to negotiate a new agreement had not been successful as of August 1984. According to a U.S. trade representative involved in the talks, participants in the agreement negotiations, which include the European community, have not been able to agree on specific regulatory mechanisms to include in a new pact. (See p. 21.)

SUGAR-USER AND SUGAR-PRODUCER VIEWS DIFFER

During 1983, representatives of the sugar-using industries (food and beverage processing companies that use sugar as an ingredient) and sugar-producing industries contracted with consulting firms to study sweetener policy issues.

Each group developed data and analyses that support its respective position concerning the need for a continuing domestic sugar price-support program.

Rises in sugar prices are passed on to consumers through increases in wholesale prices of products with a high sweetener content such as baked goods, according to the users' study. It says that a 1-cent rise in the price of U.S. raw sugar results in about a $257-million increase per year in the wholesale cost of sweeteners and that the current sugar price-support program costs consumers $2-3 billion annually. The study suggests a possible need for a minimal price-support program and proposes that prices be supported near the average level of variable costs of production in efficient U.S. sugar-producing areas. Such a plan, they argue, would save consumers about $1.2 billion a year. (See pp. 24-26.)

The sugar producers state that a price-support program is necessary to ensure an adequate supply of sugar at a relatively stable price. The producers' study asserts that although changes in raw sugar prices may directly affect the retail price of sugar, the impact of such changes on retail prices of high sweetener content foods and beverages is obscure and occurs slowly. As a result, the study states, meaningful savings for consumers due to small reductions in raw sugar prices could not be expected in the short run.

The producers' analyses, however, that support the conclusion are based on short-run data. In addition, they do not appear to consider lagged price effects or the influence of other factors, i.e., energy, transportation, and wage costs, on retail prices of prepared foods. These factors usually represent a substantial share of total production cost. (See pp. 23-24.)

POLICY QUESTIONS

This report discusses five policy questions (see ch. 6) concerning the sugar price-support program:

--Is a sugar price-support program still needed?

--If so, at what level should sugar prices be supported?

--What methods could be used to carry out the program?

--Who pays for the program?

--What are the international considerations?

Without a sugar price-support program, the United States would rely on the world market to determine who would supply the sugar consumed in the United States, how much would be supplied, and at what price. It seems probable that during a time of low world prices, many U.S. sugar producers and processors would not find it economical to remain in business, and the United States would thus become more dependent on imports.

Retaining the sugar price-support program involves costs to U.S. citizens as a subsidy to U.S. sugar producers. Partly due to the current program, the United States is producing an increasing share of its shrinking sugar consumption.

In addition to subsidizing domestic sugar producers, the sugar price-support program, by maintaining high prices for domestic sugar, indirectly promotes the U.S. corn sweetener industry, which has lower costs of production and produces close substitutes for sugar. Over the long term, high sugar support prices could lead to corn sweeteners replacing more of the sugar market.

The price level at which sugar is supported influences the size of the U.S. sugar industry. A relatively high support price protects a larger number of domestic producers, provides for more domestically produced sugar, encourages use of substitute corn sweeteners, and, if accompanied by import quotas, raises the domestic price of sugar to consumers and reduces the quantity of imports. A relatively low support price, conversely, encourages higher cost producers to leave the industry, reduces domestic sugar production, increases U.S. reliance on foreign producers, provides less expensive sugar for American consumers, and discourages use of substitute corn sweeteners. (See p. 27.)

Quotas, tariffs and fees, government support payments, and/or government loan programs are all methods that could be used in a sugar

price-support program. Supporting the price of sugar through import restrictions directly increases consumer costs without expense to the U.S. Treasury. Supporting the price through direct payments is a Treasury cost rather than a direct consumer expense. (See pp. 30-32.)

Finally, as a major worldwide trading partner, the United States must take the international considerations into account in determining domestic sugar policy. (See ch. 4.)

AGENCY COMMENTS

The Department of Agriculture, commenting on a draft of this report (see app. VI), expressed concern that the draft implied that sugar quotas are set to generate a market support price that will prevent price support loan forfeitures. The Department suggested that the report be revised to clearly state that the price of sugar is supported through the sugar loan program. Changes to the report have been made to clarify how the price of sugar is supported. (See p. 33.)

The Department also suggested several technical changes; GAO has, where appropriate, made those changes.

Contents

ABBREVIATIONS

ERS	Economic Research Service
GAO	General Accounting Office
HFCS	high fructose corn syrup
USDA	U.S. Department of Agriculture

CHAPTER 1

INTRODUCTION

Domestic sugar was produced and marketed--and foreign sugar imported--under a regulated quota system until December 31, 1974, when the "Sugar Act" expired. No sugar program was in place in 1975 and 1976, a time of high sugar prices. Since 1977, sugar price-support programs have been considered with farm legislation enacted by the Congress every 4 years.

The current program, enacted as part of the 1981 farm legislation, allows eligible U.S. processors to use their sugar stocks as collateral for "nonrecourse" federal loans at the government-established support price. Under this system, a sugar processor may use sugar as collateral for a loan from the Commodity Credit Corporation at the government-established support price. At any time through the loan's maturation, the processor may decide to pay off the loan by forfeiting the sugar if he believes that this is more profitable than selling the commodity on the market. The processor will redeem the collateral by repaying the loan if it is more profitable to sell the sugar on the market.

If the producer forfeits the sugar, the government takes title to the sugar stocks as full payment of the loan. To avoid such acquisitions of sugar due to loan forfeitures, market prices must remain higher than the support price. The market price has remained above the support price partly because of import quotas that restrict the supply of sugar brought into the country. There is also a duty on sugar, currently set at the maximum level of 2.8125 cents per pound.

Sugar is only one component of a complex and changing sweetener industry. Today's U.S. sugar companies are influenced not only by international sugar supply and demand, foreign economic development, and political considerations but also by a number of related sweetener-industry developments. One such important change is increased use of alternative sweeteners, both caloric--such as high fructose corn syrup--and non-calorie--such as saccharin and aspartame.

SUGAR IN DEMAND WORLDWIDE

World consumption of sugar has grown steadily, averaging about a 3-percent increase per year. Production has varied in response to world prices and other factors, including acreage put into production, sugar yield, milling capacity, trade policies, and profits. The U.S. Department of Agriculture (USDA) estimates that for 1984-85 world sugar production and consumption will be

about 100 million metric tons[1] (raw value[2]) and 97 million metric tons (raw value), respectively.

Sugar comes from the sugarcane and sugarbeet plants. The cane plant, a perennial grass that probably originated in the South Pacific, is cultivated in countries with tropical climates. The beet plant, an annual crop that probably originated in the Mediterranean region, is cultivated in temperate zone countries. Over 100 countries produce some sugar, according to the International Sugar Organization.

Social and economic changes related to industrialization and improved living standards, as well as improved communications, have created new markets and unprecedented demand for sugar. World sugar production was about 9.2 million tons in 1900. According to a USDA estimate, world sugar output for 1982-83 was about 101 million metric tons (raw value) and world consumption for 1982-83 was about 92 million metric tons (raw value). Four major factors affect world sugar consumption: per-capita income, population, price, and--more recently--the price and availability of substitutes. Sugar has been increasingly used as a condiment and, especially in low-income countries, as a source of relatively inexpensive calories.

Although only 1.5 percent of world agricultural land is devoted to cane and beet crops and only about one-quarter of the sugar produced worldwide is traded to other countries, sugar production and exports provide income that is important to the economies of many developing nations.

WORLD CARRYOVER SUGAR STOCKS AFFECT SUGAR PRICES

Responding to changes in sugar supply, world sugar prices have fluctuated sharply over the years. Since consumption has increased steadily but production has varied, stocks have similarly fluctuated. World carryover stocks expressed as a percentage of consumption are considered to be the standard measure of sugar supply adequacy. Stocks of about 25 percent of consumption traditionally have been associated with stable prices, lower stocks with higher prices, and higher stocks with lower prices. Figure 1-1 compares world production, consumption, stocks, and prices.

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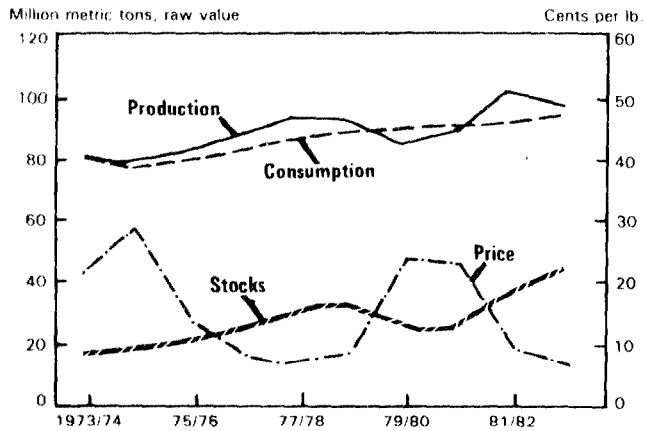
[1]In this report, tons refers to short tons unless otherwise noted. One short ton equals 2,000 pounds and is the weight commonly used to refer to a ton in the United States. Metric tons are commonly used in countries on the metric system. One metric ton equals 2,204 pounds, or 1.1 short tons.

[2]Raw value expresses in a common unit various types of raw and refined sugars that move in commerce. One ton of refined sugar equals 1.07 tons of sugar, raw value.

Figure 1-1

World Sugar Production, Consumption, Stocks and Price

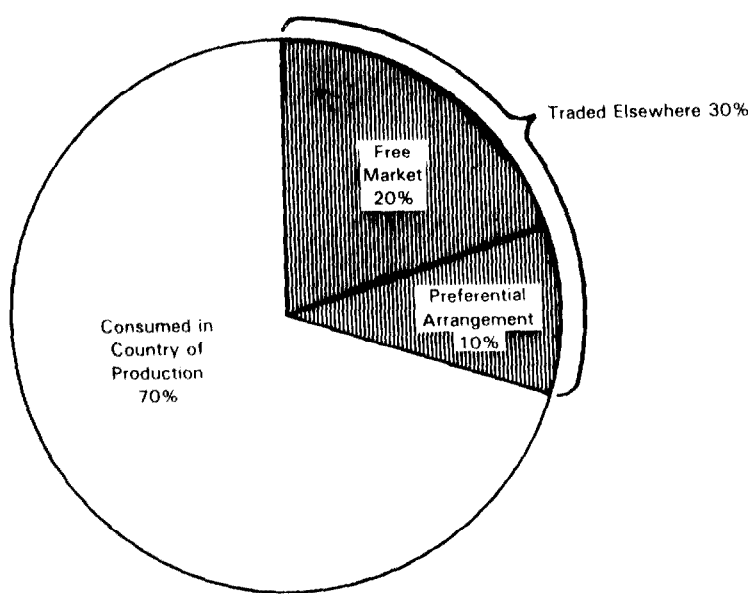


Source: USDA.

The international sugar market is much smaller than world production and consumption; it is, for the most part, a residual market. For 1983-84 about 70 percent of consumption would probably occur in the producing country, according to USDA. Commerce under preferential trade agreements would account for about 10 percent of consumption, leaving about 20 percent for the world free market, as shown in figure 1-2 below.

Figure 1-2

Distribution of World Sugar Production



Prepared by GAO from data obtained from USDA.

The United States is among the largest sugar consumers, responsible for about 10 percent of the world's annual sugar consumption. In 1983 the United States used an estimated 8.9 million tons of sugar, of which it produced about 5.7 million tons and imported about 3.2 million tons.

MANY GOVERNMENTS PLAY KEY ROLES IN THEIR SUGAR INDUSTRIES

Sugar production and marketing is regulated by more governments and to a greater degree than any other commodity. In producing countries, governments may regulate production levels, prices, factory and field workers' wages, and often prices at various stages of distribution.

In importing countries, sugar imports are regulated in various ways to prevent upsetting the economic structure of domestic industries, to derive revenue, or to reduce consumption. In many countries sugar is still considered a luxury, whose consumption is to be restricted to save foreign exchange. Due to government regulations, consumer prices of sugar directly reflect the world market price in only a few countries.

U.S. SUGAR POLICY

The United States has a long history of government protection for its domestic sugar industry. With both temperate and tropical climates, it can produce all the sugar it consumes. Since 1894 this country has used programs to preserve its ability to produce at least a portion of the nation's sugar requirements. To achieve this objective the United States has used various protectionist devices, including tariffs and quotas.

Before 1934, U.S. sugar producers were protected solely through a tariff on foreign imports. The Jones-Costigan Act of 1934[3] established a quota system for domestic and foreign sugar producers. Its broad purpose was to provide American consumers with an ample sugar supply at prices that would maintain the domestic industry, be fair and reasonable to consumers, and promote U.S. export trade. Succeeding laws--the Sugar Acts of 1937[4] and 1948[5]--maintained the Jones-Costigan Act's three basic objectives.

The basic features of the Jones-Costigan Act were as follows: The Secretary of Agriculture yearly determined how much sugar the nation required. On the basis of consumption estimates that would

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[3]Ch. 263, 48 Stat. 670; 7 U.S.C. 608 et seq.

[4]Ch. 898, 50 Stat. 903; 7 U.S.C. 1100 et seq.

[5]Ch. 519, 61 Stat. 922; 7 U.S.C. 1100 et seq.

achieve a market price objective, a supply quota was determined. The quotas were used to divide the U.S. sugar market among the domestic and foreign suppliers. The act also provided for adjustments of domestic production in each area of the country through acreage limitations.

From 1964 to 1974 the U.S. price for raw sugar, controlled by the Sugar Act, averaged 2.18 cents per pound above the world price for raw sugar. During 1974 world sugar supplies tightened and raw sugar prices jumped from an average 12.6 cents per pound in January 1974 to a record average 57.3 cents per pound in November 1974. The expiration of the Sugar Act on December 31, 1974, ended a definitive U.S. sugar policy.

The Congress, as part of the Food and Agriculture Act of 1977 (Public Law 95-113, Title IX), provided for a price-support loan program for the 1977 and 1978 sugar crops. In the Agriculture and Food Act of 1981 (Public Law 97-98, Title IX), the Congress enacted a purchase program for sugar processed between December 22, 1981, and March 31, 1982, and a sugar price-support loan program for the 1982 through 1985 crop years.

PRIOR GAO REPORTS

In a July 10, 1975, report to the Congress entitled Review of U.S. Import Restrictions--Need to Define National Sugar Goals (ID-75-80), we said that the United States was not committed to either free trade in sugar or protection of its sugar industry after the expiration of the Sugar Act. We concluded that there were compelling reasons for the Congress to consider the need for a more well-defined sugar policy. We said that the challenge for those designing a new sugar policy was to strike a balance among the U.S. industry, U.S. consumers, and foreign interests.

In the 1975 report we cautioned that without a sugar price-support program, the domestic sugar industry could be in trouble in the future. In this regard we said that although 1974 sugar prices were relatively high, if the market softened and prices dropped, domestic producers could be adversely affected because they would have to compete with lower priced foreign sugar, and with highly competitive substitute sweeteners.

In a February 26, 1979, report to the Congress entitled Sugar and Other Sweeteners: An Industry Assessment (CED-79-21), we described the principal elements of the U.S. sugar industry, the corn sweetener industry, the sugar industries of U.S. trading partners, and the International Sugar Agreement and highlighted issues involved in developing sugar legislation. We pointed out that substitute sweeteners were becoming an increasingly important part of the total domestic sweetener market and that world sugar prices had fallen since 1974, averaging 7.8 cents per pound in 1978. We recommended that the Congress enact comprehensive legislation for a national sweetener policy that provides necessary

assistance for an efficient domestic sugar industry, recognizes the effect of sugar legislation on the increasingly important high fructose corn syrup industry, and gives appropriate consideration to the economic effect on U.S. foreign trading partners. Since that report world sugar prices rebounded to a relatively high level, averaging 29 cents per pound in 1980, and dropped to a low of about 6 cents per pound in 1984.

OBJECTIVES, SCOPE, AND METHODOLOGY

In preparing this report we sought to provide the Congress with information on sweetener/sugar issues that would be useful in debating the 1985 farm bill.

We reviewed previous GAO work, conducted a literature search, and obtained information on the history of U.S. sugar programs. We gathered data on the current sugar price-support program through a review of pertinent USDA files and statistical reports. We discussed sweetener/sugar policy and the current price-support program with cognizant USDA and other officials, including

- --USDA's Economic Research Service (ERS) staff responsible for preparing sugar situation and outlook reports (quarterly reports on sugar supply, utilization, prices, program, and policies for the United States and the world) and economic analyses of issues related to the sugar program;
- --USDA's Agricultural Stabilization and Conservation Service officials responsible for monitoring the sugar loan program;
- --USDA's Foreign Agricultural Service officials responsible for monitoring the sugar import quotas;
- --the applicable assistant U.S. trade representative in the Office of the President;
- --agricultural economists familiar with sugar issues at land-grant colleges in sugar-producing states; and
- --spokespersons for trade associations representing sugar users (food and beverage processing companies that use sugar as an ingredient) and sugar producers.

We also discussed with officials from the U.S. Beet Sugar Association and the Sugar Users Group the results of two trade association-sponsored studies on the sugar industry.

We carried out our review from October 1982 through January 1983 and from July 1983 through May 1984 in accordance with generally accepted government auditing standards.

CHAPTER 2

STATUS OF SWEETENER USE IN THE UNITED STATES

The United States has moved into a new era, one of multiple sweetener use. Sugar does not dominate the sweetener market as it once did. There are at least three major competitors: corn sweeteners--particularly high fructose corn syrup (HFCS), other caloric sweeteners, and low-calorie sweeteners.

The U.S. sweetener market has been transformed by the introduction a decade ago of a process for mass-producing HFCS. From a clearly commanding position, sugar has moved to one of shared importance with other sweeteners, especially HFCS. In addition, the use of low- or non-calorie sweeteners such as saccharin and aspartame has increased in the U.S. market. Figure 2-1 shows U.S. per capita consumption of sugar and other sweeteners for 1972-83.

Sugar, however, continues to be significant; more than half of U.S. sweetener consumption is of sugar. It has a range of benefits for industrial use, apart from simple sweetening power. For example, sugar supplies necessary bulk for certain cereals and bakery products.

SUGAR

Per capita U.S. sugar consumption has been declining from a high of about 102 pounds per person since 1972. During 1983 sugar consumption averaged 71 pounds per person (total sweeteners including low- and non-calorie sweeteners: 134 pounds). Although sugar use is declining, USDA estimated that in 1983 it would continue to be the dominant sweetener in the United States at 53 percent of total sweetener use.

U.S. sugar use for 1983 was estimated by USDA at 8.9 million tons; U.S. cane sugar supplied about 35 percent, U.S. beet sugar about 29 percent, and imports about 36 percent. (The domestic sugar industry is described in ch. 3.) The U.S. domestic sugar price, supported through the sugar loan program, averaged 22 cents per pound (raw value) in calendar year 1983.[1] This compares with a world price for sugar that ranged from about 6 to 11 cents per pound in 1983.

CORN SWEETENERS

Corn sweeteners consist of glucose corn syrup, dextrose, and HFCS. ERS estimates that corn sweeteners made up about 42 percent

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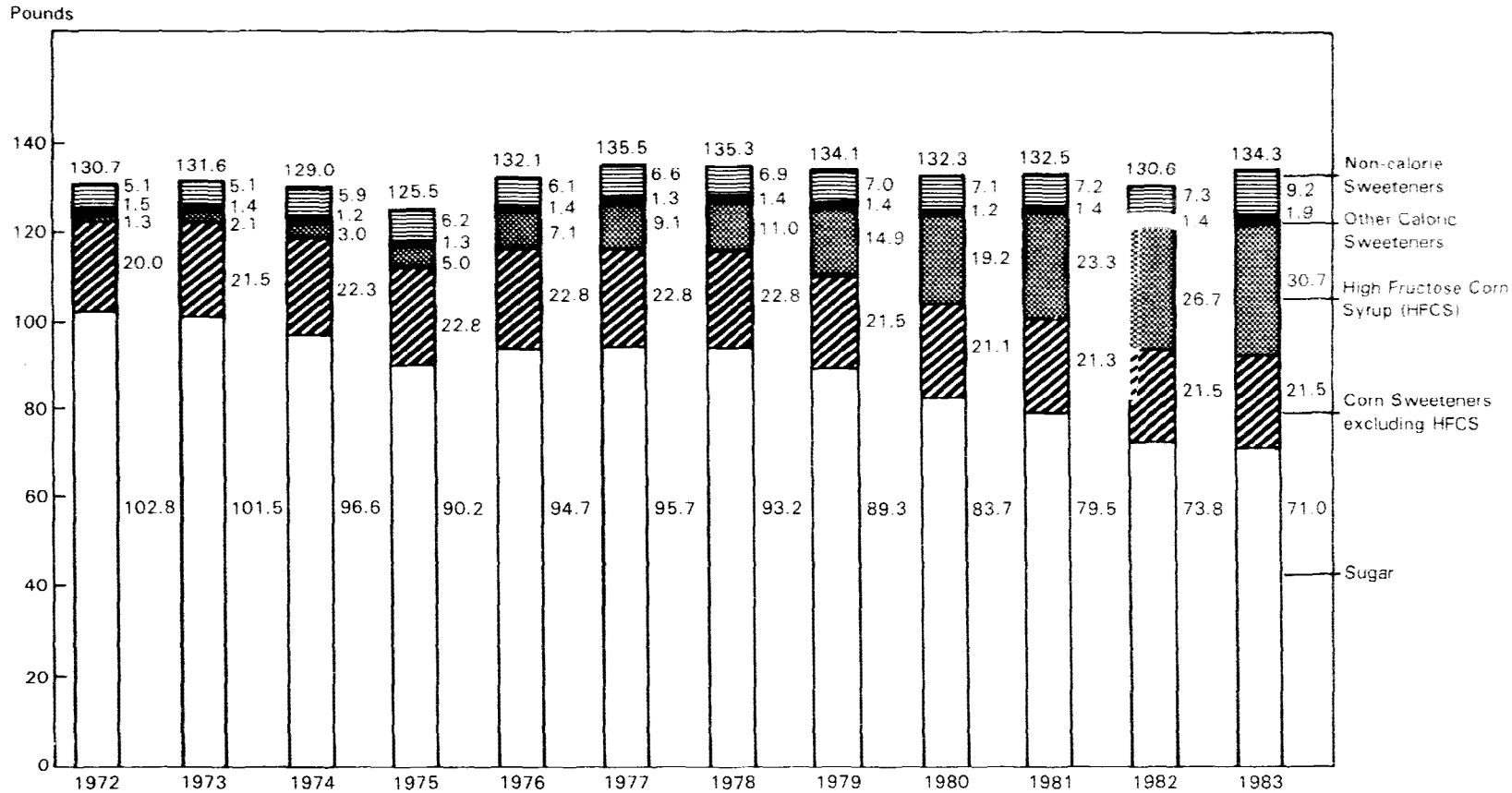
[1]The wholesale price for refined sugar averaged about 30 cents per pound in the Chicago-West region and 32 cents per pound in the Northeast during the fourth quarter of 1983.

Figure 2-1

Sugar and Other Sweeteners: U.S. Per Capita Consumption 1972-83



Prepared by GAO from data obtained from USDA's Economic Research Service.

of total U.S. caloric sweetener use in 1983. Although use of glucose corn syrup and dextrose has been leveling off, HFCS use has been increasing--making it the dominant corn sweetener.

Glucose corn syrup use for 1983, ERS states, was above 2.11 million tons; 1983 dextrose use is estimated to be about 0.41 million tons. According to ERS, the average wholesale prices for glucose and dextrose in 1983 were approximately 16 cents per pound and 28 cents per pound, respectively. Glucose and dextrose are only about 70 percent as sweet as sugar, so they are typically combined with sugar to achieve the desired sweetness.

High fructose corn syrup

HFCS is the only corn sweetener whose sweetness compares favorably with that of sugar. It is competitive with sugar and has replaced it in many uses.

An effective method for obtaining fructose from glucose was discovered in the late 1960's, but its high cost discouraged commercial production. A commercially successful HFCS product (HFCS-42)--of 42 percent fructose, about 50 percent dextrose, and about 8 percent other sugars--was developed in the early 1970's. HFCS-42 is about 90 percent as sweet as sugar. In 1978 a second-generation HFCS product (HFCS-55)--of 55 percent fructose, about 40 percent dextrose, and about 5 percent other sugars--was introduced. HFCS-55 is about as sweet as sugar and is the corn sweetener now commonly used in soft drinks.

Nearly all of the HFCS production capacity has been constructed since the early 1970's. The HFCS industry expanded rapidly between 1972 and 1982. Ten corn wet-milling firms produced HFCS in 16 plants in 1982, compared with only 2 firms and 2 plants in 1972. Annual HFCS production capacity grew from about 0.2 million tons in 1972 to 4.2 million tons in 1982. Plant capacities for grinding corn increased from a range of 4,000 to 50,000 bushels a day in 1972 to between 16,000 and 70,000 bushels a day in 1982.

HFCS' expansion has been made possible by its technical substitutability for sugar and its lower cost of production. HFCS is sold at a lower price than is sugar.

According to ERS, HFCS could reach full market potential over the next 2 or 3 years. ERS expects consumption for all uses, including beverages, to level off at about 39 pounds per person, or 31 percent of total sweetener use in the United States.[2]

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[2]HFCS' main limitation is that it is available only in liquid form and, therefore, confined to certain industrial uses. If the production of HFCS in volume as a dry, granulated sweetener (like sugar) can be achieved at low cost, its potential could be much greater.

Counting all food and beverage uses, USDA estimated U.S. consumption of HFCS in 1983 at about 3.6 million tons. The 1983 wholesale price of HFCS-55 averaged about 25 cents per pound.

OTHER CALORIC SWEETENERS

Honey, maple syrup, and other caloric sweeteners play a relatively small part in total U.S. sweetener consumption. According to ERS, domestic consumption of honey in 1983 is estimated at about 250 million pounds; U.S. pure maple syrup output is estimated at 1.15 million gallons.

LOW-CALORIE SWEETENERS

Saccharin and aspartame are at present the only low-calorie sweeteners approved for use in the United States. Such sweeteners are playing an increased role in overall patterns of U.S. sweetener consumption.

Saccharin is not generally viewed as a substitute for sugar, but rather as additional sweetener consumption. About 20-33 percent of saccharin consumption has replaced sugar, with the rest as added consumption. Most of its use has been for diet soft drinks, dry beverage mixes, canned fruits, and table use. Per capita consumption of saccharin has risen from 1.9 pounds in 1960 to an estimated 7.3 pounds in 1982. The 1983 wholesale price of saccharin averaged about $4 per pound, but saccharin is 300 times sweeter than sugar. On a sugar sweetener-equivalent basis, saccharin costs less than sugar at 1.33 cents per pound of sweetener equivalent, versus about 30-32 cents per pound of sweetener equivalent for sugar.

Aspartame is a relatively new low-calorie sweetener, a combination of two naturally occurring amino acids. It was first approved for limited use as a dry product in 1981 and in July 1983 was given Food and Drug Administration approval for use in liquid form. Aspartame has been used in diet soft drinks in Canada (where saccharin is banned) for almost 2 years. Aspartame is about 200 times sweeter than sugar; its wholesale price in 1983 averaged about $85 per pound. On a sweetener-equivalent basis aspartame costs more than sugar, at 42.5 cents per pound of sweetener equivalent.

CHAPTER 3

THE DOMESTIC SUGAR INDUSTRY

With a lessening of the importance of sugar in the sweetener market, the domestic sugar industry has declined since its peak crop year[1] of 1975 in both production volume and processing capacity (see table 3-1). Although smaller, the industry has become more efficient through closure of some of the least efficient processing facilities, use of new harvesting equipment, and improved yields.

Table 3-1

Comparison of Domestic Sugar Production, 1975 and 1983

Crop year	Cane sugar	Beet sugar	Total domestic production	Processing capacity (facilities/daily capacity)
	-------(million tons)-------			
1975	3.2	4.0	7.2	128/549,520 tons
1983	3.1	2.6	5.7	89/459,475 tons

There are two key costs in the sugar industry: the cost of growing (producing) the sugar and the cost of processing it. Cost data developed by ERS, although limited in coverage, show that production and processing costs may vary by state and region for each crop year depending upon factors such as yield and operating efficiency.

The following two sections discuss the beet and cane sugar industries in terms of processing volume, processing capacity and geographic spread, and importance to economic sectors since expiration of the Sugar Act in 1974. The third section is a brief discussion on costs of producing and processing domestic sugar.

U.S. BEET SUGAR INDUSTRY

The domestic beet sugar industry operates in about one quarter of the states; in 1983, 13 states produced sugarbeets.[2] Production of sugarbeets varies from year to year depending primarily on the number of acres planted and the yield per acre. In

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[1]The year in which the sugar is harvested or intended to be harvested.

[2]Due to the large number of producing states, our discussion is of the production in all states rather than state-by-state.

general, though, the beet sugar industry has declined somewhat since 1975. Beet sugar production dropped from about 4 million tons,[3] raw value, in the 1975 crop year (the peak year of production) to about 2.6 million tons in the 1983 crop year. The bulk of the drop occurred in the western region, particularly in Arizona, California, and Washington. Processing capacity for all sugarbeet plants fell 21 percent between 1975 and 1983. In 1975 there were 55 sugarbeet processing facilities with a daily processing capacity of 208,225 tons, while in 1983 there were 41 processing facilities with a daily processing capacity of 162,525 tons. Table 3-2 shows sugarbeet production and yield in the United States for crop years 1975-83. Appendix I shows sugarbeet production by region and state for crop years 1975-83.

Table 3-2

Production and Yield from Sugarbeets

Crop year	Sugarbeets	Beet sugar[a]	
	Production	Production, raw value	Yield per harvested acre, raw value
	------1,000 tons------		tons
1975	29,704	4,019	2.65
1976	29,386	3,895	2.63
1977	25,007	3,108	2.56
1978	25,788	3,289	2.59
1979	21,996	2,879	2.57
1980	23,502	3,149	2.65
1981	27,538	3,388	2.76
1982	20,894	2,737	2.67
1983[b]	21,111	2,605	2.47

[a]Refers to the sugar derived from the sugarbeet plant. One ton of sugarbeets will typically yield about 240 to 250 pounds of refined beet sugar.

[b]Data for 1983 are preliminary.

Source: Economic Research Service, USDA.

[3]The 1975 crop was a record for beet sugar. During the last 10 years under the Sugar Act--1965-74--production averaged about 3.2 million tons per year.

Sugarbeet producers and processors rely upon each other. The processor must have an adequate supply of beets to run a plant, while the producer (farmer) needs an outlet for the product.

Processors contract with farmers, who agree to put a certain number of their planted acres into sugarbeets. They divide the revenue received from the sale of the sugar; on average, about 65 percent goes to the grower and 35 percent stays with the processor. ERS estimates that for the 1983 crop there were 9,775 producers growing sugarbeets on an average of 105.5 acres per farm.

A sugarbeet processing plant is important for employment and revenue within a community, typically employing 700 people for the seasonal processing, when the plant runs 24 hours a day. About 300 employees stay on year-round to completely strip down and rehabilitate the plant after each processing season. During the "off-season" there are no alternate uses for the machinery, which stands idle.

U.S. CANE SUGAR INDUSTRY

Sugarcane is grown domestically in Florida, Louisiana, Texas, Hawaii, and Puerto Rico. The annual output of cane sugar in the United States remained about the same in 1983 as it was in 1975: approximately 3.1 million tons.[4]

The industry had undergone major restructuring before expiration of the Sugar Act but only moderate restructuring since then. Production between 1960 and 1974 increased 500 percent in Florida from 160,000 to 803,000 tons and decreased 71 percent in Puerto Rico from 1.019 million to 291,000 tons. Texas began producing sugarcane in 1973. There was little change in Hawaii and Louisiana during these years. Since 1974, Florida has continued to expand production to over 1 million tons annually, while Puerto Rico has declined to about 100,000 tons annually. Texas produces about 100,000 tons per year; Hawaii has been averaging about 1 million tons per year. Table 3-3 shows sugarcane production by state for crop years 1975-83.

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[4]During the last 10 years under the Sugar Act--1965-74--production of cane sugar averaged about 3 million tons per year.

Table 3-3

Raw Sugar Production from Sugarcane by Area

Crop year	Mainland				Hawaii	Puerto Rico	U.S. total
	Florida	Louisiana	Texas	Total			
	1,000 tons, raw value						
1975	1,061	640	126	1,827	1,107	303	3,237
1976	930	650	94	1,674	1,050	312	3,036
1977	894	668	88	1,650	1,034	267	2,951
1978	972	550	61	1,583	1,029	204	2,816
1979	1,047	500	93	1,640	1,060	193	2,893
1980	1,121	491	93	1,705	1,023	177	2,905
1981	963	712	110	1,785	1,048	153	2,986
1982	1,307	675	98	2,080	983	113	3,176
1983[a]	1,251	600	75	1,926	1,044	99	3,069

[a]Data for 1983 are preliminary.

Source: Economic Research Service, USDA.

The sugarcane industry in America grew at a time when processing plants could be built economically. The last cane plant was built in Texas in 1972 and cost $30 million; according to a sugar industry spokesperson, a similar facility today would cost as much as $180 million. Twenty-five cane mills, representing 14 percent of processing capacity, ceased operating between the 1975 and 1983 crop years. Table 3-4 shows changes in domestic processing capacities from 1975 to 1983.

Table 3-4

Changes in Domestic Sugarcane Processing Capacities, Crop Years 1975 to 1983

	Number of facilities		Daily processing capacity of facilities	
	1975	1983	1975	1983
			-------tons-------	
Florida	8	7	81,100	103,000
Hawaii	17	14	57,595	60,600
Louisiana	36	21	139,750	94,850
Puerto Rico	11	5	54,850	25,500
Texas	1	1	8,000	10,000
Total	73	48	341,295	293,950

Source: Economic Research Service, USDA.

The sugarcane industry, concentrated in a few geographic areas, is important to the economic well-being of the communities it serves. The industry is vertically integrated to a large degree; that is, many raw sugar processing mill operators own their own farmland and grow their own cane. It is also common for farming cooperatives to grow and mill their own cane. Table 3-5 shows sugarcane producers and average acreage per farm for the 1983 sugarcane crop.

Table 3-5

Number of Sugarcane Producers and Average Acreage per Farm

	Producers	Average acreage per farm
Florida	127	2,826.0
Hawaii	243	368.5
Louisiana	925	253.0
Texas	98	364.3
Puerto Rico	1,481	37.1
Total	2,874	269.0

Source: Economic Research Service, USDA.

Florida, the fastest-growing sugarcane producer over the past 20 years, made up about 40 percent of U.S. sugarcane production in 1983. All except one of Florida's processing mills have been built since 1963 and are economical to run. In Florida, however, about two thirds of the cane must be cut by hand because of the mucky soil in which it is grown.

Three quarters of all land in agricultural use in Hawaii is planted in sugarcane. In 1983 Hawaii produced about a third of all U.S. cane sugar production. Although Hawaiian labor costs are very high, yield per acre is also substantial. This high yield is due to the year-round harvesting that takes place in Hawaii's ideal climate. Table 3-6 shows raw sugar yield per acre by area.

Table 3-6

Sugarcane: Raw Sugar Yield per Acre, by Area

Crop year	Mainland				Hawaii	Puerto Rico	U.S. average
	Florida	Louisiana	Texas	Average			
	(tons, raw value)						
1975	3.70	2.08	3.60	2.90	10.53	2.20	3.71
1976	3.25	2.23	3.47	2.77	10.51	2.52	3.67
1977	3.14	2.20	2.63	2.65	10.68	2.30	3.53
1978	3.24	2.05	1.88	2.64	10.35	2.02	3.52
1979	3.29	2.08	3.01	2.78	10.54	2.25	3.73
1980	3.50	2.12	2.78	2.91	10.50	2.11	3.79
1981	2.88	2.88	3.01	2.89	10.74	2.05	3.78
1982	3.64	2.88	2.75	3.31	11.01	2.05	4.11
1983[a]	3.52	2.45	2.12	3.03	11.23	1.82	3.84

[a]Data for 1983 are preliminary.

Source: Economic Research Service, USDA.

Louisiana's production has remained relatively constant. In 1983 it made up about 20 percent of the domestic sugarcane crop. Louisiana has increased the efficiency of its operations, however, by closing some of the less efficient plants and by cutting the cane with modern equipment rather than by hand.

Texas and Puerto Rico produced only about 2 and 3 percent, respectively, of the 1983 domestic sugarcane. Texas began producing sugarcane in 1973 and operates only one mill. Although Puerto Rico was once a major sugarcane producer, its production today is not significant.

SUGAR PRODUCTION AND PROCESSING COSTS VARY BY YEAR AND REGION

ERS staff reported that they need timely and complete financial data from sugar producers and processors to adequately develop statistics on the costs of producing and processing sugar. Financial data available to ERS, however, are not always timely and complete.

The costs of producing and processing sugar that ERS computes may be useful as relative indicators of what is happening to costs in each state or region. In general, ERS' statistics demonstrate that costs vary by state and region for each crop year depending on factors such as crop yield and operating efficiency.

For example, production costs per ton for the 1981 sugarbeet crop year were lowest in Minnesota and North Dakota and highest in California and Arizona. For the 1980 crop year, production costs per ton were lowest in Michigan and Ohio and highest in New Mexico and Texas.

Also, according to ERS, production costs per pound for the 1981 sugarcane crop were lowest in Louisiana and highest in Florida. The emergence of Louisiana as the lowest cost producer is principally the result of record sugar yields for the 1981 crop. Sugar yield per acre in Louisiana increased 36 percent between 1980 and 1981. Florida, the lowest cost producer in 1980, suffered several freezes in 1981, resulting in an 18-percent decrease in sugar yields per acre. This drop significantly increased the unit cost of sugar.

Appendixes II and III (pp. 35-36) show costs developed by ERS for production and processing per pound of refined beet and cane sugar for the 1981 crop year.

CHAPTER 4

INTERNATIONAL CONSIDERATIONS

The United States, as a major sugar importer, is important to the world sugar market because of the historical significance of its sugar imports. Likewise, the world sugar market is important to the United States because this country still imports about 40 percent of the sugar it consumes even though the amount of sugar imported has been declining in recent years.

International considerations include

--economic effects of import quotas on exporting countries;

--the Caribbean Basin Initiative, which gives duty-free status to sugar imported from the Caribbean and Central America; and

--the International Sugar Agreement, entered into by the United States and 70 other countries--an effort to stabilize world sugar prices by balancing supply and demand.

SUGAR IMPORTS INTO THE UNITED STATES

Historically the United States has imported about 45-50 percent of the sugar it consumes. Although annual sugar imports averaged 45 percent of domestic consumption during the last 10 years of the Sugar Act (1965-74), the yearly figure ranged from as little as 39 percent in 1965 to as much as 51 percent in 1974.

The change in the mix of sweeteners used in the United States, which resulted in a decrease in overall per capita sugar consumption (see ch. 2), has contributed to the decline in imported sugar. At the same time, domestic sugar production has remained relatively constant or decreased only slightly. In 1974, the last year of the Sugar Act, U.S. consumption of sugar was about 11.2 million tons--about 51 percent of it imported. In 1983 consumption was almost 9 million tons--about 36 percent of it imported. From 1975 through 1983, imports made up an average of approximately 42 percent of our annual domestic use. Table 4-1 shows domestic production and imports as a percentage of sugar used from 1975 through 1983.

Table 4-1

Imports and Domestic Production
(Crop Years 1975-83)

Year	Domestic[a] Beet	Cane	Total	Imports[b]	Total used	Percentage imported
	(million tons)					
1975	4.0	3.2	7.2	3.9	11.1	35
1976	3.9	3.0	6.9	4.7	11.6	40
1977	3.1	3.0	6.1	6.1	12.2	50
1978	3.3	2.8	6.1	4.7	10.8	44
1979	2.9	2.9	5.8	5.0	10.8	46
1980	3.1	2.9	6.0	4.5	10.5	48
1981	3.4	3.0	6.4	5.0	11.4	44
1982	2.7	3.2	5.9	3.0	8.9	34
1983[c]	2.6	3.1	5.7	3.2	8.9	36

[a]Crop year.

[b]Calendar year.

[c]Data for 1983 are preliminary.

Source: Economic Research Service, USDA.

Major suppliers of sugar for the United States in 1983 included the Dominican Republic, Brazil, the Philippines, Argentina, and Australia. Together these countries supplied about one half of our imported sugar in 1983. Appendix IV shows U.S. sugar imports by country for calendar years 1977 through 1983.

ECONOMIC EFFECTS ON COUNTRIES ALLOCATED SUGAR QUOTAS[1]

Whenever the domestic price of sugar in the United States rises above the world price, U.S. import quotas either can impose costs on or convey benefits to sugar-exporting countries. By limiting the amount of sugar imported into the United States, the quotas reduce the demand for sugar on the world market, which has the effect of lowering the price received by exporting countries when they sell sugar on that market. Those countries allowed access to the U.S. market receive, for that portion of their crop

[1]We reported on foreign aid provided through commodity trade assistance in a 1969 report to the Congress entitled Foreign Aid Provided Through the Operations of the United States Sugar Act and the International Coffee Agreement (B-167416, Oct. 22, 1969).

sold in the United States, prices that are above those in the world market. However, those countries forced to sell on the world market and denied access to the U.S. market are hurt by the policy. On the other hand, those countries allowed to sell all or almost all of their export crop in the U.S. market are helped. Countries selling part of their export crop in the United States may be helped or hurt, depending on whether the gain from higher prices on the portion of their crop sold in the United States is greater than or less than the loss from the lower prices on the portion sold on the world market.

Under the current program, quota allocation is an administrative decision made by the executive branch. The quotas were established in May 1982 on the basis of each country's 1976-81 export history to the United States, with some allowance for hardship cases. The quota for the 1984 quota year (Sept. 26, 1983-Sept. 30, 1984) has been set at over 3 million tons. Appendix V (p. 38) shows quota allocations by country for the 1984 quota year. The countries with the largest quotas include the Dominican Republic, Brazil, the Philippines, Australia, Guatemala, Peru, and Argentina. Together these countries have quotas of about 2 million tons of sugar.

CARIBBEAN BASIN INITIATIVE AND U.S. SUGAR TRADE

On August 5, 1983, the President signed into law the Caribbean Basin Economic Recovery Act (Public Law 98-67) which gives him the authority to promote economic development in specific countries in the region by providing certain trade incentives through September 30, 1995. The act, as implemented, allows the duty-free importation of sugar from certain Caribbean and Central American countries.

Sugar is an important export of this region. Collectively, these countries produce 3 to 4 million tons of sugar annually, up to two-thirds of which is exported.

The United States has traditionally been the major market for the region, taking over one-half of these nations' exports. Some individual countries depend even more heavily on the U.S. market. In 1981, for example, all of the sugar exported from Panama, El Salvador, and Honduras--and over three-quarters of the sugar exported from the Dominican Republic, Guatemala, and Nicaragua--was imported by the United States.

Sugar export revenue is very important to these nations. For example, the Dominican Republic's sugar industry produces 50 percent of that nation's foreign exchange, provides 85,000 jobs, and indirectly employs 500,000 of the nation's 5 million citizens. Sugar exports in Haiti were the third largest export revenue producer in 1980, as they were in Jamaica in 1979.

According to USDA, since all of the countries except the Dominican Republic, Guatemala, and Panama already have duty-free trade status under the Generalized System of Preferences established in the Trade Act of 1974 (Public Law 93-618), most of the benefits from the Caribbean Basin Initiative derived through sugar will go to these three countries. Under the Generalized System of Preferences, certain countries can export products to the United States without duty, provided that the annual value of such exports does not exceed specified levels (the competitive need limit is $57.7 million for 1984). The initiative will allow the Dominican Republic, Guatemala, and Panama to export sugar duty-free beyond the competitive need limit. The initiative is especially important for the Dominican Republic, which exports a large quantity of sugar that has been subject to duties to the United States. For quota year 1984, the Dominican Republic, Guatemala, and Panama have sugar quota allocations of 535,392 tons, 146,016 tons, and 88,218 tons, respectively. (See app. V, p. 38.) At the current $62 per ton raw value duty on sugar, these countries could receive combined benefits of about $48 million during 1984 as a result of their duty-free status.

THE INTERNATIONAL SUGAR AGREEMENT

In an effort to stabilize the world price of sugar, the United States and more than 70 other nations entered into the International Sugar Agreement, 1977. Aside from the primary objective of price stability, a second goal was to raise developing exporting countries' earnings by increasing the international sugar trade. The 1977 agreement was to expire in 1982 but has been extended through December 31, 1984.

The agreement established an export quota and reserve stocks system to support world sugar prices within the agreed-upon price range (initially 11 to 21 cents per pound, currently 13 to 23 cents per pound). To maintain prices within this range, various responses are triggered at specified prices: quotas when sugar prices are low, free trade when prices are moderate, and stock releases as prices rise toward the upper end of the range. The International Sugar Agreement is administered by the International Sugar Council of the International Sugar Organization--a body of sugar producers and consumers. The council consists of representatives from all member countries.

According to USDA and a representative of the Office of the U.S. Trade Representative, the 1977 agreement has not been effective in maintaining world sugar prices within the prescribed range. The European Economic Community is not a member and thus has not been constrained to hold sugar off the market during periods of low world prices. The European Economic Community produces about one third of the world's beet sugar and from 1980 to 1984 produced about 14 million tons more than its domestic consumption. This has contributed to an oversupply of sugar in the world market at the prescribed price range. In addition, the formula setting how much sugar each exporting country is allowed

to export is flawed such that the sum of all countries' allowable exports totals more than actual market demand. Another criticism of the agreement has been aimed at the buffer stocks, which each exporting country is required to hold, contending that they are underfinanced, not adequately monitored, and not large enough.

The European Economic Community did participate in negotiations for a new International Sugar Agreement, held in May 1983. Such participation is important if a new agreement is to be effective. According to a U.S. trade representative, both Australia and the United States have said that they will not join an agreement unless the European Economic Community is included.

During a meeting in July 1983 the Australian delegation proposed building or reducing sugar stocks as the main regulatory mechanism, as opposed to the current export quota system. Under this plan countries with excess production would be directly responsible for financing and holding surplus stocks if the lower price level is reached. If prices were to decline further, up to 3 million tons of excess sugar would be held in regulatory stocks financed by the International Sugar Agreement; if prices fell even more, extra supplementary measures would be introduced.

The general negotiating conference reconvened in September 1983. According to a U.S. trade representative involved in the talks, very little was accomplished; if anything, this round of negotiations resulted in the delegates' disagreeing more than before on the specific regulatory mechanisms to include in a new international sugar agreement. Another meeting was held in June 1984. According to USDA's Foreign Agricultural Service, the talks deteriorated further during this meeting.

CHAPTER 5

VIEWS OF SUGAR PRODUCERS AND SUGAR USERS[1]

This chapter[2] presents information on the results of two consultants' studies of sugar policy issues contracted for during 1983 by representatives of the sugar-producing and sugar-using industries. We talked to representatives of both groups.

PRODUCERS' PERSPECTIVES

A representative of sugar producers told us that a sugar price-support program is necessary to assure an adequate supply of sugar at a relatively stable price and, further, that decreases in the price of sugar have not been reflected in the prices of high-sweetener content foods and beverages. In defending the sugar price-support program, the producers state that the program assures the U.S. consumer a plentiful supply of sugar at a relatively stable price while protecting America's sugar producers from being forced out of business by imported sugar from other producing countries.

The current program, producers say, is working well. The domestic industry has stabilized. The more efficient producers are surviving but there is no expansion. The United States must still import some 40 percent of the sugar consumed by Americans.

The sugar price-support program has operated at no cost to the taxpayer. Sugar has been placed under loan, but loans have been repaid with interest equal to the government's cost of borrowing. The program also reduces price volatility, producers assert.

Sugar production is responsible for the livelihood of over a quarter-million Americans. More than 100,000 U.S. workers are directly dependent on the domestic sugar industry; 250,000 are indirectly dependent.

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[1]In this report sugar users refers to the Sugar Users Group, which is the organization of trade associations whose members are food and beverage processing companies that use sugar as an ingredient. Member companies are responsible for over 60 percent of the sweeteners consumed in the United States.

[2]This chapter does not deal with the views of the ultimate sugar consumer. Historically consumer representatives have argued for lower cost sugar and against sugar price supports. In 1975 we reported that consumer representatives judged sugar price-support programs too costly, stating that they placed a greater burden on consumers and taxpayers than was necessary.

Most U.S. sugar consumption is in the form of manufactured products--processed foods, baked goods, confections, and beverages. Such products make up about 76 percent of our sweetener consumption. According to producers, although sugar is a major ingredient in these items, the items increase in price for reasons other than higher sugar prices.

The sugar program provides a floor not only under sugar prices but under corn sweetener prices as well. Corn sweeteners constitute some 40 percent of our nation's sweetener market. The program strengthens the demand for this country's corn, which is used to make the corn sweeteners.

Factors in the international arena, producers believe, also support retention of the sugar price-support program. Our traditional foreign suppliers of sugar, mostly developing countries, receive a significant premium for their sales to the United States. Their quotas on sales to this country are in proportion to their normal U.S. market share. Foreign beet sugar producers sell for less because they are heavily subsidized by their governments. While the standard production costs of many foreign cane sugar producers are genuinely low, the social cost of this foreign production is high in terms of the well-being of the foreign laborers.

In addition, the so-called "world" price of sugar is a misnomer. It is really a dump price received for surplus sugar, after normal production has been sold at higher prices by most countries.

According to the sugar producers' study entitled The U.S. Sweetener Industry in the Decade Ahead, changes in raw sugar prices have differing effects on the prices of industrial and retail sugar. The study concludes that changes in raw sugar prices may directly affect the retail price of sugar but that the impact of such changes on retail prices of high sweetener-content prepared foods and beverages, which account for 76 percent of U.S. sweetener consumption, is obscure and occurs slowly. As a result, the study states, small reductions in raw sugar prices could not be expected to result directly in any meaningful savings for consumers in the short run.

The analyses, however, that support the conclusion are based on short-run data and do not appear to consider lagged price effects or the influence of other factors, such as energy, transportation, and wage costs, on retail prices of prepared foods. These factors usually represent a substantial share of total production cost.

USERS' PERSPECTIVES

Representatives of sugar users, while recognizing that there may be a need to continue some kind of minimal price-support program, state that sugar prices under the current program are

supported at too high a level. The consulting firm commissioned by the Sugar Users Group completed a study entitled Sweetener Markets and Policies--The 80's. They aimed to present information needed to consider sweetener policy alternatives in the period 1983-85.

The users' study states that sugar consumption in the United States will continue to decline slowly in the 1980's as the use of other sweeteners increases. The study concludes that whether the share of U.S. sugar consumption met through imports continues to decline following many years of parity with U.S. production[3] depends on policy decisions yet to be made.

The study says that world production costs for sugar generally are lower than U.S. costs. High production costs in the United States make this country an inefficient competitor in world sugar markets.

According to the users' study, current sugar policy, which during 1983 supported the price of domestic sugar at about three times the world price, is inconsistent with both the nation's economic policy and its international trade policy. While U.S. economic policy aims to reduce inflation, U.S. sugar policy increases consumer prices above those required under other policy options. In foreign trade, the United States pursues a free-trade policy while our sugar policy imposes a highly restrictive set of trade barriers.

The study provides calculations showing that a 1-cent rise or fall in the price of U.S. raw sugar results in a change of approximately $257 million a year in the wholesale cost of all caloric sweeteners in the United States. Sugar price increases and decreases, it states, are passed on to wholesale prices of bakery products, candy, ice cream, canned fruit, jams, and soft drinks.

The sugar users' study also points out that consumers are not protected against price increases by the current sugar price-support program. It contends that retail food costs are higher during world surplus periods than they would be if prices were supported at lower levels or not at all. However, the program offers no protection from high world prices during times of sugar scarcity because the program does not provide for storing reserves that could then be released to increase supply and lower prices.

According to the study, three basic price-support choices are open for consideration:

--Continue the present support policy.

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[3]Imports supplied about 35 percent of the sugar used in the United States in 1982-83; the historical average is about 45 percent.

--Set the support at a level covering variable costs.

--End the sugar price-support program altogether.

The users believe that eliminating the support program entirely would save consumers $2-3 billion per year. The study states, however, that the cyclical fluctuations that occur in world sugar prices argue for some protection against the most extreme price declines. The study proposes a policy (the variable-cost option) that sets the U.S. protection level near the average level of variable costs prevailing in the most efficient U.S. sugar-producing areas. The variable-cost option, it states, by providing a safety net for efficient domestic producers, offers a reasonable approach for this purpose, permitting a viable sweetener market. The study adds that under the present policy there is an additional cost of about $1.2 billion to American consumers because the support price is kept at its present level, rather than at a lower level linked to the variable cost of production.

CHAPTER 6

POLICY QUESTIONS

The discussion contained in the previous chapters suggests several basic issues that should be considered in reviewing the sugar price-support program:

--Is a sugar price-support program still needed?

--If so, at what level should sugar prices be supported?

--What price-support methods could be used to carry out the program?

--Who pays for the program?

--What are the international considerations of the program?

HISTORICAL PERSPECTIVE

As noted in chapter 1, the United States has a long history of government protection for its domestic sugar industry. Since 1894 it has had programs to preserve the ability to domestically produce a portion of the nation's sugar requirements. This was predicated on the belief that the U.S. sugar industry could not compete with low-cost foreign producers under free-trade conditions.

Prior to legislation enacted in 1934, sugar producers were protected solely through tariffs on foreign imports. From 1934 to 1974 the sugar industry was protected through Sugar Act legislation that utilized a quota system as its protective mechanism. The legislation's broad purpose was to provide U.S. consumers with an ample supply of sugar at prices that would maintain the domestic industry, be fair and reasonable to consumers, and promote U.S. export trade. Since 1977 sugar price-support programs have been included as part of the general farm legislation. During 1983-84 domestic sugar has been supported at about three times the world price.

Domestic producers suggest that a sugar price-support program is vital to their survival. Many analysts believe that the program protects inefficient producers and raises consumer costs. Extremes in fluctuating sugar prices impose costs on the domestic industry when they are low and on consumers when they are high.

IS A SUGAR PRICE-SUPPORT PROGRAM DESIRABLE?

An underlying policy issue is the extent to which the United States finds it in the national interest to maintain the domestic sugar industry. As noted in chapter 1, the United States could produce all the sugar it consumes. To do this, however, would

require either very high tariffs or strict prohibitions on imported sugar and would substantially raise the cost of sugar to consumers.

The opposite choice, no sugar price-support program, would mean that the United States would rely on the world market to determine who would supply the sugar consumed in the United States, how much would be supplied, and at what price. It seems probable that during a time of low world sugar prices, many U.S. sugar producers and processors would not find it economical to remain in business. The United States would become more dependent on imports.

A more import-dependent nation would mean smaller U.S. sugar production capacity. This could mean higher world prices for sugar, at least until output increased in other sugar-producing countries.

The world sugar market has in the past been a residual market for sugar not consumed in the producing country or sold under preferential arrangement. There are, however, countries that produce sugar for export into this market. This market bears the brunt of world surpluses and shortages, which assume greater importance due to the smaller nature of the world market as compared with world consumption. This magnifies the impact on prices of relatively small changes in world stocks. A United States more dependent on imports would increase the size of the market--and so possibly help reduce its volatility--by reducing the relative effect of small changes in world stocks. This might not be true in periods of shortages, however, since there would be a greater demand for a scarce product and volatility could increase. A United States less dependent on imports would reduce the world market's size and so possibly increase its volatility by magnifying the relative effect of small changes in world stocks.

The costs of protecting the domestic sugar industry must be borne by U.S. citizens. These costs are paid either by the U.S. Treasury (i.e., taxpayers) through government support payments or by the sugar consumers through increased sugar costs.

Also, when the world price is high, consumers will pay more for sugar regardless of whether the industry is protected, since the domestic price is influenced by the world price. Since the world market is characterized by long periods of low prices and short periods of high prices, an important issue is the extent to which consumers would pay less in the long run by paying the world price at all times.

In our 1979 report we stated that the United States should no longer think in terms of sugar alone. The domestic sweetener market has changed considerably and continues to change, with corn sweeteners--especially HFCS--and low-calorie sweeteners obtaining

increasing shares of the market. Per capita consumption of these sweeteners has increased during the past 10 years, while per capita sugar consumption is down.

HFCS' expansion has been made possible by its technical substitutability for sugar and its lower cost of production. HFCS is sold at a lower price than sugar and its growth has been closely related to sugar price trends; rising sugar prices induce more potential users to seek less expensive sugar substitutes.

Higher sugar prices accelerate HFCS growth, which can serve as a counterweight to high sugar prices. The higher the price of sugar, the faster the HFCS industry will grow and compete with the U.S. sugar industry. A high sugar price-support program may, therefore, encourage the production and use of sugar substitutes such as HFCS and could result in sugar substitutes capturing an ever-increasing share of the domestic sugar market.

An issue, therefore, is whether the sugar price-support program may hurt domestic sugar producers by indirectly subsidizing HFCS producers and encouraging use of HFCS in place of sugar. Since HFCS competes directly with sugar, congressional action that affects sugar also affects HFCS. Consequently, the impact of increased HFCS consumption and its ability to compete with sugar can be important considerations in determining sugar policy.

IF A DOMESTIC INDUSTRY IS SUPPORTED, HOW HIGH SHOULD THAT SUPPORT BE?

By setting the U.S. price, a sugar program affects how much sugar for domestic consumption the U.S. sugar industry will provide, and how dependent the United States will be on imported sugar. During recent years the U.S. sugar industry has filled a larger percentage of shrinking domestic consumption. Conversely, imports--which have been restricted by quotas--have filled a smaller percentage of domestic consumption.

During 1983 the U.S. sugar industry supplied about 64 percent of the domestic sugar consumed, compared with an average of 55 percent during the last 10 years of the Sugar Act. Because of a change in the mix of domestic sweetener consumption, the percentage share of the total U.S. sweetener market met by the domestic sweetener industry is larger, comprising approximately 80 percent of our sweetener use in 1983.

The size of the domestic sugar industry is influenced by the price level at which sugar is supported. The higher the price-support level,

--the higher the domestic price of sugar to the consumer,

--the larger the number of domestic sugar producers likely to remain in business,

--the more that higher cost and less efficient producers can continue producing sugar,

--the more domestically produced sugar available to meet domestic consumption,

--the less the quantity of imports necessary for domestic consumption, and

--the more price-competitive HFCS will be relative to sugar and the more likely HFCS will replace more of the domestic sugar market.

In contrast, the lower the support price,

--the more that less expensive imported sugar will be available for sugar consumers;

--the more that higher cost domestic producers are encouraged to leave the industry, having an adverse affect on their local communities but leaving in place a more efficient industry;

--the less domestic sugar likely to be produced, which would be offset by increased imports and increased reliance on foreign production; and

--the less price-competitive HFCS will be relative to sugar and the less likely HFCS will replace more of the domestic sugar market.

WHAT PRICE-SUPPORT METHODS COULD BE USED?

Methods that could be used to achieve a price-support level--and some of their possible effects--are discussed below. These lists are not all-inclusive; characteristics that apply to one method may also apply to others. In addition, methods could be used in combination.

Quotas

Quotas for imports can be established as the difference between expected domestic consumption and production. The use of quotas could

--be highly effective in maintaining the price-support level;

--result in consumers paying a price above the world price;

--result in a gradual decline of imports if per capita sugar consumption decreases and the domestic sugar production remains constant, in which case domestic production would provide a larger share of U.S. needs;

--contain foreign policy implications, both in determining which countries should be allowed to provide sugar to the United States and in the effect a smaller U.S. market would have on foreign sugar producers;

--require strict U.S. Customs Service control over sugar imports;

--require accurate estimates of domestic production and consumption; and

--provide HFCS producers with a competitive advantage since domestic sugar prices would be artificially increased.

Tariffs and fees

The use of tariffs could

--provide revenues to the U.S. Treasury;

--contain the potential for foreign suppliers to reduce their prices to undercut the U.S. support price and thus encourage increased imports; this would occur unless fees were continually adjusted so that the combined foreign transaction price plus U.S. duties and fees would keep import prices at or above the desired domestic price level;

--result in consumers' paying a price above the world price, the exact amount dependent on the level of tariffs and fees; and

--provide HFCS producers with a competitive advantage since domestic sugar prices could be artificially increased.

Government support payments

Using government support payments to pay the difference between the world market price and the desired domestic price is a third alternative. The use of support payments could

--be costly to the U.S. Treasury;

--result in the consumer's not directly paying a higher price for sugar because the price to the producer will be supported by taxpayers rather than by sugar consumers;

--place HFCS producers at a competitive disadvantage, or reduce their competitive advantage, if payments are limited to sugar producers and processors, since they will be competing in part with a federal subsidy rather than only with the sugar industry; and

--either require some form of import protection, such as quotas or tariffs or fees in conjunction with a support

payment program, or be very expensive if world prices are low.

Government loan programs

Government loan programs could also be used to provide support, with the producers having the option of repaying the loan, with interest, or forfeiting the sugar used as collateral to the government. The continued use of loans could

--potentially leave the government as the owner of substantial amounts of sugar if prices are too far below the loan rate plus interest, because the loans would be defaulted;

--be costly to the consumer if world sugar prices are low and the government acts to support the domestic sugar price;

--be advantageous to HFCS producers if the domestic sugar prices are artificially increased; and

--provide low-cost working capital to sugar producers and processors, placing HFCS producers at a competitive disadvantage if loans are limited to sugar producers.

Other methods

As noted on page 30, this list of methods is not all-inclusive; other methods to support the domestic sugar industry are available. These could include direct government purchase programs through which the government would buy sugar at an established price, tax incentives, product standards to discourage use of imported sugar and encourage use of domestic sugar, and marketing assistance programs to enhance demand for products with domestically produced ingredients.

WHO PAYS FOR THE SUGAR PROGRAM?

Consumers are paying the costs of the current sugar price-support program. An issue is whether consumers should continue to pay to support the domestic sugar industry.

A trade-off exists between policies for which the sugar consumers pay directly and those for which the U.S. Treasury (i.e., taxpayers) pays directly. Under a direct-payment program, a desirable market price level is decided upon and processors are paid the difference between this target price and the actual market price. Although sugar consumers would benefit because they pay the actual market price, which is generally lower than the target price, taxpayers are worse off because federal outlays are needed to pay the difference between the actual market price and the target price.

Supporting the price of sugar solely through import restrictions, import quotas, or import fees and duties increases sugar

prices for consumers and does not directly cost taxpayers. In this manner sugar prices rise without direct federal outlays.

Abolishing or greatly curtailing the sugar price-support program would result in lower costs to consumers or taxpayers. In this case, the costs would be to the domestic sugar-producing industry, which would probably become smaller as a result of foreign competition.

WHAT ARE THE INTERNATIONAL CONSIDERATIONS?

As discussed in chapter 4, the United States, as a major sugar importer, is important to the world sugar market, and its sugar policies may affect world sugar trade. Some international considerations related to the sugar price-support program include economic effects on sugar-exporting countries and how the program meshes with the Caribbean Basin Initiative, other foreign economic objectives, and a possible new international sugar agreement.

AGENCY COMMENTS

USDA commented on a draft of this report. (See app. VI.) USDA was mainly concerned about the connection between quotas and sugar prices that it said was implied in the report, namely that quotas are set to generate a market support price. USDA suggested that the report be revised to clearly state that the price of sugar is supported through the sugar loan program. USDA said that the United States has imposed fees under section 22 of the Agricultural Adjustment Act of 1933 (7 U.S.C. 624) to protect the price-support program. Furthermore, USDA said that imports of sugar into the United States and the domestic market price of sugar are affected by nation-by-nation import quotas imposed under the presidential headnote authority--headnote 2 of subpart A of part 10 of schedule 1 of the tariff schedules (19 U.S.C. 1202). Such quotas provide for orderly marketing in the domestic sugar market by taking into consideration the interests of both domestic producers and affected sugar-producing countries that have signed the General Agreement on Tariffs and Trade. We made appropriate changes in the report to clarify how the price of sugar is supported.

USDA also suggested several technical changes which we have, where appropriate, made.

SUGARBEET PRODUCTION BY REGION AND STATE

Region and state	1975	1976	1977	1978	1979	1980	1981	1982	1983[a]
	1,000 tons								
Far West:									
Arizona	366	391	285	308	217	208	300	298	-
California	8,892	8,912	5,664	4,745	5,719	5,885	7,254	3,852	4,056
Idaho	2,942	2,879	2,094	2,765	2,820	3,296	3,754	3,182	3,518
Oregon	426	364	206	203	178	197	300	251	310
Washington	2,142	1,862	1,495	1,747	-	-	-	-	-
Total	14,768	14,408	9,744	9,768	8,934	9,586	11,608	7,583	7,884
Central:									
Colorado	2,661	2,303	1,404	1,538	1,358	1,729	1,733	920	603
Iowa	-	-	-	-	-	-	-	-	-
Kansas	667	749	401	442	213	200	284	170	94
Minnesota	2,783	3,026	4,732	4,971	3,782	3,621	4,403	4,738	4,626
Missouri	-	-	-	-	-	-	-	-	-
Montana	829	968	896	885	829	879	926	850	818
Nebraska	1,776	1,690	1,354	1,368	1,462	1,777	1,889	926	1,234
New Mexico	15	20	23	37	30	37	43	12	-
North Dakota	1,820	2,022	2,769	3,054	2,304	2,017	2,695	2,476	2,427
Texas	440	503	309	414	332	386	575	556	622
Utah	353	317	173	225	30	15	-	-	-
Wyoming	1,060	1,167	949	922	906	1,024	1,078	810	616
Total	12,404	12,765	13,010	13,856	11,246	11,685	13,626	11,458	11,040
Eastern:									
Maine	-	56	-	-	-	-	-	-	-
Michigan	1,755	1,540	1,796	1,770	1,550	1,892	2,030	1,853	1,976
Ohio	777	617	457	394	266	339	274	-	211
Total	2,532	2,213	2,253	2,164	1,816	2,231	2,304	1,853	2,187
U.S. total	29,704	29,386	25,007	25,788	21,996	23,502	27,538	20,848	21,111

[a]Data for 1983 is preliminary.

Source: Economic Research Service, USDA.

APPENDIX I

PRODUCTION AND PROCESSING COSTS PER POUND OF REFINED BEET SUGAR, BY COST ITEM, 1981 U.S. CROP

Item	1981 crop costs
	(Cents per pound)
Production:	
Variable	6.947
Fixed	2.189
Operating capital	.443
Nonland capital	.417
Land	1.472
Total production costs	11.468
Processing:	
Variable	10.652
Fixed	1.976
General and administrative	.794
Dried pulp	1.633
Total processing costs	15.055
Total production and processing costs	26.523
Credits:	
Dried pulp	1.879
Molasses	.750
Other	.183
Total	2.812
Net production and processing costs	23.711

Source: Economic Research Service, USDA.

PRODUCTION AND PROCESSING COSTS PER POUND OF RAW CANE SUGAR, BY COST ITEM, SPECIFIED AREAS, 1981 CROP

Item	Florida	Hawaii	Louisiana	Texas	United States
	(cents per pound)				
Production:					
Variable	9.793	10.364	5.620	8.501	8.904
Fixed	2.109	1.913	2.293	1.046	2.042
Operating capital	.740	.800	.776	.937	.780
Nonland capital	.639	.589	.608	.109	.592
Land	3.186	1.221	1.511	1.087	1.957
Hauling allowance	--	--	(.601)	--	(.151)
Total production costs	16.467	14.887	10.207	11.680	14.124
Processing:					
Variable	5.608	7.538	6.253	6.834	6.532
Fixed	1.920	1.468	1.991	3.322	1.825
General and administrative	.500	.823	.404	.798	.607
Total processing costs	8.028	9.829	8.648	10.954	8.964
Total production and processing costs	24.495	24.716	18.855	22.634	23.088
Credits:					
Molasses	1.123	.600	.761	1.019	.835
Bagasse (plant residue)	.005	--	.031	--	.009
Other	.030	1.028	--	--	.390
Total	1.158	1.628	.792	1.019	1.234
Net production and processing costs	23.337	23.088	18.063	21.615	21.854

Source: Economic Research Service, USDA.

APPENDIX III

APPENDIX IV

U.S. SUGAR IMPORTS BY COUNTRY

Country	Calendar year 1977	1978	1979	1980	1981	1982	1983
	(tons, raw value)						
Dominican Republic	974,788	733,530	816,967	615,362	761,007	383,214	485,369
Thailand	-	64,761	9,436	66,203	262,059	336,776	16,765
Brazil	660,633	600,684	1,262,358	845,948	1,099,351	328,413	383,998
Australia	494,225	165,493	107,715	350,881	715,125	310,315	225,116
Philippines	1,442,991	833,341	413,191	408,998	239,043	243,741	287,239
Argentina	266,968	271,019	234,820	197,172	443,950	178,622	252,391
Panama	131,162	123,003	157,287	156,351	103,958	102,981	142,978
West Indies	159,744	184,392	210,910	214,366	104,292	94,262	100,758
Zimbabwe	-	-	-	13,620	92,119	88,839	35,181
Swaziland	61,855	82,456	102,072	141,935	191,869	84,340	41,869
Honduras	20,634	17,781	65,303	89,133	94,528	70,121	125,090
Nicaragua	119,529	108,204	122,307	62,592	80,089	62,858	52,982
China Taiwan	86,055	56,585	28,200	-	-	61,820	33,554
Costa Rica	95,365	78,318	80,405	68,262	81,513	61,706	60,782
Guatemala	300,938	156,033	170,869	218,568	224,213	59,999	138,475
Peru	314,186	225,241	188,630	52,241	-	59,343	103,702
El Salvador	166,028	130,365	161,077	51,821	46,497	58,030	99,483
Malawi	38,358	37,028	35,727	60,118	87,627	54,822	14,759
South Africa	274,227	60,100	88,779	164,025	-	51,997	64,999
Belize	35,549	87,261	57,967	71,539	56,290	48,644	29,362
Fiji Islands	18,407	50,722	130,211	49,717	23,822	39,896	29,867
Colombia	14,249	113,410	26,103	214,374	177,900	38,002	69,636
Canada	138,027	98,144	89,521	638	2,597	33,473	10,157
Mozambique	97,311	12,913	98,139	87,960	40,066	31,800	18,039
Mauritius	57,363	112,212	115,808	55,216	-	20,572	31,422
Paraguay	-	-	-	11,041	16,160	16,949	2,715
Bolivia	49,473	62,441	89,189	72,508	8,091	16,344	65,636
Mexico	274	52,998	60,259	221	107	16,333	16,439
Haiti	-	5,757	11,287	10,044	-	6,604	15,489
Ecuador	55,380	37,294	82,227	72,949	54,673	3,075	-
India	32	58	14	18	42	104	30,449
China, Mainland	-	-	-	64	152	87	39
France	27,215	42,851	-	-	3	40	52
Hong Kong	1	3	-	22	58	26	18
United Kingdom	44	43	-	44	6	4	14
Sweden	2	3	2	3	2	2	2
Korea	288	1,036	354	-	-	2	-
Germany, West	19,906	16,539	2	4	-	2	147
Japan	-	1	-	110	2	1	15
Belgium	1,690	25,147	-	-	23	-	1
Cameroon	-	-	-	-	5,775	-	-
Malagasy Republic	12,052	14,295	9,610	20,472	12,274	-	25,262
Chile	-	-	-	7,152	-	-	-
Congo	-	-	-	7,544	-	-	-
Ivory Coast	-	-	-	35,318	-	-	53,715
Netherlands	-	7	-	134	-	-	21
Denmark	3,099	-	-	-	-	-	-
Ireland	-	2	-	-	-	-	-
Romania	-	13,209	-	-	-	-	-
Uruguay	-	8,220	-	-	-	-	16,331
Italy	-	-	-	-	-	-	24
Leeward Islands	-	-	-	-	-	-	20
Total	6,138,048	4,682,900	5,026,746	4,494,688	5,025,283	2,964,159	3,080,362
Refined Imports	271,944	99,649	90,371	7,860	5,062	35,092	20,397
Raw Imports	5,866,104	4,583,251	4,936,375	4,486,828	5,020,221	2,929,067	3,059,965

Source: Economic Research Service, USDA

QUOTA ALLOCATIONS BY COUNTRY

Country	Quota allocations September 26, 1983-September 30, 1984
Argentina	130,808
Australia	252,486
Barbados	21,294
Belize	33,462
Bolivia	24,338
Brazil	441,090
Canada	33,462
Colombia	73,008
Congo	16,776
Costa Rica	62,415
Dominican Republic	535,392
Ecuador	33,462
El Salvador	89,163
Fiji	21,294
Guatemala	146,016
Guyana	36,504
Haiti	16,776
Honduras	59,514
India	24,336
Ivory Coast	16,776
Jamaica	33,462
Malagasy Republic	16,776
Malawi	29,294
Mauritius	33,462
Mexico	16,776
Mozambique	39,546
Nicaragua	6,000
Panama	88,218
Paraguay	16,776
Peru	124,722
Philippines	410,670
St. Christopher-Nevis	16,776
South Africa	69,966
Swaziland	48,672
Taiwan	36,504
Thailand	42,588
Trinidad-Tobago	21,294
Uruguay	16,776
Zimbabwe	36,504

Source: USDA.

APPENDIX VI

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C. 20250

AUG 1 6 1984

Mr. J. Dexter Peach
Director
Resources, Community and Economic Development Division
United States General Accounting Office
Washington, D.C. 20548

Dear Mr. Peach:

Thank you for the opportunity to comment on your draft report entitled, "U.S. Sweetener/Sugar Issues and Concerns."

The draft report was reviewed by the Foreign Agricultural Service (FAS), Agricultural Stabilization and Conservation Service (ASCS), Economic Research Service (ERS), and Office of Budget and Program Analysis (OBPA). Staff comments from the foregoing agencies are included in the attachments.

It is our understanding this informational report will be made available to the Congress for consideration of sugar price support program renewal in the 1985 Farm Bill.

Accordingly, for purposes of clarity and more current data in your final report, individually edited draft reports were also made available to your local GAO representatives under separate cover.

Sincerely,

DANIEL G. AMSTUTZ
Under Secretary for International
Affairs and Commodity Programs

STAFF COMMENTS BY AGENCY
ON
DRAFT REPORT "U.S. SWEETENERS/SUGAR ISSUES AND CONCERNS"

FOREIGN AGRICULTURAL SERVICE

We are concerned over the connection GAO has drawn between quotas and domestic prices, namely, that the quotas are set to generate a market price that will prevent price support loan forfeitures. In fact, the quotas are set under the headnote authority at levels which take into consideration the interests in the domestic sugar market of both domestic producers and affected sugar producing countries that have signed the General Agreement on Tariffs and Trade. We do not draw the connection between quotas and prices which is implied in the GAO report. Our other suggestions are as follows:

1. The report should clarify in both the tables and the text exactly what type of sugar measurement--short tons, metric tons, actual weight, raw value equivalent, refined sugar equivalent--is being used. Clarification to one degree or another is needed on pages i, 11, 2, 3, 4, 7, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 34, 37, 38.

2. The language dealing with the relationship between existing quotas and domestic prices needs correction. This needs to be done on pages I, v, 1, 30, 31. Specifically, our quotas are set at levels under Headnote 2 of Subpart A of Part 10 of Schedule 1 of the Tariff Schedules (19 U.S.C. 1202) which "...give due consideration to the interests in the United States sugar market of domestic producers and materially affected contracting parties to the General Agreement on Tariffs and Trade." We have never drawn the connection between quotas and prices which is implied in the GAO draft report.

3. The statistics on page 2 need correction: USDA estimated 1982/83 world production and consumption are 101 million metric tons, raw value, and 92 million metric tons, raw value (mmtrv), respectively. USDA projected 1984/85 world production and consumption are 99.8 mmtrv and 97.3 mmtrv, respectively.

4. Statistics and other information on page 21 need correction:

   a. G.S.P. competitive need limit is $57.7 million not $53.3 million (lines 9 and 10);

   b. The correct "year" to cite for quota imports is the "quota year" not the "fiscal year" (line 15);

   c. The 1984 quota for the Dominican Republic is 535,392 short tons, raw value (strv), for Guatemala, 146,016 strv and for Panama, 88,218 strv (lines 15-17);

[See GAO notes 1 and 2, p. 43.]

APPENDIX VI

d. The duty on sugar (2.8125¢/lb.) amounts to $56.25 per short ton, raw value and $62.00 per metric ton, raw value (clarification, line 18);

e. The current international sugar agreement price range is 13 to 23 cents per pound, not 13 to 25 (lines 31 and 32).

5. A paragraph on the outcome (collapse) of the recent (June 1984) negotiations for a new international sugar agreement should be inserted on page 22.

6. On page 22, line 2, the language "originally had been planned for" should be replaced by "actual market demand."

7. The statistics for 1983 in the table on page 37 do not match up with either U.S. census data or U.S. Customs data on quota imports.

8. On page 32 and 33, in the last paragraph under the section "who pays for the sugar program," it should be noted that, if our past experience is an indication of what will happen without a support program, then we should expect lower costs for consumers in the short term, but higher costs in the long term as we move through the traditional sugar price cycle. This paragraph as currently written provides only half the story.

AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE

1. Page 7, 5th paragraph - "The U.S. domestic sugar price, which is supported through import quotas..." This tone prevails throughout the report (i.e., page 32). The price of domestically produced sugar is supported through the loan program and the loan program is protected through import fees.

2. High Fructose Corn Syrup - Page 9 - HFCS may not "reach full market potential over the next 2 or 3 years." If the production of HFCS in volume as a dry, granulated sweetener (like sugar) can be achieved at low cost, its potential is much greater.

3. Comments Below Table 3-4 - Page 16 - Significant acreages in Florida are harvested mechanically.

4. page 20, 5th paragraph - Reference to Appendix Table IV - Appendix Table IV does not contain information on the proportion of a country's exports which were to the U.S.

APPENDIX VI

5. Chapter 5 - Views of Sugar Producers and Sugar Users - Page 24 - If the "sugar producers" spoken of are processors rather than growers of sugar beets and sugarcane, that fact should be noted.

6. Page 24 - It should be noted that the "users" cited are chiefly importers of raw sugar which is refined and sold domestically.

7. Page 28 (also page V of "Digest") - Producers can't get in and out of sugar beet and sugarcane production like they can with many other crops. Specialized equipment, the need to contract in advance for processing, and the suitability of the land for other crops all make it likely that when a producer gets out of production, he stays out. Thus, those who get out "during a time of low prices" are not likely to get back in when prices are high. When the world "price cycle" is high, domestic users may have to pay more than if domestic production had been maintained at a higher level. We should not forget, in assessing costs to consumers, that the U.S. is a deficit producer and is dependent on imports for a significant part of its sugar needs. These general issues are recognized in the discussion of "Prior GAO Reports" on Pages 5-6 which dealt with the need for a comprehensive sugar policy.

8. Page 30, 5th item from bottom of page - "...the more less expensive sugar from larger imports available for sugar consumers." Availability of imports is not necessarily determined by the support price.

9. Beginning on page 30, first full paragraph - Each of the listed methods which could be used to achieve a price support level cannot necessarily be used to the exclusion of others. For example, Section 22 fees can only be used to protect an existing price support program. CCC is currently disbursing significant amounts of money, and incurring considerable administrative expense under the existing sugar price support program. If all the "methods" were available without the requirement for a price support program, the current loan program might not be necessary.

10. Page 32, first 2 items - The first item is correct leaving the Government as the owner--it also may isolate the Government-owned sugar from the market. The last item, "Be costly to the consumer..." is not necessarily true. It would be costly to the taxpayer--not the consumer--since cheaper imported sugar would not be restricted under these options considered separately.

ECONOMIC RESEARCH SERVICE

The report was reviewed primarily for accuracy of data and information. Consequently, most of the comments are included directly on the draft report. However, additional comments include:

1. Data on consumption should be checked against the attached tables. Clearly indicate when low and non-caloric sweeteners are part of "total sweeteners," and when only caloric sweeteners are intended;

2. See attached special article on processing and refining capacity to get the most current information on the subject (Sugar and Sweetener Outlook and Situation[1/] report, SSRV9N1, March 1984, Pages 27-34); and

3. See attached speech[1/] by Robert Barry for a perspective on the world "free" market for sugar. This subject is treated somewhat on page 4, but its implications for U.S. policy rationale are not picked up in a meaningful way.

OFFICE OF BUDGET AND PROGRAM ANALYSIS

We believe there are two major problems with this study. The first is that it repeatedly refers to our use of import quotas to prop up domestic market prices. Legally, this is not the case. The quotas provide due consideration to the interests in the U.S. sugar market of domestic producers and materially affected GATT contracting parties. While these interests are affected by the domestic market price, as FAS points out, we do not draw the connection between quotas and prices implied by the report.

Further, except for a brief reference to the CBI, the study ignores entirely the system of duties and fees that we have in place, the purpose of which is to protect domestic market prices. This is a serious omission, and the duty and fees should be included.

Finally, any value judgements should be excluded.

[1/] Made available under separate cover.

[GAO note 1: Page numbers in USDA's comments have been changed to reflect those in the final report.]

[GAO note 2: Changes, additions, and deletions to the report were made, as appropriate, in response to comments by the Foreign Agricultural Service; Agricultural Stabilization and Conservation Service; Economic Research Service; and Office of Budget and Program Analysis, USDA.]

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