

only slightly above 1943, and it did not recover its prewar level until 1947.

The drop in production of beet sugar in 1943-46 appears to have been caused mainly by a shortage of labor needed for growing beets. Sugarbeet production at that time required much tedious hand labor which received relatively low wages. Wages in manufacturing industries were higher, and many former beet workers took factory jobs, particularly in the Western States. Substitute crops which could be produced on land formerly devoted to sugarbeets brought high prices during the war and required much less labor per acre to produce. In some cases, prices (including subsidies) for these crops were higher, compared with prewar, than they were for sugarbeets.

The production of cane sugar in the continental United States averaged somewhat higher during the war than it had in prewar years. Production in 1942 was 444,000 tons, 6.7 percent above 1941. The shortage of labor in the cane-producing areas never became so acute as in the beet areas. Also, substitute crops could not be planted in most of the cane areas so readily as in the beet areas.

Production of sugar in Hawaii declined moderately during the war. It averaged 834,000 tons for 1942-47, about 12 percent below 1941. Part of this reduction was caused by the military services taking over some cane land for war purposes. Moreover, labor and machinery became very scarce in Hawaii. The Islands were so important as a military base that many civilian laborers were employed in positions related to military activity.

Sugar production in Puerto Rico amounted to 940,000 tons in 1941, about the same as during 1942-47. Production reached a low of 729,000 tons in 1944. This decline in production was partly the result of a sharp drop in the yield of cane per acre caused by adverse weather conditions and a shortage of fertilizer.

The total production of sugar in the continental United States, Hawaii, Puerto Rico, and the Virgin Islands in the crop year 1941 amounted to 3,889,000 tons. Production for the next 6 years averaged 3,683,000 tons, a decline of 9 percent. In addition, nearly a million tons of sugar were received from the Philippine Islands in 1941, but because of the Japanese occupation none came during the next 6 years (8).

Sugar production in Cuba, the other important area supplying the United States, increased during the war years. It amounted to only 2,734,000 tons in 1941, compared with an average of 3,252,000 tons for 1937-40. Production amounted to 3,229,000 tons in 1943, then increased to 4,476,000 tons in 1946 and to 6,448,000 tons in 1947. Considerable quantities of invert or high-test molasses were made in Cuba in 1942 and 1944 for U.S. wartime uses. The quantity of sugar produced in those years would have been

greater if part of the cane crop had not been used for making this molasses.

## Goals for Sugarcane and Sugarbeets

The U.S. Department of Agriculture set production or acreage goals for all major farm products during the war. These goals were set in the fall or winter each year for the coming crop season. The goals were intended to serve as a guide to farmers and agricultural workers in planning their production programs by indicating approximately how much of each commodity was likely to be needed during the period when next year's crop would be consumed.

Separate goals were set for sugarcane and sugarbeets produced in the continental United States each year, beginning with the crop year 1943. In 1942, USDA announced that no limitations would be placed on the acreage of sugarbeets and sugarcane. Such limitations had been in effect in 1941. The acreage of sugarbeets harvested in 1942 was 26 percent greater than in 1941, and the acreage of sugarcane increased 22 percent. These were the high points reached during the war.

The goals for 1943 called for 1,050,000 planted acres of beets and 340,000 harvested acres of cane. In 1944 the goals were reduced to 951,000 acres for beets and 337,000 acres for cane. Both the beet and cane goals for 1945 were the same as for 1944.

## Government Control of Sugar Prices

U.S. sugar prices rose about 0.6 cent a pound during the first half of 1941. In an effort to half this rise, sugar consumption requirements under the Sugar Act were frequently adjusted upward, permitting the marketing of increased quantities of sugar. However, it gradually became apparent that the increased supplies would not be sufficient to stop the rise in price because of the great expansion in demand. Consequently, in mid-August the Office of Price Administration placed a ceiling on sugar prices of 3.50 cents per pound of duty-paid raw sugar, New York basis. This ceiling was maintained until January 1942 when it was raised to 3.73 cents per pound. It was raised to 3.75 cents in September 1944, and 4.205 cents in February 1946.

The first price ceilings on refined and other sugar for direct consumption, sold by primary distributors, became effective December 22, 1941. The ceiling on fine granulated cane sugar refined on the continent was set at 5.20 cents per pound, f.o.b., U.S. seaboard refineries nearest (freightwise) to point of delivery. The beet sugar basis price was set at 5.15 cents per pound at the seaboard cane refinery nearest (freightwise) to point of delivery. These ceilings were later lifted on January 9, 1942, to 5.45 and 5.40 cents, respectively. A further increase to 5.60 cents on fine granulated cane sugar processed by refineries in New

York, New Jersey, Pennsylvania, and Massachusetts was allowed on March 31, 1942. Deliveries from these refineries in 1942 were confined to 10 North-eastern States or smaller areas. On April 13, 1942, because of a shortage of sugar in the Northeast, refined granulated beet sugar and offshore refined cane sugars were moved into the area at 5.60 cents. Regulations provided that maximum prices should be reduced by any customary discount for cash or prompt payment.

The first ceiling on the wholesale price of refined sugar became effective December 22, 1941. Wholesalers were allowed to choose between the highest price charged in either the period October 6 to 11 or December 1 to 6, 1941, and they could add any increase in cost since the period chosen. On May 18, 1942, the General Maximum Price Regulation established the first ceiling on the retail price of sugar. On October 15, 1942, both wholesalers and retailers were given the option of charging either their previous maximum price or a specified percentage markup over cost which was uniform for each type of seller. The markup could be recalculated as often as costs changed. Wholesalers determined their maximum price option under Price Schedule 60 until May 10, 1943, when this schedule was terminated by Revised Maximum Price Regulation 237 which made the markup the mandatory maximum for wholesalers. Revised Maximum Price Regulation 238 terminated the option for retailers.

On May 8, 1943, authority was delegated to district Office of Price Administration offices to establish and publish community maximum retail dollar-and-cents prices of sugar. District offices calculated these by

adding the wholesale and retail markups to the bulk-line price paid by wholesalers in the community. In communities where such price ceilings were not established, the other maximum-price regulations continued to apply. Later it was provided that wholesalers and large retailers who were not buying from wholesalers could not recalculate their markup after August 5, 1943. The same regulation applied to small retailers after their first purchase following August 5.

There were no significant changes in sugar price ceilings from the summer of 1943 to VJ Day, August 14, 1945.

The 1935-39 average wholesale price of refined sugar in New York was 4.67 cents per pound. From April 1942 until after VJ Day, this price was 5.49 cents, an increase of 17.6 percent. For 1944, the wholesale price index of all commodities averaged 29.1 percent above the 1935-39 average. The 1944 index for prices of foods was 32.7 percent above 1935-39; that for farm products, 62.5 percent; and that for all products other than farm products and foods, 21.2 percent.

### Returns to Growers of Sugarcane and Beets

The total returns which sugarcane and beet growers received increased much more during the war than did the price of sugar. This proved necessary if production was to be maintained even as well as it was. The increased returns to growers came largely from increased subsidy payments by the Government (table 16). These payments made it possible for consumers to obtain comparatively cheap sugar while growers' returns were relatively high.

Table 16—Estimated cost of the sugar programs of the Commodity Credit Corporation, by years, December 16, 1942, to December 31, 1946

Program	1942	1943	1944	1945	1946	Total 1942-46
--- 1,000 dollars ---						
Continental beet . . . . .	244	9,195	23,351	33,606	46,475	112,871
Mainland cane—Louisiana . . .	38	2,101	4,279	10,938	13,078	30,434
Mainland cane—Florida . . . .	---	---	204	1,925	2,008	4,137
West Coast refiners of raw cane sugar . . . . .	529					529
Refiners and importers of Hawaiian sugar . . . . .	1,481					1,481
West Coast refiner program . .			1,552			1,552
Hawaiian raw cane sugar . . . .	1		4,243	10,500	20,533	35,277
Puerto Rico raw cane sugar . .	578	2,846	4,362	12,402	23,050	43,238
Puerto Rican direct consumption sugar . . . . .		372	260	436	433	1,501
Cuban raw cane sugar . . . . .	15,876	16,116	9,956	25,961	65,129	133,038
Cuban direct consumption sugar . . . . .		761	840	3,703	8,294	13,598
Dominican and Haitian raw cane sugar . . . . .		300				300
Virgin Islands' raw cane sugar .				52	156	208
Peruvian raw cane sugar . . . .				1,511		1,511
Miscellaneous . . . . .				800	250	1,050
Total . . . . .	18,747	31,691	49,047	101,834	179,406	380,725

Source: Ballinger, Roy A. Sugar During World War II. U.S. Dept. of Agr. Bur. Agr. Econ. War Records Monog. 3. June 1946.

Under the Sugar Act of 1937 and similar legislation preceding it, the Government made "conditional" payments to beet and cane producers beginning in 1934. From 1938 through 1941, the base rate of payments to producers of both beets and cane was 60 cents per 100 pounds of commercially recoverable raw sugar. These "conditional" payments were raised in 1942 and later years to 80 cents per 100 pounds of raw sugar.

Total annual payments through World War II made to cane and beet producers under the 1937 Sugar Act varied from \$46 million in 1943 and 1944 to \$58 million in 1942. Payments in 1947 rose to \$62 million. Abandonment and deficiency payments varied from about 4 percent of the total in 1942 to nearly 11 percent in 1943. Approximately 43 percent of the total payments for 1945 were made to sugarbeet producers, 15 percent to cane growers in the continental United States, 16 percent to producers in Hawaii, and 26 percent to those in Puerto Rico.

In addition to these payments, the Commodity Credit Corporation (CCC) subsidized producers and processors of sugarbeets and sugarcane in various ways starting in 1942. These subsidies were of two main types: One consisted of the payment of "excess" costs resulting from the war; the other of "incentive" payments to encourage increased production (67).

Payments of excess costs were mainly for increased costs of transportation and storage during the war. For instance, in obtaining sugar from Cuba and other islands, it was sometimes impractical to ship the sugar from the customary port. Shipping from an alternate port almost always increased the expense in moving the sugar to port. Furthermore, war conditions sometimes made it necessary to store sugar longer and in more expensive locations than would otherwise be required. Ocean freight rates, including marine insurance, increased greatly during the war. The "excess" cost of handling sugar in Cuba and of shipping it to the United States varied from about \$16 million in 1942 to \$5 million in 1945. Similar excess costs, although smaller because of the smaller quantities of sugar involved, were incurred in shipping sugar from Puerto Rico and Hawaii. Some excess costs were incurred within the continental United States in moving sugar out of its normal consumption area into areas of temporary deficit, in moving some Louisiana raw sugar during periods of low supplies to refineries other than those normally used, and in moving sugarbeets to distant factories when the normally used nearby ones were closed because of a reduced acreage of beets.

In some cases, excess costs were met by reimbursing the growers or processors who incurred them. For sugar owned by the CCC, the excess costs were paid directly by the Corporation and were not reflected in the margin between the price paid by the Cor-

poration and the price it received when selling the sugar.

To encourage the production of more sugar, incentive payments of 20 cents per 100 pounds of sugar produced were made in Puerto Rico and Hawaii in 1944. These were increased to 55 cents in 1945. Incentive payments of 33 cents per ton of cane were made to producers in Louisiana in 1943. These were increased to 85 cents in 1944 and \$1.60 in 1945. Incentive payments at the rate of \$1.50 a ton were made to sugarbeet growers in 1943; payments in 1944 and 1945 amounted to \$3 a ton.

The price paid for the 1945 crop of Cuban sugar, \$3.10 per 100 pounds, was 45 cents above the price paid for the three previous crops. As the CCC sold this sugar to refiners at the same price that it sold the former crops, the Corporation absorbed a loss of 45 cents per 100 pounds of sugar, in addition to other costs, mainly transportation. Thus, the effect of the program was similar to that of the incentive payments made to domestic producers.

Raw sugar imported into the United States from Cuba was entered free of duty from May 14, 1944, to the end of 1947. The CCC, the only importer of this sugar, continued to sell it to refiners at the same price as that in effect when the duty was paid. The duty equivalent which the CCC collected from the sugar refiners served to partly offset the costs of the various sugar programs undertaken by the CCC, so far as the books of the Corporation were concerned. However, the offset did not affect the final cost to the taxpayers, since the amount of the duty that would have been collected as part of the Government revenue equaled the reduction in the expenses of the Corporation.

## **Sugar Allocation Among the Allies**

Shortly after Pearl Harbor, the United States and Great Britain established a Combined Food Board to deal with the allocation of scarce food supplies among the Allies; Canada joined in 1944. Sugar was one of the commodities controlled by this Board. From 1944 through 1947, the Board allocated available supplies of sugar among the member nations and other claimants. In 1942 and 1943, the Board made shipping recommendations and maintained a close review of the sugar situation.

The sugar under purview of the Combined Food Board constituted only about a third of world production, but it included most of the exportable surpluses produced outside of enemy-controlled territory. The United States purchased nearly all of the sugar produced in Cuba, and Britain or the United States bought the crops of Haiti, the Dominican Republic, and the British West Indies.

In allocating import supplies, the principal problem was to apportion Cuban supplies, since no single country was large enough to use all of the exportable

supply of Cuba. Each nation represented on the Board was a sizable importer of sugar, and domestic production in each nation was consumed within that country. In prewar years, Britain and Canada imported a substantial part of the sugar shipped from Haiti, the Dominican Republic, and the British West Indies. This arrangement was continued through the war years. In addition, when shipping was available, Canada obtained some sugar from Fiji and Australia, and Britain received shipments from South Africa and Mauritius. However, each nation, as well as other claimants, needed sizable quantities of Cuban sugar.

The available supply was allocated each year to various claimants according to relative need and the prospective ability of the Allies to deliver the sugar to various destinations. Shipping difficulties, particularly in 1942 and 1943, made it impracticable for any country to obtain as much sugar from Cuba as it might otherwise have acquired. Other Allies needing sugar applied to the Combined Food Board for allocations. So far as practicable, allocations were made on an annual basis, but frequent revisions were necessary.

The War Shipping Board exercised direct control of the actual movement of sugar by water throughout the war. It attempted to do this according to the allocations, but submarine warfare made this difficult and sometimes impossible. Part of the 1943 Cuban sugar crop was not harvested because of the fear that it would be impossible to move all the sugar from the island or find storage space in Cuba for the part that could not be shipped. This action resulted in the harvesting of considerable amounts of 2-year-old cane in Cuba in 1944 and contributed materially to the large crop harvested that year.

### **Sugar Allocations Within the United States**

After the allocations of the Combined Food Board had been made, USDA, in cooperation with other agencies, allocated this country's supplies to various claimants. The largest claimants were civilians, various branches of the military services, and relief agencies. These allocations were made on a quarterly basis for a year in advance. They were revised each quarter and estimates for a new quarter were made.

The allocations were made by obtaining estimates of needs from the military services and other interested agencies of the Government. These estimates were combined into totals which were compared with estimated available supplies. The actual allocations necessarily represented some compromise, as there was almost always an estimated need for more sugar than was available. The largest adjustments were usually made in the quantities allotted to civilians, since civilians always received by far the largest share of the total. Military requests were seldom reduced.

The quantity of sugar used by a given claimant in a

given period sometimes differed substantially from the allotment for that quarter. In 1944 and the first half of 1945, civilians received substantially more sugar than had been allotted to them. In 1944, this apparently amounted to about 775,000 tons or 14 percent more than the allocations. The military services actually received nearly 10 percent less sugar than was allocated to them in 1944. However, the deficit in military takings was much smaller than the surplus takings by civilians, so the total quantity of sugar distributed in 1944 was about 600,000 tons more than the total allocations.

No satisfactory method of controlling the distribution of sugar by refiners and other primary distributors was adopted until June 12, 1945, when a distribution order (WFO 131) was issued. The order specified the quantity of sugar each primary distributor could deliver to each of the four classes of users during the period April to September 1945. The four classes were: War Food Administration, Government agencies other than the War Food Administration and the War Shipping Administration, authorized purchasers, and civilians. The term "authorized purchaser" was defined as "a person who delivers sugar or any product containing sugar to a governmental agency, or who obtains sugar for export under a license issued by the Foreign Economic Administration."

The total quantity of refined sugar which distributors were permitted to deliver during April to September 1945 was 3,359,815 tons plus 30,676 tons that mainland cane direct-consumption mills had on April 1, 1945. Approximately 79 percent of the total was allotted to civilians, 7 percent to authorized users, 12 percent to Government agencies other than the War Food Administration, and 2 percent to the War Food Administration.

There was a strong demand throughout the war for invert molasses to manufacture industrial alcohol, chiefly for use in making synthetic rubber. The production of synthetic rubber increased greatly because of the loss of natural rubber supplies from Malaysia.

The principal materials used in making industrial alcohol during the war were blackstrap molasses, invert molasses, and various grains. Blackstrap molasses, a byproduct of sugar production, had been an important source of industrial alcohol for many years. Virtually all of the blackstrap molasses produced during the war was used for this purpose. Invert molasses is a product made from sugarcane which contains all the sucrose and other sugars that would otherwise be made into sugar and blackstrap molasses. Consequently, when invert molasses is produced from cane, no sugar is obtained. Invert molasses is a cheaper source of industrial alcohol than grain, and the manufacturing process is simpler.

All of the invert molasses produced during the war was made in Cuba. In 1940, Cuba produced invert molasses equivalent to about 730,000 tons of raw

sugar; in 1941, 1,360,000 tons; in 1942, 690,000 tons; and in 1944, 900,000 tons. No sugarcane was used for invert molasses in 1943 or 1945. The production program for industrial alcohol was largely determined by agreement between USDA and the War Production Board.

## Sugar Rationing

Immediately following the attack on Pearl Harbor, the Government was faced with the problem of preventing maldistribution of available supplies of sugar. To stop panic buying and excessive hoarding, Order M-55 was issued. This order froze existing stocks of sugar in the hands of users and prevented deliveries exceeding 1940 levels. During the first 4 months of 1942, deliveries were limited to 80 percent of corresponding 1941 usage for all industries.

Late in April 1942, a formal rationing program was instituted by the Office of Price Administration. The first ration period for industrial and institutional users began May 1 and for individual consumers, May 5 (tables 17, 18, and 19). The purpose of rationing was to

reduce demand to the indicated supply and to distribute the supply more equitably. In the original program, a basic ration of 26 pounds per year was allotted to individual consumers. This was considered to represent about half the 1941 individual use. The ration to institutions was also about 50 percent of 1941 use. Industries were allowed 70 percent of 1941 use—the lowest rate under which it was considered that industries could operate without causing undue hardship.

Immediately after the beginning of rationing, deliveries of sugar fell sharply to less than half those of the preceding month. However, actual consumption probably was greater than deliveries, because of the excess stock in the hands of jobbers, manufacturers, and consumers. June deliveries were also less than the estimated consumption. Offshore arrivals during May 1942 increased moderately so that total stocks were brought into better balance with the curtailed demand. Although arrivals, particularly from the Caribbean, declined drastically during July and August, the improved stock position, resulting from the controls over demand, permitted a slight liberalization of the rationing program. However, available supplies

Table 17—Consumer rationing of sugar in the United States during World War II

Ration period	Number of valid stamp	Weight value of valid stamp	Weight value of valid stamp per week
--- Pounds ---			
May 5 - May 16, 1942 . . . . .	No. 1 - Book 1	1	0.583
May 17 - May 30, 1942 . . . . .	No. 2 - Book 1	1	.500
May 31 - June 13, 1942 . . . . .	No. 3 - Book 1	1	.500
June 14 - June 27, 1942 . . . . .	No. 4 - Book 1	1	.500
June 28 - July 9, 1942 . . . . .	No. 5 - Book 1	2	.500
July 10 - July 25, 1942 . . . . .	No. 5 and 7 Book 1	( <sup>1</sup> )	.818
July 26 - Aug. 22, 1942 . . . . .	No. 6 and 7 Book 1	( <sup>2</sup> )	.818
Aug. 23 - Oct. 31, 1942 . . . . .	No. 8 - Book 1	( <sup>3</sup> )	.500
Nov. 1 - Dec. 15, 1942 . . . . .	No. 9 - Book 1	3	.467
Dec. 16 1942 to Jan. 31, 1943 . . . . .	No. 10 - Book 1	3	.447
Feb. 1 - Mar. 15, 1943 . . . . .	No. 11 - Book 1	3	.488
Mar. 16 - May 31, 1943 . . . . .	No. 12 - Book 1	5	.455
June 1 - Aug. 15, 1943 . . . . .	No. 13 - Book 1	5	.461
Aug. 16 - Oct. 31, 1943 . . . . .	No. 14 - Book 1	5	.455
Nov. 1, 1943 to Jan. 15, 1944 . . . . .	No. 29 - Book 4	5	.500
Good indefinitely after Jan. 16 <sup>4</sup> . . . . .	No. 30 - Book 4	5	<sup>5</sup> .461
Good indefinitely after Apr. 1 . . . . .	No. 31 - Book 4	5	<sup>5</sup> .461
Good indefinitely after June 16 . . . . .	No. 32 - Book 4	5	<sup>5</sup> .461
Good indefinitely after Sept. 1 . . . . .	No. 33 - Book 4	5	<sup>5</sup> .461
Good indefinitely after Nov. 16 . . . . .	No. 34 - Book 4	5	<sup>5</sup> .461
Feb. 1 - June 2, 1945 . . . . .	No. 35 - Book 4	5	.393
May 1 - Aug. 31, 1945 . . . . .	No. 36 - Book 4	5	.285
Not validated . . . . .	No. 37 - Book 4	—	—
Sept. 1 - Dec. 31, 1945 . . . . .	No. 38 - Book 4	5	.285
Jan. 1 - Apr. 30, 1946 . . . . .	No. 39 - Book 4	5	.285
May 1 to Aug. 31 spare stamp 1946 . . . . .	No. 49 - Book 4	5	.285
Sept. 1 - Dec. 31 spare stamp 1946 . . . . .	No. 51 - Book 4	5	<sup>6</sup> .285
Jan. 1 to Apr. 30, 1947 . . . . .	No. 53 - Book 4	5	<sup>6</sup> .285
Apr. 1 to Sept. 30 spare stamp 1947 . . . . .	No. 11	10	( <sup>6</sup> )
June 1 to Oct. 31 spare stamp 1947 <sup>7</sup> . . . . .	No. 12	10	( <sup>6</sup> )

<sup>1</sup> Stamp No. 5 had a weight value of 2 pounds and was valid from June 28 to July 25. Stamp No. 7 had a weight value of 2 pounds and was a bonus, valid from July 10 to Aug. 22. <sup>2</sup> Stamp No. 6 had a weight value of 2 pounds and was valid from July 26 to Aug. 22. Stamp No. 7 also was valid in this period. <sup>3</sup> Extended to September 30, 1946. <sup>4</sup> Also, sugarcane and sugarbeet growers were allowed 25 pounds of sugar produced from their crop for each person in the family, or 25 pounds per acre grown, whichever was less. <sup>5</sup> Weight value for period until next stamp became valid, Stamps No. 30, 31, 32, and 33 were canceled as of December 31, 1944 and No. 34 as of February 28, 1946. <sup>6</sup> Period overlap. <sup>7</sup> Rationing for household and institutional users discontinued on June 12, 1947.

Source: Sugar Rationing Division, Office of Price Administration.

**Table 18—Sugar ration allowances for home canning in the United States during World War II**

Year	Maximum quantity per person			Principal regulations applying
	Stamps	Application	Total	
	... Pounds ...			
1942 . . . . .	0	<sup>1</sup> 6	<sup>1</sup> 6	5 lb. for canning and 1 for jams and preserves. After May 20, 1 lb. per 4 qt. of fruit and 1 lb. per person for jams and preserves, with no limit on total amount per person.
1943 . . . . .	10	15	25	Stamps No. 15 and 16 were valid from May 24 to Oct. 31. Applications for the remainder were accepted until Feb. 28, 1945.
1944 . . . . .	5	20	25	Stamp No. 40, book 4, was valid from Feb. 1, 1944 to Feb. 28, 1945. Applications for the remainder were accepted until Feb. 28, 1945.
1945 <sup>2</sup> . . . . .	0	15	15	Applications accepted until Oct. 31, 1945, the total not to exceed 120 lb. per family. Only 5 lb. per person allowed for canning vegetables and making jams, jellies, relishes, catsup, etc. <sup>2, 3</sup>
1946 . . . . .	10	0	10	Spare stamp No. 9 valid, March 11 to Oct. 31, 1946. Spare stamp No. 10, valid July 1, to Oct. 31, 1946.

<sup>1</sup>The limit was entirely removed after May 20, 1942. <sup>2</sup>The maximum was 20 lb. per person from February 23 to May 1, 1945. This was reduced to 15 lb. on May 1. <sup>3</sup>No local board could issue more than 70 percent as much sugar for home canning as it issued between February 29, 1944, and December 9, 1944, except by permission of the regional office. The total for any region was limited to 70 percent of the previous year. Regional administrators could reallocate quotas between districts and boards.

Source: Sugar Rationing Division, Office of Price Administration.

**Table 19—Monthly allotments of sugar for industrial users in the United States during World War II<sup>1</sup>**

Ration period	Bakery and cereal products	Pharmaceuticals	Others	Jams, jellies, preserves, and fruit butters	Baked beans, catsup, and chill sauce	Canned soups
	<i>Percent of base</i>					
1942:						
May-June . . . . .	70	70	70	70	70	70
July-Oct. . . . .	80	80	80	80	80	80
Nov.-Dec. . . . .	70	70	70	70	70	70
1943:						
Jan.-July . . . . .	70	70	70	70	70	70
Aug.-Oct. . . . .	80 <sup>3</sup>	100	80	120	80	80
Nov.-Dec. . . . .	90 <sup>3</sup>	110	90	120	90	90
1944:						
Jan.-Mar. . . . .	80	100 <sup>4</sup>	80	Provisional <sup>5</sup>	Provisional <sup>5</sup>	80 <sup>8</sup>
Apr.-June . . . . .	80	100 <sup>7</sup>	70 <sup>8</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>	70 <sup>8</sup>
July-Sept. . . . .	80	125	80	Provisional <sup>5</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>
Oct.-Dec. . . . .	80	125	80	Provisional <sup>5</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>
1945:						
Jan.-Mar. . . . .	80	125	70	70 <sup>10</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>
Apr.-June . . . . .	75	120	65 <sup>11</sup>	70 <sup>10</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>
July-Dec. . . . .	60	110	50	50 <sup>10</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>
1946:						
Jan.-Mar. . . . .	60	110	50	45 <sup>12</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>
Apr.-June . . . . .	70	120	60	55 <sup>12</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>
July-Dec. . . . .	60	120	60	55 <sup>12</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>
1947:						
Jan.-Mar. . . . .	60	120	60	55 <sup>12</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>
Apr.-June . . . . .	75	120	75	75 <sup>12</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>
July-Sept. 19 . . . . .	85	135	85	85 <sup>12</sup>	Provisional <sup>5</sup>	Provisional <sup>5</sup>
July 28, 1947 rationing of industrial users continued.						

<sup>1</sup>Not including special allotments. Nonprovisional allowance depended upon the total amount of sugar used in the base period, while provisional allowance depended upon the amount of specified perishable commodity processed. <sup>2</sup>Special allowance was made for corn sugar and sirup replacement. <sup>3</sup>Additional 20 percent allowed on estimated use of sugar for bread and rolls only. <sup>4</sup>Manufacturers of pharmaceuticals (internal use) were permitted to apply for an increase not to exceed 25 percent. <sup>5</sup>Provisional use for canned, bottled, frozen, pickled, or otherwise preserved processed foods was dependent upon the amount of perishable commodities processed. The use of sugar per unit of product was limited. <sup>6</sup>Special allotment granted for production of frozen sugared egg yolks, May 29 to July 31. <sup>7</sup>Manufacturers of pharmaceuticals (internal and external uses) were permitted to apply for an increase not to exceed 25 percent. <sup>8</sup>Application for an additional 10 percent permitted. <sup>9</sup>Application for increased allotment permitted to users who customarily used fresh, frozen, or dried eggs. <sup>10</sup>Allotment for jams, jellies, preserves, fruit butters, and marmalades based on sugar used in 1944 for production for civilians. <sup>11</sup>Manufacturers of ice cream, ices, sherberts, frozen custards, and mixes used for these purposes received 70 percent base use. <sup>12</sup>Allotment for jams, jellies, preserves, fruit butters, and marmalades based on 100 percent of sugar used in 1944 for production for civilians plus 50 percent of sugar used in 1944 for Government production or the amount of sugar used in 1941, whichever was higher.

soon declined and rations were reduced. At the end of 1942, actual stocks were not far below the goal set up under the rationing program.

Arrivals of sugar from the Caribbean gradually improved during the first part of 1943. This favorable situation was brought about by the diversion of shipping from other areas, by the operation of a shuttle service between Cuba and Florida, by increased efficiency in the utilization of shipping facilities, and by a reduction in the submarine menace.

However, the improvement in shipping early in 1943 was partly offset by a prospective sharp reduction in domestic beet crop prospects, and rations were increased only moderately. A home canning program was adopted under the terms of which consumers could obtain some additional sugar.

The improved situation in shipping and inland transportation brought a continued increase in receipts in 1943, and receipts during July reached the highest level since mid-1941. The allocation to industrial users was increased, and additional special allotments were authorized. A shortage of deliveries of corn for processing led to a shortage of corn sugar and sirup which was partly relieved on July 10, 1943, by the authorization of a special allotment of sugar to manufacturers for July and August 1943.

In January 1944, consumers' ration stamps were made valid for an indefinite period, rather than expiring on a certain date. This was done to avoid the rush of consumers spending their ration stamps before expiration, regardless of immediate need.

The allotment of sugar to industrial users was continued on the more liberal basis established in August 1943. In general, the 1944 industrial users' ration was 80 percent of the base period. Also, supplemental allotments above 80 percent were given to certain industrial users in 1944. The list of such industries varied from time to time, but it usually included the manufacturers of breakfast cereals and bakery products, fruit preserves, and drugs and chemicals with low sugar content. Concerns that were located in areas that had had substantial increases in population during the war also were permitted additional sugar.

Sugar supplies were much smaller in 1945 than at any previous time during the war. Sugar stamps which had been made valid for an indefinite period when they were issued at various times during 1944 were canceled at the end of December 1944 to avoid having them used in 1945 with a consequent further reduction in supplies available to some consumers.

On February 1, 1945, the consumer ration was reduced to 0.393 pound a week per person. A further reduction was made on May 1 to 0.285 pound. These reductions were made by lengthening the period between the validation of sugar stamps.

The home canning program for 1945 was set at a level of 60 percent of the previous year. Sugar for home canning programs was intended to encourage as much home canning as possible so that total food

supplies might be increased. This program suffered greatly from lack of effective controls. In 1943 and 1944, some sugar for home canning could be obtained by anyone in exchange for a special ration stamp. No evidence that the sugar so obtained was to be used for home canning was required, and no record was kept to show who used such stamps. Additional sugar for home canning could be obtained by presenting a written application to the local ration board. Persons who got sugar through these applications were required to declare their intention of using the sugar for home canning, but no attempt was made to learn if the sugar was actually so used.

The greatest difficulty with the home canning program occurred in 1944. Sugar was somewhat more plentiful that year than in either of the 2 previous years, and much more so than in 1945. In contrast, supplies of fruits and vegetables were comparatively short. Under the circumstances, allocations of sugar for home canning were comparatively liberal and people were able to obtain practically all of the sugar called for by their special ration stamps and approved applications. Local ration boards were apparently very liberal in approving applications. As a result, the issuance of sugar for home canning in 1944 totaled about 50 percent more than the quantity originally allocated for that purpose. There is no way of learning accurately how much sugar was actually used for home canning, but estimates of the extent of home canning actually done would indicate that a large proportion of the sugar issued for home canning that year was used for other purposes. Basic allotments to industrial users were further reduced to 50 percent of their base during the third quarter of 1945. Manufacturers of bread, bakery products, and cereals were allotted 60 percent of their base use and pharmaceuticals, 110 percent for this period. These were the lowest ration levels yet established. Third-quarter ration levels for industrial users, individual consumers, and institutional users were continued nearly unchanged for the fourth quarter of 1945 and the first quarter of 1946.

Individual sugar rations during 1946 and early in 1947 continued at the rate established in mid-1945. Two stamps for home canning sugar were issued in 1946. Each was for 10 pounds of sugar, a slight increase over 1945. Sugar allocations to industrial producers of bakery and cereal products were at 60 percent of the base amount, except during the second quarter when allocations were raised to 70 percent. The 60-percent amount was the lowest at any time during the rationing period. In general, allocations to other industrial users followed the same pattern, although at different levels.

One reason for the severe shortage of sugar in 1946 was the need to provide some sugar for the inhabitants of the recently liberated areas in Western Europe. These areas were not yet able to produce beet sugar in anything like the prewar quantity, and mil-

itary success for a time increased the demand on the sugar prorated by the Combined Food Board.

Sugar continued in very short supply early in 1947. However, it soon became apparent that the 1947 Cuban sugar crop, harvested during the first half of the year, would be much larger than the preceding crops; and the supply situation eased rather rapidly. The 1947 Cuban crop established a new record of 6,448,000 tons. This was 44 percent or 2 million tons above the 1946 output. This large increase in sugar supplies enabled rationing allowances for all types of users to be raised at the start of the second quarter of 1947 and then discontinued by steps. Rationing for consumers and institutional users ceased on June 12, 1947, and for industrial users, on July 28. Inventory controls were continued until August 30, 1947.

The passage of the Sugar Control Extension Act in March 1947 transferred the Sugar Control Program from the Office of Price Administration to USDA. This act provided for the extension of rationing and price control to October 31, 1947, if the Secretary of Agriculture thought this desirable. Controls were ended before that date.

## **Government Purchases of Sugar and Molasses**

The necessary central control of shipment of sugar and molasses from offshore areas was obtained by Government purchase of substantially all the production in Cuba and Puerto Rico and by control of shipments from Hawaii during the war years (65). The Government took title to the sugar and molasses in Cuba and Puerto Rico, shipped them to this country, and resold them to refiners and dealers. Until 1945, the purchase and sale prices were so arranged that the Government obtained the customary peacetime margin. The price paid for Cuban sugar in 1945 was raised 0.55 cent per pound. But prices to U.S. dealers were not changed, and the Government absorbed the resulting loss. The 1946 and 1947 crops were also purchased with some additional price increase.

The Government did not purchase the sugar shipped from Hawaii to the continental United States. Practically all of this sugar was delivered to two refineries located in the San Francisco area. This and other factors simplified the problem of moving Hawaiian sugar compared with that from other offshore areas. However, the shipping of sugar from Hawaii was under the control of the War Shipping Administration and the physical handling of the sugar was arranged in much the same way as for Cuban and Puerto Rican sugar.

## **Purchases from Cuba**

The U.S. Government purchased the entire crops of sugar and molasses produced in Cuba from 1942 through 1947. The first Government contract for the

purchase of Cuban sugar, between the Defense Supplies Corporation and the Cuban Sugar Stabilization Institute, became effective January 28, 1942. This contract covered the sale of invert molasses, blackstrap molasses, and sugar produced from the 1942 crop.

That crop was purchased for 2.65 cents a pound, 96 degree polarization, delivered f.o.b., Cuba, at normal shipping ports. Excess costs caused by shipping from abnormal ports because of wartime shipping conditions were borne by the U.S. Government. The contract provided that one-third of the crop was to be delivered in the form of invert molasses, but this was later reduced to the quantity equivalent to approximately 700,000 short tons of raw sugar. The invert molasses, plus the blackstrap molasses obtained as a byproduct in manufacturing sugar, was bought for 2.5 cents a pound of sugar content.

The 1943 Cuban crop of raw sugar was purchased by the CCC. The price was the same as for the previous year's crop. Price stabilization agreements for products imported by Cuba from the United States were reached at the same time. The CCC also bought the 1944 crop of Cuban sugar (except 200,000 tons for local consumption) at 2.65 cents per pound.

The CCC purchased the 1945 crop of Cuban sugar from the Cuban Sugar Stabilization Institute at a minimum price of 3.10 cents per pound but with an escalator clause. It provided that the minimum price was to be increased by the amount of any increase in the ceiling price of raw sugar in the United States, c.i.f., New York City, duty paid, above the sum of 4.20 cents per pound and any ocean freight charge absorbed by CCC above the basic rate of 0.34 cent per pound. The minimum price was also to be increased if, in any quarter of 1945, the U.S. cost-of-living index was more than 4 percent above the index for the last quarter of 1944. The percentage increase in price for each quarter for which there was an increase was to equal the percentage increase in the cost of living for one-fourth of the raw sugar purchased; in no event was the price to exceed 2.65 cents a pound plus the amount paid as price support by the CCC to U.S. Caribbean possessions. The increase in the total amount of money paid as a result of an increase in the cost of living was not to be more than the excess of such increase over any increase resulting from a rise in the ceiling price or ocean freight rates.

The last wartime purchase of Cuban sugar crops by the CCC covered the crop years 1946 and 1947. Negotiations for the purchase were protracted, and the contract was not signed until July 16, 1946. A considerable amount of the 1946 crop of Cuban sugar was shipped to the United States before the contract was signed, and as agreed, was later paid for in accordance with the terms of the final contract.

One problem encountered in negotiating the 1946-47 crops contract, which had not been an important

element in earlier contracts, was the Cubans' desire to obtain some guarantee with respect to future treatment of Cuban sugar by the United States, particularly with reference to quotas. The Cubans feared that new U.S. sugar quota legislation might reduce the share of Cuban sugar in the U.S. market in favor of either the domestic areas or the Philippines. The individuals negotiating for the United States had no authority to make any commitment with respect to future U.S. sugar quotas. Finally, a clause was included in the contract giving Cuba the right to cancel the contract, with respect to sugar not yet delivered, if the United States should take any action regarding its future quotas which Cuba might regard as detrimental to its interests.

Decisions concerning price also delayed completion of the negotiations. The 1942, 1943, and 1944 Cuban crops had each been purchased for \$2.65 per 100 pounds, raw value, free alongside ship at Cuban ports. The price for the 1945 crop was raised to \$3.10 per 100 pounds. The Cubans desired a further price increase for the 1946 and 1947 crops. The basic minimum price finally agreed upon was \$3.675 per 100 pounds. However, this price was to be increased under certain circumstances. The most important of these provided for increases from the base price by (1) the amount of any increase in the U.S. ceiling price of raw sugar above 4.775 cents per pound, (2) any amount by which the ocean freight from one port northside of Cuba to New York should exceed 0.34 cent per pound, (3) increases in living costs, and (4) any increase in the price of raw sugar purchased from Puerto Rico.

With these escalator clauses, the average price the United States paid for 1946 crop Cuban sugar was \$4.816 per 100 pounds. The 1947 crop cost \$4.9625. By the time 1947 crop deliveries were completed, the United States had terminated its sugar rationing and price control programs.

The molasses purchased from Cuba during these years was used in the United States to produce alcohol. The Cubans retained enough molasses to keep the alcohol plants in their country in operation and then sold the alcohol to the United States.

The Defense Supplies Corporation purchased the exportable blackstrap molasses produced from the 1942, 1943, and 1944 Cuban sugar crops. It also bought invert molasses made from the 1944 crop, equivalent to 900,000 short tons of raw sugar. The price paid for both invert and blackstrap molasses delivered at Cuban port terminals in 1943 and 1944 was 2.50 cents a pound of sugar content. However, the price of blackstrap was subject to a deduction of 2 cents a gallon for molasses containing 52 percent sugar, with a scale of premiums and discounts for sugar content greater or less than 52 percent.

The Defense Supplies Corporation bought alcohol produced in Cuba from the 1944 and 1945 sugar

crops. The price paid was 65 cents per gallon for 190-proof alcohol delivered at Cuban ports. The purchase of alcohol from Cuba was arranged to permit the use of alcohol plants in Cuba rather than importing the entire supply of molasses into this country for manufacture into alcohol.

The CCC purchased the available molasses and alcohol from the 1946 and 1947 Cuban sugar crops. The basic price was 2.50 cents per pound of sugar content at Cuban port terminals. The Corporation also purchased the industrial alcohol produced in Cuba from the 1946 and 1947 sugar crops. Because of the larger than expected size of the 1947 sugar crop in Cuba, the quantity of molasses obtained from Cuba was larger than expected. Also, the end of hostilities reduced the need for alcohol for war purposes, and molasses supplies in the United States became relatively abundant.

### **Purchases from Puerto Rico, Dominican Republic, and Haiti**

The CCC purchased the 1943-47 sugar crops of Puerto Rico from individual sugar producers. The prices paid were comparable to those paid for Cuban sugar but higher by the amount of the U.S. tariff on sugar from Cuba. In addition, cane growers in Puerto Rico received certain additional payments; these amounted to 20 cents per 100 pounds of sugar in 1944. The purchases generally covered the entire crop, except sugar used for local consumption and sugar sold before the effective date of the first contract.

The minimum price for the 1945 Puerto Rican crop was 3.46 cents per pound for raw sugar delivered at shipside, the same as in the 2 previous years; in addition to the purchase price, each seller received a support payment of 0.55 cent per pound of raw sugar. Cane growers received 0.45 cent of this amount, and mills, 0.10 cent. The price of the sugar was to be increased by 35 percent of any increase in the ceiling price for raw sugar, c.i.f., New York, over 4.11 cents per pound up to 4.51 cents per pound, and 100 percent of any increase above 4.51 cents. The processors were to share in any increase in market proceeds only if the price rise was sufficient to eliminate the CCC support payment to the mills.

The 1943 and 1944 sugar crops of the Dominican Republic and Haiti were purchased by the CCC. The basic price paid in both countries was 2.65 cents per pound for sugar polarizing 96 degrees. However, sugar shipped to the United States was priced at 2.425 cents per pound, because of the tariff differential. Ordinarily, only small quantities of sugar from these countries are shipped to the United States, and very little of the 1943 or 1944 crops was sent here. Purchases of Dominican and Haitian sugar for 1945 and 1946 were made by Britain.

## Effects of the Sugar Program

No attempt has been made to measure statistically the various effects of the Government's sugar program. Accurate measurements would be difficult or impossible for many parts of the program, but it is possible to determine the general nature and direction of the effects of many of the Government's actions.

During most of the war period, price ceilings on sugar kept the prices paid by consumers much lower than they would have been without price control. This was particularly true in 1946 when the quantity of sugar available to civilians reached its lowest level.

Market prices of sugarcane and sugarbeets, based on the ceiling price of sugar, were insufficient to maintain production of these crops by farmers. As a result, sizable payments were made to producers to encourage production. This method of increasing returns to growers left the margins between raw material costs and sugar prices at comparatively low levels for both cane and beet sugar mills. Sugar mills buy their cane or beets on contract at prices that vary with the price of sugar but that provide a widening margin for the mills as prices for sugar advance. Ceiling prices prevented these margins from widening as much as mill costs increased; therefore, it became necessary for the Government to make subsidy payments to processors.

The net effect of low sugar prices and high subsidies, compared with what might have happened with higher prices and lower subsidies, is difficult to ascertain. Consumers with low incomes surely benefited from the policy, but those with higher incomes doubtless paid more in higher taxes (to provide for the subsidy payments) than they saved from low prices for sugar.

Price ceilings kept consumer prices for sugar substantially lower than could otherwise have been expected and made rationing necessary so that supplies could be distributed fairly. In fact, sugar was the first food to be rationed during the war and the only food still rationed during 1946.

The primary problem in rationing was to obtain reasonable equity between consumers without making the rationing system unduly complicated. Any system of rationing necessarily involves some compromise between equity and administrative feasibility. The sugar and related rationing programs were necessarily complicated. They involved first the division of supplies between the United States and other countries, then the division among the military services, the United Nations Relief and Rehabilitation Administration, and other special claimants, and finally among civilian consumers in this country.

No exact method of determining equitable allotments of sugar between even the major groups of claimants was developed. During most of the war, requests from the military services and many of the

other special claimants were largely met. Thus, civilian claimants had, in effect, the lowest priority, and the quantity left for them was mainly a residual. Therefore, civilian supplies varied more widely from time to time than would otherwise have been the case.

The division of supplies among civilians involved programs for households, industrial uses, institutional uses, and home canning. Rations for households always provided uniform quantities per person, the quantity varying from time to time with the available supplies of sugar. A uniform ration for each individual was doubtless necessary for administrative reasons, but equality in this case did not result in equity. For instance, families accustomed to doing most or all of their own baking were more severely limited by the ration than were those who bought their baked goods. Persons who ate some of their meals at restaurants obtained more sugar than others, because individual rations were not reduced unless more than one-third of their meals were taken away from home.

Industrial users were rationed on the basis of the quantity of sugar each company had used in the base period, but the percentage of base use allotted to different industries varied considerably according to the apparent need for the products of each industry. Such an arrangement was obviously in the public interest, since the products of some industries were more essential than those of others. However, the procedure resulted in more severe restrictions on the volume of business and possible profits in some industries than in others.

The purchase of sugar by the U.S. Government from Cuba and Puerto Rico involved protracted negotiations each year, particularly with Cuba. Price was the most important issue. Dissatisfaction with price and subsidy payments for Puerto Rican sugar led to a strike in the mills early in 1945.

Difficulties such as these appear to have been more or less inevitable because of conflicting desires (1) of the Government to provide cheap sugar for consumers and (2) of growers to obtain increased returns. Except for the strike in Puerto Rico, there is no reason to think that these difficulties caused any decrease in the production of sugar. There is no way of measuring accurately the effect of the strike on Puerto Rican production, but it is generally believed to have been small. If producers in Cuba and other areas had received larger returns per pound of sugar, they might have produced more, but this is uncertain, in view of abnormal wartime conditions.

Despite the difficulties involved, it seems certain that the benefit from the various Government sugar programs greatly outweighed any harm they caused. These programs were, of course, merely a small part of the Government's attempt to control prices and distribute goods equitably.

## Nonsugar Sweeteners During World War II

The shortage of sugar during World War II presented producers of other sweeteners with an opportunity to increase their sales whenever they could produce the additional quantities needed. Producers of corn sweeteners (dextrose and corn sirup) were more successful in taking advantage of the situation than were those producing other caloric sweeteners (table 20). A marked increase in the consumption of corn sweeteners occurred despite the shortage of corn at various times during the war.

The consumption of maple sirup declined about as much as that of sugar during the war. The production of maple sirup required considerable labor, which was scarce. Yields of maple sap also vary widely from season to season, largely because of the influence of the weather. This caused a sharp reduction in supplies in 1944 and 1945.

Sales of sorgo sirup and honey increased only modestly during the war. And those for sorgo sirup declined considerably as soon as sugar was again in abundant supply.

The sharp rise and later decline in the consumption of "other" sirup was caused by the nature of the regulations covering the marketing of sugar and the ability of operators of raw sugar mills to change part or all their output to cane sirup and edible molasses. Government price controls during much of the war were

such that the sugar in cane sirup and edible molasses could be sold for higher prices in these products than if it were manufactured into raw or refined sugar. Rationing did not apply to cane sirup or edible molasses. Consequently, the owner of a cane sugar mill, instead of trying to obtain the maximum quantity of raw sugar from the cane ground, preferred to produce increased quantities of sirup and molasses.

The situation became one of concern to the Government, but no effective action to correct it, except in certain extreme cases, had been taken when rationing and price controls were terminated. The output of these products in the United States dropped rapidly when the shortage of sugar ended. Molasses produced from sugarbeets is not edible, and there was no increase in the production of beet molasses during the war.

While statistics are not available, there is some indirect evidence that the consumption of saccharin also increased during World War II. Saccharin appeared much more frequently than before on tables in restaurants and other eating places, sometimes when no sugar was offered to customers, and reports of its increased use by industrial food processors were fairly common.

## Postwar Recovery

When World War II ended, world supplies of sugar were at their lowest level since the outbreak of the

Table 20—U.S. consumption of sugar and other caloric sweeteners, 1939-49

Year	Sugar	Dextrose	Sirups				Honey
			Corn	Maple	Sorgo	Other <sup>1</sup>	
	--- 1,000 tons ---		--- 1,000 gallons ---				
1939 .....	6,860	223	93,022	2,756	11,407	27,641	15,362
1940 .....	7,029	229	92,283	3,021	10,199	32,537	17,456
1941 .....	8,055	321	103,537	2,209	10,684	23,816	19,283
1942 .....	4,459	381	170,925	3,351	10,568	37,219	16,896
1943 .....	6,332	358	152,580	2,663	13,728	39,119	19,409
1944 .....	7,186	338	153,647	2,731	11,868	49,212	18,175
1945 .....	6,138	331	155,350	1,103	11,649	50,114	21,624
1946 .....	5,660	321	152,584	1,530	9,850	58,539	19,874
1947 .....	7,466	383	164,577	2,506	11,934	47,218	21,079
1948 .....	7,295	352	110,398	1,890	9,845	30,198	17,366
1949 .....	7,493	362	116,757	1,989	7,665	28,752	20,037
	Percent of 1939-49 average						
1939 .....	93.8	86.4	96.6	103.5	106.0	98.7	88.5
1940 .....	96.1	88.8	95.8	113.5	94.8	116.2	100.5
1941 .....	110.1	124.4	107.5	83.0	99.3	85.1	111.1
1942 .....	74.6	147.7	177.5	125.9	98.2	132.9	97.3
1943 .....	86.6	138.8	158.5	100.0	127.5	139.7	111.8
1944 .....	98.2	131.0	159.6	102.6	110.3	175.8	104.7
1945 .....	83.9	128.3	161.4	41.4	108.2	179.0	124.5
1946 .....	77.4	124.4	158.5	57.5	91.5	209.1	114.4
1947 .....	102.1	148.4	170.9	94.1	110.9	168.6	121.4
1948 .....	99.7	136.4	114.7	71.0	91.5	107.9	100.0
1949 .....	102.4	140.3	121.3	74.7	71.2	102.7	115.4

<sup>1</sup> Includes can sugar sirups, refiners' sirup, and edible molasses.

Source: The World Sugar Situation, 1951, U.S. Dept. of Agr.

war. Sugar rations in the United States were the smallest since the start of rationing. The shortage was largely the result of the loss of production from the Philippines and Java, and the reduced production of sugarbeets in the United States and Europe. Moreover, the Cuban sugar crop in 1944 was unusually small.

Not until 1948 did world sugar production return to

the level of 1939, although there were increases in 1946 and 1947. The restoration of cane and beet fields in war-devastated areas and the repairs of damaged milling equipment were somewhat slow because of disorganized conditions in many parts of the world. World production had to exceed world consumption for several years before stocks of sugar increased to a point where normal trade conditions prevailed.

## U.S. SUGAR QUOTAS AFTER 1947

The abundant supplies of sugar, mostly from Cuba, which became available to U.S. consumers by mid-1947 made possible the abandonment of sugar controls, of which the last to disappear was that on the purchase and delivery of the 1947 Cuban sugar crop. The approach of the end of wartime controls created great interest, particularly among domestic sugar producers, in amending and extending the sugar quota law. The 1937 act, still in effect, although its quota provisions had been suspended since April 1942, would terminate December 31, 1947, unless amended.

### The Sugar Act of 1948

In the summer of 1947, Congress passed new sugar quota legislation, to become effective January 1, 1948 (5). This took the form of a new law, rather than an amendment to the existing act and was called the Sugar Act of 1948. Its basic features remained the same as those of the 1934 and 1937 acts, although changes in details were more extensive and of greater economic effect than those contained in the various amendments to the 1937 act.

When the bill was before the Congress, the Secretary of Agriculture testified that great consideration had been given the situation in Cuba and its contribution in supplying sugar to the United States and its Allies during World War II. He pointed out certain new provisions which would substantially benefit producers of sugar in Cuba. The extent of the benefits will be examined after discussing the general features of the act.

Under the new law, the Secretary was still directed to determine U.S. sugar consumption requirements for each calendar year and to revise his determination whenever necessary. However, the guidelines for determining consumption requirements were changed by requiring that:

"...the Secretary in making any such determination...shall take into consideration the relationship between the prices at wholesale for refined sugar that would result from such determination and the general cost of living in the United States as compared with the relationship

between prices at wholesale for refined sugar and the general cost of living in the United States obtaining during 1947 prior to the termination of price control of sugar as indicated by the Consumer Price Index as published by the Bureau of Labor Statistics of the Department of Labor."

The Consumer Price Index (CPI) for January-October 1947, the period referred to in the law, was 157.84 (1935-39 = 100). The average wholesale price of refined sugar during the period was 8.267 cents per pound. Dividing the wholesale price of refined sugar by the CPI for the base period yielded the factor 0.052376. This factor multiplied by the wholesale price of refined sugar for any given period indicated the price necessary to produce the same ratio between the price of sugar and the Index as it existed during the base period.

These calculated prices, compared with the actual prices of sugar, show that the price of sugar in the base period was higher relative to the Index than it had been since before 1935-39 (table 21). The price of sugar during the base period also proved to be higher than in any of the following years through 1955. The failure of sugar prices after 1947 to rise as high as the price calculated by the formula does not indicate lack of any consideration of the price formula by the Secretary of Agriculture, since he was required to consider other factors in determining sugar consumption requirements.

The quotas for domestic areas established by the Sugar Act of 1948 were stated in terms of tons per year, instead of percentages of consumption requirements which were used in the previous act. The tonnages specified in the Sugar Act of 1948 were:

<i>Area</i>	<i>Short tons raw value</i>
Domestic beet sugar	1,800,000
Mainland cane sugar	500,000
Hawaii	1,052,000
Puerto Rico	910,000
Virgin Islands	6,000
Total	4,268,000

**Table 21—Wholesale prices of refined sugar, actual and calculated from the formula in the Sugar Act of 1948**

Average	Actual price <sup>1</sup>	Calculated price <sup>2</sup>	Consumer price index
	--- Cents per lb. ---		1935-39=100
1935-39 .....	4.76	5.24	100.0
1940 .....	4.42	5.25	100.2
1941 .....	5.02	5.51	105.2
1942 .....	5.56	6.10	116.5
1943 .....	5.60	6.47	123.6
1944 .....	5.58	6.57	125.5
1945 .....	5.50	6.72	128.4
1946 .....	6.47	7.30	139.3
Base period <sup>3</sup> ..	8.27	8.27	157.8
Nov. & Dec.			
1947 .....	8.40	8.69	166.0
1948 .....	7.76	8.97	172.0
1949 .....	7.97	8.90	170.0
1950 .....	8.00	8.97	172.0
1951 .....	8.38	9.74	186.0
1952 .....	8.62	9.53	181.9
1953 .....	8.72	9.74	186.0
1954 .....	8.72	9.79	187.5
1955 .....	8.59	9.85	188.1

<sup>1</sup> Wholesale New York. <sup>2</sup> Calculated using formula in the Sugar Act of 1948. <sup>3</sup> January through October, 1947.

In addition, the Philippines received a quota of 952,000 tons of sugar as specified in the Philippine Trade Act of 1946. This quantity referred to the actual weight of Philippine sugar as it arrived in the United States and not to any particular polarization, such as that specified by the term "raw value." During the first years this quota was in effect for the Philippines, USDA considered it equal to 982,000 short tons, raw value. This, plus the fixed tonnage quotas for domestic areas, amounted to 5,250,000 tons.

The remainder, after domestic and Philippine quotas, was divided between Cuba and other foreign countries. Cuba received 98.64 percent and the other

countries, 1.36 percent, of this residual.

The quotas for domestic areas were about 11 percent above their annual average marketings during 1935-39 (table 22). However, U.S. sugar consumption during 1948-52, when the original act was in effect, was nearly 14 percent above marketings during 1935-39.

Two features of the 1948 act were highly beneficial to Cuba; one of these also benefited other foreign countries. U.S. sugar consumption continued to increase while these quotas were in effect, and the entire increase accrued to foreign countries other than the Philippines. Consumption requirements for 1952 were 7,900,000 tons, making the basic quota for Cuban sugar 2,621,851 tons and that for other foreign countries, 36,149 tons. These were increases of 36 percent over 1948 for both Cuba and other foreign countries.

Also, the provisions for distributing deficits—the amounts by which one or more areas failed to fill its quota in any year—to areas able to fill them were changed in the 1948 act. The 1937 act provided that the entire amount of any deficit in the quota for the Philippines should be prorated to foreign countries other than Cuba. This provision was changed in the 1948 act so that Cuba received 95 percent and other countries 5 percent of any deficit in sugar supplies from the Philippines. Because of wartime destruction, deficits in sugar supplies from the Philippines were large for several years. The amounts for the first 5 years were:

Years	1,000 tons, raw value
1948	742
1949	425
1950	450
1951	200
1952	200

**Table 22—Marketings of sugar in the continental United States, 1935-47**

Year	Domestic areas					Philip-pines	Cuba	Other foreign countries	Total
	Beet	Mainland	Hawaii	Puerto Rico	Virgin Island				
	--- 1,000 short tons, raw value ---								
1935 .....	1,478	319	927	793	2	917	1,830	11	6,277
1936 .....	1,364	409	1,033	907	4	983	2,102	29	6,833
1937 .....	1,245	491	985	896	8	991	2,155	89	6,860
1938 .....	1,448	449	906	815	4	981	1,941	75	6,619
1939 .....	1,809	587	966	1,126	6	980	1,930	62	7,466
1940 .....	1,550	406	941	798	0	981	1,750	17	6,443
1941 .....	1,952	411	903	993	5	855	2,700	190	8,009
1942 .....	1,703	407	751	836	0	23	1,796	39	5,555
1943 .....	1,524	460	866	642	3	0	2,857	114	6,466
1944 .....	1,155	515	802	743	3	0	3,618	106	6,942
1945 .....	1,043	417	740	903	4	0	2,803	87	5,997
1946 .....	1,379	445	633	867	5	0	2,283	46	5,657
1947 .....	1,574	383	842	969	3	0	3,943	45	7,759

Source: Sugar Statistics and Related Data, Vol. 1, Bul. 293, Agr. Stabil. and Conserv. Serv. U.S. Dept. of Agr.

Cuba's share of these deficits over the 5 years amounted to 1,916,150 tons and that for other countries to 100,850 tons. The amounts assigned to other foreign countries were greater than they could reasonably have expected under the conditions of 1937 when they were entitled to the entire Philippine deficit. The quota provisions for sugar from Cuba in the 1948 act proved substantially more favorable to Cuban producers than those of the 1937 act, although perhaps not so much as the Cubans had hoped for and requested during the negotiations for the purchase of the 1946 and 1947 Cuban sugar crops.

In addition to deficits in supplies from the Philippines, there were also deficits in all domestic areas except Puerto Rico and the Virgin Islands in 1 or more years during 1948-52. Part of these were assigned to Cuba. The amount of domestic area deficits generally decreased from 1948 through 1952.

In 1948, the United States purchased sugar from Cuba, Peru, and the Netherlands Indies, primarily to meet food needs in areas occupied after the end of World War II. The purchase from Cuba amounted to 1 million short tons of raw sugar, and that from Peru to 37,000 tons. The Netherlands Indies supplies 15,000 long tons of semirefined sugar. In 1949, the United States and Britain jointly purchased 850,000 short tons of raw sugar. The U.S. share of the purchases, slightly more than one-half, was again utilized for relief feeding in occupied areas. The 1948 and 1949 purchases helped to provide Cuban sugar producers with sufficient market outlets to justify the continued production of large crops. A sugar surplus did not appear until 1952.

Production of sugar in Puerto Rico in 1950, 1951, and 1952 was larger than the quota for such sugar in the continental United States plus the local quota for consumption in Puerto Rico. Part of the excessive stocks of sugar which appeared in Puerto Rico as a result of this situation was disposed of by sales to the Commodity Credit Corporation for distribution under various Government programs, and part was sold on the world market. Sales on the world market were made at prices considerably lower than those prevailing in the United States.

### The 1951 Amendments

The Sugar Act of 1948 was amended in 1951, although the amendments did not become effective until January 1953, immediately after the terminal date of the original act (8). The 1951 amendments were relatively minor. The quota for Puerto Rico was increased 170,000 tons to 1,080,000 tons, and that for the Virgin Islands, from 6,000 to 12,000 tons. Also, the share of foreign countries other than Cuba and the Philippines in excess of the fixed tonnage quotas for domestic areas and the Philippines, now 5,418,000 tons, was raised to 4 percent, and that for Cuba was reduced to 96 percent. The term for which

the law was to be effective was extended to December 31, 1956.

The effect of the changes in quotas made in the 1951 amendments with consumption requirements of 8,100,000 tons, the final figure for 1953, was to reduce the quota for Cuban sugar by 236,520 tons, or about 8.5 percent below the original 1948 act. The 1953 quota was, however, 11 percent larger than it would have been under the 1937 act. The quota for foreign countries other than Cuba and the Philippines was increased by 68,520 tons, about 77 percent. The 170,000-ton increase for Puerto Rico raised its former quota by 19 percent, and the small quota for the Virgin Islands was doubled.

### The 1956 Amendments

Although the terminal date for the 1951 amendments to the Sugar Act of 1948 was December 31, 1956, most of the amendments enacted in 1956 took effect on January 1, 1956. The new date for termination of the law was December 31, 1960.

Changes in quotas for both domestic and foreign areas were extensive. Quotas for domestic areas remained unchanged whenever consumption requirements were 8,350,000 tons or below. The domestic areas, however, beginning in 1956 received 55 percent of any increase in consumption requirements above 8,350,000 tons in place of none as formerly. This restored the right of the domestic areas to participate in the growth of the U.S. sugar market at approximately the level provided by the 1937 act. The first 165,000 tons of increased quota for domestic areas were assigned at 51.5 percent to the sugarbeet area and 48.5 percent to mainland cane. The next 20,000 and 3,000 tons were assigned to Puerto Rico and the Virgin Islands, respectively. Any further increases above the first 188,000 tons were apportioned among all domestic areas on the basis of the quotas then in effect for each domestic area.

Obviously, this arrangement specified in the act caused a slight change in the relative size of quotas for domestic areas. The proportions were:

	<i>Consumption requirements of</i>	
	<i>8,350,000 tons</i>	<i>8,358,000 tons</i>
	<i>or below</i>	<i>or above</i>
Beet sugar	40.5	40.7
Mainland cane	11.2	12.5
Hawaii	23.7	22.7
Puerto Rico	24.3	22.7
Virgin Islands	.3	.3

Mainland producers of cane sugar also benefited from the purchase of 100,000 tons of sugar by the Commodity Credit Corporation (CCC) for distribution to

underdeveloped nations. Most of this sugar was purchased from producers in the mainland sugarcane area, and the remainder from producers of beet sugar. Aside from benefiting consumers in less developed nations, this purchase reduced the inventories of sugar in mainland areas to more nearly normal levels than those of 1953 and 1954 when sugar production in continental areas exceeded quotas.

The quota for the Philippines was not changed by the 1956 amendments. Those for foreign countries other than Cuba and the Philippines were increased, beginning in 1957, and the shares received by various countries were rearranged. Since the changes for these countries did not become effective until 1957, the 1956 increases for domestic areas had the effect of reducing their quotas that year. Starting in 1957, foreign countries other than Cuba and the Philippines received 4 percent of that part of sugar consumption requirements between the quotas assigned to the domestic areas and the Philippines (5,424,000 tons) and the first 8,350,000 tons of consumption requirements plus 15.41 percent of that part of consumption requirements in excess of 8,350,000 tons. Cuba was assigned 29.59 percent and the domestic areas 55 percent of consumption requirements in excess of 8,350,000 tons. As a result of these changes, the quotas for countries other than Cuba and the Philippines began increasing at a much more rapid rate than at any time since the quota system was established in 1934.

The quota for Cuban sugar, although reduced by the 1956 amendments, compared to what it would have been under the previous law, was still larger than it would have been under the 1937 act.

During 1955-59, U.S. sugar consumption requirements increased 1 million tons (table 23). Domestic sugar producing areas received nearly 58 percent of this increase, foreign countries other than Cuba and the Philippines, 16 percent, and Cuba, 26 percent. Most of the increase in quotas for countries other

than Cuba and the Philippines was assigned to Mexico, the Dominican Republic, and Peru.

### Changes in Sugar Quotas, 1960-61

The Sugar Act was amended in July 1960 following the Castro Revolution in Cuba in 1959. The effective term of the law was extended from December 31, 1960, to March 31, 1961. The President was empowered to determine the size of the Cuban quota for the balance of 1960 and the first 3 months of 1961. The President, by proclamation on the same day he signed the law, reduced the Cuban quota for the remainder of 1960 to zero, exclusive of Cuban sugar certified for entry into the United States but not yet entered and a very small quantity needed to cover possible revisions in the amounts entered.

The amendments also authorized the purchase of sugar from foreign countries other than Cuba in amounts sufficient to replace the sugar previously assigned to Cuba. In 1960, the United States authorized the purchase of 1,200,000 tons of sugar for this purpose. All but about 12,000 tons of this were purchased. The largest amounts were acquired from the Dominican Republic, Mexico, the Philippines, Peru, Brazil, the British West Indies, and British Guiana.

The Sugar Act was again amended on March 31, 1961. This time the terminal date of the law was extended to June 30, 1962. The principal changes were the substitution of the phrase "any country with which the United States is not in diplomatic relations" for the word "Cuba," and a clause directing the Secretary of Agriculture, in purchasing sugar to replace supplies formerly obtained from Cuba, to give special consideration "to countries of the Western Hemisphere and to those countries purchasing United States agricultural commodities."

In 1961, 3,117,195 tons of sugar were allotted for purchase in addition to the quota supplies received from various areas. The number of countries from

Table 23—Effect of the 1956 amendments to the Sugar Act on quotas for domestic and foreign areas

Year	Quotas for area supplying sugar				
	Domestic	Philippines	Cuba	Other <sup>1</sup>	Total <sup>2</sup>
	--- 1,000 tons ---				
1955 .....	4,444	977	2,860	119	8,400
1956 .....	4,801	980	3,090	129	9,000
1957 .....	4,788	980	2,994	213	8,975
1958 .....	4,912	980	3,060	248	9,200
1959 .....	5,021	980	3,120	279	9,400

<sup>1</sup> Foreign countries other than Cuba and the Philippines. <sup>2</sup> Consumption requirements.

Source: Sugar Statistics and Related Data, Vol. 1, Bul. 293, Agr. Stabil. and Conserv. Serv., U.S. Dept. of Agr.

which supplies were purchased was considerably larger than in 1961. But the largest share of the purchased sugar was still obtained from the countries which provided the largest amounts in 1960.

## Sugar Act Amendments of 1962

Technically, there were 2 amendments in 1962, but the effect was the same as that of a single amendment. One became effective on July 13, 1962, and the other, on July 19, 1962. Since the previous law terminated on June 30, 1962, there was a period of 13 days during which no sugar act was in effect, and sugar could have been imported into the United States without regard to quota limitations. However, there were no imports inconsistent with sugar quotas as established in the 1962 amendments, and the hiatus in the law caused no economic problems.

In 1962, for the first time since the Sugar Act of 1948 became law, a significant change was made in the method of comparing sugar prices with the general price level as one of the factors to be considered by the Secretary of Agriculture in determining sugar consumption requirements. The new formula called for a comparison of the relation of the price of raw sugar to the index of prices paid by farmers during 1957-59 to the relationship likely to be established by any determination or revision of sugar consumption requirements.

In the years following the 1962 change, actual prices of sugar were much closer to those suggested by the price formula than was the case with respect to the earlier price formula in the Sugar Act (table 24). The year 1963 was an exception; world sugar prices rose to unusual heights; and part of this rise was reflected in the New York price of raw sugar, making it considerably above the price indicated by the Sugar Act formula.

Quotas for the various areas supplying the United

States with sugar were rearranged in 1962, increasing the quota for the continental beet and cane sugar areas, for the Philippines, and for certain other countries. Under the new arrangement, domestic areas, whenever consumption requirements were 9,700,000 tons or below, received quotas aggregating 5,810,000 tons. When consumption requirements were above 9,700,000 tons, they received in addition 65 percent of that part above 9,700,000 tons. Under the immediately preceding arrangement, quotas for the domestic areas with consumption requirements of 9,700,000 tons would have totaled 5,186,500 tons. Also, the participation of the domestic areas was increased from 55 percent to 65 percent.

The assignment of quotas to the various domestic areas was also changed in 1962. The entire increase for domestic areas was allotted, approximately three-fourths to the beet area and one-fourth to mainland cane. The quota for Hawaii was fixed at 1,110,000 tons, that for Puerto Rico at 1,140,000, and that for the Virgin Islands at 15,000 tons. The law, however, provided that the quota for any offshore domestic area should be increased if production, less local consumption in the area, should exceed the quota. Small upward adjustments were made in the quota for Hawaii under these provisions in certain years, but none were necessary for Puerto Rico or the Virgin Islands.

The quota for the Philippines was increased to 1,050,000 tons, the first increase for that country under the Sugar Act of 1948. The quotas for other foreign countries were rearranged. Cuba was assigned a quota equal to 57.77 percent of the total assigned to countries other than the Philippines. However, the law provided that whenever the United States did not maintain diplomatic relations with any country, the assigned quota would not be prorated to that country, and a quantity of sugar equal to that assigned such a country would be imported from other foreign countries. Since the United States had not maintained diplomatic relations with Cuba since mid-1960, no Cuban sugar was imported while the 1962 act was in effect. The distribution of quotas and nonquota purchases of the quota for Cuban sugar did not differ greatly from those under the previous Sugar Act.

A new feature in the 1962 act provided that an import fee should be paid to the United States as a condition for importing sugar into this country. Beginning with the Sugar Act of 1934, all imported sugar had been purchased at prices equivalent to those paid for sugar produced in domestic areas. Since U.S. sugar prices had, with certain exceptions including the World War II, been higher than those at which exporting countries could sell sugar elsewhere, foreign countries endeavored to obtain the largest possible quota for U.S. sugar. In 1959 and the first half of 1960, producers of sugar in Cuba received a quota premium for sugar sold in the United States which

Table 24—Raw sugar prices: Actual and calculated from formula in 1962 amendments to the Sugar Act of 1948, average 1957-59 and years 1960-67

Year	Raw sugar price, duty-paid, N.Y.	Calculated price of raw sugar, duty-paid, N.Y.	Index of prices paid by farmers <sup>1</sup>
	--- Cents per lb. ---		1910-14=100
1957-59 .....	6.21	6.21	292
1960 .....	6.24	6.36	299
1961 .....	6.30	6.40	301
1962 .....	6.45	6.53	307
1963 .....	8.18	6.64	312
1964 .....	6.90	6.66	313
1965 .....	6.75	6.83	321
1966 .....	6.99	7.10	334
1967 .....	7.28	7.27	342

<sup>1</sup> Including interest, taxes, and wage rates. Also called the parity index.

averaged about 2.29 cents per pound. This amounted to about \$258 million on the 5,638,000 tons of Cuban sugar sold to the United States during the 18-month period.

This quota premium for Cuban sugar was paid during a period when the policies of the revolutionary Cuban Government were becoming more and more objectionable to the United States, culminating in a break in diplomatic relations and the cessation of imports of sugar from Cuba. This situation with respect to Cuba was one of the reasons advanced in support of some arrangement that would reduce or remove the quota premium received by producers in foreign countries for U.S. sugar imports.

The 1962 act imposed an import fee on sugar imported from any country other than the Philippines during the last half of 1962, 1963, and 1964. The fee for quota sugar for 1962 was 10 percent of the excess of the price for raw sugar produced in domestic areas over the prevailing price for raw sugar of foreign countries, adjusted for freight to New York and the tariff rate accorded the most favored nation. In 1963, the fee was 20 percent of this excess, and in 1964, 30 percent. The fee for global quota sugar, that is, the quota withheld from Cuba and assigned for purchase from other countries, was 100 percent in all years. No provision was made for quotas from foreign countries or an import fee on sugar imported from such countries in 1965 and 1966, although other provisions of the law terminated on December 31, 1966.

The fee provisions had less economic effect than seemed probable when the law was enacted because of high world sugar prices during much of 1963 and 1964. U.S. sugar prices were below those in the world market, and consequently the import fee was zero. This condition continued from January 1963 through May 1964. Producers in foreign countries, of course, would have preferred to pay no fee, since their receipts were reduced by the amount paid.

Another new feature of the 1962 amendments to the Sugar Act was the provision for sugarbeet acreage reserves for new producing localities. The acreage required to yield 65,000 tons of sugar, raw value, was to be reserved each year from the total acreage allocated to sugarbeet growers for the use of growers in new factory areas or to growers in areas served by the expansion of existing factories. These acreage reserves remained effective for 3 years, beginning with the first year each reserve was established. That is, acreage limitations established for the entire sugarbeet area did not affect the acreage in any reserved area during the 3-year period.

USDA established nine acreage reserve areas under this provision of the 1962 law as follows:

Localities served by new facilities:	Acreage	Effective year
Mendota, Calif.	19,000	1963
Hereford, Texas	24,730	1964

Drayton, N. Dak.	31,000	1965
Auburn, N. Y.	29,500	1965
Presque Isle, Maine	33,000	1966
Phoenix, Ariz.	20,000	1966

Localities served by expanded facilities:

Ottawa, Ohio	2,415	1964
Idaho Falls, Idaho	8,140	1964
Carrollton and Croswell, Mich.	4,030	1964

Only the acreage reserves in Texas, New York, Maine, and Arizona were in strictly new producing areas. The new plants in California and North Dakota were in areas where some beets had previously been grown. The total reserved area in all States amounted to 171,815 acres, almost 14 percent of the total area planted to sugarbeets in 1966.

The provisions in the 1962 act for sugar quotas for foreign countries other than the Philippines and for the application of an import fee on such sugar applied only to the 3 years, 1962-64, although other provisions of the act did not terminate until the end of 1966. Thus, some amendment to the 1962 act prior to January 1965 would have seemed desirable if sugar quota legislation were to continue in effect. However, the law was not amended until November 1965.

In view of the unusual circumstances, the Secretary of Agriculture in allotting quotas for 1965 to foreign countries other than the Philippines, acting "under general authority included in the Sugar Act," based the proration on the quantity of imports from such countries in 1963 and 1964. Imports in 1963 were given a weight of 1 and those for 1964 a weight of 2. In view of legal limitations, no import fee was applied to any 1965 imports.

## Sugar Act Amendments of 1965

The 1965 amendments to the Sugar Act became effective in November 1965 and extended the terminal date of the law to December 31, 1971. The quotas established earlier by the Secretary of Agriculture for foreign countries other than the Philippines were retained for 1965, but a different arrangement was established for the following years. No provision was made for a fee on imported sugar. The basic quota for the Philippines was continued at 1,050,000 tons. In addition, however, the Philippines were assigned 10.86 percent of the first 700,000 tons of any increase in consumption requirements above 9,700,000 tons.

The quota for Cuba was set at 50 percent of the total amount assigned to foreign countries other than the Philippines. However, the quota was withheld

from Cuba whenever the United States did not maintain diplomatic relations with Cuba. The withheld quantity was prorated pursuant to the statutes among other foreign countries, except the Philippines.

Quotas for domestic areas when consumption requirements were between 9,700,000 tons and 10,400,000 tons were:

<i>Area</i>	<i>Short tons raw value</i>
Domestic beet sugar	3,025,000
Mainland cane sugar	1,100,000
Hawaii	1,110,000
Puerto Rico	1,140,000
Virgin Islands	15,000
Total	6,390,000

Domestic areas received 65 percent of any amount by which consumption requirements for any year exceeded 10,400,000 tons, and their quotas were reduced by 65 percent of any amount by which requirements were below 9,700,000 tons. The increases or decreases in quotas for domestic areas were all assigned to the beet and mainland cane areas in the proportion of their tonnage quotas for consumption requirements between 9,700,000 and 10,400,000 tons.

The quotas for domestic areas established by the 1965 amendments with consumption requirements of 10,400,000 tons were about 2 percent above what they would have been at this level of requirements under the terms of the 1962 amendments. The relationship among the quotas for individual domestic areas remained substantially unchanged.

### **Sugar Act Amendments of 1971**

The sugar quota law was again amended in 1971 to cover the period January 1, 1972, through December 31, 1974. Domestic areas were given quotas totaling 6,910,000 tons per year when consumption requirements amounted to 11,200,000 tons. These quotas were increased or decreased by 65 percent of the amount actual consumption requirements were above or below 11,200,000 tons. The entire increase or decrease was given to the mainland cane and domestic beet areas.

Only minor changes were made in the way quotas were distributed to foreign countries. The quota for

Cuba was again withheld so long as the United States and Cuba did not maintain diplomatic relations, and the amount of the quota distributed to other foreign countries.

The major change in the 1971 amendments concerned the method of estimating annual consumption requirements. The Secretary of Agriculture, under the new provisions, was required to determine and revise consumption requirements so as to attain the price objective set forth in the act. This objective was to maintain the same ratio between the current price of sugar and the average of the current parity and wholesale price indexes as existed for the period September 1, 1970, through August 31, 1971.

In order to achieve the annual price objective, the Secretary of Agriculture was required to adjust consumption requirements whenever actual sugar prices for 7 consecutive market days were 4 percent or more above or below the objective. From October 31 to March 1 of the following year, the maximum allowed variation was 3 percent. Consumption requirements could not be reduced after November 30 of any year.

These rigid price provisions proved workable in 1972 and 1973 but not in 1974. World sugar prices rose to unusual heights in 1974. Prices in the United States followed at somewhat lower levels. U.S. consumption requirements were increased from 12.0 to 12.5 million tons on January 11, 1974. However, supplies did not reach the United States in sufficient quantity to prevent further domestic price rises. Prices also rose in the world market. Efforts to hold down prices by further increases in the estimate of consumption requirements were abandoned.

In 1974 new sugar legislation was introduced in the Congress. The Committee on Agriculture of the House of Representatives reported a sugar quota bill to the House, but the bill was rejected by the House. Since the existing law had a terminating date of December 31, 1974, quotas regulating the U.S. sugar industry and the importation of sugar ended on that date. Sugar quotas in the United States had been in effect for 41 years, except for a brief hiatus (about 2 weeks) in 1962 and the suspension of the quota provisions of the law during the World War II period.

Late in 1974 the President proclaimed a sugar import quota for 1975 of 7 million tons, to cover imports from all countries. This was substantially above prospective imports. Its only economic effect was to prevent the import duty on sugar from rising about 6.25 cents per 100 pounds for sugar polarizing 96 degrees.

## GOVERNMENT REGULATION OF THE SUGAR INDUSTRY BY COUNTRIES OTHER THAN THE UNITED STATES

Nearly all countries that produce, import, or export sugar in large quantities have adopted more or less complex regulatory systems for the industry. For convenience, the nations with extensive sugar regulatory systems may be divided into two groups. One consists of countries that import sizable quantities of sugar or apparently would make such importations if their domestic sugar industries were unprotected or protected at lower levels. The other group regularly exports a sizable proportion of its sugar crops. With negligible exceptions, nations in the first group are large producers of beet sugar. Countries in the second group produce mainly cane sugar. A few countries produce sizable quantities of sugar from both beets and cane; the most important of these is the United States, which greatly altered its protective system when it ceased operating a quota system in 1974.

In general, countries which have sizable domestic sugar industries and which also import sugar developed the most comprehensive systems of control over production, prices, imports, and exports. Most of the control systems of exporting countries appear to have been designed largely to take advantage of, or to mitigate, the adverse effects of import controls established by importing nations. The following summaries of the sugar regulatory systems of the more important sugar producing and trading countries illustrate some of the complexities and diversities of the systems (53).

Many other countries maintain regulatory systems over sugar production and trade similar to those which have been summarized, although with considerable variation in detail. However, the countries whose control systems have been summarized accounted for about 40 percent of world sugar production, exports and imports, and the United States, another 20 percent.

### Britain

Britain has been a major importer of sugar since the 16th century when sugar production in the Caribbean and elsewhere in the New World developed. During this period, British policy toward sugar varied widely from one of protection to one of free trade. Following World War I, Britain reinstated a protective system. After World War II, the system was revised to extend greater protection to British Dominions and colonies which produced sugar for export.

Between the two wars, British regulation of trade in sugar consisted largely of tariff protection for the domestic beet sugar industry, for cane sugar refiners, and for producers of raw sugar in various dominions and colonies. During World War II, the British Government purchased the exportable surplus in all Com-

monwealth countries at fixed prices. After the war, negotiations for a sugar agreement were started, and the Commonwealth Sugar Agreement (CSA) was signed in December 1951. The Agreement was intended to assure a reliable supply of sugar for Britain, to develop the production of sugar in Commonwealth countries, and to provide for the orderly marketing of sugar.

The CSA as originally signed was between Britain and Australia, South Africa, the British West Indies, Mauritius, and Fiji. Later, St. Vincent, British Honduras, and what was then known as East Africa joined. South Africa ceased to be a member on December 31, 1961. A basic feature of the CSA was the assignment of price quotas to each country's quota at a price negotiated each year, which was to be considered reasonably remunerative to efficient producers. In addition, each Commonwealth country was given an overall quota larger than the negotiated price quota. Sugar equal to the difference between the two quotas could also be exported to Britain and receive the benefit of a tariff preferential. These quantities could also be exported to countries granting a tariff preferential to Commonwealth countries. These were: Canada, New Zealand, and originally, Rhodesia. Also, Commonwealth countries were free to export sugar to nonpreferential markets, although these could have had some limitations in certain years under the terms of the International Sugar Agreement (53).

The distribution of sugar exports from Commonwealth countries in 1962 after South Africa had ceased to be a member of the CSA was:

<i>Destination</i>	<i>1,000 short tons tel quel</i>
Britain:	
Negotiated price	1,632
Preferential	94
Canada	641
New Zealand	143
United States	401
Other countries	374
Total	3,284

The general method used in determining the annual negotiated price was specified in the CSA. This, in summary, provided that the price for shipments of sugar in 1950 of 30 pounds/10 shillings/0 pence for sugar polarizing 96 degrees was to be considered the "basic price." A percentage distribution of costs for the 1950 crop, representing all costs of producing and shipping sugar for export was determined and accepted as the "basic weighting of costs." Indi-

ces reflecting changes in wage levels and prices of supplies and services were reported annually by each exporting area and weighted according to estimated quantities from each area and then combined in an overall index. The negotiated price each year was then determined by varying the basic price proportionately to the movement of the price index.

Since 1957, the Sugar Board was the agency which purchased all sugar in the negotiated price quotas of the Commonwealth countries. The Sugar Board then sold the sugar for the best free market price obtainable. When the negotiated price was higher than the free market price, the deficit incurred by the Board was met by a surcharge levied on all sugar domestically produced or imported into the country, including sugar in sugar containing products. If the free market price was above the negotiated price for any considerable period, the surplus accruing to the Sugar Board was disposed of by a "distribution payment" whenever a surcharge would otherwise have been payable.

A substantial quantity of beet sugar was produced in Britain in addition to supplies obtained from Commonwealth and other sources. The British Government annually established both the total area in England to be planted with sugarbeets and the basic price to be paid for beets, which was subject to variation for such factors as sucrose content and time of delivery. The beets were processed in plants owned and operated by the British Sugar Corporation. This Corporation was allowed to make a profit equivalent to a reasonable rate of interest on capital and authorized reserves. Any losses incurred by the British Sugar Corporation were made up by the Sugar Board out of funds received from the surcharge applicable to all sugar sold in Britain, and any profit in excess of the permitted amounts was to be paid to the Sugar Board.

Britain joined the European Economic Community by a gradual process early in the seventies, and the Commonwealth Sugar Agreement expired at the end of 1974. The economic effects of these moves are still in the process of development. Under the terms agreed to when joining, Britain is allowed to continue preferential treatment of certain sugar imports from former British territories. The amounts are somewhat smaller than formerly, and imports from South Africa and Australia are not included.

## France

France is a major producer of beet sugar; the output ordinarily equals or exceeds consumption. The French Government controls the quantity of beet sugar produced and the price growers receive for beets. The Government also establishes prices for all grades of sugar. These prices apply to beet sugar produced in France and to cane sugar shipped to a

French port from the overseas departments of Reunion, Martinique, and Guadeloupe. An equalizing duty is assessed on sugar imported from the world market so that its price becomes the same as that for domestically produced sugar. Most of the cane sugar shipped to France is exported to former French possessions.

## West Germany

The West German Government establishes quotas annually for sugar deliveries by individual sugarbeet processors, refiners, and importers. Sugarbeet processors, on the basis of the quotas they receive, contract with growers for the production of sugarbeets. The processors undertake to purchase all beets grown in agreed-upon areas. In this manner, the Government indirectly controls the production of beet sugar. The Government also determines the prices of sugarbeets and of sugar.

Sugar is imported only through the device of public tenders. Anyone wishing to import sugar after a tender offer has been announced must offer to sell the sugar to the Sugar Import Agency at the world price of sugar. If the agency declines to buy the sugar, the project is abandoned. If the agency buys the sugar, the importer is required to repurchase it at the domestic price for sugar. As a result, the importer obtains sugar at the domestic price, regardless of whether the world price is above or below the price in West Germany.

## Italy

Sugar prices in Italy are set by the Interministerial Committee on Prices. These determinations are based on verified production costs of typical factories. The price factories pay growers for sugarbeets has also been regulated by the Government in recent years, although it was formerly determined by negotiation between growers and processors.

To prevent sugar production in excess of domestic consumption needs, attempts were made to limit the area planted to sugarbeets by agreement between growers and processors. These efforts were not successful, and the Government assumed the regulatory function.

Sugar imports are licensed by the Government, which grants licenses only in exceptional cases, except for sugar imported in bond for reexport in sugar containing products. In most years, exports of sugar are negligible, except when world sugar prices have been above prices in Italy.

## Belgium and Luxembourg

With the exception of a few acres of beets grown in Luxembourg, the region's entire sugar industry is in Belgium. Trade in sugar between Belgium and Luxembourg is free of customs duties.