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THE INFLUENCE OF GOVERNMENT POLICY ON THE AMOUNT OF LAND DEVOTED TO SUGAR PRODUCTION IN THE CONTINENTAL UNITED STATES, 1890 TO THE PRESENT

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THE INFLUENCE OF GOVERNMENT POLICY ON THE AMOUNT OF LAND DEVOTED TO SUGAR PRODUCTION IN THE CONTINENTAL UNITED STATES, 1890 TO THE PRESENT

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THE INFLUENCE OF GOVERNMENT POLICY ON THE AMOUNT OF LAND DEVOTED TO SUGAR PRODUCTION IN THE CONTINENTAL UNITED STATES, 1890 TO THE PRESENT

By: Robert D. Sawvell

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Most agricultural land use studies by American geographers have given primary attention to either physical or economic considerations. A few studies, however, have considered the role of government policy in rural land use decisions. Unfortunately, most of these studies merely recognize that government does play a role and seldom have they attempted to analyze that role. Government policy, of course, is closely related to politics. Thus, politics has been an important, at times even decisive, factor in agricultural land use decisions. This has been especially true in the case of sugar. This study focuses on the influence of government policy and politics on the amount of land devoted to sugar production in the continental United States from 1890 to the present (1973).

Within the span of years studied, two distinct periods are identifiable. The first of these periods extends from 1890 through 1933, and the second includes the period from 1934 to the present. During both periods government policy, often based on political decisions, had a strong impact on the amount of land used for sugar production. In the initial period the tariff was the most important government policy to influence the amount of land devoted to sugar culture. Important additional influences were actions of the Department of Agriculture, the Spanish-American War, World War I, reclamation, especially in the western United States, state bounties, and labor legislation.

Beginning in 1934 the character of government policy toward the mainland sugar industry changed. The tariff was discarded and replaced by a series of sugar acts which greatly politicized sugar production. In the various sugar acts government influence has been basically expressed by a legislated marketing quota system which annually grants mainland sugar growers a portion of the United States market. Growers may harvest all the sugar acreage they desire, but only that part of the crop allocated by the federal sugar program can be marketed for processing. Thus, by virtue of the various sugar acts the federal government has completely controlled the amount of land devoted to sugar production in the continental United States.

While the federal sugar program initiated in 1934 brought stability to the mainland sugar industry, it has not satisfied everyone. Florida sugar cane growers and certain sugar beet growing areas have been consistent critics of the program. Two case studies are presented, one concerned with the Florida sugar cane industry and one with the western Texas-eastern New Mexico sugar beet industry, to ascertain in some detail the influence of government policy on the amount of land devoted to sugar production in each area.

CHAPTER I

INTRODUCTION

Political geographers have traditionally given little attention to the influence of political decisions on land use, especially the use of land for agricultural purposes. The study undertaken here falls within this rather neglected field of geographic research, but it also is intended as a contribution to the broader study of the role of politics in agriculture. The specific scope of the dissertation is an analysis in some detail of the influence of political decisions upon the amount and distribution of agricultural land devoted to sugar production within the continental United States from 1890 to the present (1973).[1] Both sugar cane and sugar beets are included in the investigation.

Most agricultural land use studies by geographers have given primary attention to either physical or economic considerations. The

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[1]Political decisions are herein considered to include any decisions made by government which have influenced agricultural land use. Since most, if not all, decisions made by a democratic government reflect some compromise of the position of the various concerned parties, it can be presumed that all laws, directives, and policies of government are supported by political decisions. Thus, in this study political decisions and government policy are considered to be synonomous. Hawaii is not included in the basic investigation since it only became a state in 1959 and after statehood continued to receive a sugar allocation separate from that received by the mainland industry. Hence, use of the term "mainland" or "continental" refers only to production in the forty-eight contiguous states.

physical geographic approach has emphasized the influence of such factors as slope, climate, and soil. With this approach, land use is interpreted as a function of specific temperature, moisture, edaphic, and slope conditions.[2] Another traditional approach has been to examine land use changes through time on a particular portion of the earth's surface. Such a method involves cataloguing crop patterns and combinations at a sequence of dates with some explanation as to why the changes occurred.[3] Recently, agricultural land use has been explained more often in economic terms. With this point of view and approach, land use is considered to be a function of such cost factors as transportation charges and distances from the market.[4] None of these approaches are elaborated on in this study because they seem to have been sufficiently analyzed elsewhere.

Few of the existing studies have given significant attention to

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[2]For example, see O. E. Baker, "The Increasing Importance of Physical Conditions in Determining the Utilization of Land for Agricultural and Forest Production in the United States," Annals of the Association of American Geographers, XI (1921), pp. 17-46; and John J. Hildore, "The Relationship Between Cash-Grain Farming and Landforms," Economic Geography, XXXIX (January, 1963), pp. 84-89.

[3]See John C. Weaver, "Changing Patterns of Cropland Use in the Middle West," Economic Geography, XXX (January, 1954), pp. 1-47; and Merle C. Punty, Jr., "Recent Quantitative Changes in the Cotton Regions of the Southeastern States," Economic Geography, XXVII (July, 1951), pp. 189-208.

[4]See Edgar S. Dunn, Jr., The Location of Agricultural Production (Gainsville: University of Florida Press, 1954); William L. Garrison and Duane F. Marble, "The Spatial Structure of Agricultural Activities," Annals of the Association of American Geographers, XXXXVII (June, 1957), pp. 137-144; and David W. Harvey, "Theoretical Concepts and the Analysis of Agricultural Land-Use Patterns in Geography," Annals of the Association of American Geographers, LVI (June, 1967), pp. 361-374.

the influence of political decisions on agricultural land use. When political considerations are mentioned at all, it is often only to recognize the existence of such governmentally motivated mechanisms as tariffs, quotas, bounties, production subsidies, price supports, and acreage allotments. Seldom is an attempt made to determine the influence of specific political decisions on the amount or distribution of land devoted to a particular crop or combinations of crops.

Nature and Justification for Study

The study of the influence of political decisions on landscape development has been recognized for some time as a worthwhile area of research for geographers. In an article published in 1935, Derwent Whittlesey offered the observation that political activities have their impress on the landscape just as do economic activities. He referred to various examples of public policies and specific laws which had influenced the development of the rural landscape. Government policy, it was noted, often produces an agricultural pattern quite different from what might exist if government had no influence in agricultural development. Whittlesey pointed out that many general studies in political geography have overlooked the role of government policy in the development of the landscape and suggested more research on the relationship. In the conclusion of his article, he insisted that "Phenomena engendered by political forces should have a recognized place as elements in the structure of every region."[5]

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[5]Derwent Whittlesey, "The Impress of Effective Central Authority upon the Landscape," Annals of the Association of American Geographers, XXV (June, 1935), p. 97.

Whittlesey's proposal for more studies relating government policy to landscape development had little immediate influence on either agricultural or political geographers. In recent years, however, a few geographers have been calling attention to the role of politics in rural land use decisions. Nonetheless, in a 1957 article discussing the relationship of government policy to cotton farming in the San Joaquin Valley of California, David Large noted that geographers still have "hardly accentuated the governmental factor in modern agriculture."[6] Fielding concurs with Large's position. In examining studies relating government influence and the character of agriculture, Fielding notes that while many studies have made reference to "the influence of political decisions upon agriculture, few have been devoted solely to this theme."[7] The neglect of such studies was also mentioned by a team of geographers in 1965 who suggested in The Science of Geography that the influence of political decisions upon land use offers an almost unending research field.[8] J.R.V. Prescott has likewise made a plea for more studies in political geography which give consideration to the influence of political decisions upon landscape development. According to Prescott, political geographers must investigate the influence government policy

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[6]David C. Large, "Cotton in the San Joaquin Valley: A Study of Government in Agriculture," Geographical Review, XLVII (October, 1957), p. 365.

[7]Gordon C. Fielding, "The Role of Government in New Zealand Wheat Growing," Annals of the Association of American Geographers, LV (March, 1965), p. 88.

[8]The Science of Geography (Washington: National Academy of Sciences-National Research Council, 1965), p. 90.

has upon the cultural landscape.[9] Highsmith and Jensen, in their economic geography textbook, have at least taken note of the relationship between government policy and landscape development. In the opening chapter of the book, the authors state that "national policies are highly important factors in the geography of commodity production."[10]

Textbooks devoted solely to the geography of agriculture have to a considerable degree neglected the political factor in agricultural land use. Higbee's text focuses on land use patterns in the United States, but makes no reference to politics as an element in determining how the rural landscape is to be used.[11] Anderson only briefly notes the role of government in agriculture and certainly does not make a central theme of it.[12] Symons indicates that politics play a role in agriculture land use, though again the theme is not fully developed.[13] He does recognize the role of tariffs, quotas, and other import controls, all of which are politically inspired. In a recently published book, Gregor devotes rather more attention to the politics of agriculture

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[9]J.R.V. Prescott, The Geography of State Policies (Chicago: Aldine Publishing Company, 1968), p. 11.

[10]Richard M. Highsmith and J. Granville Jensen, Geography of Commodity Production (Philadelphia: J. B. Lippincott Company, 1963), p. 2.

[11]Edward Higbee, American Agriculture: Geography, Resources, Conservation (New York: John Wiley and Sons, Inc., 1958). Another book, not a textbook, by Higbee entitled Farms and Farmers in an Urban Age (New York: The Twentieth Century Fund, 1963), however, discusses the relationship of government and agricultural practices in detail.

[12]James R. Anderson, A Geography of Agriculture (Dubuque: W. C. Brown Company Publishers, 1967).

[13]Leslie Symons, Agricultural Geography (New York: Frederick A. Praeger Publishers, 1967).

than Higbee, Anderson, or Symons.[14] He notes that while studies of this aspect of land use are beginning to appear, more are needed to fully understand the influence of politics on the agricultural pattern.

The Background

Sugar, perhaps more than any other American agriculture commodity, has been the child of government policy.[15] From the very beginning of the United States as a nation to the present time, national and state governments, especially the former, have influenced the sugar industry. The long period of time during which sugar has been influenced by government policy suggests that commodity as a particularly good example of the relationship between political decisions and agricultural land use in the mainland United States.

Government influence in the American sugar industry dates back at least as far as the last decade of the eighteenth century.[16] Since sugar consumed in the United States at that time was almost totally obtained through importation, government influence was limited to placing a duty on all sugar brought into the country from abroad. During the initial decades of the nineteenth century, especially after the acquisition of Louisiana, a sugar industry developed on the mainland, but production remained far short of consumption. In terms of total land use, sugar

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[14] Howard F. Gregor, Geography of Agriculture: Themes in Research (Englewood Cliffs: Prentice Hall, Inc., 1970).

[15] William C. Pendleton, "American Sugar Policy - 1948 Version," Journal of Farm Economics, XXX (May, 1948), p. 227.

[16] U.S., Department of Agriculture, Economic Research Service, A History of Sugar Marketing, by Roy A. Ballinger, Agricultural Economic Report No. 197 (Washington, D.C.: Government Printing Office, 1971), p. v.

occupied a very small area. Even today, only about 40 percent of the total sugar consumed in the country is provided by beet and cane growers in the contiguous forty-eight states (Table 1). As the industry grew, notably during the last decade of the nineteenth century, government policy assumed an increasingly important role in sustaining the sugar industry and, of course, in influencing the amount of land used for the production of sugar. Subsequent events, such as World War I, the depression period of the late 1920's and 1930's, World War II, and the severing of diplomatic relations with Cuba, an important sugar supplier since the beginning of the present century, served to increase government influence over the sugar industry.

It is not unreasonable to argue that the allocation of land for the production of sugar in the contiguous forty-eight states is primarily the result of government policy. Growers of both sugar cane and sugar beets would now, as in the past, find it difficult, perhaps even impossible, to compete with foreign tropical sources of sugar in an open, free market. As a recent publication by the Committee on Agriculture of the House of Representatives states:

> It is unlikely any significant quantity of sugar would be grown in the United States if American producers had to compete on the open world market with sugar produced with cheap tropical labor or under subsidy in other countries.[17]

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[17]U.S., Congress, House, Committee on Agriculture, The United States Sugar Program, Committee Print, 91st Cong., 2d sess., 1971, p. 43. For similar views, see Don Paarlberg, American Farm Policy: A Case Study of Centralized Decision-Making (New York: John Wiley and Sons, Inc., 1964), p. 325; Marion Clawson, Policy Directions for U.S. Agriculture (Baltimore: The John Hopkins Press, 1968), p. 183; Murray R. Benedict and Oscar C. Stine, The Agricultural Commodity Programs: Two Decades of Experience (New York: The Twentieth Century Fund, 1955), p. 281; Lippert S. Ellis, The Tariff on Sugar (Freeport: The Rawleigh Foundation, 1933), p. 155; Phyllis Wallace, "The American Sugar Industry: International and

TABLE 1

Percentage of Sugar Marketed for Consumption in the Continental United States by Supply Area, 1900-1970

Year	Mainland Beet	Mainland Cane	Hawaii	Puerto Rico	Philippine Islands	Cuba	Other
1900	3.8	12.9	10.4	1.5	1.0	14.6	56.0
1905	10.7	12.5	13.3	4.3	1.2	33.0	24.8
1910	14.4	9.6	14.6	7.5	2.3	46.3	5.4
1915	19.8	2.9	13.5	6.2	3.4	50.7	3.3
1920	18.3	2.8	8.7	6.5	2.3	45.4	15.7
1925	14.4	2.0	10.9	8.6	7.1	56.6	a
1930	19.3	3.2	13.0	12.1	11.9	39.6	a
1935	23.5	5.0	14.8	12.6	14.6	29.1	a
1940	24.0	6.3	14.6	12.4	15.2	27.2	a
1945	17.4	7.0	12.3	15.0	0	46.7	1.4
1950	21.1	6.3	13.8	12.7	5.7	39.4	a
1955	21.5	6.0	12.6	12.9	11.7	34.2	1.4
1960	22.7	6.5	8.9	9.4	12.1	25.0	15.2
1965	30.5	11.1	11.5	8.4	11.9	0	26.7
1970	31.0	11.3	9.9	3.1	11.2	0	33.5

[a]less than 1 percent
Due to rounding, percentages will not equal 100.

Source: U.S. Department of Agriculture, Agricultural Stabilization and Conservation Service, Sugar Statistics and Related Data, I, Statistical Bulletin No. 293 (Washington, D.C.: Government Printing Office, 1961), p. 7; USDA, ASCS, Sugar Statistics and Related Data, I, Statistical Bulletin No. 293 (Washington, D.C.: Government Printing Office, 1969), p. 11; and USDA, ASCS, Sugar Reports, No. 231 (Washington, D.C.: Government Printing Office, 1971), pp. 22-24.

The statement just quoted makes an important point in support of this study, for it clearly identifies the role of government in developing and sustaining the continental sugar industry, especially those aspects of the industry involved in primary production. Continued use of agricultural land for the production of sugar, then, is principally a function of government policy.

Justification for Period of Study

Although it is possible to trace government influence in the mainland United States sugar industry back to the latter part of the eighteenth century, the role of government was of rather limited importance until 1890. Toward the end of the nineteenth century, Congress undertook the task of evaluating the tariff structure of the United States. Prior to this time, protection had been afforded the sugar industry largely through the imposition of tariffs. These tariffs, it appears, were primarily for government revenue and only incidentally for the protection of the growers.[18] A surplus in the federal treasury during much of the 1880's was responsible for efforts in Congress to change the tariff structure. Accordingly, the duty on some imported goods was lowered and on some was abolished altogether. In the case of sugar, the duty was removed in 1890.[19] At the same time the duty was

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Domestic Aspects," (unpublished Ph.D. dissertation, Graduate School, Yale University, 1948), p. 233; and Mr. James Witherspoon, Executive Secretary, Texas-New Mexico Sugar Beet Growers Association, private interview held in Hereford, Texas, March 5, 1971.

[18] Frank W. Taussig, Some Aspects of the Tariff Question (Cambridge: Harvard University Press, 1934), p. 54.

[19] Frank W. Taussig, The Tariff History of the United States (6th ed.; New York: G. P. Putnam's Sons, 1914), p. 276.

removed, however, Congress provided a subsidy, or bounty, on all sugar produced in the continental United States.[20] Although production fluctuated in the two decades following the legislated subsidy, the importance of the mainland sugar industry was no longer in doubt. In 1890, sugar produced in the continental United States represented only 9.4 percent of total consumption.[21] As Table 1 shows, the figure was nearly 17 percent in 1900 and a decade later it was 24 percent.

While the events of the early 1890's were particularly significant in the evolution of the mainland sugar industry, important developments occurred in the latter part of the decade. The Spanish-American War of 1898 strongly influenced the United States sugar industry. As a result of the conflict, Puerto Rico and the Philippine Islands were brought under the American flag, and Cuba, while nominally independent, was in effect controlled by the United States. During the same year, Hawaii became a United States territory. Eventually, all of these areas received preferential tariff treatment on sugar sent to the United States market.

A corollary of this preferential treatment was that other overseas sugar suppliers, notably Java and the European beet producers, were unable to compete in the United States market which hence became the exclusive preserve of the Philippine Islands, Hawaii, Puerto Rico, Cuba, and the mainland cane and beet producers (Table 1). During the period of adjustment among overseas suppliers the mainland producers increased

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[20] Ibid.

[21] Philip G. Wright, Sugar in Relation to the Tariff (New York: McGraw-Hill Book Company, Inc., 1924), p. 68.

their share of the national market and, accordingly, the amount of land used for sugar production was enlarged. Between 1898 and 1910, for example, sugar beet acreage increased about 1000 percent.[22] As John Dalton, former chief of the Sugar Division, Department of Agriculture, pointed out, "the domestic beet industry was transformed from an infant into a full-grown and blooming industry."[23] More important from the standpoint of this study, the beet industry, and indeed the sugar industry as a whole, had become a powerful political force.

There is then sufficient evidence to indicate that 1890 was a turning point for the mainland sugar industry. Selection of that date as the beginning of the study seems both justifiable and desirable. After 1890 the continental sugar industry grew in size and political influence. Legislation during the twentieth century reflects not only the increasing political influence of the sugar industry, but the role political decisions have played, and continue to play, in its development within the United States.

Procedure

This study is based on the identification and relationship of two elements, (1) government policies influencing the production of sugar and (2) the amount of land devoted to sugar production. Government policy is herein interpreted as any act, program, or directive of

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[22]U.S., Department of Agriculture, Statistical Reporting Service, Sugarbeets, Statistical Bulletin No. 413 (Washington, D.C.: Government Printing Office, 1967), p. 5 and 29.

[23]John E. Dalton, Sugar: A Case Study of Government Control (New York: The Macmillan Company, 1937), p. 31.

government, federal or state, that influences the allocation of land for sugar production in the United States. Most policies influencing sugar acreage have been initiated at the federal level, and these are of major importance in the investigation. To a limited degree the study is interested in the political pressures which resulted in policies influencing the amount of land devoted to sugar production. These pressures have their main importance here, however, as a means of identifying the political factor in agricultural land use, and they are not the central focus of the study.

It does not seem necessary or even desirable to identify every government policy that has influenced the amount of land devoted to the production of sugar. Some of these policies are obscure and of little importance. Those policies which have clearly affected the amount of land used for sugar production are of primary significance. Such policies are identifiable in American agricultural history and economic philosophy, but their specific features emerge most clearly in government publications, especially congressional hearings. Numerous reports concerning sugar prepared by the Department of Agriculture and other federal departments have been helpful and, to a lesser degree, the geographic literature.

The second major element of the study, the amount of land devoted to sugar production, is defined in terms of acreage harvested for sugar cane and sugar beets. Data on acreage harvested is generally complete and reliable. Reports of acreage planted are available for sugar beets, but not for sugar cane. Since beets must be planted each year, records of annual plantings approximate the acreage harvested. Cane, on the

other hand, produces for several years from the same root system. New cane plantings are made according to a rotation schedule. In any single year, therefore, only a portion of the growing crop is "plant cane" or cane stemming from new planting.[24] Since both sources of sugar are considered, acreage harvested data are obviously the most useful.

If, as seems to be the case, the existence of sugar cane and sugar beet farming in the continental United States is largely, perhaps totally, the result of governmental policies, it follows that the amount of land devoted to sugar production will vary through time as policies change. In this study, the procedure used to relate the two elements, politics and acreage harvested for sugar, involves identifying the significant policies in time and relating their impact in space. A policy decision is considered significant when it results in a change in acreage devoted to sugar production. If the policy removes or decreases government support, it can be presumed that acreage will tend to decrease and that less efficient growers will be forced to switch to alternate uses of the land. Conversely, if the policy increases government support, acreage can be expected to expand in response to such government action. Policy changes, whether favorable or unfavorable to the growers, sometimes do not influence acreage for several years following their implementation. It is, therefore, necessary to examine the impact over a

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[24]Letter from Mr. Wilson R. Woodrow, Louisiana Crop and Livestock Reporting Service, April 5, 1971. Mr. Wilson indicated that no estimates of sugar cane planted each year are made. He also noted that most Louisiana sugar cane growers are on a 3-year rotation and plant about one-third of their crop each year. When sugar cane is harvested, a new crop may be produced from the old root system. The new growth from the established root system is called a ratoon crop. Of the total acreage harvested for sugar each year, about two-thirds would likely be ratoon or stubble cane.

period of several years after the policy decision when relating policy to acreage harvested for sugar.

It is not presumed here that political decisions are the only factors determining the use of agricultural land for sugar in the continental United States. Such an assumption would be unrealistic and patently false. Equally invalid, however, is the assumption that politics are of little or no significance in American agricultural practices. Politics do play a role, probably a greater one than most people realize, in land use decisions, although the political influence varies from place to place, commodity to commodity, and situation to situation. There is little doubt that politics have played an important role in the production of sugar in the mainland United States.

The approach employed in this study is at once historical and analytical. Before detailing the evolution of the continental United States sugar industry, a brief analysis of the relationship between politics and sugar production in the world context since 1800 is intoduced in Chapter II. Chapter III is devoted to the general evolution of the sugar industry in the mainland United States so that its establishment, growth, and spatial development can be examined in detail later without loss of perspective. Chapter IV identifies the significant policies influencing the amount of land allocated to sugar production from 1890 to the present (1973). Chapters V and VI, respectively, relate these government policies to land used for sugar production from 1890 to 1934 and from 1934 to the present (1973). The separation of these two time periods has seemed desirable. Government policy toward the sugar industry underwent a marked change in 1934. Prior to that

year government influence was largely in the form of tariff legislation, whereas after 1934 a quota system, currently in practice in a modified form, was adopted. Finally, Chapter VII is devoted to case studies of two sugar growing areas, one concerned with cane and one with beets, to ascertain in detail the influence of government policies in representative regions on land use.

CHAPTER II

HISTORY OF SUGAR AND POLITICS IN THE WORLD CONTEXT

Historically, governments have interrupted or sustained the production and flow of goods for a variety of reasons. Of these reasons, political considerations have been among the most important. Among the products which have been directly or indirectly influenced by government policy, sugar has a prominent position. Indeed, since sugar came into substantial use around the beginning of the seventeenth century, with the introduction of slave labor from Africa into the low latitudes of the Western Hemisphere, the crop has undergone a series of politically induced fluctuations unequaled among major crops.[1]

Prior to the nineteenth century sugar cane was the most important source of sugar. Nearly all of the cane producing areas were under the control of the European colonial powers. Since colonies were supposed to be profitable to the colonial power, production and trade, especially the latter, were rigidly controlled to the benefit of the mother country. Colonial products, including sugar, were often required to pass through the mother country before they could be shipped to foreign countries or even to other colonies. Spain, as an example, for a time

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[1]Derwent Whittlesey, The Earth and the State (New York: Henry Holt and Company, 1939), pp. 42-43.

required all shipments to pass through the port of Sevilla. This requirement, along with a shortage of labor on the plantations and heavy taxation of the finished product, severely limited sugar production in the Spanish colonies until the middle of the eighteenth century.[2] England, France, and Portugal, however, had somewhat similar restrictions.

The initial years of the nineteenth century brought a new dimension to the sugar industry. Sugar extracted from beets grown in the mid-latitudes became an important source of sugar and a natural rival of cane sugar from the tropics. The sugar beet, long recognized for its sweetness, was an insignificant source of sugar prior to the Napoleonic Wars. Cut off from its usual supplies of tropical sugar by the British embargo and blockade of the ports of continental Europe, France, under Napoleon's direction, sought to overcome the shortage of sugar by developing domestic production, especially from sugar beets.

Although experiments in the early seventeenth century had suggested that beets contained sugar, it was not until 1747 that the sweet taste was verified to be sugar.[3] The verification went largely unnoticed until Franz Karl Achard, a Prussian chemist, obtained financial assistance from the King of Prussia for the revival and continuation of work on the production of sugar from beets.[4] Once Achard had

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[2]U.S., Department of Agriculture, History of Sugar Marketing, p. 3.

[3]U.S., Congress, Senate, Beet Sugar: A Brief History of its Origin and Development, Sen. Doc. 204, 57th Cong., 2d sess., 1903, p. 1.

[4]University of Nebraska, Conservation and Survey Division, Conservation Department, The Sugar Beet Industry of Nebraska, by Esther S. Anderson, Bulletin 9 (Lincoln, Neb.: University of Nebraska, 1935), p. 15.

determined the type of beet that produced the most sugar he then turned his attention to the process of sugar extraction. In 1799 he developed a method of removing sugar, and in 1801, aided by funds from the Prussian monarchy, built a small beet sugar factory in Silesia. Although the unit cost of the sugar was high, the Silesian plant proved that sugar could be extracted from sugar beets. King Frederick Wilhelm III was so impressed with Achard's achievement that he contributed to the construction of beet sugar factories elsewhere in Prussia. In addition, he offered premiums to any farmer or processor who "would work more than twenty tons of beet roots per year."[5]

The sugar beet industry, however, did not become important until England's blockade effectively prevented tropical sugar from reaching the markets of most of continental Europe. France, in particular, suffered from the blockade, and it was the personal encouragement of Napoleon that gave renewed impetus to the production of beet sugar. In 1806 Napoleon offered a bounty to anyone for producing sugar from beets.[6] French scientists were sent to study and evaluate methods of producing and processing sugar beets in Prussia. Upon their return they informed Napoleon that the extraction of sugar from beets was feasible and, furthermore, that French soils were well adapted to sugar beet culture.[7] Moreover, their field experiments proved that by planting

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[5] Ibid., p. 16.

[6] George T. Surface, The Story of Sugar (New York: D. Appleton and Company, 1910), p. 111.

[7] Harry A. Austin, History and Development of the Beet Sugar Industry (Washington: U.S. Beet Sugar Association, 1928), p. 12.

cereal crops on the same land which had previously grown beets the yield of grain could be greatly increased.

Sensing the significance of the findings, Napoleon acted swiftly to develop the sugar beet industry in France. In 1811 he ordered the Minister of Interior to take the necessary steps to encourage the growing of beets and the construction of beet sugar factories. Following these measures, Napoleon signed a decree appropriating 1,000,000 francs to aid in the construction of factories and the establishment of beet sugar schools. The decree also compelled French peasants to plant at least 79,000 acres of sugar beets the following year and provided that no sugar should be imported into France after 1813.[8] In 1812 Napoleon took additional steps to develop the industry. He decreed (1) that 150,000 acres of sugar beets should be grown; (2) that 100 students already enrolled in schools of medicine, pharmacy, and chemistry should be transferred to the beet sugar schools; (3) that monetary encouragement should be extended to scientists to improve the process of sugar extraction and to capitalists to engage in sugar manufacture; and (4) that in the immediate future four imperial beet sugar factories should be established.[9] As a result of Napoleon's decrees and special incentives, 334 beet sugar factories were erected and put into operation by 1813.[10] Success in France had its impact on other parts of Europe.

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[8]Wright, Sugar in Relation to the Tariff, p. 33.

[9]University of Nebraska, Conservation and Survey Division, Sugar Industry of Nebraska, p. 16.

[10]Noel Deerr, The History of Sugar, Vol. II (London: Chapman and Hall, Ltd., 1950), p. 479.

For example, both Prussia and Austria built additional factories to process sugar beets.

The end of the Napoleonic Wars dealt a severe blow to the sugar beet industry in Europe. After the blockade was lifted cane sugar returned to the continental market at a price so low that many beet factories had to close and farmers turned to other crops.[11] In both Prussia and Austria the industry ceased to exist as a commercial enterprise.[12] While in France it suffered severely, the industry at least managed to survive.[13]

Although the continental sugar beet industry was in ruin, Napoleon's actions marked the beginning of a new and important era in the history of the sugar industry. A few brief years of success had shown that the sugar beet could have a definite place in European agriculture. Table 2 shows the rapid recovery of the industry in France following renewed support from the French government.[14]

Revival of the sugar beet industry in other parts of Europe followed its restoration in France. Germany, Austria-Hungary, and Russia had reestablished the industry by the 1830's, and by 1860 the revival was general throughout Europe.

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[11]Surface, Story of Sugar, p. 112.

[12]Charles S. Griffin, "The Sugar Industry and Legislation in Europe," The Quarterly Journal of Economics, XVII (November, 1902), p. 4.

[13]The Beet Sugar Story (Washington, D.C.: U.S. Beet Sugar Association, 1959), p. 12.

[14]H. C. Prinson Geerligs, The World's Cane Sugar Industry: Past and Present (Manchester: Norman Rodger, 1912), p. 17.

TABLE 2

Beet Sugar Production in France, 1826-1900

Year	Production (tons)	Year	Production (tons)
1826	2,400	1865	136,000
1830	7,000	1870	213,000
1835	40,000	1875	322,000
1840	30,000	1880	533,000
1845	40,500	1885	570,000
1850	76,200	1890	767,500
1855	92,200	1895	781,000
1860	77,000	1900	1,038,000

Source: Noel Deerr, The History of Sugar, Vol. II (London: Chapman and Hall, Ltd., 1950), p. 494.

In the German states growth was particularly rapid, and by 1855 there the beet industry rivaled that in France (Table 3). While the industry revived somewhat more slowly in Germany than in France, it

TABLE 3

Beet Sugar Production in Germany, 1836-1900

Year	Production (tons)	Year	Production (tons)
1836	1,400	1870	263,000
1840	14,200	1875	346,000
1845	15,200	1880	594,000
1850	53,300	1885	838,100
1855	87,400	1890	1,332,000
1860	126,500	1895	1,655,000
1865	186,000	1900	1,984,300

Source: Noel Deerr, The History of Sugar, Vol. II (London: Chapman and Hall, Ltd., 1950), p. 492.

was founded on a firmer basis, perhaps because Germany, with no colonies at the time, was not torn by conflicting loyalities between overseas cane and domestic beet production.[15] The German sugar industry, however,

[15] Beet Sugar Story, p. 12.

had also suffered a severe setback with the reappearance of tropical cane sugar following Napoleon's downfall and the lifting of the British blockade. As in France, the government encouraged the reestablishment and development of the industry and persuaded the peasants to devote an increasing amount of land to the production of sugar beets.[16]

During the latter part of the nineteenth century government encouragement of the sugar beet industry was achieved in various ways. Some of the inducements took the form of gifts and prizes. This type of assistance, however, was generally associated with countries that were just initiating the beet industry. Once beet sugar production gained some permanence these special premiums were usually of little importance.

Other types of government encouragement in Europe included favorable rail rates and, under certain conditions, exemption from taxation.[17] Favorable rates on government railways were granted for the movement of agricultural raw materials, such as beets enroute from the field to the factory, and for the shipment of the finished products of the sugar industry. In addition, state operated railways granted favorable passenger rates to farm laborers who migrated annually to work in the beet fields. The most notable of these seasonal labor movements was the migration of workers from northeastern Prussia and Silesia to Saxony. As an incentive to the manufacturers there was sometimes exemption from taxation for part of the output of the sugar industry.

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[16] Ibid.

[17] Griffin, "Sugar Industry and Legislation," p. 22.

If a processing plant was poorly located relative to the market or to exporting centers the manager could apply for tax exempt status. This form of assistance was primarily granted in France.

One of the more important forms of government assistance provided the European sugar beet industry was the duty placed on foreign sugar. As shown in Table 4, many of the beet producing countries had a high duty on imported sugar during the latter part of the nineteenth century. Such high rates minimized foreign competition and stimulated domestic sugar production. As Charles Griffin pointed out in commenting on the European sugar beet industry during the nineteenth century, "It enjoyed in its youth, from the '20's to the '60's, and still enjoys the protection of high, at times prohibitive import duties."[18]

TABLE 4

Duty on Imported Sugar in Selected European Countries, 1899

Country	Duty per 100 pounds
Austria-Hungary	$3.25-4.25
Belgium	4.43-4.54
Germany	4.34
Russia	6.42

Source: John F. Crowell, "The Sugar Situation in Europe," Political Science Quarterly, XIV (March, 1899), p. 100.

The policies initiated by the various European countries to encourage and protect the sugar beet industry were so effective that domestic production eventually exceeded demand. Countries that were once

[18] Ibid., p. 4.

substantial importers became exporters of sugar. Notable among the exporting countries were Germany, Austria-Hungary, and France. To enable domestic producers and manufacturers to sell in foreign markets, and thus rid themselves of their surplus sugar, many countries provided for a drawback or rebate on all exported sugar.[19] Accordingly, a manufacturer was able to sell his sugar in a foreign market at a lower price than he could sell it at home. Continental sugar, for example, was sold in Great Britain below the cost of production.[20] The price differential was made up through a drawback, or export bounty, paid by the national government of the exporting country. During the latter part of the nineteenth century several continental countries, following this procedure, were able to increase their export of sugar. The most impressive gain was that of Germany where, as shown in Table 5, exports increased dramatically between 1875 and 1895.

TABLE 5

Sugar Exports from Germany, 1875-1895

Year	Exports (tons)
1875	11,900
1880	148,200
1885	742,700
1890	820,300
1895	1,153,100

Source: U.S., Department of Agriculture, Bureau of Statistics, International Sugar Situation, by Frank R. Rutter, Bulletin No. 30 (Washington, D.C.: Government Printing Office, 1904), p. 37.

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[19] George M. Rolph, Something about Sugar (San Francisco: John J. Newbegin, Publisher, 1917), p. 137.

[20] Austin, History and Development of the Beet Sugar Industry, p. 18.

A substantial part of the sugar market gained by the continental European beet producing countries was, at the same time, lost by the tropical sugar cane countries.[21] The cane producers, primarily those in the Caribbean area, were struggling to overcome the economic impact of the abolition of slavery and therefore were in a poor position to compete with the subsidized beet producers. With an increasing amount of the sugar export market going to the beet producing countries, European manufacturers sought eagerly for means to increase exports and thereby recover a large export bounty. Manufacturers needed more beets and the growers responded by increasing production. While the production increased in many countries, as already noted, it was especially rapid in Germany and France (Tables 2 and 3). The influence of the beet-cane competition on the world sugar industry is portrayed in Table 6.

TABLE 6

Cane and Beet Sugar as a Percentage of World Production, 1850-1920

Year	Cane	Beet
1850	86.5	13.5
1860	79.7	20.3
1870	64.0	36.0
1880	50.2	49.8
1890	41.2	58.8
1900	46.6	53.4
1910	48.5	51.5
1920	70.8	29.2

Source: Noel Deerr, The History of Sugar, Vol. II (London: Chapman and Hall, Ltd., 1950), pp. 490-91.

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[21]Lewis Eynon, The World's Sugar Industry (London: The Institute of Chemistry of Great Britain and Ireland, 1929), p. 9.

Many European governments eventually found the sugar export bounties to be a serious financial burden.[22] At an international conference in London in 1886 it was proposed that all export bounties be abolished. France opposed the idea, however, preferring only to modify the bounty system, and Great Britain, able to obtain all the sugar it needed at a price below the cost of production, was not at all interested in the proposal.[23] The conference accomplished little other than the exchange of views on the bounty question.

In 1890 Germany had under consideration a plan to remove all subsidies granted the sugar beet industry so as to remove that particular burden from the national treasury. Had the proposal been implemented, the bounties would have been reduced over the next several years and abolished completely.[24] An agricultural crisis in Europe in the early 1890's, however, forced cancellation of the plan. Instead of abolishing the bounty, the German government doubled the export bounty in 1895, and the peasants responded by increasing the output of sugar beets.[25]

Increasing the export bounty and the production of sugar beets in Germany was intended to increase the export of sugar and thereby to provide aid to both growers and manufacturers. Framers of the enabling legislation, optimistically confident that other continental sugar exporting countries would not follow their example, soon discovered that

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[22]John F. Crowell, "The Sugar Situation in Europe," Political Science Quarterly, XIV (March, 1899), p. 89.

[23]Rolph, Something about Sugar, pp. 135-136.

[24]Deerr, History of Sugar, II, p. 507.

[25]Rolph, Something about Sugar, p. 140.

competitors also raised their bounties, frustrating Germany's plans for expansion of its export sugar trade.[26] The new bounty increases caused further decline of the sugar cane industry in the British West Indies. Growers there were unable to compete with the European export subsidies and could not even get the British government, with its philosophy of free trade, to help them by granting preferential treatment to colonial sugar.

There were a number of reasons for the growth of the sugar beet industry in Europe during the nineteenth century. Originally fostered by the policies of Napoleon, beet culture nearly disappeared after his fall from power. Its reemergence was connected with a crisis in European agriculture.[27] The price of grain, notably wheat, declined sharply with the appearance of a large volume of American and Russian grain on the market, thereby creating favorable conditions for the expansion of beet production. Also, beets were known to be important in crop rotation, loosening the soil and improving its structure. As beets required deep plowing, careful cultivation, and considerable use of fertilizers, they contributed to increased yields of other crops. The value to the livestock industry of the by-products, beet tops and beet pulp, gave the crop additional importance. As one writer put it, "This cattle-feeding branch of the beet raising formed ... the chief strength of the beet sugar industry."[28] Farmers and governments alike understood that sugar

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[26]Geerligs, World's Cane Sugar Industry, p. 26.

[27]Vladimir P. Timoshenko and Boris C. Swerling, The World's Sugar: Progress and Policy (Stanford: Stanford University Press, 1957), p. 235.

[28]Griffin, "Sugar Industry and Legislation," p. 10.

beets not only provided a remunerative cash crop but opened the way for a more intensive agriculture.

In summary, it is clear that the policies and actions of the various European governments were of considerable significance in the expansion of sugar beet culture on the continent. Thanks to government policies there was a rapid improvement in sugar beet farming and beet sugar technology. The action of public authorities made it possible for beet sugar to replace cane sugar on the domestic market and leave a surplus for export as well. When European agriculture faced the economic crisis in the 1870's and 1880's, largely caused by competition from imported grain, farmers searched for alternate crops. Pressured by agricultural interests, various governments introduced measures to enlarge sugar exports and thereby stimulate beet production on land heretofore used for wheat and other grains.[29] Bounties were offered to increase exports and as each country sought to outdo its competition, these bounties were increased along with the beet production.

Several events in the latter part of the 1890's contributed to a change in outlook for the continental European sugar beet industry. In 1897 the United States levied a duty on bounty sugar equal to the export bounty.[30] This new duty was in addition to the regular import duty. Although the action did not immediately eliminate bounty sugar from the United States market it did protect and stimulate the American mainland

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[29]Timoshenko and Swerling, World's Sugar, p. 237.

[30]U.S., Department of Agriculture, History of Sugar Marketing, p. 14.

sugar industry. Henceforth, the bounty paid by European countries on sugar exported to the United States simply went to enrich the United States treasury. Perhaps even more important than the increased American import duty was the Spanish-American War and its resulting influence on the United States sugar policy. The end of that war saw the United States in control of several important sugar cane producing areas. Fearing preferential treatment for these areas by the United States and the possible loss of one of their best export markets, European sugar exporting countries began looking anew at the bounty system.

Meanwhile, Great Britain was in the process of changing its attitude and policy towards its own cane producing colonies. British sugar colonies, notably those in the Caribbean, had prospered during the eighteenth and early nineteenth centuries. The abolition of slavery, however, along with the competition from bounty supported beet sugar and the loss of preferential treatment for colonial sugar on the British market after 1874, had reduced these areas to an impoverished condition.[31] Sugar growing became unprofitable, and worthwhile substitute crops were not readily available.

In 1895 the British government ordered an investigation of the colonial sugar industry to ascertain its condition. The ensuing report revealed the depressed state of the industry. Singled out as a major cause of the depression was the system of export bounties on beet sugar shipped in from continental Europe. A recommendation was made that the

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[31]Arthur C. Barnes, The Sugar Cane (New York: Interscience Publishers, 1964), p. 13.

bounty system should be abolished as soon as possible.[32] Regardless of what the trade policy had been in the past, the British government now felt that the time had come to lend assistance to its sugar colonies.

The changes in the sugar policies of the United States and Great Britain caused great concern among European beet sugar exporters. Germany and Austria-Hungary were particularly disturbed over the developments and succeeded in convening a general conference of European sugar producing and consuming countries in 1898. Although the conference failed to reach any agreement on bounty policy, it became evident to those who attended that the bounty system could not survive indefinitely. Britain was determined to equalize competition between imported cane and beet sugar, and before long its efforts were successful. At the Brussels Convention of 1902 an agreement was reached to abolish all export bounties.[33] This was the first international accord of any significance relating to the sugar trade. The agreement gave new life to the sugar cane industry (Table 6).

Although its provisions were modified somewhat over the following decade, the Brussels Convention remained in force until the outbreak of World War I in Europe. It was successful in stopping the exportation of beet sugar at abnormally low prices. Further, the agreement stimulated the tropical cane sugar industry, as the lower domestic sugar price markedly increased European consumption. The Brussels accord did not,

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[32] Ibid., p. 14.

[33] Deerr, History of Sugar, II, p. 507. The signatories were Great Britain, Germany, Austria-Hungary, France, Belgium, Netherlands, Italy, Spain, and Sweden.

however, satisfy everyone. In Great Britain the claim was made that the agreement hurt the British consumer by causing an increase in the price of sugar.[34] It was also argued that the British drive to eliminate the bounties was instigated by British capital interests which had substantial sums of money invested in colonial sugar plantations.

World War I disrupted the world sugar industry. In Europe most of the beet producing countries were involved in the war and, consequently, productive capacity was greatly reduced. Beet sugar production within six years, 1913 to 1919, fell from slightly over 9,000,000 tons to about 2,000,000 tons.[35] Most sugar cane producing countries, however, were far from the war zone and sustained little disruption of their agricultural and industrial economies. Cane producing areas therefore readily increased their production to meet wartime demands created by the decline in European beet sugar production (Table 6).

The rapid advance in cane production and the corresponding decline in beet production during World War I caused serious economic problems for the world sugar industry in the following decades. After the war, the cane producing countries were not inclined to return to prewar production levels.[36] With the revival of the sugar beet industry in Europe by the mid-1920's, oversupply was an inevitable result. Between 1925 and 1930, sugar available for export substantially exceeded the demands of importing countries, and the world price of sugar

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[34]Rolph, Something about Sugar, p. 145.

[35]Timoshenko and Swerling, World's Sugar, p. 18.

[36]Eynon, World's Sugar Industry, p. 12.

declined.[37]

By the mid-1920's attempts were being made to strengthen the world sugar industry though encouraging increased consumption and, at the same time, limiting production. Cuba sought unsuccessfully in 1927 to influence the price of sugar by controlling production.[38] Although Cuban sugar production decreased in 1927 and 1928, other countries increased their production and thereby negated Cuba's efforts. A similar attempt by Cuba to restrict output failed in 1929.[39]

Agitating the problem which faced Cuba, along with other exporting countries, was the protectionist policy being instituted by the sugar importing countries. Shortly after the end of World War I, for example, Great Britain, a major sugar importer, sought to develop a domestic sugar industry. The wartime shortage of sugar and the complete unavailability of beet sugar from continental Europe were important influences leading to Britain's decision to initiate sugar production at home. Although some preferential treatment was afforded the domestic industry following the war, it was not until the enactment of the Sugar Subsidy Act of 1925 that significant development occurred.[40] The act guaranteed a subsidy for ten years, and farmers responded to the legislation by increasing their production of beets. From a small acreage in 1919 the amount of land devoted to sugar beets increased

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[37]Dalton, Sugar, p. 45.

[38]Ellis, Tariff on Sugar, p. 38.

[39]U.S., Department of Agriculture, History of Sugar Marketing, p. 36.

until approximately 232,000 acres were planted in 1929.[41] Remarking about the rise of the beet industry in Great Britain, one writer observed that

> Thus in England a free and unfettered sugar trade was radically transformed into one marked by the stimulation of the local beet industry, the preservation of the British market for the British manufacturers of refined sugar, and a complicated system of preferences for the colonies and dominions. The last defender of international laissez faire came to support the most artificial economic pursuit in the sugar world, production of sugar beets in the thin soil and under the cool skies of Great Britain. The outstanding economic result of England's new policy was, of course, to increase the production of all sugar in the Empire. This meant that she imported less 'foreign' sugar, which had come from Cuba for the most part, to fill her requirements and to that extent she aggravated the maladjustment of world supply to demand.[42]

Great Britain was not alone in its nationalistic policies. Between 1925 and 1930 the combined production of the importing countries, including Great Britain, increased by 2,000,000 tons, at the same time as exporting countries were expanding their output.[43]

By 1930 the condition of the world sugar industry was chaotic. Consumption of sugar decreased as the world depression became more pronounced. World per capita consumption fell from 32 pounds in 1930 to 28 pounds in 1933.[44] Of the major exporting countries, Cuba was most affected. Its sugar exports declined by nearly 2,000,000 tons, or 36

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[41]Eynon, World's Sugar Industry, p. 13.

[42]Dalton, Sugar, p. 47.

[43]U.S., Department of Agriculture, Farm Credit Administration, A Report on the Sugar Industry, by A. R. Gans (Washington, D.C.: Department of Agriculture, 1937), p. 7.

[44]Ibid., pp. 8-9.

percent, from 1929 to 1930.[45]

In view of the declining position of sugar in world markets, steps were initiated to seek international agreement on production and marketing controls. Cuba was particularly interested in seeking regulation of the sugar industry. During the previous years it had sought unsuccessfully to obtain controls by reducing its own production and requesting others to do the same. Undaunted by these failures, Cuba again took the lead in seeking controls in 1930. A committee led by Thomas L. Chadbourne, representing the Cuban sugar industry and certain United States parties with financial interests in Cuba, was formed to seek stabilization of the sugar trade between the United States and Cuba and a general international stabilization of sugar production and marketing. After nearly a year of negotiations the International Sugar Agreement, commonly referred to as the Chadbourne Plan or Chadbourne Agreement, was signed by the major cane and beet exporting countries.[46] While the accord succeeded in reducing production in the member countries by limiting the amount each could export, it had little influence on overall world sugar supplies. Non-member producing countries expanded production, especially the British Empire countries and the United States and its insular possessions. Table 7 shows the effect of the Chadbourne Plan on the non-member and member countries. Nationalistic policies in non-member countries stimulated production and somewhat protected local producers against the world depression. It was evident

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[45]U.S., Department of Agriculture, History of Sugar Marketing, p. 29.

[46]Original signatories were Cuba, Java, Czechoslovakia, Germany, Poland, Belgium, and Hungary.

that controls applying only to exporting countries could not solve the problems confronting the world sugar industry.[47]

TABLE 7

World Sugar Production under the Chadbourne Agreement

millions of tons

Area	1930	1935	Percentage Change
Member countries	13.3	6.8	-48.8
Non-member countries	14.9	17.8	+19.0
World	28.2	24.6	-12.8

Source: U.S., Department of Agriculture, Farm Credit Administration, A Report on the Sugar Industry, by A. R. Gans (Washington, D.C.: Government Printing Office, 1937), p. 37.

Although the Chadbourne Agreement was largely ineffective it paved the way for future international sugar marketing arrangements. When the agreement was dissolved in 1935 the world sugar industry was still in a chaotic condition. Several factors, however, had changed by the mid-1930's. Perhaps the most important change was in the position of the United States and Great Britain relative to the international sugar problem. Each of these countries had stabilized its own domestic sugar industry sufficiently to desire an active role in trying to solve the problems facing other countries. Cooperation of these two countries helped to overcome an obstacle which had in part doomed the Chadbourne Agreement to failure - specifically, by not including importing as well

[47] Timoshenko and Swerling, World's Sugar, p. 23.

as exporting countries in an international agreement on sugar.

A general willingness among the interested parties to cooperate to solve the world sugar problem resulted in the International Sugar Agreement of 1937. Among the twenty-one nations signing the accord were all of the major exporting and importing countries, including the United States and Great Britain. The major aim of the 1937 agreement was to encourage regulation of the production and marketing of sugar.[48] Signatory importing countries agreed to limit the expansion of their domestic sugar industries and to keep their markets open to foreign sugar. Exporting nations agreed to observe definite market quotas. All of the signatory countries agreed to try to increase consumption. Exports to the United States, however, were not included in the market quotas established by the agreement. Participation by the United States consisted of an arrangement under which the importation of full-duty sugar would not be reduced below the amount specified in the sugar quota law and a concession that countries subject to full-duty would be assigned any deficit in the special quota allocated to the Philippine Islands under the law.[49]

For all the good intentions shared by its sponsors, the 1937 agreement had little influence on the production and marketing of sugar on the world market. After two years of operation, the outbreak of war in Europe forced suspension of the major provisions of the accord.

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[48]E. F. Tacke, et al, The World Sugar Economy: Structure and Policies, Vol. II: The World Picture (London: International Sugar Council, 1963), p. 211.

[49]U.S., Department of Agriculture, History of Sugar Marketing, p. 47.

Shortly after the end of World War II discussions began concerning a new international sugar agreement. In 1953 an agreement similar to the 1937 accord was reached by representatives of twenty-four countries. Exporting countries were assigned quotas of sugar to be exported to the free market. Some trade was exempted from the agreement. Among the exemptions were all imports into the United States; shipments to the U.S.S.R. from Czechoslovakia, Hungary, and Poland; trade between member exporting countries and their overseas dependencies; and certain movements of sugar between adjoining territories covered by the Commonwealth Sugar Agreement of 1951.[50] The agreement was concluded for five years although some of the export quotas were modified in 1956.

In 1958 a new international sugar accord was reached that resembled the previous agreement. During 1959 and 1960, however, countries were not allowed to export their full quotas in order to narrow the gap between world supply and demand and, hopefully, to stop the decline in sugar prices.[51] In 1961, quotas were adjusted to allow Cuba to export on the world market sugar that would normally have been shipped to the United States had that nation not suspended its Cuban import quota. Cuba, however, promptly exported more than was allowed under the world agreement.[52] Furthermore, Cuban negotiators insisted on larger quotas in the future as a requisite for adhering to the accord. The Cuban proposal was unacceptable to many of the other member nations, and at the end of 1961 all quota provisions were suspended and the agreement

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[50]Tacke, et al, World Sugar Economy, Vol. II, pp. 212-213.

[51]Ibid., p. 216.

[52]U.S., Department of Agriculture, History of Sugar Marketing, p. 28.

ceased to be operational.

After the collapse of the 1958 accord there were no general international controls on sugar until a new sugar agreement was concluded in London in 1969. Signatories to the new agreement included thirty-four exporting and fifteen importing countries. Again, the main feature was the establishment of export quotas to keep supply near demand and thereby reduce price fluctuations. The 1969 accord in some ways is weaker than previous agreements. The United States, a signatory in 1937, 1953, and 1958, did not sign the pact. Also, the European Economic Community countries elected not to join, which leaves them free to export as much sugar as they desire. Further, the agreement may be in jeopardy because of quota arrangements between Cuba and the Communist countries. The 1969 accord gave Cuba an annual specified quota which it could sell on the world market. Exports from Cuba to Communist countries, notably the U.S.S.R., were not to be included in the Cuban quota. The U.S.S.R. was not granted an export quota for its own sugar, but was permitted to sell imported Cuban sugar on the world market. These Soviet exports were regarded as pass-through (i.e., reexported) Cuban sugar. Similar agreements have been made concerning Cuban sugar exported to other Communist countries. As one economist has pointed out, "These arrangements provide only an uncertain basis for limiting the quantity of Cuban sugar finally appearing on the free market in any year."[53]

There seems to be little doubt that politics has greatly influenced the character of the world sugar industry. Napoleon successfully stimulated the early growth of the sugar beet industry in Europe by offering

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[53] *Ibid.*, p. 78.

various types of inducements. Later in the nineteenth century bounties played an important role in the expansion of the European sugar beet industry, while the abolition of slavery, the free trade movement, notably in Great Britain, and the use of export bounties reduced the cane sugar industry to near ruin. The Brussels Convention of 1902 abolished export bounties on beet sugar from continental Europe and dealt a severe blow to what had been an artificially stimulated industry. Cane sugar registered a corresponding gain, especially in the United States and British dependencies. World War I disrupted the world sugar industry. As sugar beet production declined, sugar cane production increased to meet the demand. After the war, cane growers were reluctant to decrease production, and when the European beet industry was reestablished, supply exceeded demand on the world market. The chaotic conditions of the sugar industry during the early 1930's resulted in the Chadbourne Agreement. This accord was followed by the International Sugar Agreements of 1937, 1953, 1958, and 1969, all of which attempted to control sugar production and marketing and to maintain acceptable prices for exported sugar.

CHAPTER III

THE CONTINENTAL UNITED STATES SUGAR INDUSTRY

Although the sugar industry in the continental United States dates from the late eighteenth century, it was of little importance until the present century. In the early years cane dominated sugar culture, as the sugar beet became an important crop only after 1900. Despite the late start, sugar beets have become the most important source of sugar grown in the continental United States (Table 1). The purpose of this chapter is to summarize the character and development of beet and cane culture in the mainland United States with emphasis on the period since 1890.

The Sugar Beet Industry

General Aspects of Beet Culture

The sugar beet is grown successfully in a variety of physical environments scattered over about one-half of the forty-eight contiguous states of the United States. Ideally, it should have warm and moist atmospheric and soil conditions during the early and middle portions of the growing season. The plant is very sensitive to cold and frost in the initial period of growth, but as the crop matures it can stand cool or even cold temperatures without serious injury. Climatically, the beet thrives best in areas where the average temperature during the

middle part of the growing season is between 67° and 72°F.[1] Adequate moisture is especially important during the growing period. For maximum results the crop requires from 2 to 4 inches of rainfall per month.[2] While beets are grown in several parts of the country with only natural precipitation, a large portion of the American crop is grown with the aid of irrigation. Soil requirements are not precise, but sugar beets do best on soil types ranging from clay loams to fine sandy loams. Loamy soils provide the well-drained, deep seedbed that the beet requires for maximum growth. Since the beet root may extend to a depth of six feet, an impervious layer near the surface hinders proper penetration and impairs growth.

An adequate physical environment is only one of the several factors important in the production of sugar beets. Commercial fertilizer, little used in the early period of beet culture, has become an integral part of beet production in recent years. The sugar beet, like most crops, does best in soil well supplied with balanced nutrients. Since the plant draws rather heavily on these nutrients, growers have learned that it pays to use commercial fertilizers to sustain soil fertility and improve yield and sugar content. The cost of fertilizer obviously varies through time and, since it is quite bulky, through space. In the Red River Valley of North Dakota, for example, commercial fertilizer, as shown in Table 8, represented approximately 6 percent of total production

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[1]U.S., Department of Agriculture, Agricultural Yearbook, 1923 (Washington, D.C.: Government Printing Office, 1924), p. 185.

[2]U.S., Department of Agriculture, Bureau of Chemistry, The Sugar Beet, by H. W. Wiley, Farmers Bulletin No. 52 (Washington, D.C.: Government Printing Office, 1910), p. 6.

costs.

TABLE 8

Average Percentage Distribution of Sugar Beet Production Costs, Red River Valley, North Dakota, 1968

Item	Percentage, Total Cost
Variable costs	
Hand labor	17.0
Pre-harvested labor	1.4
Harvest labor	3.4
Fertilizer	6.1
Seed	2.9
Chemicals	3.2
Machine operating	15.3
Truck operating	3.8
Interest on operating capital	2.7
All variable costs	55.8
Fixed costs	
Machinery ownership	14.7
Housing ownership	1.4
Land use	28.1
All fixed costs	44.2

Source: Donald M. Hofstrand and Dale O. Anderson, "Sugar-beet Production Costs and Practices in the Red River Valley," Farm Research, XXVII (July-August, 1970), p. 4.

The use of machinery also has become an integral part of sugar beet culture. As the various stages of production have been mechanized, the amount and investment in machinery has increased. For continuous, large scale production a variety of non-specialized and specialized machinery is required. Among the non-specialized machines needed are tractors, wagons, and trucks. Specialized machinery includes planters, row cultivators, thinners, rotobeaters, scalpers, harvesters, and beet carts.

One of the more notable characteristics of beet culture is its high labor requirements. In the early decades of this century, large numbers of laborers were needed during several stages of beet production. The most intensive labor use was for blocking and thinning, usually completed four to six weeks after planting, and for weeding and harvesting. Laborers were recruited and placed under contract by the beet factory, after which they were assigned to growers in the factory area. Most laborers remained in the community only for the beet season, and while there lived under very primitive conditions. Some stayed the entire year, however, and a few managed to climb the agricultural ladder to become growers and landowners.

The demand for field labor has declined in recent decades. As Table 9 reveals, the number of man-hours required to produce an acre of beets in Montana diminished markedly between 1915 and 1952. While comparable data are unavailable for Montana for the last twenty years, other studies indicate that the trend toward fewer man-hours per acre has continued.[3]

The decline in labor requirements has been closely related to the increased use of machinery in the beet fields. Since World War II, mechanical means of blocking, thinning, and harvesting have been developed and widely accepted by the growers. Beet farmers have also started using chemical pesticides to reduce the need for field hands during the weeding

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[3]For example, see North Dakota State University, Agricultural Experiment Station, Sugar Beet Production Costs and Practices, by Robert A. Yaggie and Laurel D. Loftsgard, Bulletin No. 466 (Fargo, N.D.: North Dakota State University, Agricultural Experiment Station, 1966).

period. These technological advances have not, however, completely eliminated the need for field labor. Some workers are still required, especially for thinning and, to a lesser degree, for weeding and harvesting. But the annual migration of labor to the beet areas which characterized the early decades of the twentieth century has ended. Much of the seasonal labor presently needed is obtained from families residing permanently in the rural and urban communities adjacent to the areas of production.

TABLE 9

Man-hours Required to Produce an Acre of Sugar Beets in Montana

Year	Method	Man-hours per acre	Percentage change
1915	Horse power, hand thin, hand top, hand load	135.0	0
1942	Tractor power, hand thin, hand top, machine load	87.5	-35.2
1947	Tractor power, hand thin, machine harvest, machine load	68.6	-21.6
1952	Tractor power, machine thin, machine harvest, machine load	56.0	-18.3

Source: Montana State College, Agricultural Experiment Station, Sugar Beet Production in Montana, by D. C. Myrick and Roy E. Huffman, Montana Experiment Bulletin No. 466 (Bozeman, Montana: Montana State Agricultural Experiment Station, 1956), p. 68.

Development of the Sugar Beet Industry

The initial attempt to grow sugar beets in the United States was made near Philadelphia, Pennsylvania, about 1830. It proved largely unsuccessful because of the lack of practical knowledge about beet culture. Nearly a decade later a similar attempt was undertaken in

Massachusetts. While beets were grown and with some success a certain amount of beet sugar produced, the venture was troubled from the beginning by technical and economic problems. After several years of operation the undertaking was abandoned. Still, the limited success of the Massachusetts venture did not go unnoticed. In 1838, the Committee on Agriculture, a federal government agency, reported on the prospects as favorable, remarking that:

> From all the information which the committee have [sic] been able to obtain, they are induced to believe that no country in the world is better adapted for the production of sugar beets than most parts of the United States, whether we consider the soil, the climate, or the people.[4]

Such a favorable report naturally developed some enthusiasm for the growing of sugar beets. Several states encouraged production and some even offered a bounty on beets grown within their boundaries.

Neither the federal government report nor the offering of state bounties, however, had any immediate impact on the development of beet culture. The general lack of knowledge concerning cultivation of the plant, as well as the inadequate technology for extracting sugar from the beet, dampened enthusiasm and the industry languished. Nevertheless, attempts at establishing beet culture were not entirely abandoned. In the late 1840's, the Mormon Church sought to establish beet cultivation in Utah with a view to supplying the sugar needs of the religious community. Shortly after the initial settlement in 1847, Mormon missionaries were sent to France to preach their religion. While there some of these missionaries visited sugar beet fields and associated sugar

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[4]As quoted in Surface, Story of Sugar, p. 115.

factories. Upon their return, they convinced church officials that beets could be successfully grown in Utah. Hopeful of producing at least their own sugar requirements, officials approved the purchase of beet seed and processing machinery in Europe. Although beets were successfully grown in Utah, the industry was not established on a commercial basis. The Mormon production of beet sugar failed to meet the expectations of the Church. In fact, the industry did not even produce granulated sugar, only an inedible syrup.[5] While efforts continued for a time to improve beet culture and sugar manufacture, by the mid-1850's the goal of sugar self-sufficiency based on sugar beets was abandoned.[6]

From a broader point of view, the failure of the Mormons to establish beet culture on a commercial basis was only a temporary setback for the American industry. Shortly thereafter attempts were made at establishing beet production in California, Illinois, Wisconsin, Maine, Massachusetts, Delaware, and New Jersey. Each attempt ultimately failed, however, despite a few early successes and the help provided by various state governments. In New Jersey, for example, a law was passed providing that all capital and property used in establishing and developing beet culture should be tax exempt for ten years.[7] California, Delaware, and Maine also provided aid through tax exemption, bounties, or both.

Up to about 1875 all local attempts at establishing the sugar beet industry had ended in failure. A common difficulty was the lack of

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[5]Leonard J. Arrington, Great Basin Kingdom: An Economic History of the Latter-Day Saints, 1830-1900 (Lincoln: University of Nebraska Press, 1958), p. 118.

[6]Ibid., p. 120.

[7]Rolph, Something about Sugar, p. 150.

sufficient knowledge about beet culture and sugar processing. Land used for beet production was often unsuited to growing beets, and the seed employed was poorly selected. Further, very little encouragement or aid was offered by the federal government. Whereas many countries in Europe fostered the sugar beet industry through high tariffs, subsidies, and bounties, the United States government stubbornly refused to provide such aid and encouragement.[8]

With the successful extraction of sugar from beets at Alvarado, California, in 1879, the crop finally found a permanent place in American agriculture. Most of the problems that beset earlier attempts were now overcome. By 1890 sugar beets were being grown in many parts of the country, although the largest acreage was in the western states. No reliable data are available for acreage harvested in those early years, but published reports on the production of beet sugar give some insight into the increase of acreage during the period. From a few hundred pounds in 1830, United States beet sugar production reached 1,200 tons in 1879 and 2,200 tons in 1889.[9] The output was minuscule, however, compared with production in Germany and France (Tables 2 and 3).

After 1890 the American sugar beet industry developed rapidly. The amount of sugar beet acreage harvested for sugar in the continental United States from 1890 through 1970 is shown in Table 10. As beet acreage harvested increased, the distribution of this acreage changed. The distribution of acreage harvested by state during the period from

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[8]Surface, Story of Sugar, p. 116.

[9]U.S., Department of Agriculture, Sugar Beet, p. 42.

TABLE 10

Sugar Beet Acreage Harvested for Sugar, 1890-1970
Mainland United States

thousands of acres

Year	Acreage	Year	Acreage	Year	Acreage
1890	No data	1917	665	1944	557
1891	7	1918	594	1945	715
1892	13	1919	636	1946	818
1893	20	1920	872	1947	893
1894	20	1921	815	1948	670
1895	23	1922	530	1949	703
1896	57	1923	657	1950	923
1897	41	1924	816	1951	696
1898	37	1925	648	1952	661
1899	110	1926	677	1953	765
1900	132	1927	721	1954	856
1901	175	1928	644	1955	744
1902	216	1929	688	1956	789
1903	243	1930	776	1957	883
1904	198	1931	713	1958	895
1905	307	1932	764	1959	897
1906	376	1933	983	1960	962
1907	371	1934	770	1961	1,091
1908	365	1935	763	1962	1,101
1909	360	1936	776	1963	1,249
1910	398	1937	755	1964	1,393
1911	474	1938	930	1965	1,240
1912	555	1939	916	1966	1,161
1913	580	1940	914	1967	1,136
1914	483	1941	753	1968	1,442
1915	611	1942	953	1969	1,524
1916	665	1943	545	1970	1,367

Source: 1891-98, 1900-08, 1910-18, and 1920-36: USDA, Statistical Reporting Service, Sugarbeets, Stat. Bull. 413 (Washington, D.C.: GPO, 1967), p. 5, 6, and 29; 1899: U.S., Dept. of Commerce, Bureau of Census, Twelfth Census of the United States, 1900: Agriculture, VI, p. 465; 1909: Thirteenth Census of the United States, 1910: Agriculture, V, p. 692; 1919: Fourteenth Census of the United States, 1920: Agriculture, V, p. 845; 1937-49: USDA, Commodity Stabilization Service, Agricultural, Manufacturing, and Income Statistics for the Domestic Sugar Areas, Stat. Bull. 150 (Washington, D.C.: GPO, 1954), pp. 29-30; 1950-66: USDA, ASCS, Sugar Statistics and Related Data, II, Stat. Bull. 244 (Washington, D.C.: GPO, 1969), p. 20; 1967: USDA, ASCS, Sugar Reports, No. 208 (Washington, D.C.: GPO, 1969), p. 33; 1968-69: USDA, ASCS, Sugar Reports, No. 225 (Washington, D.C.: GPO, 1971), p. 47; and 1970: USDA, ASCS, Sugar Reports, No. 237 (Washington, D.C.: GPO, 1972), p. 21.

1899 to 1969 is depicted on Figures 1 and 3 through 9, and the regional distribution is shown on Figures 10 through 17.[10]

During the last decade of the nineteenth century the amount of land devoted to sugar beets increased from little more than zero to over 100,000 acres (Table 10). Most of the beets were grown in California. By 1899, however, California's leadership was being challenged by Michigan (Figure 1). The only other states with significant acreage were Nebraska and Utah. Several additional states harvested some sugar beets, but the acreage involved was small and nearly all of it was concentrated west of the Mississippi River.

Sugar beet acreage underwent considerable expansion between 1899 and 1909 as the crop gained wider acceptance among American farmers (Table 11). While California and Michigan continued to harvest substantial beet acreage, both states by 1909 were overshadowed by Colorado which had greatly increased its acreage during the decade (Figure 3). A number of other states also increased the acreage, particularly Utah and Wisconsin. Several additional states, notably Idaho, Montana, and Ohio, initiated beet production in the first ten years of the twentieth century.

While beet acreage increased during the decade following 1909, the distribution by state remained essentially unchanged (Figure 4). Colorado, Michigan, California, and Utah continued to be the leaders in

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[10]On Figures 1 and 3 through 17 all graduated circles are proportional to each other. A key to the approximate value of each circle follows Figure 1 in the text. The regions, as noted on Figures 10 through 17, are the geographic regions of the United States recognized by the Department of Agriculture.

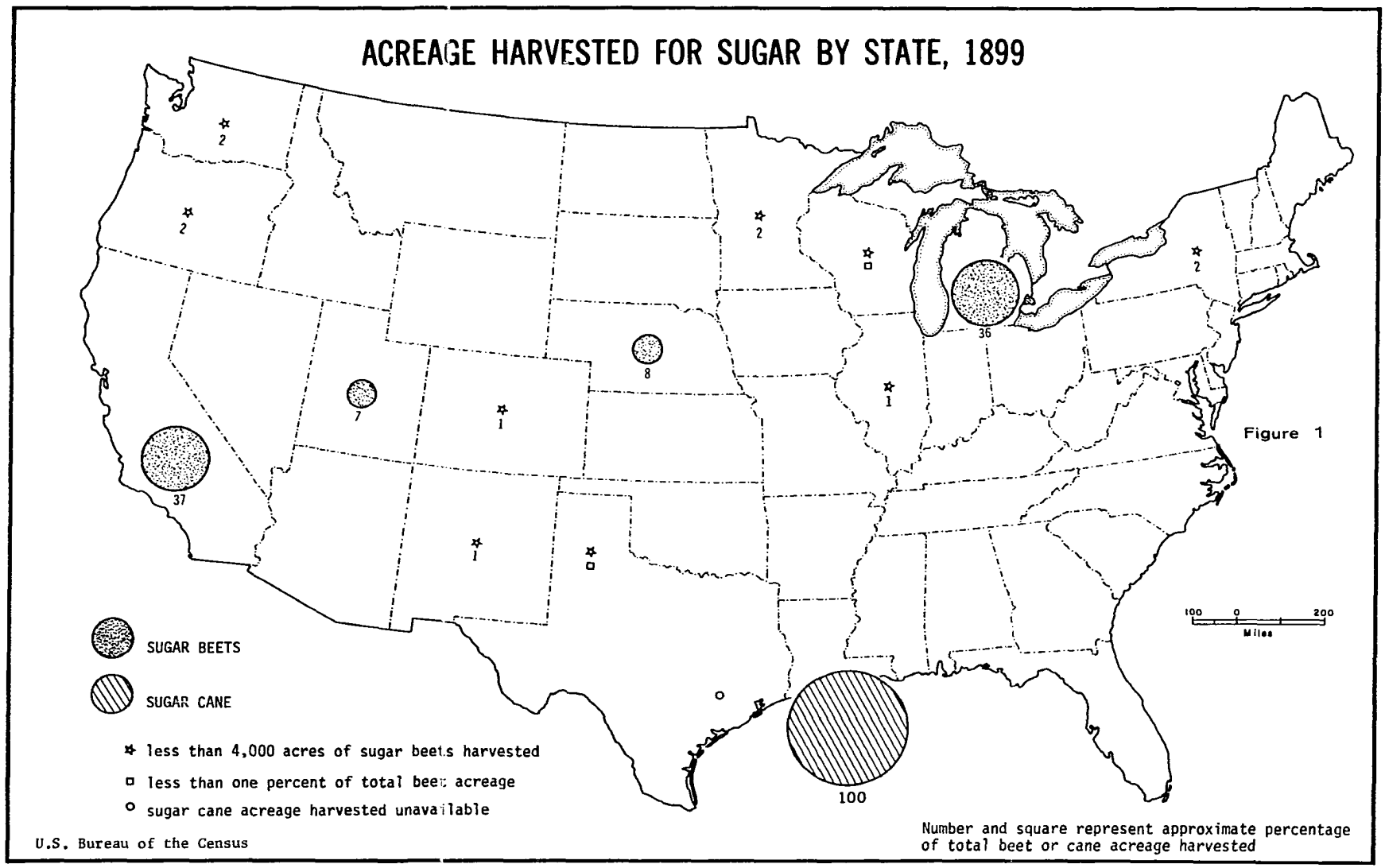

ACREAGE HARVESTED FOR SUGAR BY STATE, 1899
2
2
2
2
8
7
1
1
1
36
37
100
SUGAR BEETS
SUGAR CANE
less than 4,000 acres of sugar beets harvested
less than one percent of total beet acreage
sugar cane acreage harvested unavailable
100 0 200
Miles
Number and square represent approximate percentage of total beet or cane acreage harvested
U.S. Bureau of the Census

Figure 1

Key for Graduated Circles, Figures 1 and 3 through 17

numbers show thousands of acres harvested

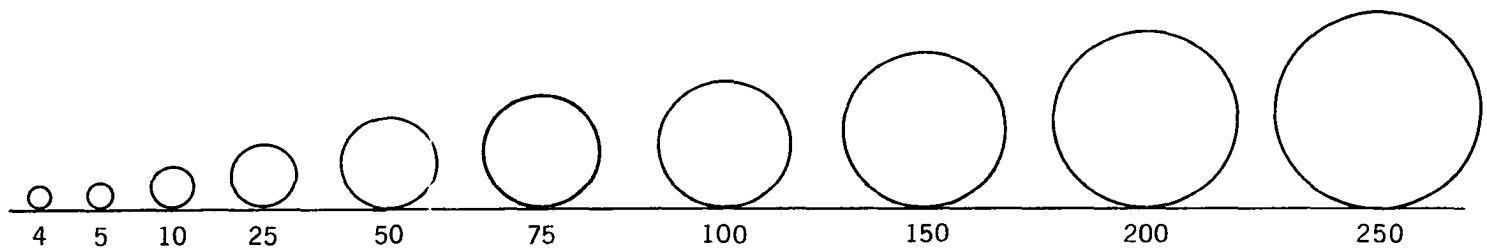
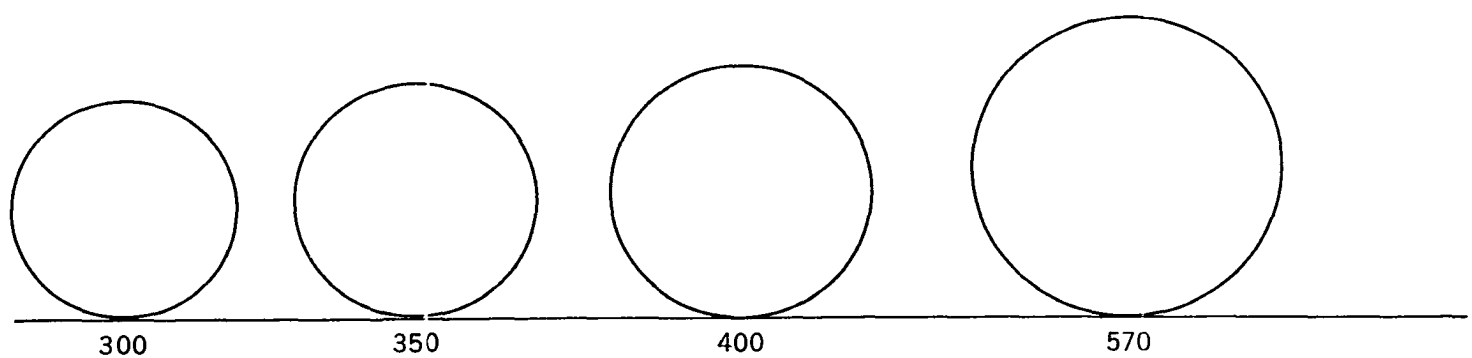


Figure 2



Note: All graduated circles on Figures 1 and 3 through 17 are proportional to each other.

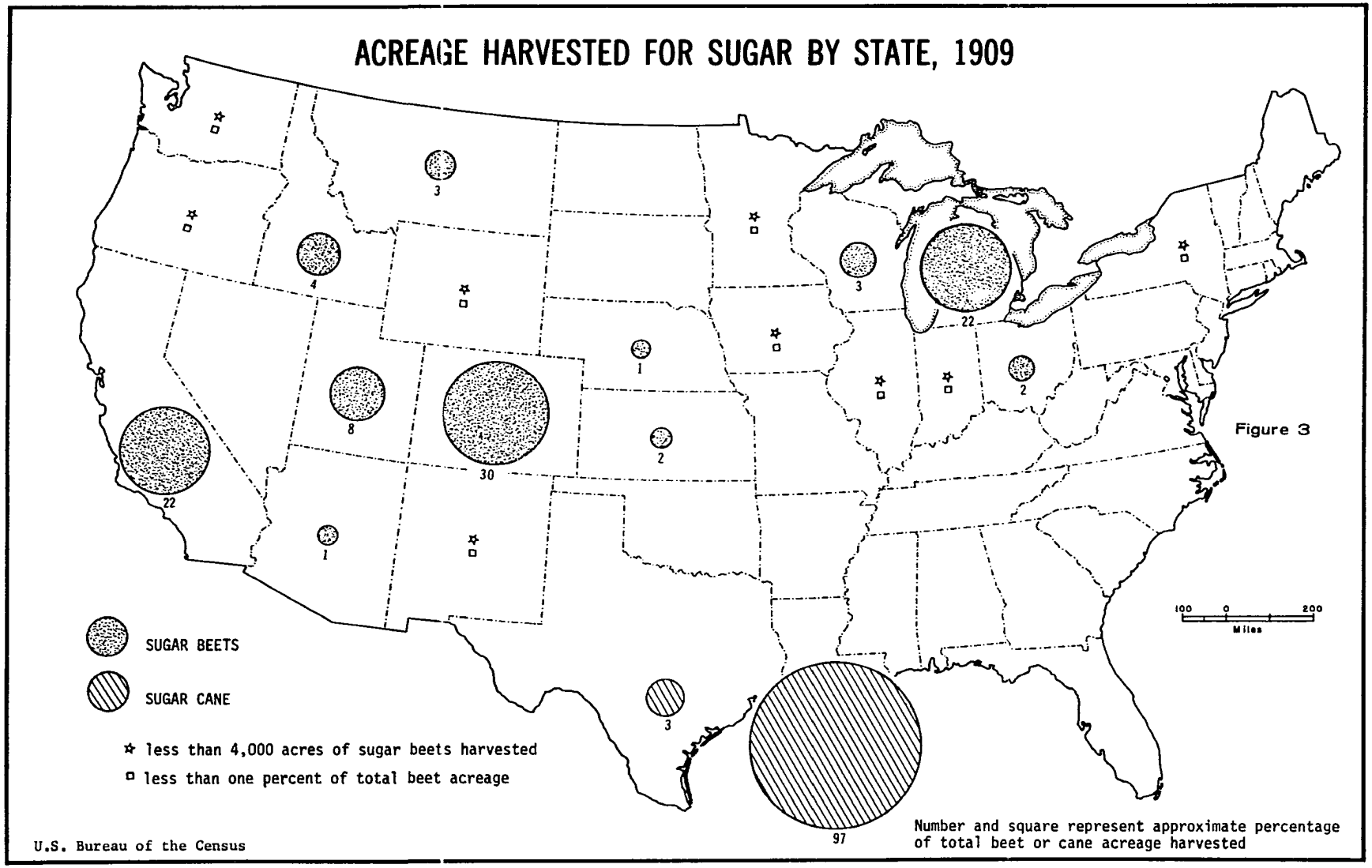


Figure 3

U.S. Bureau of the Census

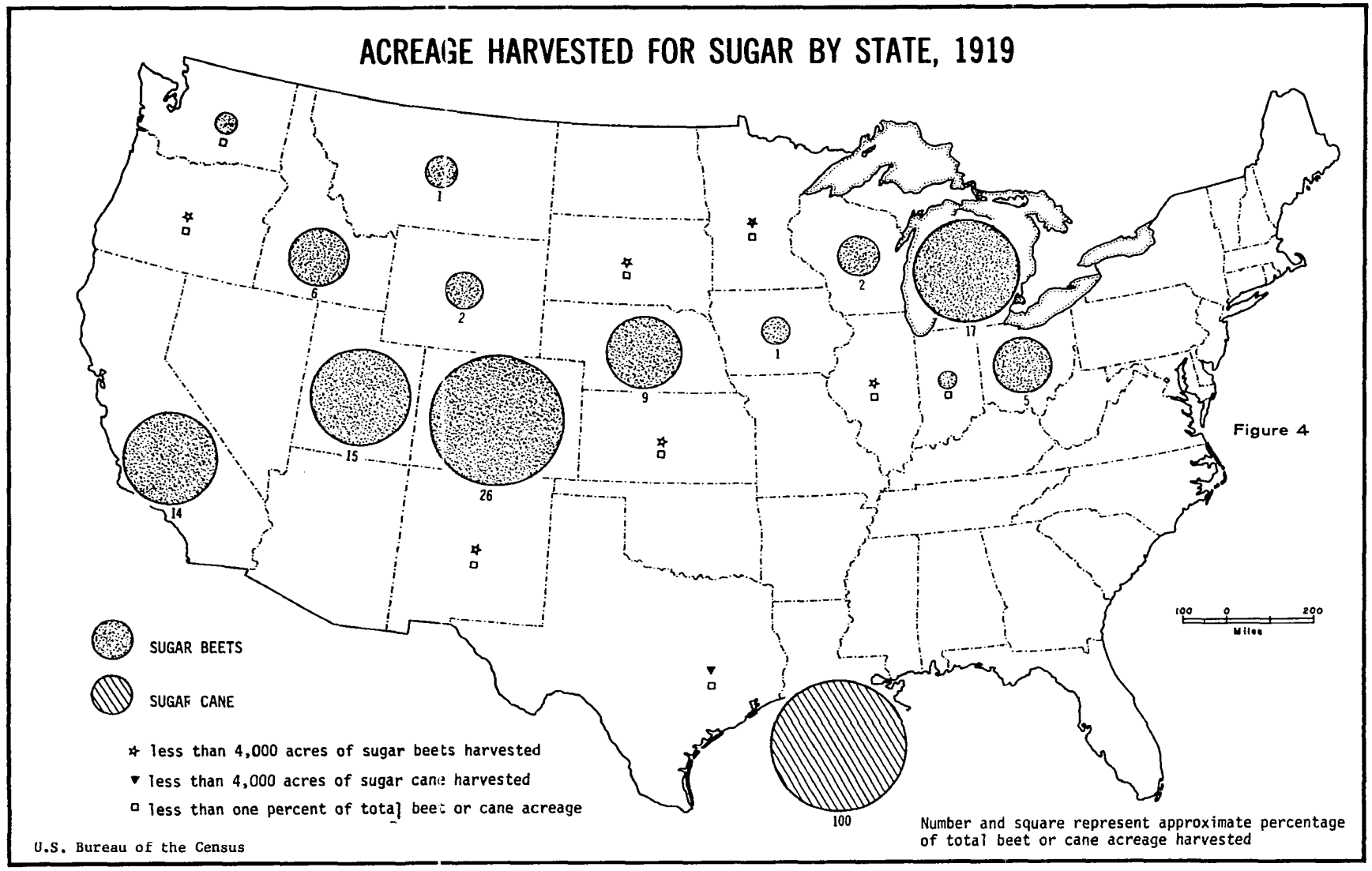


Figure 4

U.S. Bureau of the Census

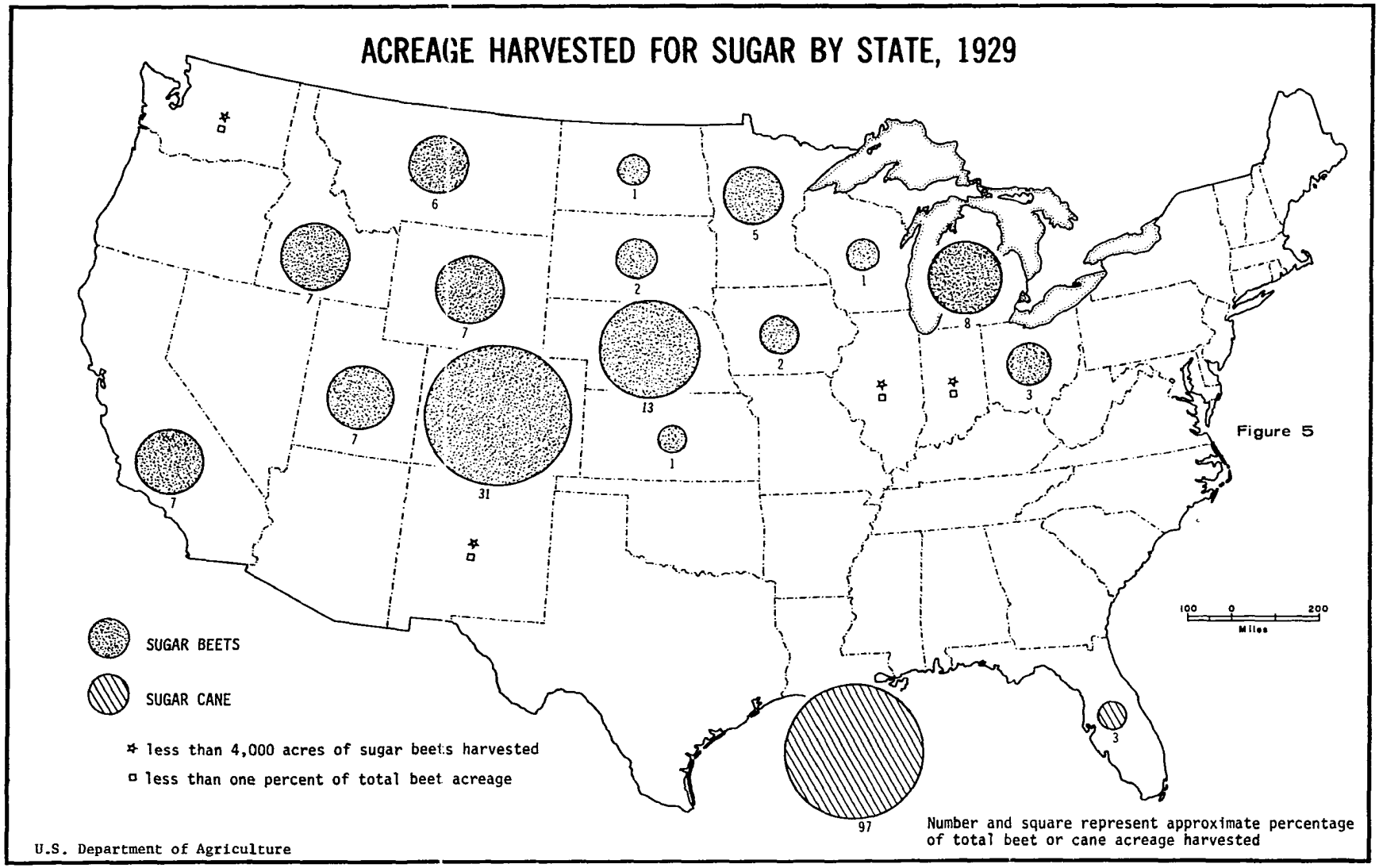


Figure 5

U.S. Department of Agriculture

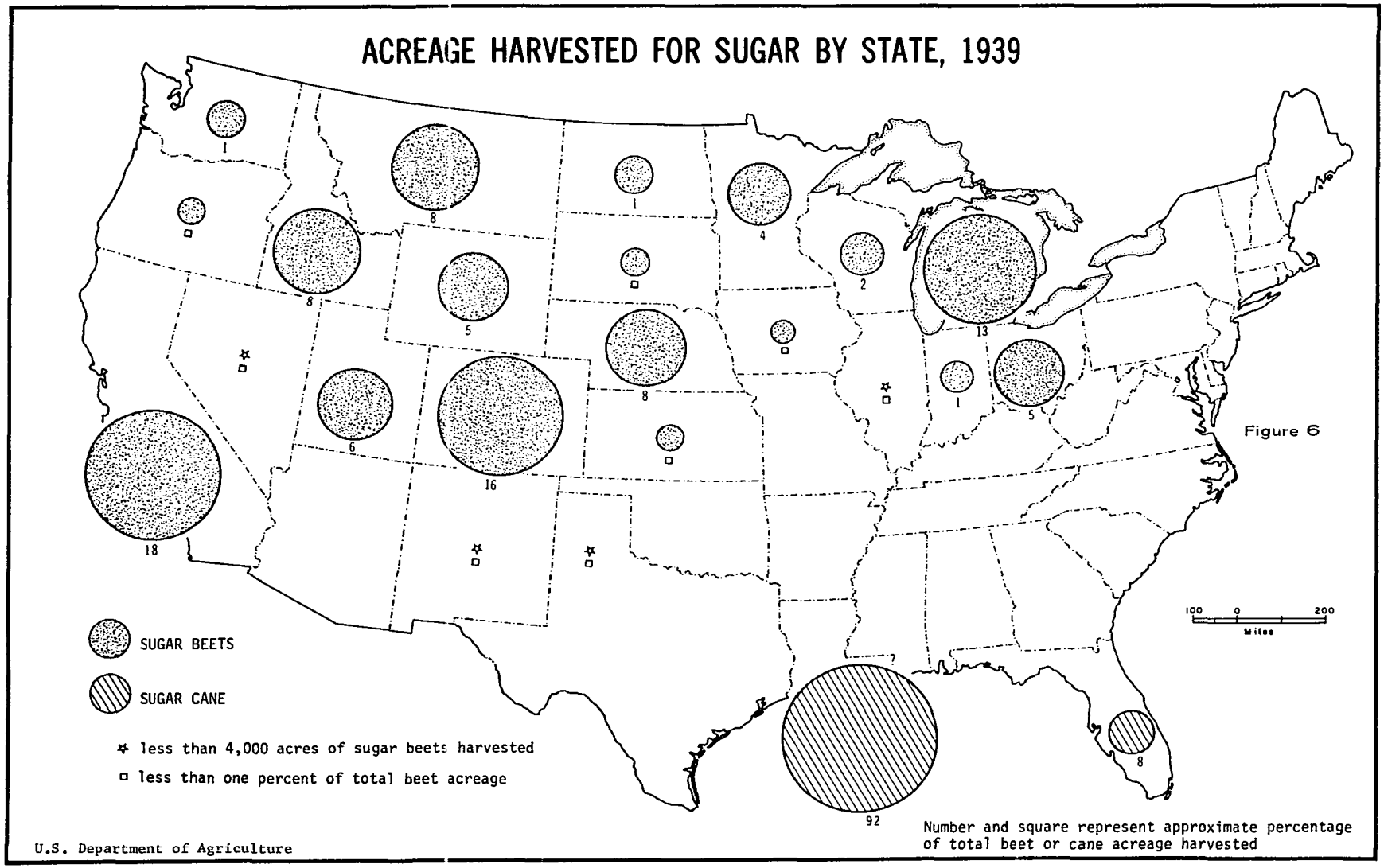

ACREAGE HARVESTED FOR SUGAR BY STATE, 1939
1
8
1
4
2
13
8
5
8
1
5
6
16
18
92
8
SUGAR BEETS
SUGAR CANE
less than 4,000 acres of sugar beets harvested
less than one percent of total beet acreage
100 0 200
Miles
Number and square represent approximate percentage of total beet or cane acreage harvested
U.S. Department of Agriculture

Figure 6

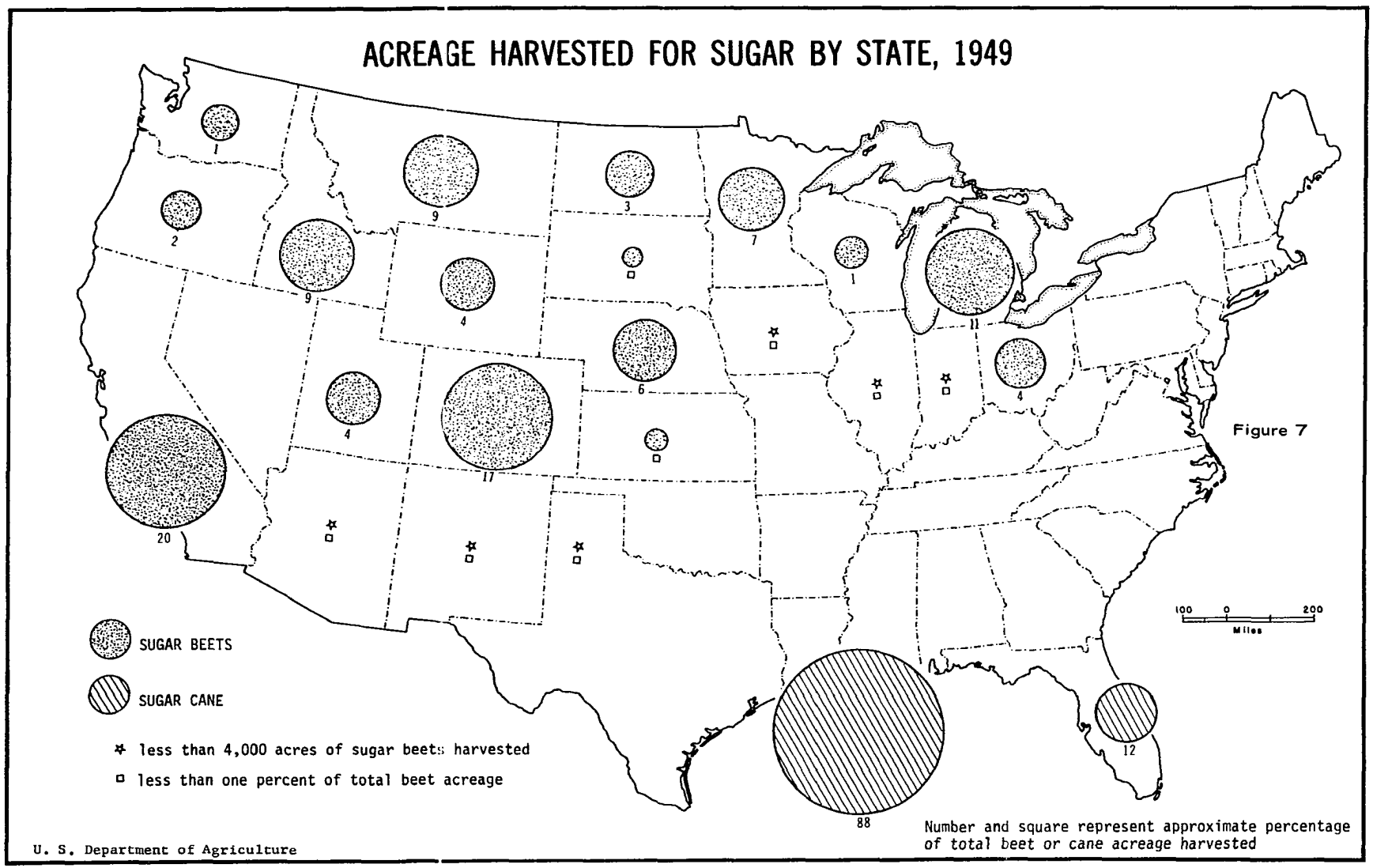

ACREAGE HARVESTED FOR SUGAR BY STATE, 1949
1
2
9
9
3
7
1
11
4
4
6
4
17
20
88
12
SUGAR BEETS
SUGAR CANE
less than 4,000 acres of sugar beets harvested
less than one percent of total beet acreage
100 0 200
Miles
Number and square represent approximate percentage of total beet or cane acreage harvested
U. S. Department of Agriculture

Figure 7

ACREAGE HARVESTED FOR SUGAR BY STATE, 1959

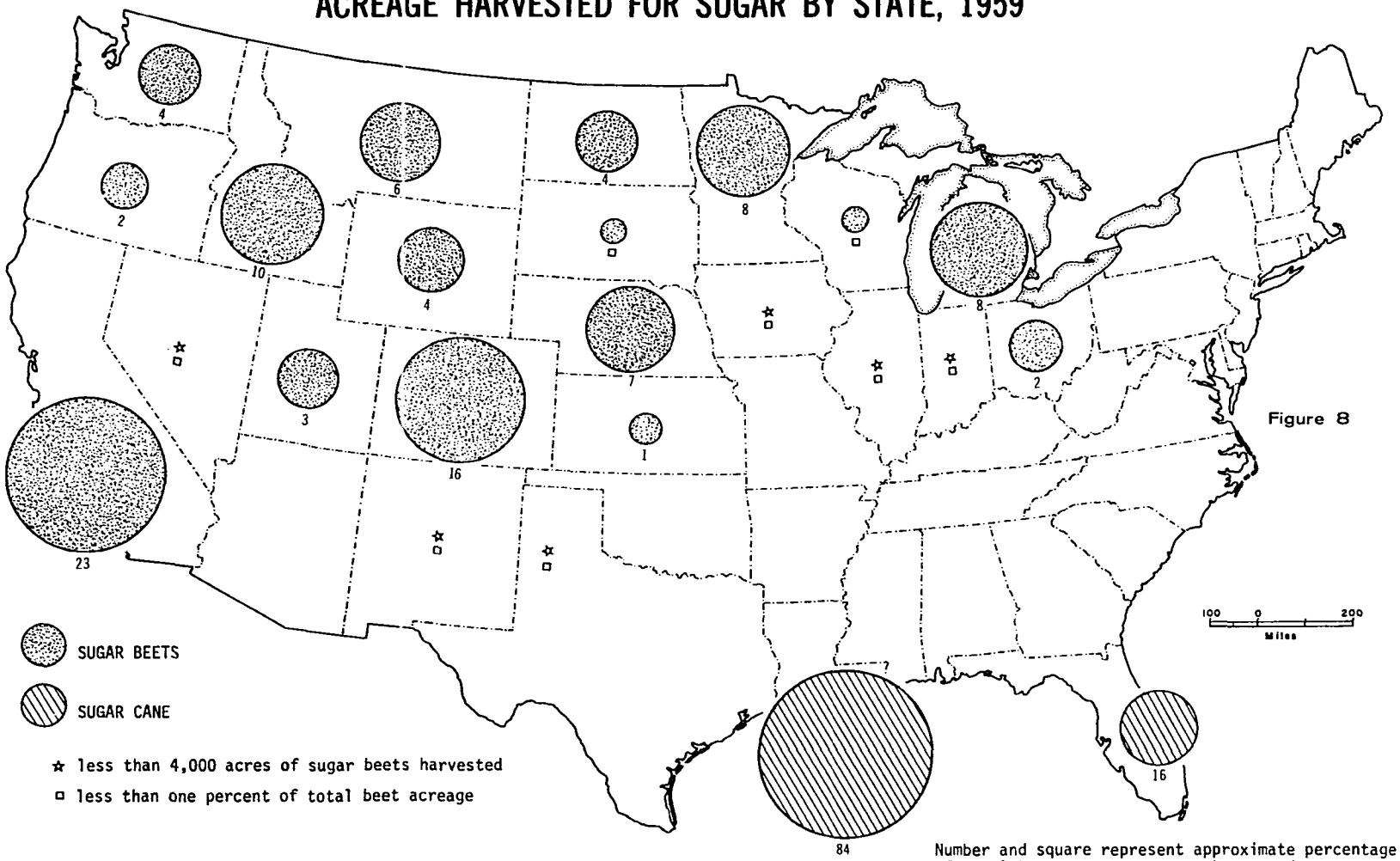


Figure 8

Number and square represent approximate percentage of total beet or cane acreage harvested

U.S. Department of Agriculture

ACREAGE HARVESTED FOR SUGAR BY STATE, 1969

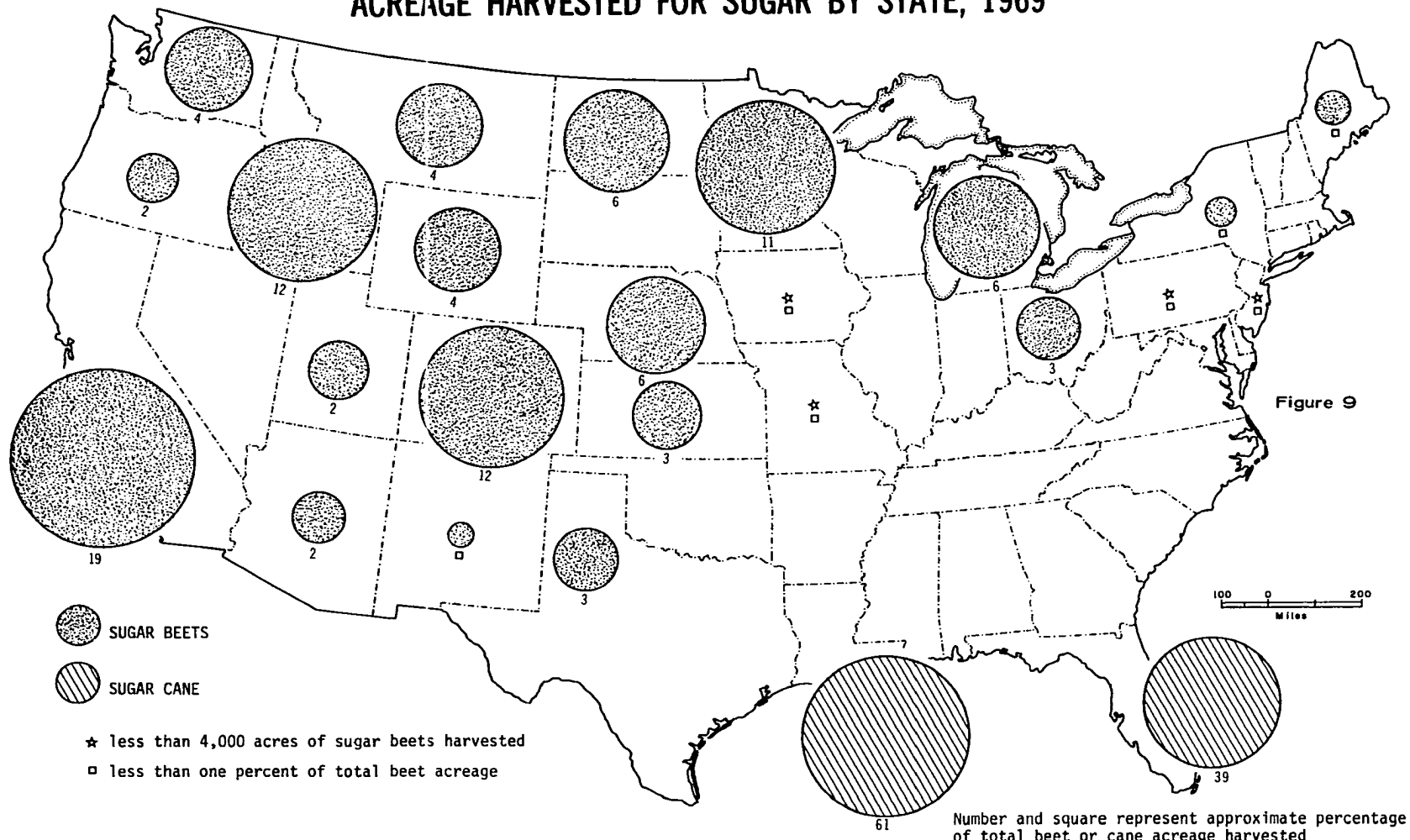


Figure 9

U.S. Department of Agriculture

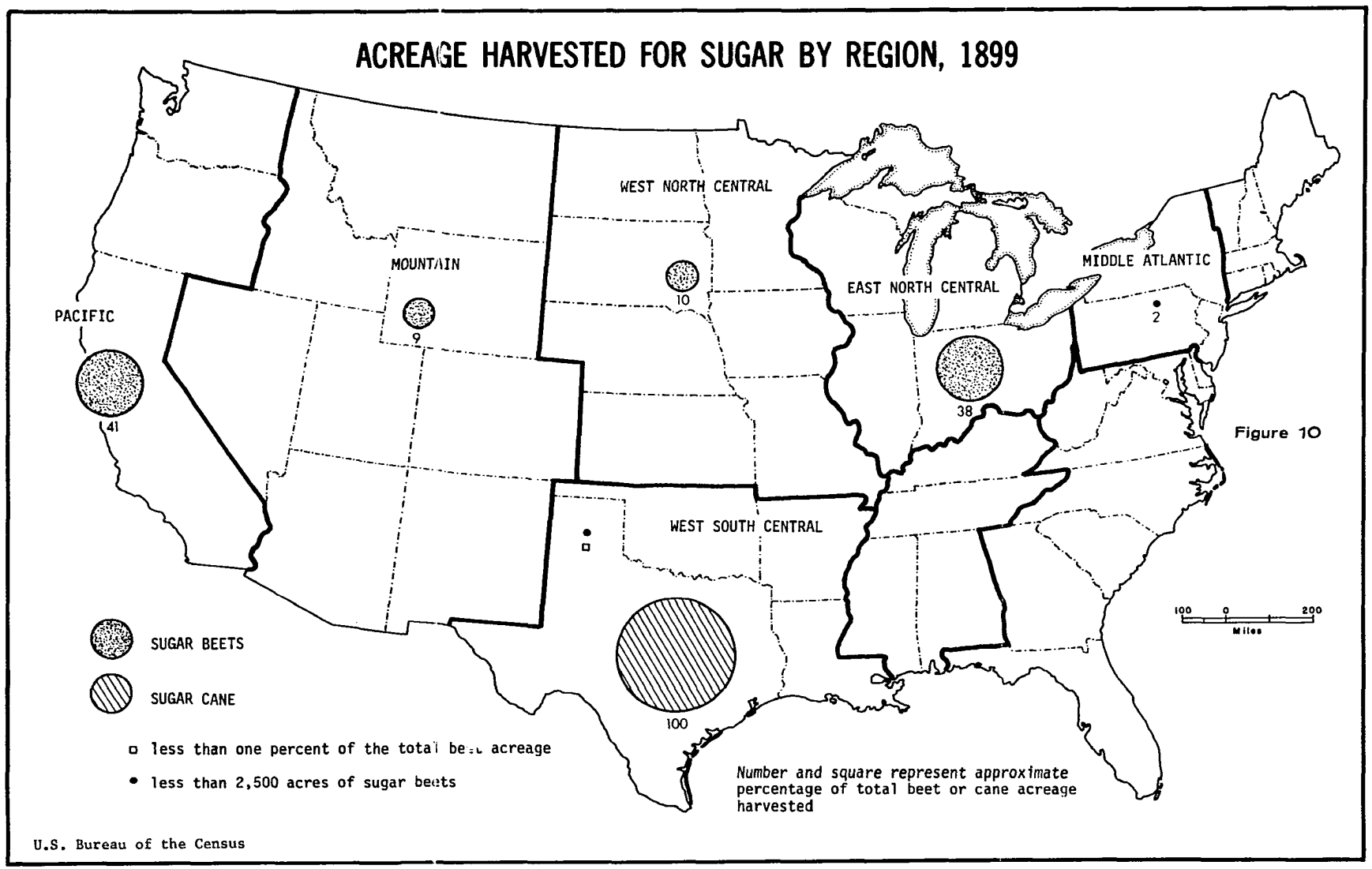


Figure 10

U.S. Bureau of the Census

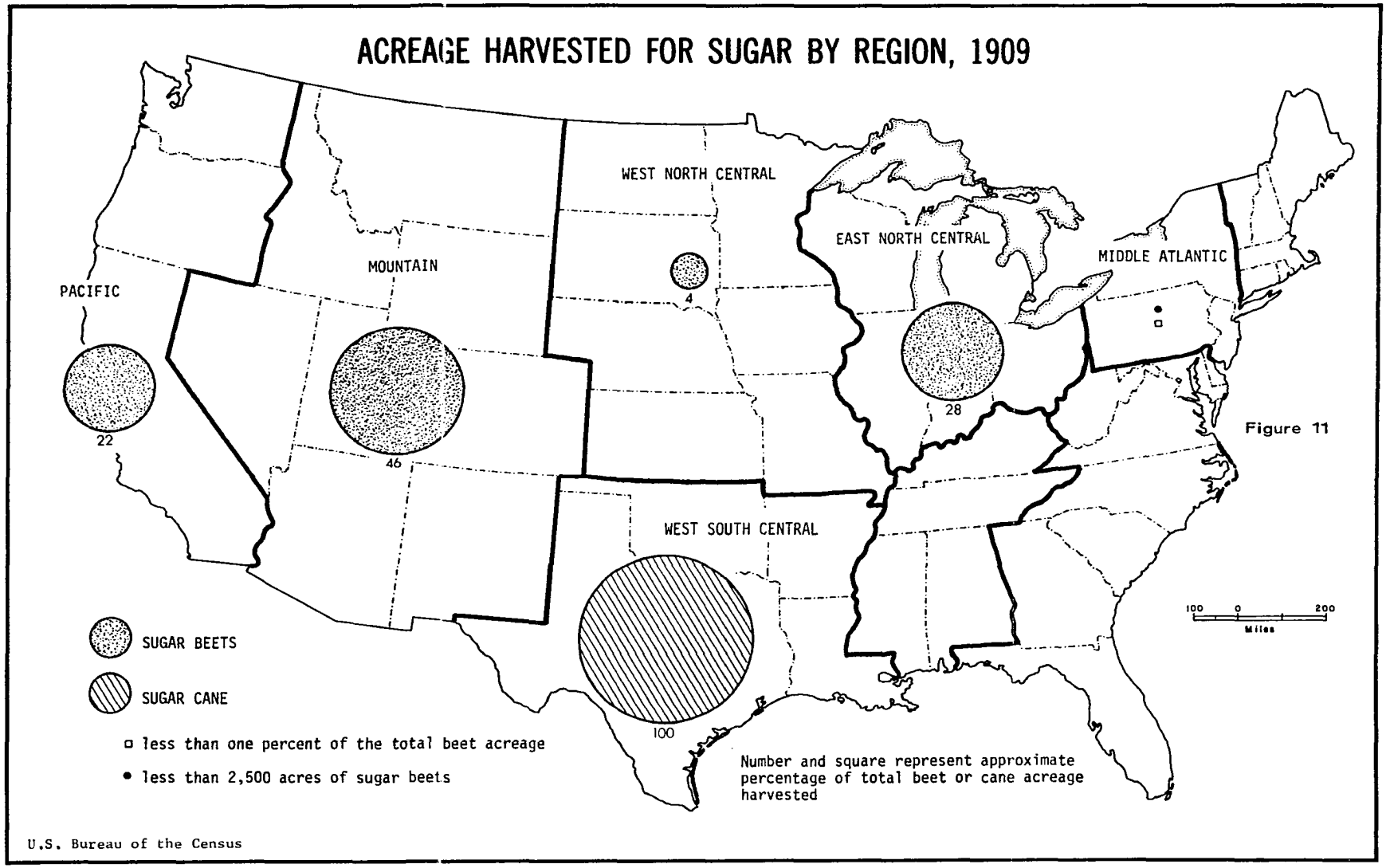


Figure 11

U.S. Bureau of the Census

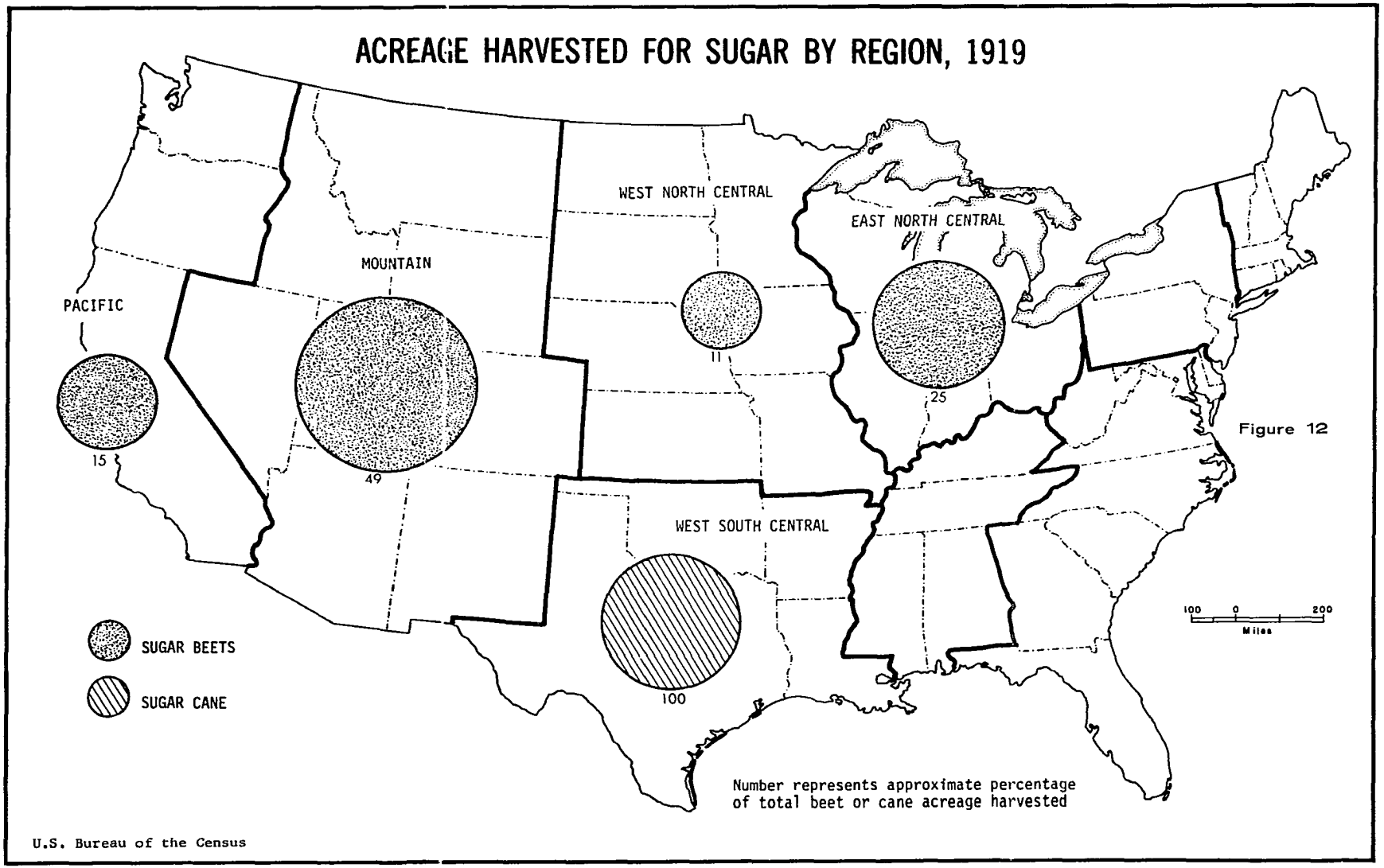


Figure 12

U.S. Bureau of the Census

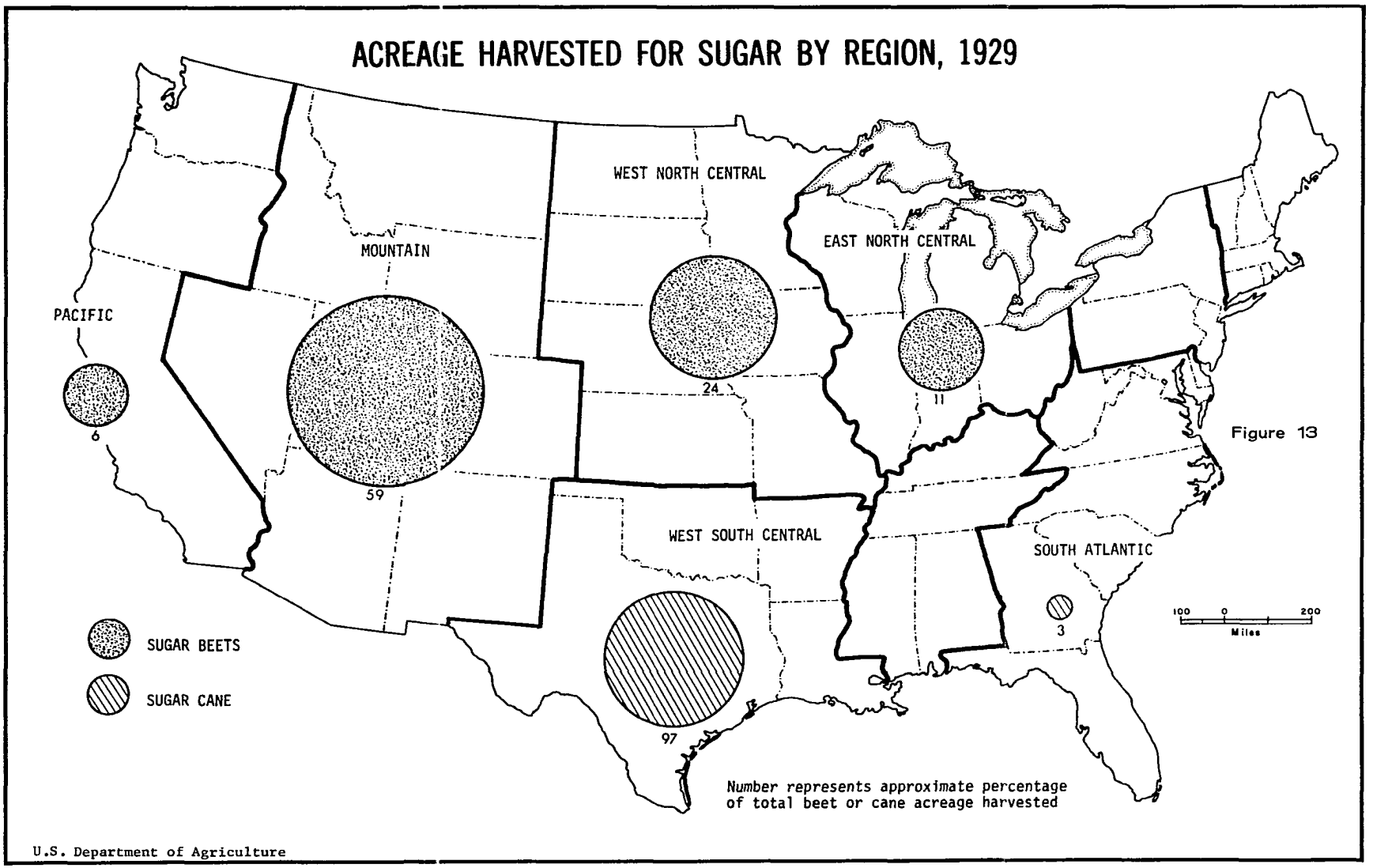


Figure 13

U.S. Department of Agriculture

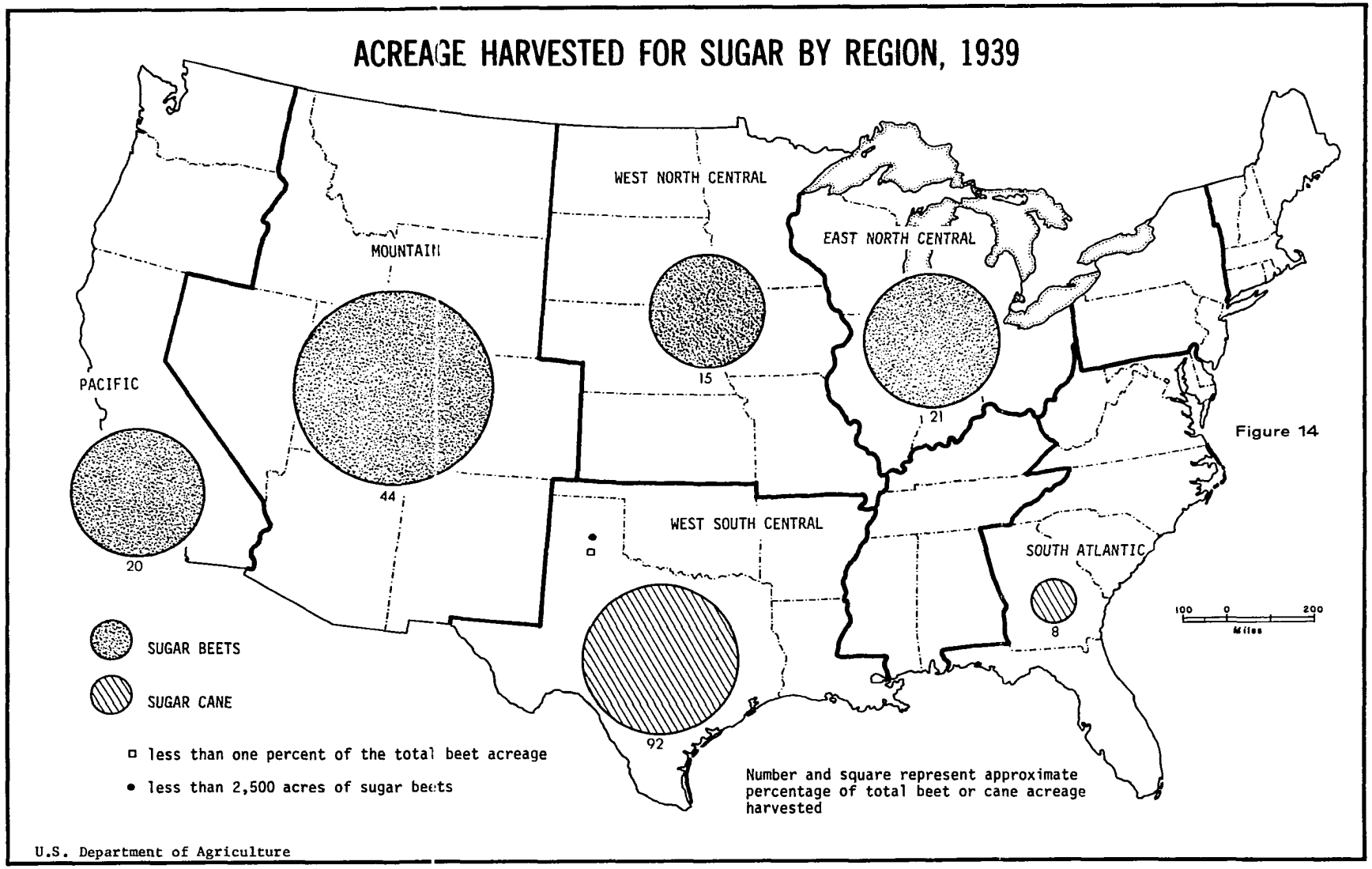


Figure 14

U.S. Department of Agriculture

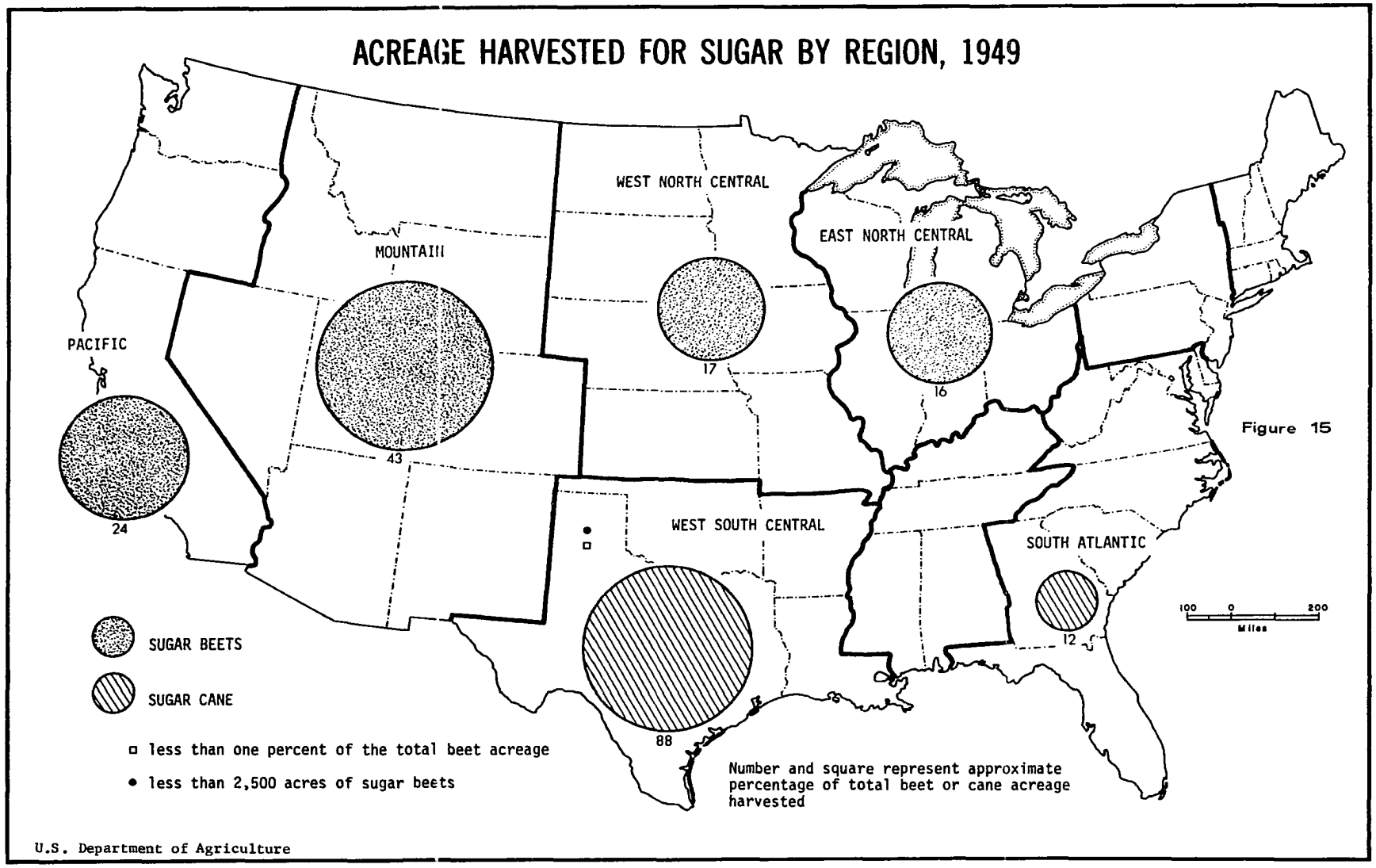


Figure 15

U.S. Department of Agriculture

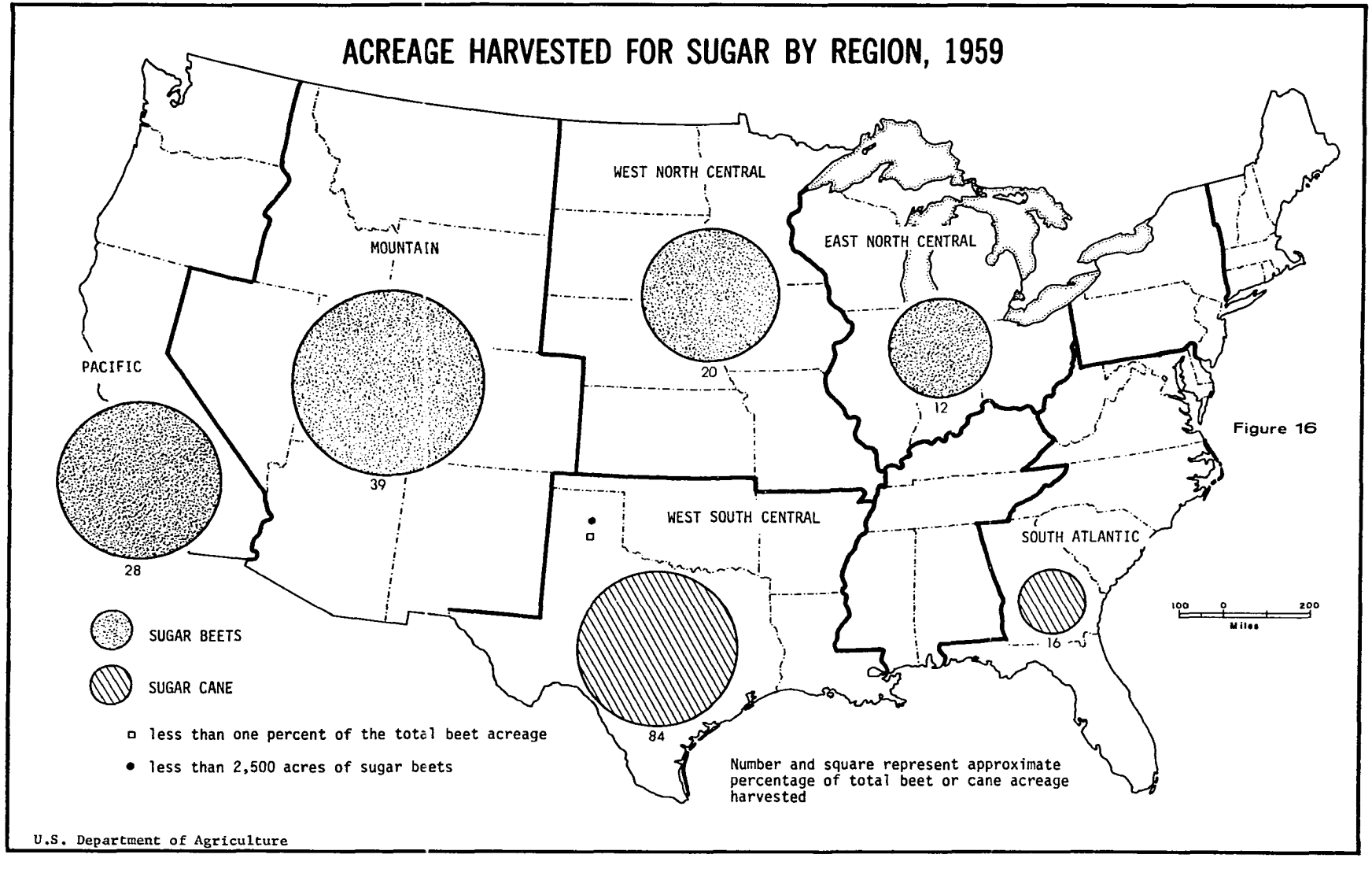


Figure 16

U.S. Department of Agriculture

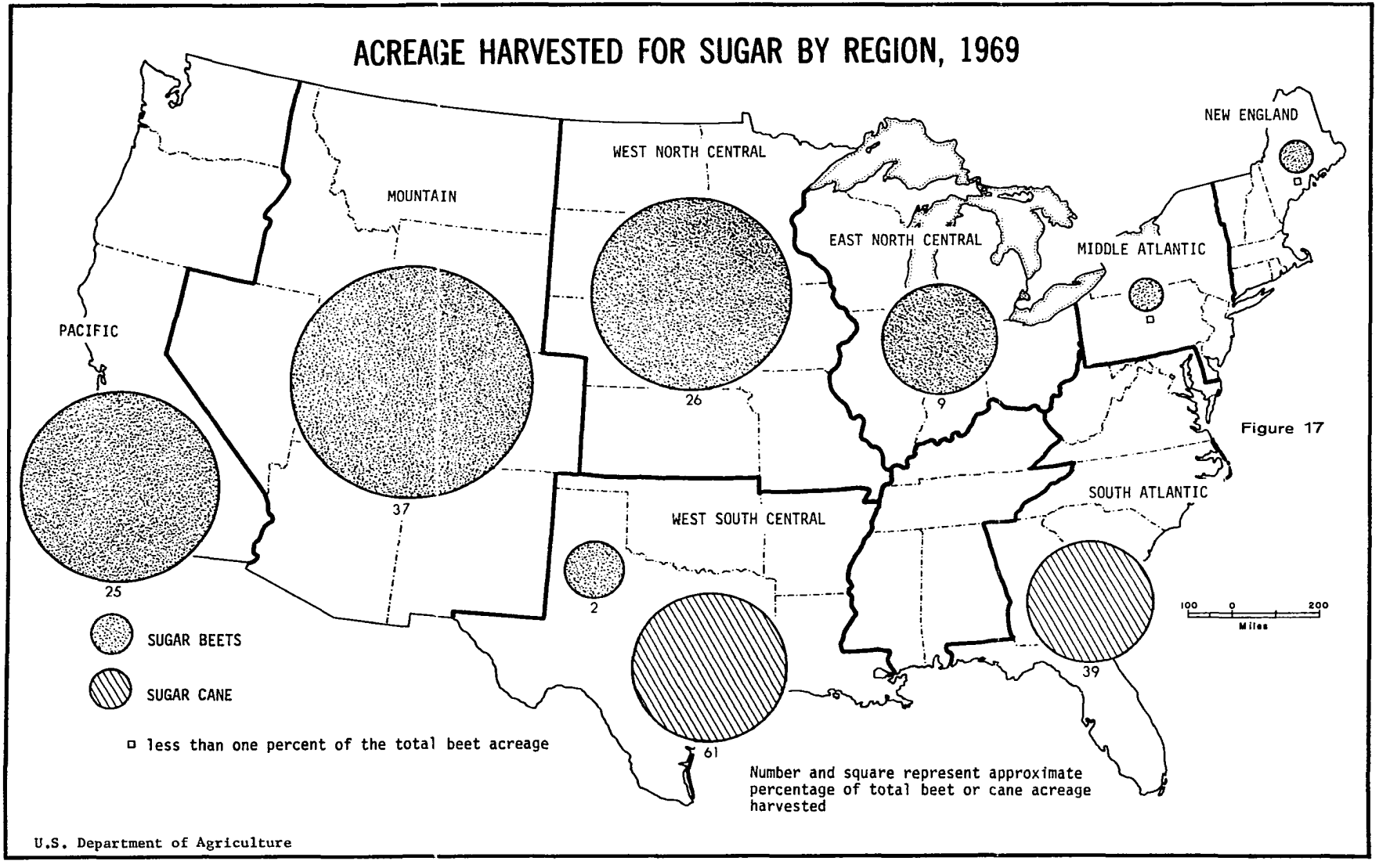


Figure 17

U.S. Department of Agriculture

beet acreage harvested. Among the remaining states, the only major change occurred in Nebraska. An insignificant producer during the previous decade, that state expanded beet culture until by 1919 it rivaled several of the leading states in beet acreage harvested for sugar.

TABLE 11

Percentage Change in Sugar Beet Acreage Harvested for Sugar by Decade, 1909-1969

Decade	Percentage Change
1899-1909	+227
1909-1919	+ 77
1919-1929	+ 8
1929-1939	+ 33
1939-1949	- 25
1949-1959	+ 32
1959-1969	+ 73

Source: Computed from Table 10

The rapid expansion of beet acreage harvested was not maintained during the 1920's (Table 11). The acreage reported for 1929 was only slightly above that of 1919. Although a small increase in acreage was recorded, the production pattern was significantly altered (Figure 5). Perhaps the most notable change was a tendency toward a more even distribution of beet acreage among the various beet-growing states. Colorado by 1929 was the unmistakable leader, but no less than eight other states devoted large amount of land to beet production.

Over the next two decades world economic depression and World War II strongly influenced the course of American agriculture. Despite the low farm prices of the early thirties the American farmer did not abandon beet culture. Indeed, beet acreage harvested for sugar in 1939

was one-third above the 1929 acreage (Table 11). The emergencies of World War II, however, particularly the rural labor shortage, forced some reduction in beet acreage. By the end of the war decade, beet acreage harvested for sugar was below the 1939 figure (Table 11). During the two decades, 1929 to 1949, the state pattern of beet acreage was largely unchanged (Figures 6 and 7). Although Colorado, California, and Michigan remained the leaders in acreage harvested, no less than six other states harvested considerable acreage during the period.

During the 1950's the sugar beet industry resumed the growth pattern that had marked the early decades of the twentieth century (Table 11). The state pattern of acreage harvested was once again dominated by California and Colorado (Figure 8). A number of other states also harvested a large beet acreage, however, most notably Idaho, which had greatly expanded its beet acreage over 1949, Minnesota, Michigan, and Nebraska.

The expansion of beet acreage which characterized the 1950's continued into the 1960's at an accelerated rate (Table 11). Early in the latter decade the sugar beet industry reached a milestone. In 1961, the beet acreage harvested passed 1,000,000 acres. At the end of the decade, in 1969, the largest harvest ever, over 1,500,000 acres, was recorded (Table 10). The distribution pattern was still similar to that of 1959 (Figure 9). California was the leading state in acreage, but it was challenged by Idaho, Minnesota, and Colorado. Of somewhat lower order of importance were Michigan, Nebraska, North Dakota, Wyoming, Montana, and Washington. The decade of the sixties was a time when several additional states, heretofore of little or no importance, expanded beet

acreage. Of these, Texas and Arizona were the most important.

Examining the regional divisions employed by the United States Department of Agriculture, the broader distribution of beet acreage harvested reflects the changing state pattern. In 1899, the regional beet acreage map was dominated by two widely separated areas, the Pacific region and the East North Central region (Figure 10). Nearly four-fifths of all the beets harvested in the continental United States came from these two regions. By 1909, however, the pattern had changed. The Pacific and East North Central regions remained important, but they had been surpassed in acreage by the Mountain region (Figure 11). Indeed, the Mountain region, still unimportant in 1899, harvested nearly one-fifth of the country's total beet acreage. None of the remaining regions were of any significance.

For several decades following 1909, the regional pattern of beet acreage harvested underwent only slight change (Figures 12, 13, 14, and 15). The Mountain region continued to harvest the largest beet acreage. That region was most dominant, however, in 1929 when it harvested nearly 60 percent of the total beet acreage (Figure 13). The other three main beet growing areas varied significantly in importance from decade to decade. In 1929 the West North Central region was of secondary importance, although it still harvested more than the combined acreage of the Pacific and East North Central regions (Figure 13). By 1939, the pattern was somewhat altered. In that year, the West North Central was the least important of the three secondary regions (Figure 14). Ten years later, these three had again changed their relative importance (Figure 15). The Pacific region in 1949 had the largest acreage harvested, and was

followed by the West North Central and the East North Central regions.

The expansion of sugar beet acreage after World War II had little influence on the regional pattern of the crop. As was characteristic of earlier decades, the Mountain region remained the leader in beet acreage harvested (Figures 16 and 17). While total acreage increased in that region during 1959-1969, its relative position declined. By 1969 the Mountain region was harvesting slightly more than one-third of the beets grown for sugar. Of the remaining major beet producing regions, the Pacific and West North Central continued to be more important than the East North Central. Indeed, the East North Central region, with only 9 percent of the total acreage in 1969, was rapidly losing its relative importance among the four major beet producing regions of the United States (Figure 17). The decline of the East North Central region has coincided with the growing importance of the West South Central region. An unimportant beet area in earlier decades, this region increased beet acreage during the sixties and harvested 2 percent of all beet acreage in 1969. In addition, two other regions, Middle Atlantic and New England, harvested a small amount of beets for sugar during the decade.

The development and spatial pattern of the sugar beet industry in the continental United States has had certain persistent characteristics since 1890. Many states have harvested beets for sugar, but throughout the period leadership remained with California, Colorado, and Michigan. Nebraska, Idaho, Montana, Minnesota, and North Dakota, however, have also harvested a large beet acreage. Regionally, the pattern of acreage harvested has continued to reflect the preponderance of the western part of the country. As noted on Figures 10 through 17, this

part of the United States since the beginning of the twentieth century has provided no less than 60 percent of all the beets harvested for sugar. Although beet culture had its beginning in eastern United States, it was the western part of the country that sustained it. Within the western United States, the Mountain region has been the unmistakable leader. Not since 1899 has leadership eluded it. For much of the period since 1890, the regional distribution maps show a tendency for acreage to be concentrated in a single primary region with one or perhaps two secondary regions. Such was clearly the case in 1909 (Figure 11), 1919 (Figure 12), and 1929 (Figure 13). In 1939 (Figure 14) there appears to be the beginning of a more even regional distribution between the major producing regions. This tendency toward a more even regional pattern continued to hold true in 1949 (Figure 15) and 1959 (Figure 16). By 1969, the Mountain, West North Central, and Pacific regions seemed to have established themselves as the primary producing regions, while the others were of secondary or even tertiary importance (Figure 17).

The Sugar Cane Industry

Some Aspects of Cane Culture

Unlike the sugar beet, sugar cane is a tropical plant. The most favorable climatic conditions for cane culture are an even, high temperature and an abundance of rainfall with a sharply defined dry season or else little rain and ample irrigation facilities. Although cane can be grown on a variety of different soils, it does best on those of high natural fertility. Ideally, it should have a topsoil with a high water-retaining capacity, and a subsoil that permits rapid drainage. The

moisture-retaining topsoil is needed to provide the large quantities of water demanded during the period of rapid growth. The subsoil, however, must be porous, especially in the upper zone, in order to give the plant roots proper aeration. The temperature, moisture, and soil conditions described are optimal ones not generally found in concert in the continental United States. Only southern Florida and the Gulf Coast, especially the section from the Florida panhandle to southern Texas, offers natural conditions acceptable for cane culture. Even then, these areas are subject to frost and periodic drought. Indeed, the possibility of unfavorable weather conditions in any given season makes the southern United States, with the possible exception of southern Florida, a somewhat marginal area for sugar cane production.

Within mainland United States, the cultivation of cane requires the grower to follow a series of rather precise practices in order to maximize production. Planting is generally done during the fall of the year. Cane differs from most other crops in that the planting material, called plant cane, consists of sections of the stalk of the cane. The material used for planting constitutes a sizeable part of the previous crop and placing it carefully in furrows involves a much larger planting expense than is required for seeding beets. Furthermore, in the United States, a much larger amount of plant cane must be used per acre than in tropical countries because of deterioration during the dormant season. Not all of the cane harvested in any one year, however, is plant cane. Some is stubble or ratoon cane, a secondary growth that occurs from the already established root system. The number of possible ratoon crops varies from one or two in Louisiana to perhaps as many as four or five

in Florida. The ratoon crop is usually not as productive as that from plant cane. Fertilization accompanies planting, although some artificial nutrients may also be applied in the spring either before or after initial cultivation. Commercial fertilizers are very important.

Cultivation, which begins in the spring, is an important and often tedious task. Neglect of the crop at this stage can be disastrous since cane is a weak competitor with other grasses and weeds. The purpose of cultivation is not only to destroy weeds; it is also for soil aeration and drainage. Once cultivation is discontinued, usually in midsummer, growth of the cane is rapid. The final stage in cane culture is harvesting which involves two operations, cutting the cane and hauling it to the factory. The time required for the harvest varies with the yield, the condition of the cane, and the weather. Harvesting in Louisiana usually begins in October and ends in December. The cutting is begun prior to full maturity of the stalks to avoid possible damage or loss by frost. In Florida, the harvest season may extend from late November through May. As frost is less of a problem in southern Florida than in Louisiana, the cane is permitted to reach full maturity before harvesting. Florida, consequently, obtains better yields and often surpasses the production of Louisiana on less acreage.

As in all phases of the sugar beet industry, mechanization has greatly influenced cane production. Nearly all of the stages of cane culture have now been mechanized, although the completeness of mechanization varies within the industry. Machines widely used in production of cane include tractors, trucks, harvesters, loaders, rotary hoes, shavers, flame cultivators, fertilizer applicators, pilers, wagons, and

plows.

In the past, the production of sugar cane necessitated the use of large amounts of hand labor. Recent technological advances, however, have greatly changed field practices, and the result is a reduced labor requirement. Since the size of the farm growing cane varies from place to place, it follows that the need for field labor also varies. In Louisiana, where cane is produced on both small and large landholdings, there is considerable variation in labor needs. Table 12 shows how the increased use of machinery after World War II greatly reduced the labor costs and man-hours per ton of cane sugar. Cane production in Florida, it should be noted, is totally on large holdings, and mechanization there has helped remarkably in reducing labor requirements and costs per ton of sugar. The greatest demand for labor in Florida is during the harvest period since no acceptable mechanical harvester has been developed to use on the boggy soils of the Everglades. In Louisiana, on the other hand, harvesting does not bring a peak period in labor usage since this operation has been largely mechanized. In the most recent years, there has been some further reduction in man-hours and labor costs per ton of sugar, but the latter has not changed as much as the former.

TABLE 12

Farm Labor Costs and Man-hours Required Per Ton of Cane Sugar

Area	Labor costs per ton sugar			Man-hours per ton sugar		
	1947-49	1960	Change	1947-49	1960	Change
Louisiana	$48	$36	-25	118	48	-59
Florida	38	24	-37	58	22	-62

Source: Arthur C. Barnes, The Sugar Cane (New York: Interscience Publishers, Inc., 1964), p. 83.

Historical Development of the Sugar Cane Industry

Sugar cane has been grown in various parts of southern United States for more than 300 years. The earliest mention of cane was in 1650 when it was reported as being grown in what is today South Carolina and eastern Georgia.[11]

After the middle of the eighteenth century, Louisiana became the focus of cane culture in what is now continental United States. Cane was first planted by the Jesuits near New Orleans in 1751. Although they were successful in growing cane, their attempts at making sugar failed and commercial production was delayed. By about 1760, however, several planters were growing cane and some were said to be producing granulated sugar of good quality. Cane culture appeared so promising at the time that a local official reported to the French government that he saw a prosperous Louisiana based on sugar cane culture.[12] The optimism of this official proved to be exaggerated, for during the next several decades there was little commercial cultivation of sugar cane.

The successful establishment of cane culture in Louisiana was assured shortly before the end of the eighteenth century, as in 1794 a method was developed to reliably and profitably extract sugar from cane. This innovation opened a new era for cane culture since it meant the crop could finally be grown in large quantities for commercial use. Many planters, previously uncertain about the prospects for the crop, now turned to the cultivation of cane. By the end of the century, sugar

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[11] Deerr, History of Sugar, I, p. 246.

[12] J. Carlyle Sitterson, Sugar Country: The Cane Industry in the South, 1753-1950 (Lexington: University of Kentucky Press, 1953), p. 7.

cane was firmly established as an agricultural crop in the state.

Developments in cane culture during the nineteenth century served to reenforce the place of cane in Louisiana's economy. Expansion was accelerated after 1820 when a new variety of cane was introduced and proved to be superior to those previously used. No reliable data are available for acreage harvested during most of the nineteenth century, but an examination of cane sugar production gives a good indication of the rate at which cane culture was expanded (Table 13). In 1825, production amounted to only 17,000 tons. Although annual variations were common, production increased during the next several decades. In the mid-1860's, however, the Louisiana cane industry declined drastically as a consequence of the Civil War. Thereafter, its fortunes improved, but at a rather slow rate. Not until about 1880 was the prewar peak in cane sugar production passed.

TABLE 13

Cane Sugar Production, Louisiana, 1825-1890

Year	Production (tons)	Year	Production (tons)
1825	17,000	1860	132,500
1830	27,300	1865	9,950
1835	17,000	1870	84,400
1840	49,500	1875	81,700
1845	105,700	1880	136,500
1850	120,100	1885	143,300
1855	127,300	1890	241,700

Source: Noel Deerr, The History of Sugar, Vol. I (London: Chapman and Hall, 1950), p. 250.

During the century from 1790 to 1890 the Louisiana cane industry went through periods of expansion and contraction in both acreage and

production. The major cane producing area remained along the Mississippi River from the Gulf coast to Baton Rouge and westward from the river for perhaps fifty to seventy-five miles.

Simultaneous with the successful development of cane culture in Louisiana, planters in other parts of what is today southern United States were attempting to grow cane for sugar. An attempt at establishing cane culture in Florida was made in the late eighteenth century, but it failed due to insufficient knowledge about the crop. In the 1820's, soon after the acquisition of Florida from Spain, however, cane was successfully grown there. The success attracted planters from other southern states and from the West Indies. Many plantation owners soon found the high returns available from cotton too much to resist, however, and the sugar fever of the twenties became the cotton fever of the thirties. Still, cane culture was not completely abandoned in Florida in the pre-Civil War era. Although the cane was manufactured into sugar, production was small and only for local consumption. No attempts were made at cultivating cane in the Everglades though some held that the region was adaptable to cane culture.[13] Following the Civil War, Florida cane culture declined, never reaching its prewar status during the remainder of the century.

About the same time as in Florida, an attempt was made to establish cane culture in Texas. As early as the 1820's, cane was being grown along the central Texas Gulf coast. It was not until the 1840's, however, that it became an established crop. East central Texas, during the later years of Texas independence and just after annexation in 1845,

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[13]*Ibid.*, p. 40.

enjoyed something of a sugar boom. As cotton prices declined and fields became infested with damaging insects, many farmers turned to cane in hopes of bolstering their own livelihood and the region's agricultural economy.[14] Cultivation expanded in the early 1850's, and for a time it appeared that the crop might gain preeminence. But, cold weather and drought crippled the industry toward the end of the decade. Before growers could recover from the natural disasters afflicting them, the Civil War broke out. Although Texas escaped the physical destruction which occurred elsewhere, it was nonetheless influenced by the conflict. Many farmers left their fields for military service and cane culture declined from lack of attention. After the war, the labor supply was inadequate and some fields remained uncultivated. By the end of the 1860's the Texas cane industry saw a modest revival, but the recovery was limited and production never exceeded the prewar peak during the rest of the century. The central Gulf coast continued to be the focus of the state's cane culture.

Prior to 1890 several other states in the southern part of the country, in addition to Florida, Louisiana, and Texas, grew or attempted to grow sugar cane. Georgia was perhaps the most successful, but by the middle of the century its cane culture had given way to cotton culture. Other states which experimented with sugar cane, though less successfully, were Alabama, South Carolina, and Mississippi.

The decade of the 1890's was not the turning point for the sugar cane industry as happened in the case of the sugar beet industry (Table

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[14]William R. Johnson, "A Short History of the Sugar Industry in Texas," Texas Gulf Coast Historical Association Publication, V (April, 1961), p. 13.

14). In fact, no noticeable change occurred. Louisiana, the undisputed leader in previous decades, continued to dominate the cane industry (Figures 1 and 10). The major area of production continued to be astride the Mississippi River south of Baton Rouge. At the same time, some cane production continued in Texas though data on acreage are unavailable. Elsewhere, cane culture was of little importance. Florida continued its efforts to stimulate the industry. These efforts were in part a response to interest in the possibility of establishing cane culture in the Everglades. Although no significant developments occurred for another quarter of a century, the future hopes for sugar cane in Florida were perhaps best stated by a Louisiana sugar planter and manufacturer in 1899 when he noted:

> It is certainly a foolhardy undertaking to continue to grow oranges, vegetables, and other tender stuff in Florida. Sugar ... offers about the only agricultural product that Florida can turn to.[15]

Little change occurred in the spatial pattern of acreage harvested during the initial decade of the twentieth century. Figure 3 indicates the continued dominance of Louisiana. Texas was the only other state to harvest any amount of cane. Within that state, however, the acreage pattern changed somewhat. The Lower Rio Grande Valley, established as a cane area just after the turn of the century, was rivaling the central Gulf coast as the center of cane culture. The broad regional pattern was identical to that of 1899. The West South Central region harvested all

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[15]U.S., Congress, House, Select Committee Investigating National Defense Migration, National Defense Migration, Hearing, "Sugar Production in Florida," by Fritzie P. Manuel, on H.R. 113, Part 33, 77th Cong., 2d sess., 1942, p. 12956.

TABLE 14

Sugar Cane Acreage Harvested for Sugar, 1890-1970
Mainland United States

thousands of acres

Year	Acreage	Year	Acreage	Year	Acreage
1890	147	1917	246	1944	269
1891	175	1918	234	1945	265
1892	226	1919	180	1946	287
1893	205	1920	189	1947	294
1894	247	1921	229	1948	309
1895	185	1922	243	1949	316
1896	203	1923	218	1950	310
1897	191	1924	163	1951	297
1898	208	1925	190	1952	318
1899	134	1926	128	1953	325
1900	204	1927	73	1954	286
1901	239	1928	131	1955	267
1902	207	1929	192	1956	233
1903	195	1930	187	1957	259
1904	200	1931	182	1958	253
1905	242	1932	221	1959	296
1906	210	1933	211	1960	304
1907	217	1934	236	1961	333
1908	240	1935	253	1962	368
1909	292	1936	244	1963	435
1910	311	1937	285	1964	545
1911	317	1938	296	1965	474
1912	205	1939	254	1966	479
1913	255	1940	241	1967	485
1914	217	1941	255	1968	465
1915	184	1942	290	1969	389
1916	227	1943	284	1970	436

Source: 1890-1900, USDA, Bureau of Statistics, International Sugar Situation, by Frank R. Rutter, Bull. 30 (Washington, D.C.: GPO, 1904), p. 93; 1901-08: USDA, ASCS, Sugar Statistics and Related Data, II, Stat. Bull. 244 (Washington, D.C.: GPO, 1963), p. 44; 1909-59: USDA, Statistical Reporting Service, Sugarcane, Stat. Bull. 315 (Washington, D.C.: GPO, 1962), p. 4; 1960-67: USDA, ASCS, Sugar Statistics and Related Data, II, Stat. Bull. 244 (Washington, D.C.: GPO, 1969), p. 40 and 49; 1968: USDA, ASCS, Sugar Reports, No. 212 (Washington, D.C.: GPO, 1970), p. 31; 1969: USDA, ASCS, Sugar Reports, No. 224 (Washington, D.C.: GPO, 1971), p. 31; and 1970: USDA, ASCS, Sugar Reports, No. 236 (Washington, D.C.: GPO, 1972), p. 25.

the cane acreage for sugar in the continental United States (Figure 11).

It appeared by 1909 that the sugar cane industry had finally overcome the problems which had plagued it for decades. Acreage harvested in 1909 was nearly twice that of 1890 or 1899 (Table 14). Perhaps more important, a steady increase in acreage was registered during the latter part of the decade. In 1911, a record 317,000 acres was harvested for sugar. Thereafter, acreage declined again, reaching a twenty-year low in 1919. Perhaps the most notable characteristics during the decade of World War I, aside from the general decline in acreage, was the near extinction of cane culture in Texas (Figure 4). No change occurred in the regional pattern as the West South Central region continued to grow all the cane harvested for sugar (Figure 12).

The decade of the twenties was a period of uncertainity and change for the cane industry. From 1920 through 1922 acreage increased, and it seemed for a time that the industry might regain the vitality it had a decade earlier (Table 14). But the gains were shortlived. In Texas, cane culture underwent a steady decline and, while some cane was harvested in that state until 1926, acreage was so small that no records were maintained after 1923. Cane culture in Louisiana nearly met the same fate. Acreage began a sharp decline in 1923, and within four years had fallen off by two-thirds, to only 73,000 acres. There were several reasons for the decline, but the most obvious was the widespread ravages of the mosaic disease.[16]

In 1928, sugar cane culture in Louisiana made a remarkable

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[16]Sitterson, Sugar Country, p. 358.

recovery, nearly doubling the acreage harvested in the previous year (Appendix A). Also in the twenties, Florida was successful in reestablishing cane culture on a commerical basis. Drainage operations had progressed sufficiently in the northern Everglades to make some land available for cane production. The initial crops were disappointing, however, mainly because of bad weather. Despite setbacks, efforts continued to extend cane culture in the state. In 1928, some 700 acres were harvested for sugar (Appendix B). While this acreage was small compared to that of Louisiana, it marked the beginning of a new era for sugar cane in Florida. The state was hailed by local boosters as the future "Sugar Bowl of America."[17] By the end of the decade, there were signs that the fortunes of the mainland cane industry were on the upswing. Louisiana's cane acreage, however, was still far greater than Florida's.

During the ensuing four decades the sugar cane industry was in a period of general expansion, although a glance at Table 14 reveals annual variations in acreage of some importance. Cane acreage harvested even in poor years, however, never approached the near disastrous level of 1927.

The general pattern of cane acreage harvested by state and region remained about the same during the period 1930 through 1969 (Figures 6-9 and 14-17). Only Florida and Louisiana harvested cane for sugar. Texas, which had ceased production in the mid-1920's, did not produce any cane during the period. Louisiana continued to be the leading cane state.

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[17] U.S., Congress, House, National Defense Migration, Hearings, "Sugar Production in Florida," 1942, p. 12956.

Although its acreage generally increased during the period, it consistently lost ground relative to Florida. Florida's greatest increase in cane acreage came during the 1960's. The principal area of production and expansion was in the northern Everglades. Although its acreage harvested never exceeded that of Louisiana during the sixties, Florida periodically produced more sugar due to higher yields.

In comparison with sugar beets, which increased in acreage from little more than zero to over 1,500,000 acres between 1890 and 1969, cane had a rather moderate expansion. From 1890 through 1919, Louisiana dominated the mainland cane industry, outlasting Texas and successfully withstanding the challenge of Florida. But cane culture in Louisiana now seems to have stabilized, and future large-scale expansion in acreage seems doubtful. For Florida, the optimism of the early twentieth century became the reality of the 1960's. A substantial part of the Everglades, with the aid of technology and capital, has been transformed from a swamp to fertile, productive agricultural land. The greatest beneficiary of the transformation has been cane culture. Of the two main cane producing states, Florida appears to be in the better position for further development in the future.

The variations in the amount of land used for sugar beet and sugar cane in the United States since 1890 can be traced to numerous factors. Among these factors are weather conditions, plant diseases, technical problems, capital availability, economic circumstances, and politics. It is the last of these, politics, which has been selected for major attention in this study. Chapter IV identifies the significant government policies, both federal and state, which have influenced the amount of

land devoted to sugar production in the continental United States. Without these supportive policies, it seems doubtful that sugar beets and sugar cane would be as large a part of the American agricultural scene.

CHAPTER IV

GOVERNMENT POLICIES AFFECTING THE AMOUNT OF LAND DEVOTED TO SUGAR PRODUCTION

The opinion has often been expressed that the extension of government authority, especially federal authority over agriculture, was a special feature inaugurated by the depression years of the 1930's. Such a view seems understandable in light of the broad and rapid expansion of government power which did take place during the period. The far reaching legislation of the time, some of it pushed through Congress very quickly, has encouraged the impression that the days prior to the first Franklin Roosevelt administration were times when agriculture had a free hand in determining the direction of its affairs. An examination of the facts, however, indicates otherwise. In the case of sugar, it is clear that the mainland industry is not now and never has been free from the influence of government decisions and actions. The development of the mainland United States sugar beet and sugar cane industries has always been conditioned by government policy.

Since 1890 government protection of the mainland sugar industry has been continuous, but specific policies have varied from time to time and sometimes overlapped. In examining these policies, it is possible to identify two rather distinct time periods, 1890 through 1933 and 1934

to the present (1973). While recognizing these two periods, it is evident that some of the policies of the initial time period were influential during the second period. In general, however, the policies of the early period differ greatly from those of the later one.

1890 through 1933

Between 1890 and 1934, tariff legislation was the primary method used by the government to influence the amount of land devoted to sugar production. Also of some importance were such factors as state bounties, special encouragement from the Department of Agriculture, reclamation in the western United States, the Spanish-American War, World War I, and certain federal labor acts.

The Tariff

During the last decade of the nineteenth century several tariff bills were enacted that influenced the mainland sugar industry. Important provisions of these and later tariff acts are shown in Table 15. The Tariff Act of 1890 placed raw sugar on the duty free list. Desiring not to leave the mainland beet and cane growers completely unprotected, Congress inserted in the act a bounty of 2 cents per pound on all sugar produced in the mainland United States. Of nearly equal importance was a provision permitting duty free importation of beet seed and sugar processing machinery. The latter privilege was of special importance to the infant sugar beet industry since its growth depended on the availability of European machinery to process the beets into sugar.

With passage of the Tariff Act of 1894, the bounty was repealed and, in its place, a duty was placed on imported raw sugar. The duty

TABLE 15

Raw Sugar: Rate of Import Duty per Pound, United States
1890-1933

Tariff	Rate per pound Full duty	Cuban rate
Act of 1890[a]	free	free
Act of 1894, ad valorem (percent)	40	40
	Cents	
Act of 1897	1.685	1.685
May 1, 1900, Puerto Rican sugar admitted at a reduction of 85 percent in the duty. Beginning in 1901, Puerto Rican sugar admitted free. In 1902, duty on Philippine sugar reduced 25 percent from the then prevailing rate of 1.685. Effective December 27, 1903, duty on Cuban sugar reduced 20 percent in accordance with Reciprocity Act of 1902.	1.685	1.348
Act of 1909 Admitted Philippine Sugar free of duty to extent of 300,000 tons.	1.685	1.348
Act of 1913 Duty reduced approximately 25 percent effective March 1, 1914. Philippine sugar admitted free, no limitation. Placed sugar on free list, effective May 1, 1916.[b]	1.256	1.0048
Act of 1921	2.00	1.60
Act of 1922	2.206	1.7648
Act of 1930	2.50	2.00

[a]A bounty of 2 cents per pound was paid by the federal government on all mainland sugar production.

[b]Provision repealed, April, 1916.

Source: U.S., Department of Agriculture, Economic Research Service, A History of Sugar Marketing, by Roy A. Ballinger, Agricultural Economic Report No. 197 (Washington, D.C.: Government Printing Office, 1971), p. 123.

was equal to 40 percent of the value of the imported sugar or, at the time, about 1 cent per pound.[1] Although this protection was less than the benefits provided by the bounty under the previous tariff act, the purpose of the duty was to provide some protection for mainland producers.

Perhaps the most important tariff act of the 1890's was the Act of 1897, commonly known as the Dingley Tariff. It increased the duty on imported raw sugar by approximately 60 percent over the level established in the 1894 act.[2] In addition, the Dingley Tariff bill provided for the complete countervailing of all foreign bounties or subsidies afforded sugar imported into the United States.[3] This meant that the duty on imported sugar was increased as necessary over the level of the regular duty to match the export bounty provided by some of the sugar exporting countries. The supplemental provision was aimed directly at European beet sugar exporting countries which were stimulating their own beet industry by paying a bounty on all sugar exports.

From 1897 to 1913 the import duty on raw sugar remained unchanged (Table 15). When the Act of 1913 was passed the duty was revised downward, and within three years raw sugar was to be imported duty free. Free trade in sugar was never implemented, however, as Congress, aware of the growing conflict in Europe, repealed the provision in early 1916.

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[1]Taussig, Tariff History of the United States, 6th ed., p. 309.

[2]Under the Tariff Act of 1894, the duty was about 1 cent per pound. The duty under the 1897 act was 1.685, representing about a 60 percent increase.

[3]Roy G. Blakey, "Beet Sugar and the Tariff," Journal of Political Economy, XXI (June, 1913), p. 543.

Following World War I the mainland United States sugar industry was caught in the chaos that characterized the world sugar industry. The sugar shortage which prevailed during the war turned to a surplus in the 1920's, and prices rapidly declined. As the wholesale cost of sugar in the United States was tied to the world price, mainland growers soon found themselves in a serious cost-price squeeze. Congress responded to the postwar agricultural depression by enacting new tariff legislation in 1921 and 1922. In each of these two acts, import duties on raw sugar were increased over previous levels (Table 15). For a while the higher duties were effective in raising the domestic price of sugar, and the mainland industry regained some semblance of order. There were even complaints that the new tariff legislation was forcing sugar prices too high.[4] But the stability soon ended and prices once again declined. As the situation worsened, Congress was again requested to increase the sugar duty. With passage of the Hawley-Smoot Act of 1930, the duty on raw sugar was raised to its highest level since 1890 (Table 15). The repercussions of the act on United States trade and world trade in general were immediate, and foreign retaliation followed promptly.

State Bounties

Federal encouragement of the sugar industry through tariff legislation was periodically supplemented by bounties offered on beet production in several states. The enactment of state bounties was closely related to the repeal of the federal bounty in 1894. A number of state legislatures decided to encourage and stimulate beet production with

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[4]U.S., Congress, House, United States Sugar Program, 1971, p. 32.

bounty legislation. Among those offering bounties in the period prior to World War I were Nebraska, Michigan, New York, Wisconsin, and Washington.[5] As a general rule, the state bounty was paid to processors who in turn were required to pay growers a specific price for each ton of beets delivered to the factory. Not all states, however, used the direct money payment in meeting their bounty obligations. In Iowa, for example, the same objective was achieved by giving beet sugar factories exemption from state taxes.[6]

Department of Agriculture

One of the more important sources of encouragement for the development of the mainland sugar industry was the Department of Agriculture. The federal Bureau of Agriculture created by Congress in 1862 was raised to the level of a department with cabinet status in 1889. While the department was involved to some extent in promoting sugar culture prior to 1890, its greatest impact was after that date.

The Department of Agriculture aided the sugar cane industry in a variety of ways. In Louisiana, for example, it assisted in identifying and combating plant diseases that were threatening the industry. Perhaps its most important help came during the 1920's when the dreaded mosaic disease, a virus-caused blight, brought cane production in the state to near extinction. Besides discovering the disease, the federal department took a leading role in overcoming its effects by providing the

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[5]P. T. Cherington, "State Bounties and the Beet Sugar Industry," The Quarterly Journal of Economics, XXVI (February, 1912), pp. 382-385.

[6]U.S., The Industrial Commission, Report of the Industrial Commission on Agriculture and Agricultural Labor, Vol. X (Washington, D.C.: Government Printing Office, 1901), p. 590.

growers new and more resistant varieties of cane. From the cane furnished by the Department of Agriculture in the early twenties, as one historian put it, "sprang the renascent Louisiana sugar industry."[7] Prior to its work on the mosaic infestation, the department took a leading role in the eradication of the sugar cane borer and other diseases. In addition, its various bureaus sought to improve cultivation practices by establishing experimental stations and distributing the results to cane growers.

Florida's cane industry, like that of Louisiana, was the recipient of special aid from the Department of Agriculture. In the latter part of the nineteenth century the federal government provided personnel and equipment to conduct experiments on growing cane in the southern part of the state. Little progress was made, however, and these early experiments were eventually abandoned. The spread of the mosaic disease in Louisiana renewed interest in cane culture in Florida, and the department established a cane breeding station there to help the industry get started. Hundreds of varieties of cane were tested, and eventually some were developed which proved well adapted to the Everglades region.

The sugar beet industry also received considerable aid and encouragement from the Department of Agriculture. Most of the credit for the department's involvement in promoting the development of beet culture goes to James Wilson, Secretary of Agriculture from 1897 to 1913. Wilson, an Iowan with a strong interest in rural innovation, was a firm believer in the potential importance of the sugar beet to the country's

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[7]Sitterson, Sugar Country, p. 379.

agriculture. To this end he initiated and directed numerous activities designed to stimulate beet culture. He appointed a special agent to promote beets by assembling, assimilating, and distributing information about the crop.[8] Under his direction the department compiled and published a map designating the most favorable areas for beet culture (Figure 18). At one time during Wilson's tenure, the department published a study showing that nearly 274,000,000 acres of land had soil and climatic conditions acceptable for growing sugar beets.[9] Secretary Wilson was also instrumental in enlisting the government to distribute beet seed to growers and to analyze the quality of various beet varieties.

Wilson not only had the beet growers in mind, but the associated business interests as well. He was fully aware that growing beets was but one part of the industry. The other part, necessary if beets were to become an important field crop in American agriculture, was building the large processing plants required in making beet sugar. Wilson was successful in enlisting the interest of business capital in the construction of factories. Altogether, during his tenure as secretary, seventy-six beet factories were erected.[10]

The influence of the Department of Agriculture on the sugar beet

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[8]As many as thirteen special reports on beet sugar were issued by Wilson during his tenure as Secretary of Agriculture. For example, see U.S., Department of Agriculture, Progress of the Beet-Sugar Industry in the United States in 1907, by Charles F. Salyor, Report No. 86 (Washington, D.C.: Government Printing Office, 1908).

[9]U.S., Congress, Senate, Sugar at a Glance, Sen. Doc. 890, 62d Cong., 2d sess., 1912, p. 27.

[10]Irvin Bettman, Jr., "The Beet-Sugar Industry: A Study in Tariff Protection," Harvard Business Review, XI (April, 1933), p. 370.

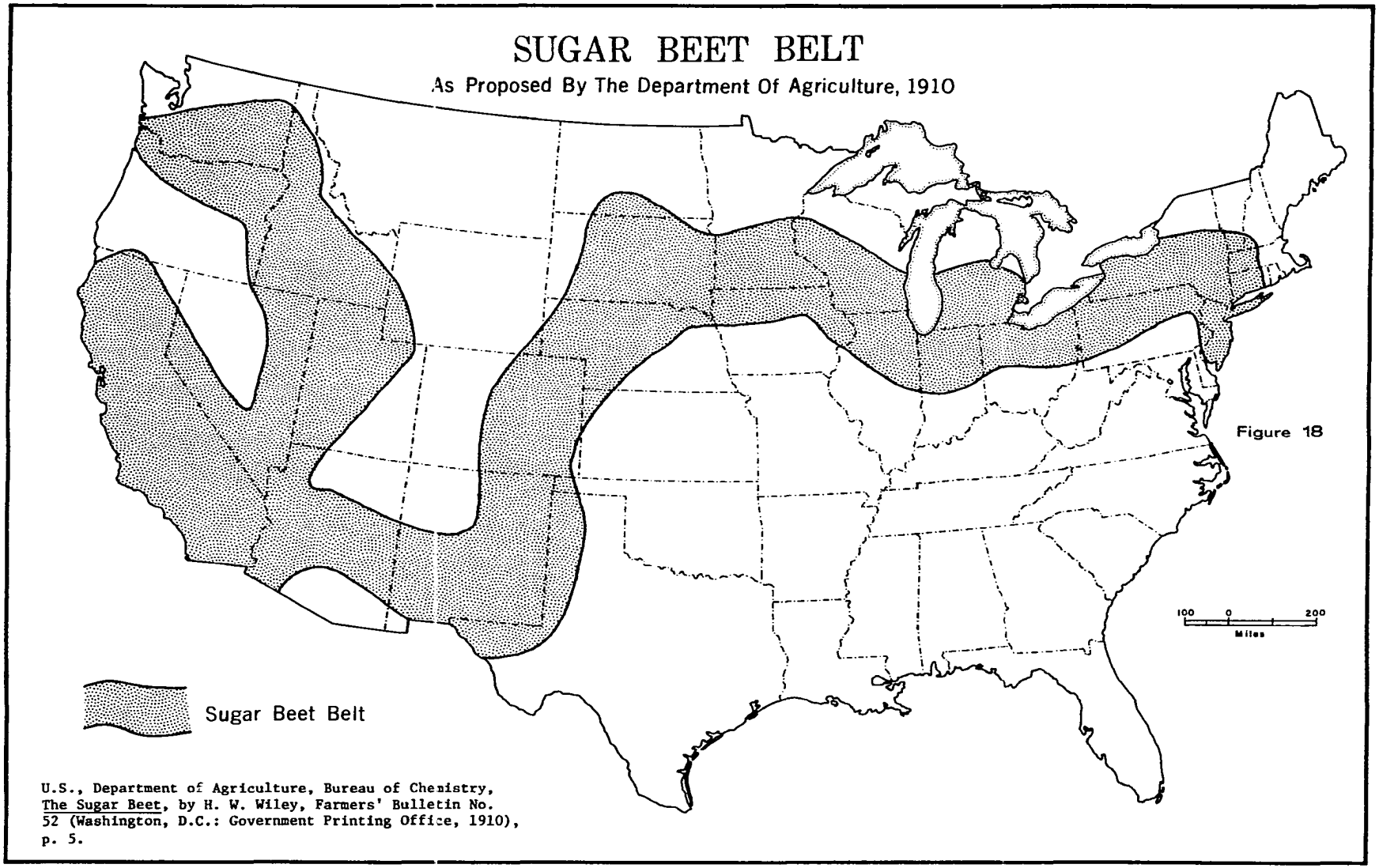

Figure 18

U.S., Department of Agriculture, Bureau of Chemistry, The Sugar Beet, by H. W. Wiley, Farmers' Bulletin No. 52 (Washington, D.C.: Government Printing Office, 1910), p. 5.

industry did not end with the removal of Secretary Wilson. Experimental work, especially regarding the cultivation, planting, and harvesting of beets, continued to receive substantial department support. It should be remembered that the sugar beet industry was in its infancy during much of Wilson's tenure and thus his and the department's efforts were of considerable importance in the establishment and growth of beet culture. As one noted authority said in summarizing Wilson's influence:

> The Department has preached beet sugar in season and out of season ... The result was familiarity with the possibilities throughout the country, the removal of all obstacles from inertia and ignorance, and a rapid development in all regions where there was a promise of profits.[11]

Reclamation

Another important factor in encouraging sugar beet culture was the government program to develop the arid lands in western United States. Promotional legislation prior to 1890 had accomplished little toward developing and settling the area. As a further measure, Congress enacted the Carey Act in 1894. The purpose of this act was to aid the states with large amounts of public land in the reclaiming of little used arid land within their boundaries. The measure provided that the states each be granted a limited area of public land on condition that they develop it by irrigation and settlement. The federal government would provide the land and the states were to undertake the development. Irrigation facilities could be provided by either the states or private capital.[12] Once a state furnished proof that a tract of land had been

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[11]Frank W. Taussig, "Beet Sugar and the Tariff," The Quarterly Journal of Economics, XXVI (February, 1912), p. 192.

[12]Roy M. Robbins, Our Landed Heritage: The Public Domain, 1776-1936 (Lincoln: University of Nebraska Press, 1962), p. 328.

reclaimed, irrigated, and settled, a title to that tract was granted to the state which in turn transferred it to the settlers. By 1919, nearly 524,000 acres had been reclaimed under the Carey Act.[13] Thereafter, reclamation under the act decreased markedly.

As early as the end of the nineteenth century, various groups were demanding that the federal government take direct charge of reclamation activities in the western part of the country. The Carey Act involved the federal government only indirectly and, for many, it was too slow and inefficient. As those advocating direct federal action gained support, the opposition became increasingly vocal. The election of Theodore Roosevelt to the presidency in 1901, however, provided those favoring direct federal participation the necessary momentum. In his State of the Union message, Roosevelt made his position clear. He said:

> Great storage works are necessary to equalize the flow of streams and to save the flood waters. Their construction has been conclusively shown to be an undertaking too vast for private capital. Nor can it be best accomplished by the individual States acting alone ...
>
> These irrigation works should be built by the National Government. The land reclaimed by them should be reserved by the Government for actual settlers, and the cost of construction should so far as possible be repaid by the land reclaimed.[14]

With encouragement from the arid land states as well as the President and his cabinet, Congress passed the Reclamation Act of 1902. It provided for the construction of irrigation works by the federal government and for setting aside the receipts from the sale of public land as

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[13]U.S., Department of Commerce, Bureau of the Census, Fifteenth Census of the United States, 1930: Irrigation of Agricultural Lands, I, p. 17.

[14]Paul W. Gates, History of Public Land Law Development (Washington, D.C.: Government Printing Office, 1968), p. 652.

a reclamation fund. This fund could then be used to construct and maintain irrigation facilities. By 1909, land reclaimed under the act's provisions totaled nearly 396,000 acres.[15] By 1919 it had increased to 1,255,000 acres, and by 1929 to 1,500,000 acres.[16]

From the very beginning, sugar beets played an important role in land use on western reclamation projects. The Bureau of Reclamation consistently included sugar beets as one of the recommended crops and often extolled their virtues by emphasizing their ability to carry the financial load of the projects. One noted commissioner of reclamation referred to the sugar beet as "the backbone of those federal reclamation projects where the crop is grown."[17]

The Bureau of Reclamation was not the only government agency to recognize the valuable role of sugar beets on reclamation projects. After signing the Reclamation Act, James Wilson, then Secretary of Agriculture, remarked to President Roosevelt that:

> Today you have solved the sugar problem in the United States. Not only will that legislation reclaim an empire, but the most natural enterprise to be established at the foot of those huge dams will be beet sugar factories.[18]

As Wilson was well aware, the factories required beets and they could be grown on the reclaimed, irrigated land.

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[15]U.S., Department of Commerce, Bureau of the Census, Thirteenth Census of the United States, 1910: Agriculture, V, p. 840.

[16]U.S., Census, Fifteenth Census, 1930, I, p. 17.

[17]U.S., Congress, Senate, Committee on Finance, To Include Sugar Beets and Sugarcane as Basic Commodities under the Agricultural Adjustment Act, Hearings, on S. 2732, 73d Cong., 2d sess., 1934, p. 142.

[18]Truman G. Palmer, Beet Sugar Industry of the United States (Washington, D.C.: U.S. Beet Sugar Association, 1913), p. 7.

The Spanish-American War and World War I

During the period from 1890 to 1933, two international wars involving the United States had an impact on mainland sugar culture. In 1898, the United States went to war with Spain for the general purpose of assisting Cuba in securing independence. As a result of the Spanish-American War Cuba became independent, but for many years it retained close political and economic ties with the United States. The war also resulted in two other Spanish dependencies, Puerto Rico and the Philippine Islands, being transferred to United States control. Since all three of these territories were important sugar cane producers and exporters, the extension of United States control over their economies was bound to influence the mainland sugar industry. As shown in Table 15, Puerto Rico and the Philippines received tariff concessions on sugar shortly after the war ended. By 1913, both were permitted to export sugar to the United States market duty free. Cuba also sought some economic preference and it was granted by the Cuban Reciprocity Act of 1902 (Table 15).

There was considerable domestic debate over the need and desirability of preferential treatment for Cuban sugar on the United States market. The United States government, particularly the Department of State, defended reciprocity on the grounds that this country had a moral obligation to assist Cuba after the war. It argued that a tariff concession on sugar exported to the United States was the best way to fulfill the obligation. Further, the Secretary of State wanted reciprocity because political stability in Cuba was seen as tied directly to economic

stability.[19] To attain any kind of stability, it was argued, Cuba needed help in developing and marketing its sugar cane. Congressional members from the beet producing states, however, felt that reciprocity for Cuba was discriminatory to American mainland agriculture in general and to sugar beet growers in particular, especially since beet culture was still in an early stage of development. In support of the mainland grower, one congressman argued that:

> The American market of over $100,000,000 worth of sugar annually is rightfully his. We shall encourage no policy which delays the time when he shall come into his own.[20]

The position of the federal government was sustained and the beet interests were defeated. The 20 percent tariff preference for Cuban sugar remained in effect until 1934.

Like the Spanish-American War, World War I influenced the relationship between the government and the sugar industry. Although the United States was not directly involved in the war until 1917, the conflict's disruption of normal trade patterns forced the federal government to take steps to insure an adequate supply of sugar. The first government move was to repeal the provision of the 1913 tariff act granting sugar duty free status. This wartime measure gave a boost to the cane and beet growers who had feared that duty free sugar would eventually bring about the extinction of sugar culture on the mainland.[21] In early 1917, when direct military involvement seemed unavoidable, the

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[19]Dalton, Sugar, pp. 244-245.

[20]U.S., Tariff Commission, Effects of the Cuban Reciprocity Treaty of 1902 (Washington, D.C.: Government Printing Office, 1929), p. 425.

[21]Sitterson, Sugar Country, pp. 348-349, and Austin, History and Development of the Beet Sugar Industry, p. 23.

federal government took further steps to assure an adequate supply of sugar. An appeal was made for the voluntary reduction of consumption. Beet growers were asked to increase acreage and production and were urged to avoid switching to alternate crops in the face of rising labor costs. In a letter to all beet growers, the director of the United States Food Administration stated:

> One of the most vital problems confronting the nation is that of procuring sufficient sugar to meet the requirements of our people and of the Allied nations fighting our common battle. The production of cane sugar in this hemisphere can and will be increased to a limited degree. But we must rely upon the farmers in sugar beet producing sections of the country for a part of the needed supply. I, therefore, earnestly appeal to every farmer, so situated, to come to his country's aid in this hour of need. Without the cooperation of the American beet grower our task will be very difficult and our ability to respond to calls to be made upon us for this very essential commodity will be curtailed. It is at least the duty of every beet grower to increase the acreage to the extent that a well balanced production of crops will permit, and in this manner effectively demonstrate his patriotism.[22]

The voluntary appeals were not effective, however, and in 1918 the federal government took a more direct role in the activities of the mainland sugar industry. Output was stimulated, especially through price adjustments. When it was discovered, for example, that beet growers were refusing to sign agreements with processors because they considered prices offered for their beets to be too low, the federal government intervened and encouraged processors to adjust their price upward so that farmers would grow more beets. In turn, the government adjusted the wholesale price of sugar to cover the higher primary costs.[23] As the gap between supply and demand widened, sugar rationing

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[22]Joshua Bernhardt, "Government Control of Sugar during the War," The Quarterly Journal of Economics, XXXIII (August, 1919), p. 667.

[23]Ibid.

was instituted in 1918. By the end of the war, the federal government, through such techniques as price adjustments, rationing, and patriotic appeal, was in complete control of the mainland sugar industry.

Labor

From the latter part of the nineteenth century through the 1930's the nature of beet and cane culture required the use of large amounts of field labor. Somewhat different circumstances prevailed, however, in the various sugar producing areas. The cane areas mainly used local labor whereas the beet areas used migrant laborers from outside the areas of production and very often from outside the United States.

In the sugar cane areas, government policies had little influence on the supply of labor for the cane fields. The labor was mainly Negro, and most of the Negro workers lived on or near the areas of production.[24] Periodically, a few Europeans were brought to work in the cane fields, but they seldom remained for any length of time. Some shortage of labor was evident in the cane regions during World War I, but it was not as severe as in the beet growing areas. The postwar depression and the general decline in cane culture in the twenties often left the cane areas with a surplus of field labor. Until the early thirties, local Negroes still provided the bulk of the field labor needed in the cane area.

The sugar beet industry, on the other hand, was unable to find sufficient local labor to work in the fields. Prior to World War I

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[24]Sitterson, Sugar Country, p. 316.

relatively few Negroes lived in the northern and western states, and these were mainly in the large cities. As much of the work involved stooping, squatting, or crawling on hands and knees, it was impossible to get white American labor to do the essential tasks. As one person put it:

> If you are going to make the young men of America do this back-breaking work, you are going to drive them away from agriculture ... you have got to use a class of labor that will do this back-breaking work and we have the brains and skill to supervise and handle the business part of it.[25]

The cultivation of beets thus depended upon foreign workers to do work dispised by Americans.

Despite the evident need for imported labor in the beet fields, the United States government passed several acts that tended to restrict the availability of migrant workers. Between 1890 and 1925 Congress passed immigration acts which excluded certain groups, notably those considered undesirables or likely to become a public charge. In addition, the acts provided for a head-tax and prohibited contract labor. The Gentlemen's Agreement of 1907, an understanding between the United States and Japan, eventually ended most Japanese migration to this country.[26] As Japanese immigrants had been a major source of beet labor along the west coast, especially in California, the industry periodically suffered a shortage of field workers.

Enactment of the Literacy Test Act in 1917 caused great concern among agricultural interests. With Oriental migration declining,

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[25]Harry Schwartz, Seasonal Farm Labor in the United States (New York: Columbia University Press, 1945), p. 115.

[26]Roy L. Garis, Immigration Restriction (New York: The Macmillan Company, 1927), pp. 322-323.

European migration limited due to World War I, and American workers uninclined to do such strenuous work, agricultural labor was in short supply. Pressure exerted by various agricultural groups, particularly the sugar beet industry, forced the Department of Labor in 1917 to waive the head-tax and later to eliminate the contract labor and literacy provisions of the immigration law.[27] These moves temporarily admitted Mexican laborers for agricultural work. Although the exemptions were due to expire in 1918, renewed pressure by beet interests forced the government to extend temporary admission through 1920.[28]

World War I greatly reduced immigration from across the Atlantic, but at its close Europeans were anxious to resume migration to the United States. To keep the flow at a manageable level, Congress imposed quantitative restrictions, established in such a fashion as to favor immigrants originating in northern and central Europe. Although passed as a temporary measure in 1921, the limitation extended to mid-1924 to permit Congress time to work out a permanent policy. In 1924, a new act was passed which further reduced the national quotas. It effectively excluded Orientals and reduced greatly the numbers who could come in from southern and eastern Europe. The 1924 immigration act strengthened the competitive position of the Mexican and other Spanish American workers by ending or reducing the free flow of European and Oriental workers

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[27]U.S., Congress, House, Select Committee Investigating National Defense Migration, National Defense Migration, Hearings, "History of Sugar Beet Labor in Michigan," on H.R. 113, Part 19, 77th Cong., 1st sess., 1941, p. 7870.

[28]Ibid.

willing to work in the beet fields. Thus, northern Latin America became the chief source of beet labor during the twenties and in the subsequent period.

As the economic depression of the early 1930's became acute, many urged that legislation be adopted to further restrict immigration. Various proposals were made, but no new legislation was enacted. The federal government merely forbade American consulates to issue entrance permits to any would-be immigrants likely to take jobs from American citizens, or likely to become public charages.[29]

1934 to Present

Between 1890 and 1934, as we have seen, numerous government policies influenced the direction of the mainland sugar beet and cane industries. By the 1930's, however, these industries were in such a chaotic state that a new approach seemed urgent if their problems were to be solved. With passage of the Sugar Act of 1934 and various ensuing acts, regulation of the sugar industry was changed and a new era in the relationship between government and the sugar was initiated.

Throughout the 1920's the tariff approach had proved unable to provide adequate protection for mainland sugar growers. While the duty was being increased on foreign imported sugar with a view to bolstering the price received by mainland sugar interests, the low cost duty-free offshore producers, Hawaii, Puerto Rico, and the Philippine Islands, were, at least in part for political and humanitarian reasons, afforded

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[29]Albion G. Taylor, Labor Problems and Labor Law (New York: Prentice-Hall, Inc., 1950), p. 67.

greater protection. In consequence, they sharply increased sugar production. The result was an oversupply of sugar for the mainland market and a consequent crowding out of Cuban sugar (Table 1). Under these conditions, the benefits of the national sugar policy were not equitably shared by the various supply areas. The duty-free offshore areas enjoyed a greater share of the benefits because of their lower costs, while at the same time mainland producers were not receiving an adequate return on their investments and Cuba was slowly being eliminated from the United States market.

Sugar Acts

After one year of studying various proposals to aid the mainland sugar industry, Congress in May, 1934, passed the first of several new sugar acts. The initial act set forth an entirely new method, the basic provisions of which are still used today, of regulating the mainland sugar beet and cane industries. The basic idea of the new pattern of legislation is to establish market quotas for the various producing interests and to control imports for the benefit of all areas supplying sugar to the United States market. As a former member of the Department of Agriculture commented:

> A person with little understanding of the sugar problem but reasonably informed in American history would have been shocked by the tremendous expansion in government's power over industry called forth by the Sugar Act. Here, for the first time in our nation's history, was a good example of purposive direction of an industry by government action. Congress had pointed out the general direction in which the industry was to advance; administrative officers, with the cooperation of business and agricultural leaders, were to steer the course.[30]

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[30]Dalton, Sugar, p. 112.

The Sugar Act of 1934 was superseded by a new act in 1937. Its major provisions, however, were similar to those of the previous law. The 1937 act was due to expire in 1940, but the growing conflict in Europe and the emergencies of World War II forced Congress to extend it through 1947. When a new sugar act was enacted in 1947 it again contained the basic features of the earlier legislation. With only slight revision, it was extended in 1951 and 1956. The 1956 act was to be effective through 1960, but it was amended in mid-1960 in response to Fidel Castro's rise to power in Cuba. Under the 1960 amendments, the President was given authority to determine Cuba's sugar quota for the remainder of the year and the first three months of 1961. At the same time he signed the amended act, the President, reflecting the national hostility to the new regime in Cuba, suspended the Cuban quota except for sugar already committed to the United States market.[31] Again in 1961, 1962, 1965, and 1971, the Sugar Act of 1948 was further amended and extended. The expiration data for the present act is December 30, 1974.

As previously noted, the sugar acts, beginning in 1934 and including the present law, are similar in many respects. A brief description of this law and its effect on the domestic sugar economy is necessary to make clear how the government, through legislation, controls the allocation of land devoted to sugar in the mainland United States.[32]

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[31] U.S., Congress, House, United States Sugar Program, 1971, p. 38.

[32] The paragraphs which follow are largely based on U.S., Congress, House, Committee on Agriculture, History and Operations of the U.S. Sugar Program, Committee Print, 87th Cong., 2d sess., 1962; U.S., Congress, House, United States Sugar Program, 1971; and Mr. R. F. Ginn, Agricultural Director, Holly Sugar Company, private interview held in Hereford, Texas, March 21, 1972.

Although the provisions of the recent sugar acts are the result of much Congressional and executive bargaining and compromising, the acts once in effect are administered by the Department of Agriculture. The law requires the Secretary of Agriculture to determine how much sugar, in tons, will be needed to fill United States requirements during each forthcoming calendar year. After the annual determination is made, the law specifies how the amount of sugar needed is to be allocated among the various domestic and foreign suppliers, including the mainland sugar beet and cane growers.

After the sugar allotment to mainland growers is known, the legislation requires that the market be divided among the states, the counties, and finally the individual farms. Each farm's allotment, known as a proportionate share, may be expressed in acres, in tons of sugar cane or beets, or in tons of sugar, raw value. Normally, however, proportionate shares are defined in acres.

The method of allocating the sugar requirement to the individual grower follows a rather simple plan. An example of how it is done within the sugar beet industry will suffice to explain the procedure. After the mainland beet producers have been granted their share of the anticipated sugar requirement, the figure is converted to acres and the acreage is assigned by the Department of Agriculture to the various beet producing states on the basis of past "production history." For the past decade or so, the production history has been defined as the average acreage for the last three crop years. The states, through their individual Agricultural Stabilization and Conservation Service offices, in turn allocate the acreage to the various counties on the same basis.

Finally, the county Agricultural Stabilization and Conservation Service offices assign the acreage to the individual growers on the basis of their past production history, again using the three-year period as a guide. In some instances, as in 1965 and 1966, the crop may have to be restricted because of an excessive carryover resulting from larger than expected production and/or a drop in consumption. The authorized carryover, normally about 10 percent of annual production, is part of the Secretary's annual estimate of sugar requirements for the following year. Thus, any excess production or drop in consumption serves to increase the size of the carryover and requires a reduction in the following year's crop allotments.

When a reduction is necessary, the amount of the decrease is determined by the Secretary of Agriculture and is proportioned out to the individual growers on the basis of their past production history. Suppose, for example, the Secretary determines that the 1974 sugar beet crop will have to be reduced because of a large carryover from 1973. To bring supply into line with demand, it is necessary to reduce acreage by 5 percent. Thus, a farmer with a 100 acre allotment based on his past three year production history is permitted to harvest only ninety-five acres of sugar beets for sugar in 1974. In other words, the farmer's proportionate share is ninety-five acres. The purpose of assigning specific reductions to individual farms is to assure that each grower will share in the adjustment equitably. The same general process applies when a decision is made to increase sugar production.

A given farmer may plant more than his proportionate share, but he can harvest for sugar only the officially allocated acreage. If he

knowingly harvests more than his share, the grower forfeits the conditional payment guaranteed him by the law. The conditional payment is the mechanism used by the federal government to enforce compliance with the restrictions imposed on the grower by the program. As these payments are an essential part of the income from the crop, growers adhere closely to the provisions of the legislation. Aside from losing the conditional payment by non-compliance with the proportionate share determination, growers can lose payment by paying field workers less than the wage rate determined by the Secretary of Agriculture to be fair and reasonable or by employing children under the age of 14 years to work in the fields.

Except for the amendments in the 1960's which were directly or indirectly related to Castro's rise to power in Cuba, the changes in the sugar acts have been largely concerned with the allocation of quotas to the various supply areas. The 1948 and 1951 acts placed absolute limits on the amount of sugar to be supplied the United States market by mainland growers and gave any increase in sugar requirements to foreign suppliers. In 1956, however, the amended act eliminated the absolute quotas for mainland growers, thereby permitting their participation in supplying the growing sugar market. Later amendments have continued to give mainland growers an opportunity to share in the expanding market for sugar.

Apart from the sugar acts, the federal governmenthas advanced certain other policies since 1934 which have significantly influenced the amount of land devoted to sugar production in the mainland United States. Reclamation continues to be important in the development and expansion of sugar beet culture in the western states. Further, various

pieces of labor legislation have been important in relation to the cost of sugar beet and cane culture. For example, Public Law 78 was enacted to allow for an annual importation of farm workers, or braceros, from Mexico to meet the need for farm labor.[33] Passed in 1951 as a temporary measure, it remained in effect until 1965, largely through vigorous support from agricultural interests. In addition, the federal government currently permits the temporary employment of foreign laborers, mainly from the Caribbean islands, to work in the sugar cane fields in Florida.[34] To obtain these laborers, the growers must prove to the United States Department of Labor that domestic workers are unavailable for the type of work to be done and that the admission of the foreign laborers will not result in an adverse effect upon employment conditions within the United States.

Since passage of the first sugar act in 1934 the mainland sugar beet and cane industries have in effect been under the direct control of the federal government. The 1934 act had as its goal the stabilization of the sugar industry through limiting expansion of domestic sugar acreage and improving prices. In subsequent acts the purpose has been modified slightly, generally to allow mainland producers to obtain a greater share of the sugar market. The preamble of the Sugar Act of 1948, and later amended acts, states that it is the purpose of the act to "protect the welfare of ... those engaged in the domestic sugar-

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[33] To Amend the Agricultural Act of 1949, Statutes at Large, LXV, pp. 119-121.

[34] Personal letter, Mr. J. Nelson Fairbanks, Vice President and General Manager, Florida Sugar Cane League, Inc., October 26, 1972.

producing industry."[35] It leaves little doubt about the role of government in the allocation of agricultural land for sugar in the continental United States. Chapter V is concerned with the influence of government policy and land acreage allocated for sugar production from 1890 through 1933.

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[35] Sugar Act of 1948, Statutes at Large, LXI, p. 922 (1947).

CHAPTER V

THE INFLUENCE OF GOVERNMENT POLICIES ON THE AMOUNT OF LAND DEVOTED TO SUGAR PRODUCTION, 1890-1933

From 1890 through 1933 the amount of land allocated to the production of sugar in the continental United States rose from 147,000 acres to 1,194,000 acres (Figure 19). The precise acreage harvested varied from year to year, and at times the variation was considerable. In 1890, nearly all of the acreage harvested for sugar was planted in sugar cane. By the 1930's, however, a dramatic shift had occurred. Sugar beets had become dominant.

The increase in land used for sugar production can be attributed to numerous factors influencing mainland sugar culture. No doubt the rise in individual sugar consumption and the growth of population were both important considerations. As Table 16 shows, consumption rose from 53 pounds in 1890 to 110 pounds in 1930. At the same time, the population of the United States nearly doubled, increasing from 63,000,000 to slightly more than 123,000,000.[1] It did not follow, however, that the increased quantity of sugar needed to meet consumption requirements had

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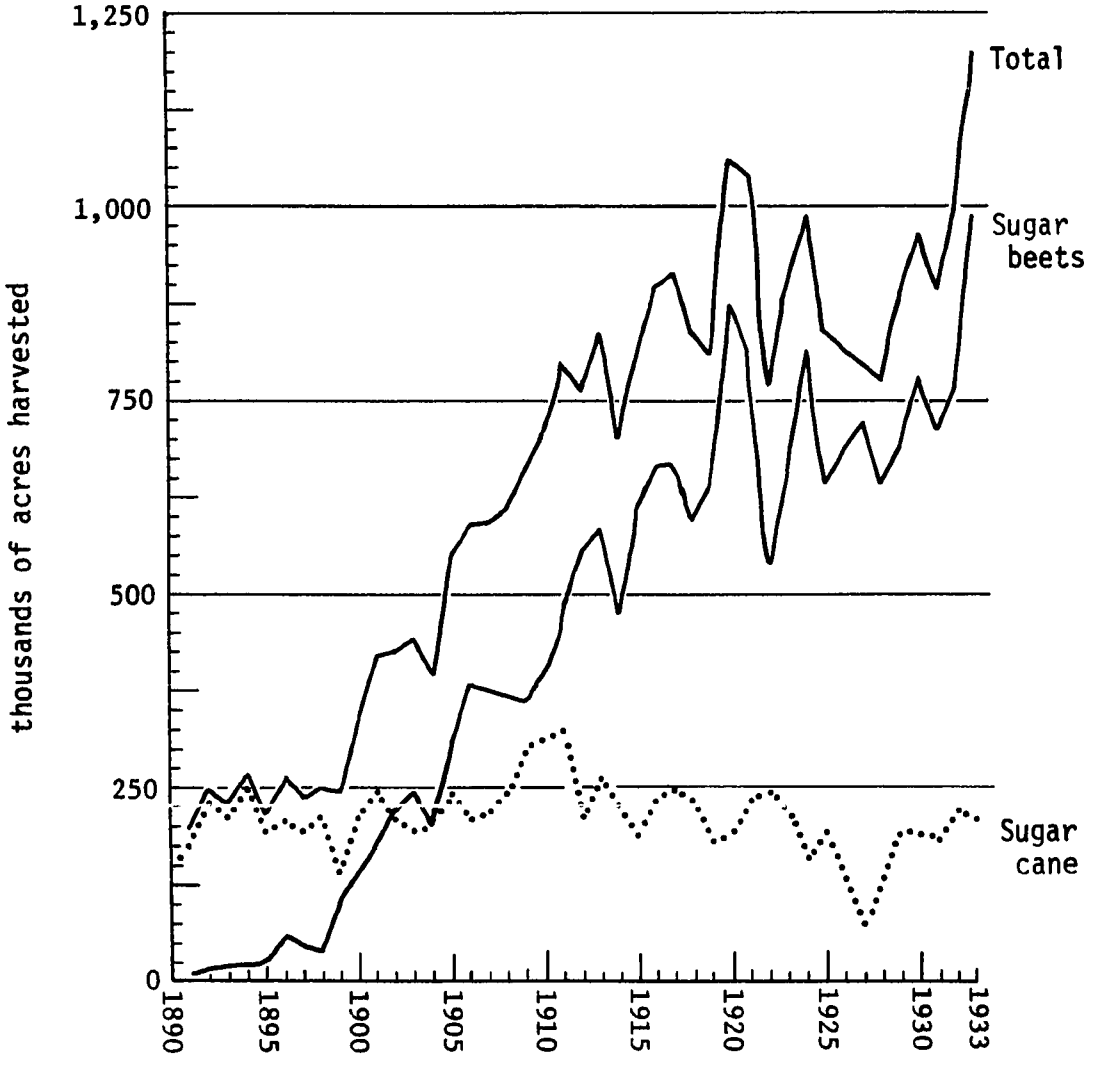
[1]U.S., Department of Commerce, Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1957 (Washington, D.C.: Government Printing Office, 1961), p. 8.

FIGURE 19

ACREAGE HARVESTED FOR SUGAR, CONTINENTAL UNITED STATES
1890-1933



Source: Tables 10 and 14

to come from the mainland United States. From a purely economic standpoint, production costs were cheaper elsewhere. During the period 1890-1933, however, favorable conditions for sugar culture generally prevailed on the mainland, largely because of policies implemented by federal and state authorities, especially the former. Without this government assistance it is doubtful that sugar acreage would have reached anything like the importance it had by the early thirties. It is the purpose of this chapter to examine government influence on the amount of land devoted to sugar production during the period 1890-1933.

TABLE 16

Per Capita Sugar Consumption, United States, 1890-1970

in pounds, refined basis

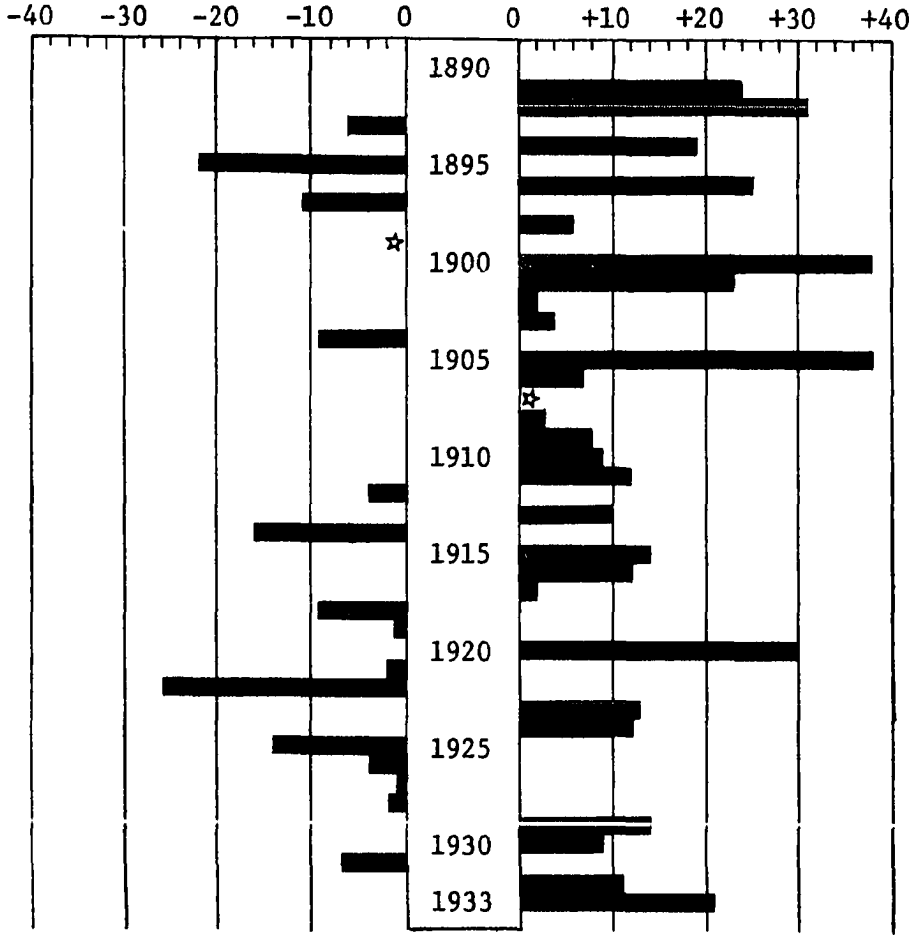
Year	Pounds	Year	Pounds
1890	53	1935	97
1895	63	1940	96
1900	65	1945	74
1905	71	1950	101
1910	75	1955	98
1915	78	1960	98
1920	86	1965	96
1925	104	1970	102
1930	110		

Source: U.S., Department of Commerce, Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1957 (Washington, D.C.: Government Printing Office, 1961), p. 187, and U.S. Department of Agriculture, Agricultural Statistics, 1972 (Washington, D. C.: Government Printing Office, 1972), p. 107.

Figures 19 and 20 portray the general growth and annual percentage change in acreage harvested for sugar between 1890 and 1933. The changes in acreage were influenced by many considerations, among others, improved technology, weather conditions, crop competition, and economic

FIGURE 20

PERCENTAGE CHANGE IN ACREAGE HARVESTED FOR SUGAR OVER PREVIOUS YEAR, CONTINENTAL UNITED STATES, 1890-1933



☆ less than one percent

Source: Computed from Tables 10 and 14

nationalism. But while these and other factors were significant, the role of government was of primary importance in the growth of the mainland sugar culture. As one person interested in the industry said:

> Sugar ... has been the football of American politics since you and I have been of age and have known anything about business at all. Business considerations have never prevailed in discussing it. It has always been controlled by what have been deemed at the time to be the political requirements of the hour.[2]

During the period under review, government policies had more influence on sugar beet than on sugar cane culture. The obvious explanation seems to be that beet growing had a wider geographical distribution and thereby beet growers had more political influence with Congress and the executive branch. Cane at this time was important only in Louisiana.

During the nineteenth century only a small percentage of the sugar consumed in the United States came from mainland producers. Since sugar was a prominent item on the import list, a duty was imposed on it, making sugar a major source of revenue for the federal government. While such a condition is hard to imagine in our own time, during the 1880's the federal treasury was continually plagued by a surplus of revenue. Congress was determined to reduce the surplus. The most expedient way was to reduce or remove the import duty on certain items. Since sugar was a major source of revenue, many members of Congress felt the duty on it should be lowered or eliminated.

1890-1913

By 1890, the need to maintain a sugar tariff for revenue was

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[2]U.S., Congress, House, Committee on Ways and Means, Tariff Schedules, Hearings, 62d Cong., 3d sess., 1913, p. 2410.

certainly no longer pressing. After considerable discussion and debate, Congress enacted the Tariff Act of 1890 which placed raw sugar on the free list (Table 15). Protection for mainland growers was continued, however, in the form of a bounty on sugar produced in the continental United States. In accordance with the tariff law, the bounty was to be effective until 1905.

While the sugar duty had been viewed by most people simply as a source of revenue for the federal treasury, mainland growers saw it as protection for their specialty crop. Interested in retaining this protection, growers presented their position to Congress during consideration of the 1890 tariff act. The coastal refiners were also interested in the legislation. Since their business largely depended upon the importation of raw sugar, they wanted a duty placed on imported refined sugar. Such a duty would protect their operations by greatly reducing the amount of refined sugar imported from foreign sources. Further, the refiners favored a low duty, even no duty, on imported raw sugar since they saw no advantage in having to purchase their supplies from higher cost mainland growers. More imported raw sugar meant increased refining activity along the coast and higher profits for the refiners. This conflict of interest generally prevailed between the mainland growers and coastal refiners throughout much of the period 1890-1933.

At the legislative hearings for the 1890 tariff act, the growers and refiners presented their respective positions on the sugar duty. The growers argued that protection should be continued because the federal government had encouraged heavy investment in sugar production

through protective duties prior to 1890.[3] To change the policy without sufficient warning was unfair. Representatives of the Louisiana cane industry pointed to the impact that free sugar would have in their state's economy. They further noted that adequate protection would result in an expansion of mainland sugar production and so increase the nation's economic independence and internal growth. Spokesmen for the beet growers argued that since the beet industry was still in its initial stages of development the removal of the duty on raw sugar would damage, perhaps destroy, beet culture in the United States.[4] No one, they insisted, would risk capital in beet production under such conditions as would prevail without tariff protection. The refiners, on the other hand, wanted to retain a reasonable import duty on refined sugar, but argued that the reduction or elimination of the duty on raw sugar would lower the price of sugar and thereby benefit consumers.[5] Congress finally went along with the views of both the growers and the refiners. The bounty provided continued protection for mainland growers and a duty on refined sugar satisfied the refiners.

The Tariff Act of 1890, with its bounty provision, had a positive impact on the amount of land devoted to sugar. As shown in Figure 19, acreage harvested for sugar increased by 120,000 acres between 1890 and 1894. Most of the increase was in sugar cane. An important factor in

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[3]Sitterson, Sugar Country, pp. 326-327, and U.S., Congress, House, Committee on Ways and Means, Revision of the Tariff, Hearings, 51st Cong., 1st sess., 1890, pp. 624-639.

[4]U.S., Congress, House, Revision of the Tariff, Hearings, 1890, pp. 639-653.

[5]Ibid., pp. 655-665.

the expansion of cane acreage was the fifteen-year period the bounty was to be in effect.[6] Planters, desirous of taking full advantage of the bounty, not only increased acreage, but invested heavily in factories and additional land suited to cane. Between 1890 and 1894, nearly $30,000,000 in bounty payments was paid to mainland sugar growers.[7] The largest portion of it went to Louisiana cane planters.

While the bounty provision also served to stimulate sugar beet production, the expansion of beet culture was given additional impetus by the duty free importation of sugar machinery and beet seed. Since beet culture was relatively new, the increase in acreage between 1890 and 1894 was less than in the case of sugar cane. A number of interested people, growers and processors alike, saw the 1890 act as both saving and encouraging beet culture. As one noted authority said:

> It is certain that it gave hope to both operators and growers, and between the time this act went into effect, in October, 1890, and the following June, some $6,000,000 had been invested in beet sugar factories in this country ... This small bounty, even for a brief time, was a wonderful stimulus to the struggling industry.[8]

The loss of revenue from imported raw sugar and the burden of bounty payments to mainland sugar growers rapidly depleted the surplus in the federal treasury. In the political campaign of 1892, the Tariff Act of 1890, notably the sugar provisions, came under attack. When the

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[6]U.S., Congress, House, Committee on Ways and Means, Tariff Hearings, 54th Cong., 2nd sess., 1897, p. 624.

[7]Ellis, Tariff on Sugar, p. 47.

[8]University of California, Agricultural Experiment Station, The California Sugar Industry, by George W. Shaw, Experiment Station Bulletin No. 149 (Berkeley, Calif.: University of California Experiment Station, 1903), p. 17.

Democrats, who had campaigned on a policy of lower tariffs, won the presidency there was little doubt that changes were forthcoming.

In the renewed debate over the tariff law, the mainland sugar industry, especially the growers, again pleaded their case in Congress. Cane growers wanted a continuation of the bounty or equivalent protection because the promised permanence of the bounty had been instrumental in encouraging expansion of cane acreage and investment in land and machinery.[9] Once again the growers cited the role of cane in Louisiana's economy. A spokesman said:

> ... it is the chief industry of the State of Louisiana, half of its people and half of its capital are directly or indirectly engaged in the industry. More than half a million people are dependent upon our Louisiana sugar industry for their daily bread and we have more than a hundred million dollars invested in it.[10]

Beet interests also sought retention of the bounty. They argued that the federal government had a duty to honor the bounty for the full time period as called for in the 1890 tariff law. Further, they insisted, repeal of the bounty without compensating protection in some other form was tantamount to a reduction in mainland beet and cane production. An inevitable result would be the loss of millions of dollars of capital to the American economy.[11]

The arguments of the mainland growers only partially convinced Congress. In the House, a tariff bill was passed which placed raw sugar on the duty free list and abolished the bounty. The outcome in the

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[9]U.S., Congress, House, Committee on Ways and Means, Tariff Hearings, 53d Cong., 1st sess., 1893, p. 536.

[10]Ibid., p. 535.

[11]Ibid., p. 519.

Senate, however, was quite different. To win approval of the tariff bill in the Senate the votes of the Louisiana senators were needed, and these gentlemen insisted on some protection for the cane growers.[12] After considerable discussion, the Senate and House reached agreement, and the Tariff Act of 1894 was passed with a protection provision. It imposed an ad valorem duty of 40 percent on imported raw sugar or the equivalent of about 1 cent a pound at currently prevailing prices (Table 15). The bounty was repealed.

The lower duty enacted in the 1894 tariff law influenced the amount of land allocated to sugar production. As might have been expected, passage of the act brought an almost immediate reduction in sugar acreage. In 1895, total acreage harvested was 22 percent less than in the previous year (Figure 20). The following year acreage harvested increased, but it decreased again in 1897. In the four years the tariff was in effect, 1894-1897, total acreage harvested for sugar declined from 267,000 to 232,000 acres (Figure 19).

The mainland cane industry suffered from the removal of the bounty and the ensuing lower duty on raw sugar. Cane acreage harvested fluctuated from 1895 through 1897, the effective crop years of the act, but it remained below the acreage recorded between 1892 and 1894 (Figure 19). Probably some of the decline can be attributed to slightly lower prices for sugar, especially during 1895 (Table 17). A more important factor, however, was the lower rate of duty provided by the 1894 tariff act.[13]

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[12]Taussig, Tariff History of the United States, 6th ed., p. 308.

[13]U.S., Congress, House, Tariff Hearings, 1897, p. 624.

TABLE 17

Average Annual Retail Price of Sugar, 1890-1933

Year	Cents per pound	Year	Cents per pound
1890	6.9	1912	6.3
1891	6.0	1913	5.5
1892	5.6	1914	5.9
1893	5.9	1915	6.6
1894	5.5	1916	8.0
1895	5.3	1917	9.3
1896	5.6	1918	9.5
1897	5.6	1919	11.3
1898	5.9	1920	19.4
1899	5.9	1921	8.0
1900	6.1	1922	7.3
1901	6.0	1923	9.9
1902	5.6	1924	9.0
1903	5.6	1925	7.0
1904	5.9	1926	6.8
1905	6.0	1927	7.2
1906	5.7	1928	6.9
1907	5.8	1929	6.4
1908	5.9	1930	6.1
1909	5.9	1931	5.8
1910	6.0	1932	5.0
1911	6.1	1933	5.3

Source: U.S., Department of Commerce, Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1957 (Washington, D.C.: Government Printing Office, 1961), p. 128.

While a decrease in cane acreage occurred, the growers with small individual acreages, who even with the bounty had had difficulty operating, represented much of the loss.

Sugar beet acreage harvested for sugar did not respond to the tariff act in the same way as sugar cane (Figure 19). To some extent, beet growers were influenced by the proposed tariff legislation before it was enacted by Congress. With advance knowledge that tariff changes were probably forthcoming, growers did not increase acreage in 1894 because they were unsure about the level of protection in any new tariff legislation and were not confident that the bounty would be paid on the 1894 crop. Although a lower duty was enacted in 1894, beet acreage harvested increased slightly in 1895 and more than doubled in 1896 (Figure 19). Beet growers almost certainly would not have expanded acreage during those years if the only protection or aid they received came from the import duty. The reason for the sharp expansion in acreage was that a number of states passed laws to aid and encourage beet production within their boundaries. The two most common types of state legislation were the payment of bounties and the exemption of beet-sugar factories from taxation. Of the two, however, bounties were the most important in stimulating the expansion of beet acreage in the mid-1890's.[14] Among the states offering a bounty were Nebraska, Utah, Minnesota, New York, and Michigan.[15] In most instances, the state bounty was sufficient to make up the difference between the repealed federal bounty and the import

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[14]U.S., Congress, House, Report on the Beet Sugar Industry in the United States, H. Doc. 158, 65th Cong., 1st sess., 1917, p. 16.

[15]Cherington, "State Bounties," pp. 381-386.

duty provided under the 1894 tariff act.

In 1897, beet acreage harvested for sugar was down from the level of the previous year (Figure 19). An important reason for the decrease was the declining influence of the state bounties. Some of the bounty laws had been enacted for a period of only two or three years and had expired. In several instances, the states failed to make the bounty payments or the bounty law was declared unconstitutional. Further, some states attempted to reduce the amount of the bounty when it became clear that the legislature had misjudged the bounty's impact on beet production and the state budget. The Michigan legislature, for example, enacted a bounty law in 1897 which provided for a 1 cent a pound bounty on sugar, providing the farmer received $4.00 per ton for his beets.[16] Shortly thereafter, the legislature, alarmed by the number and size of claims, reduced the bounty to ½ cent a pound.[17] At the same time, it refused to fix a maximum dollar limit on bounty payments as requested by the governor. The governor then promptly vetoed the bill, leaving the old 1 cent a pound bounty in effect. When the state treasurer, acting on advice from the attorney general, refused to pay a claim submitted by the Michigan Sugar Company, the company brought suit against the State of Michigan. The law was declared unconstitutional after the Michigan Supreme Court failed to uphold the section of the act which provided for the encouragement of the sugar beet industry through payment of a bounty.[18]

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[16]U.S., Congress, House, National Defense Migration, Hearings, "History of Sugar Beet Labor in Michigan," 1941, p. 7862.

[17]Ibid., p. 7863.

[18]U.S., Congress, House, Report on the Beet Sugar Industry, 1917, p. 15.

When the Tariff Act of 1894 was passed it seemed unlikely to many that mainland sugar growers would ever again receive the protection afforded them under the 1890 tariff law. But in 1896 the political fortunes of the country changed and the Republicans regained the presidency. During the campaign, the tariff question received considerable attention. While the Democrats continued to be against a tariff for protection, the Republicans insisted that mainland growers were entitled to some assistance through legislative means. To this end, they inserted the following into their party platform:

> We condemn the present Administration for not keeping faith with the sugar producers of the United States. The Republican party favors such protection as will lead to the production on American soil of all the sugar which American people use, and for which we are sending abroad annually more than $100,000,000 to foreign countries.[19]

The Republicans wanted a higher duty to protect sugar growers. But since most of the sugar consumed in the United States was imported, a higher duty also meant additional revenue for the treasury. By this time revenue was sorely needed because the 1894 tariff law was not producing the revenue that its framers had predicted.

Soon after the Republicans took office, Congress passed the Tariff Act of 1897, also known as the Dingley Tariff. It increased the duty on imported raw sugar and provided for the complete countervailing of all bounties paid by foreign governments on sugar shipped to this country (Table 15). The new tariff act, whose major provisions remained in force for fifteen years, stimulated the expansion of mainland sugar culture. But the Dingley Tariff was only one of several government policies

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[19]U.S., Congress, House, Tariff Hearings, 1897, p. 661.

influencing the amount of land devoted to sugar production in the mainland United States at this time. The efforts of the Department of Agriculture, led by Secretary James Wilson, and the outcome of the Spanish-American War were important influences as well. Furthermore, reclamation of arid lands under provisions of the Carey Act and the Reclamation Act provided impetus for the expansion of beet culture in the western United States. An analysis of the relationship between these policies and acreage harvested for sugar from 1897 to 1913 reflects their role in the expansion of sugar culture.

The period 1897-1913 was one of rapid expansion of sugar culture in mainland United States (Figure 19). In 1897, total acreage harvested for sugar was 232,000 acres. By 1913, it had risen to 835,000 acres an increase of 260 percent during the period. While both beet and cane acreage expanded, the former recorded the largest increase in acreage harvested. Indeed, it was during this period that the sugar beet became an established part of American agriculture. While increased consumption accounted for part of the growth in acreage, a more important factor was the elimination of some of the traditional supply areas after the turn of the century (Table 1).

For mainland cane growers, however, the period 1897-1913 was one of frustration and disappointment. In the early 1890's, with enactment of the bounty, Louisiana growers were optimistic about the future of cane culture. But optimism faded in 1894 when a Democratic Congress lowered the duty. When the Congress reversed itself and passed the Dingley Tariff, growers once again were encouraged about sugar cane as a commercial endeavor. In response to the tariff, cane acreage harvested

increased during the period 1897-1901 (Figure 19). The sharp temporary decrease in acreage which occurred in 1899 was the result of a destructive frost in the Louisiana cane region.[20]

Just when cane acreage appeared to be recovering from the frost damage, the afteraffects of the Spanish-American War threatened continued expansion of cane culture. Following the war, cane growers correctly perceived the annexation of Puerto Rico and the Philippine Islands, along with American supervision of Cuba, as a serious threat to their cropping system. Closer association with these areas was undoubtedly beneficial to certain manufacturing interests, including coastal sugar refiners, but it would be at the expense of mainland growers of subtropical crops such as sugar cane.[21] What growers feared most became a reality after the turn of the century. Each of the newly associated territories was granted a concession, ranging from duty free access to a reduction from the full duty, on raw sugar shipped to the United States market (Table 15). In each instance, the American Cane Growers Association, spokesman for the mainland cane growers, protested the concessions.

Although tariff concessions to Puerto Rico, the Philippine Islands, and Cuba were not made immediately after conclusion of the war, the anticipation of such concessions influenced growers and, consequently, the amount of land allocated to cane culture. Whereas acreage harvested in 1901 was the largest since 1890, it declined sharply in 1902 and again in 1903 (Figure 19). Whether the fears of the growers regarding tariff

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[20]U.S., Department of Commerce, Bureau of the Census, Twelfth Census of the United States, 1900: Agriculture, VI, p. 447.

[21]Sitterson, Sugar Country, p. 341.

concessions were real or imagined, the effect was the same, causing many growers to reconsider their role in the mainland cane industry.[22] Again, politics was influencing the amount of cane acreage harvested for sugar.

The impact of the tariff reductions for offshore producers lessened after several years and cane growers adjusted their acreages accordingly. During the period 1905-1912, with immigration supporting rapid population growth, cane acreage harvested tended to increase. In years when acreage did decline, as in 1906 and 1912, it was primarily the result of unfavorable weather conditions or disease. The granting of further tariff concessions to the Philippine Islands in 1909 had little influence on the mainland cane growers. These growers had argued that any further concessions would be detrimental to mainland cane production, but such proved not to be the case. Indeed, the 317,000 acre harvest of 1911 was the largest to be recorded between 1890 and 1933 (Figure 19).

The technical capabilities and political influence of the Department of Agriculture were also important to the development of cane culture. The department aided growers in developing improved cultivation practices, cooperated in establishing experiment stations devoted to cane research, and helped fight cane diseases.[23] Assistance in combating cane diseases was especially important after 1900 when their damage became particularly serious in the Louisiana cane region. Further, the department aided cane growers in an indirect way. While all aspects of

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[22]It should be pointed out that Hawaii, an important sugar cane producing area, was also annexed by the United States in 1898 and sugar from the islands was thereafter admitted duty free.

[23]Sitterson, Sugar Country, p. 345.

agriculture were of concern to Secretary Wilson, he was particularly interested in the development of sugar beet culture. By virtue of the widespread distribution of sugar beet farming, both actual and potential, the department was able to enlist considerable political support in Congress for the development of beet culture. Thus, when an issue relating to the mainland sugar industry, such as tariff protection, came before Congress, the cane growers were the indirect beneficiary of the political influence held by the beet industry and largely generated by the Department of Agriculture.

For the sugar beet industry the period 1897-1913 was perhaps the most important in its history. If the period from 1890 to 1897 was the developmental period, as some have termed it, then the following sixteen years were the growth period. One writer, analyzing the industry in 1913, noted that the sugar beet industry was virtually created between 1897 and 1913.[24] Figures showing the amount of land devoted to beet production tend to substantiate this observation (Figure 19). In 1897, only 41,000 acres of beets were harvested for sugar. By 1913, there were 518,000 acres, an impressive 1300 percent gain. This rapid growth was largely the result of favorable government policies.

Perhaps the most important government decision to influence favorably the growth of beet culture was passage of the Tariff Act of 1897. By raising the duty on imported sugar, the federal government provided considerable stimulus for the domestic expansion of beet culture.[25]

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[24]Roy G. Blakey, "The Proposed Sugar Tariff," Political Science Quarterly, XXVIII (June, 1913), p. 246.

[25]U.S., Congress, House, Report on the Beet Sugar Industry, 1917, p. x.

The influence of the new tariff was not yet evident in the acreage harvested in 1898 because the time since enactment of the law was insufficient to allow for factory construction to be completed. By 1899, however, the beneficial influence of the tariff was clearly noticeable as beet acreage harvested for sugar reached 110,000 acres (Figure 19). The high rate of duty legislated in 1897 remained in effect until 1913. It therefore served as a continuous encouragement for the expansion of beet culture throughout the period.

While the tariff provided a considerable incentive to growers to enlarge beet acreage, the Department of Agriculture was doing its part as well. Although the department has been concerned with promoting beet culture for some time, its greatest involvement came after the appointment of James Wilson as Secretary of Agriculture in 1897. From the time Wilson took office until he was relieved in 1913, the department expended a great deal of time, effort, and money encouraging the development of beet culture. Although the influence of Wilson and his colleagues in the department can not easily be quantified, there seems little doubt that their efforts were of major importance in the rapid extension of beet culture. As one economist said:

> The growth of this industry can, in the main, be attributed to two factors: first, to the actions of James Wilson, who, as Secretary of Agriculture ... induced American capitalists to invest ... in the creation of 76 beet-sugar factories, thus creating a new American agricultural industry; the second factor was, of course, the tariff protection accorded this industry from its inception.[26]

Wilson never denied his interest and influence in the expansion of beet

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[26]Bettman, "Beet-Sugar Industry," p. 370.

culture. Indeed, he was very proud of it. In the annual report of the Secretary of Agriculture in 1912 he wrote:

> The raising of sugar beets for sugar making can hardly be regarded as being an established industry 16 years ago. Beginnings had been made, but the success of the industry was not assured. Under encouragement of law, this department ... promoted the growth of the industry, and the industry grew ... and it became firmly established.[27]

Moreover, the influence of the Department of Agriculture was clearly suggested during hearings on the Tariff Act of 1909. Although the act did not reduce the duty on imported sugar, there was agitation in Congress for tariff revision. A delegation representing the Michigan sugar beet industry pleaded for continued protection. In making the plea, a spokesman for the delegation said:

> I wish to call the attention of the committee to one fact. The investment which our company made in the sugar business was one which was made on the invitation and urgent advice of the United States Government through its Department of Agriculture; and also it was based upon the recognized policy of the administration and the party in power of protecting and encouraging domestic or home industries. If it had not been for this encouragement and for the pledge made by the Republican party in its platform, and the reliance that we had upon the continuance of the policy of protection, I am certain that this particular investment never would have been made. It is an unfortunate fact that since the investment was made and we commenced doing business one of the most urgent demands upon our time and attention has been for resisting of efforts made in Congress of the United States, not with malice, but, as we believe with the certain result, if successful, of hampering or destroying the industry.[28]

There seems little question that the Department of Agriculture, under Wilson's direction, aided and encouraged the expansion of beet culture.

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[27]U.S., Department of Agriculture, Annual Report of the Department of Agriculture, 1912 (Washington, D.C.: Government Printing Office, 1913), p. 17.

[28]U.S., Congress, House, Committee on Ways and Means, Tariff Hearings, 60th Cong., 2d sess., 1909, p. 3317.

While the government provided direct encouragement for the production of sugar beets through tariff legislation and the technical aid and promotional activities of the Department of Agriculture, it also stimulated the expansion of beet culture by implementing policies designed to reclaim arid lands in the western United States. Passage of the Carey and Reclamation acts opened the way for the development of intensive agriculture on heretofore unused or little used land. Of the nearly 290,000 acres reclaimed and irrigated under the Carey Act by 1909, approximately 162,000 acres were in Idaho.[29] No beets had been grown for sugar in Idaho prior to 1900 (Figure 1). In 1903, on some of the newly reclaimed and irrigated land, beet culture was introduced into the agricultural economy. Approximately 5,000 acres of beets were harvested in Idaho that year.[30] Thereafter, sugar beets became an established crop. In 1909, nearly 16,000 acres of beet were harvested for sugar in the state.[31] The greatest portion of this acreage was on land developed under provisions of the Carey Act.

Although the Reclamation Act was passed in 1902, several years elapsed before any projects developed under it were in operation. By 1909, however, considerable agricultural activity was underway in reclaimed areas. Sugar beets were introduced and grown wherever feasible. In Arizona, for example, the Salt River Project, one of the initial projects authorized under the act, eagerly encouraged the growth of beets.

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[29] U.S., Census, Thirteenth Census: 1910, V, p. 846.

[30] Leonard J. Arrington, Beet Sugar in the West (Seattle: University of Washington Press, 1966), p. 184.

[31] U.S., Census, Thirteenth Census: 1910, V, p. 692.

It seems fair to say that the Salt River Project was directly responsible for the development of beet culture in Arizona, and the associated sugar factory at Glendale, near Phoenix. In reporting about the project and the beet industry in the state, Charles Salyor, Secretary Wilson's special agent for the sugar beet industry, wrote:

> The Glendale factory is the first located in a district watered by irrigation ditches or reservoirs built by the Government of the United States. Its existence is dependent entirely upon the new irrigation and reclamation act passed by Congress recently ... The factory ... will be the first to demonstrate the beneficence of that act of Congress, which will eventually reclaim millions of acres of land now sterile from lack of water. Other sugar factories will doubtless follow, bringing this land into use in intensive and productive agriculture.[32]

In 1909, Arizona harvested approximately 4,500 acres of beets for processing at the Glendale plant.[33]

Another example of the influence of the Reclamation Act on beet culture is the development of the Reclamation Service project at Huntley, Montana, located in the southeastern part of the state. Although authorized in 1905, irrigation facilities were not available at the project until 1908. Table 18 shows the relationship between the expansion of irrigation and beet acreage on the project. The Huntley project was one of the most successful of the early reclamation developments in the western United States. Its success was closely related to the introduction of sugar beets in the economy. Irrigated grain and hay alone were not sufficiently valuable to ensure the project's success. It needed an

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[32]U.S., Department of Agriculture, Progress of the Beet-Sugar Industry in the United States in 1903, by Charles F. Salyor (Washington, D.C.: Government Printing Office, 1904), p. 13.

[33]U.S., Census, Thirteenth Census: 1910, V, p. 694.

intensive crop with a large, reliable market, and in this respect sugar beets were without a rival.[34]

TABLE 18

Acreage Irrigated and Sugar Beets Grown, Huntley Project, Montana, 1908-1912

Year	Irrigated acreage[a]	Sugar beet acreage[b]
1908	Not available	48
1909	6,000	578
1910	8,000	1,364
1911	12,000	3,661
1912	14,425	5,158

[a]U.S., Department of Interior, Reclamation Service, Thirteenth Annual Report of the Reclamation Service, 1913-1914 (Washington, D.C.: Government Printing Office, 1915), p. 149.

[b]U.S., Congress, House, Committee on Ways and Means, Tariff Schedules, Hearings, 62d Cong., 3d sess., 1913, p. 2470.

Mainland beet interests were naturally concerned about tariff modifications on sugar following the Spanish-American War. In 1901, they were firmly against permitting Puerto Rican sugar duty free access to the United States market. Their opposition was not fully mobilized, however, against the increased competition or the possibility that island sugar would bring lower prices. At the time, the Puerto Rican sugar industry was small and showed few signs of rapid growth. The beet interests, therefore, did not see it as an immediate threat to their economy. They were against the concession primarily because it might serve as a precedent for similar legislation regarding the Philippine Islands and Cuba.[35]

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[34]U.S., Congress, House, Tariff Schedules, Hearings, 1913, p. 2470.

[35]Frank R. Rutter, "The Sugar Question in the United States," The Quarterly Journal of Economics, XVII (November, 1902), p. 66.

When the question of tariff preference for Cuba arose, beet interests were among those who opposed the concession.[36] Unlike that of Puerto Rico, Cuba's sugar industry was large and its potential for expansion seemed unlimited. With cheaper labor costs and a low freight rate to east coast refineries, Cuban sugar, given a reduction in the duty, could pose a real threat to the beet producers. Beet interests also feared that any lowering of the Cuban duty would stimulate United States investment in the island's sugar industry. Since the beet industry was still in the early stages of development, any loss of potential investment capital might seriously affect its own future expansion. But the beet interests, and others opposing the reduction in duty to Cuba, had some formidable foes who saw the concession as desirable. Supporters of a lower duty had powerful friends, among them Presidents McKinley and Roosevelt, and eventually their efforts were successful. Later in the decade, during the Roosevelt and Taft administrations, beet interests opposed further tariff concessions on Philippine sugar. Again their efforts achieved only limited success.

The granting of tariff concessions on Puerto Rican, Philippine, and Cuban sugar, in spite of the beet growers' fears, had little influence on the amount of land devoted to beet production. With the exception of 1904, beet acreage harvested for sugar increased steadily during the period 1898-1913 (Figure 19). The temporary decline in 1904, however, was to a considerable degree due to fear and uncertainty on the part of growers over the impact of the tariff reduction to Cuba. Since

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[36]U.S., Congress, House, Committee on Ways and Means, Reciprocity with Cuba, Hearings, 57th Cong., 1st sess., 1902, pp. 164-258.

the treaty reducing the duty was effective beginning December, 1903, the first season the lower duty could have had any influence on growers was the crop year of 1904. The decline of that year was in no way attributable to weather conditions. In reporting on the beet industry in 1904, the Department of Agriculture noted that climatic conditions throughout the beet-growing areas had been quite favorable.[37]

Perhaps the greatest impact the concessions to the island producers had on the mainland beet industry was that the growth rate of that industry was somewhat retarded. In 1901, the Department of Agriculture reported that the construction of eighty-six beet sugar factories was under consideration to handle the anticipated expansion in beet acreage.[38] Apprehension over tariff concessions and the possible annexation of Cuba forced the abandonment of all but eight of these projects.[39] Much the same kind of cautious reaction followed the reduction in duty on Cuban sugar in 1903. Farmers were ready and eager to grow more sugar beets, but investors were less inclined to build the factories needed to process the crop. The tariff concessions had prompted investors to reexamine the future of mainland beet culture, and many who a few years earlier were anxious to invest now wanted more time to contemplate their participation in the beet industry.[40]

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[37] U.S., Department of Agriculture, Progress of the Beet-Sugar Industry in the United in 1904, by Charles F. Salyor, Report No. 80 (Washington, D.C.: Government Printing Office, p. 97.

[38] U.S., Congress, Senate, Sugar at a Glance, 1912, p. 50.

[39] Ibid.

[40] Ibid., p. 49.

1913-1933

The national elections of 1912 signaled an end to the long period of high protection accorded mainland sugar producers under the Dingley Tariff. During the election campaign the tariff was a major issue. The cost of living was rising faster than wages, and the protective tariff was considered to be one of the chief reasons. When the Democrats, after campaigning for lower duties, won the election, they considered the victory to be a mandate to revise the tariff schedules. Sugar, long a target of freer trade advocates, was among the first to receive attention. Mainland growers had been aware of the Democratic position regarding the sugar tariff prior to the 1912 election. In 1911, a bill placing sugar on the free list passed the Democratic House, but it was defeated in the Senate.[41]

In the debate over new tariff legislation, all interested parties sought to present their views to Congress. Pleading the case for lower duties were the small independent coastal refiners, manufacturers using sugar, and wholesalers. These groups not only spoke for themselves, but also on behalf of the consumer. They argued that a lowering of the duty would have the immediate result of reducing the price of sugar and increasing its consumption. Since the consumer would purchase more sugar if it were available at a lower price, retail establishments would increase their sales.[42] One of the large coastal refiners, the American Sugar Refining Company, took a contrary view and opposed any attempt to substantially reduce the sugar duty. The company favored a slight

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[41] Sitterson, Sugar Country, p. 62.

[42] U.S., Congress, House, Tariff Schedules, Hearings, 1913, pp. 2262-2324.

reduction in the duty on raw sugar, but wanted to retain, or even increase, the differential between imported raw and refined sugar.[43] Over the years, the company had acquired considerable interests in the Louisiana cane sugar industry and in several beet sugar companies. A small reduction in the raw sugar duty would permit continued protection for these operations, and the retention or increase in the differential between raw and refined sugar would protect the coastal refineries.

The mainland sugar growers solidly favored the retention of the existing sugar duty. Cane growers argued that reducing the duty would reduce cane production and removing it completely would destroy cane culture altogether. In either case, the economy of Louisiana would suffer tremendously. The role of politics was clearly noted in the testimony of the spokesman for the growers. He said:

> Our Congressmen and Senators and our political leaders told us that the promises therein (Democratic platform) could be relied upon ...; and that the sugar producers of Louisiana could absolutely rely upon the promise that the tariff would be so adjusted as not to injure or destroy their industry. Believing this, they voted for Gov. Woodrow Wilson and Louisiana stood where she had always stood - in the Democratic column. When we placed Louisiana in the Democratic column we believed you would carry out your promises, and our faith has not yet been lost.[44]

Representatives of the beet industry also pleaded the necessity of retaining protection. Their arguments for continuing the protective duty referred to higher labor costs on the mainland, the potential loss of revenue to the federal government, the unfavorable impact on local

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[43] Ibid., pp. 2381-2382.

[44] Ibid., p. 2381.

economies, and the importance of sugar beets in improving agricultural technology and production. The beet industry's position was perhaps most forcefully stated by a representative of the Wisconsin Sugar Company. In testimony before a House committee he said:

> Free sugar means the absolute destruction of the beet-sugar industry, and the slightest reduction means to retard development. A lower tariff, therefore, means lower prices for sugar only until the existing beet-sugar industry is destroyed or until further development of the industry ceases. After that decreased production and lack of competition will tend to increase the price.[45]

The arguments and pleas of the growers and their supporters were unsuccessful, however, in persuading Congress to maintain the duty at or near the 1912 rate. Shortly after the hearings ended, the Tariff Act of 1913 was enacted. It provided for a reduction in the duty on raw sugar of approximately 25 percent effective March, 1914 (Table 15). The same rate reduction was applied to refined sugar. Further, all sugar was to be made duty free on May 1, 1916. The two-year transition period was to permit growers and refiners alike to make whatever adjustments they thought necessary in response to the removal of the duty.

Passage of the 1913 tariff act had an immediate impact on the amount of land devoted to sugar production in the continental United States. Acreage harvested for sugar in 1914 declined by 16 percent from the level of the previous year (Figure 20). The decline was a clear signal that sugar growers were preparing for the day when sugar would be placed on the duty free list.

Sugar cane acreage harvested in 1914 likewise decreased by 38,000 acres, a decline of 15 percent from the previous year (Figure 19). A

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[45] *Ibid.*, p. 2428.

number of growers began to phase out their cane culture. Plans were made to diversify the economy by introducing more livestock. Barns were constructed and dairy cattle and hogs were purchased.[46] Some Louisiana interests threatened to tear down their factories and ship them to Cuba.[47] The growers were unhappy with the federal government and they openly voiced their dissatisfaction. A strong denunciation of the 1913 tariff law was printed in the cane industry's main publication, the Louisiana Planter. The article said in part:

> To overthrow the chief industry of a State with a population of nearly a million and half people and an industry in which directly or indirectly more than a hundred millions of dollars are invested and in which half a million of our people are concerned is one of the most voilent intrusions of the general government that has ever occurred in this country.[48]

Beet growers were equally influenced by the tariff act and concerned about its effects. In 1914, beet acreage harvested for sugar declined nearly 100,000 acres from the previous year (Figure 19). The decrease was a direct response to the reduction in protection and the anticipation of competition from duty free sugar.[49] General discouragement of the beet industry over the tariff was reflected in the fact that only one factory, a small one, was constructed in 1913.[50] It was

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[46]Sitterson, Sugar Country, p. 349.

[47]Taussig, Some Aspects of the Tariff Question, p. 369.

[48]As quoted in Sitterson, Sugar Country, p. 348.

[49]Taussig, Some Aspects of the Tariff Question, p. 369.

[50]U.S., Congress, House, Report on the Beet Sugar Industry, 1917, p. 10.

built only because it had been contracted for before passage of the law. No new beet sugar factories were constructed in 1914.

Just as the situation seemed hopeless for mainland sugar growers, two unrelated events served to help save sugar production. The midterm elections of 1914 reduced the Democratic majority in Congress and gave the growers hope that the tariff policy on sugar might be modified or even reversed. Perhaps more important, war broke out in Europe in mid-1914. That conflict eventually change quite drastically the situation in the United States regarding sugar. In the fall of 1915, President Wilson, fearing a sugar shortage at home if supplies from Cuba were diverted to Europe, expressed a willingness to continue the sugar duty for several years.[51] Just two days before sugar was to be placed on the free list, Congress repealed the duty free provision and continued the existing rate of duty.

Cane growers were slow to respond to these events, no doubt because they had gone a long way toward phasing out production. Fearing the effect of free sugar the following year, the cane growers reduced their acreage in 1915 (Figure 19). During the following year, however, Wilson's suggestion that he favored continuing the existing duty brought a positive response from the Louisiana growers. In 1916 some 43,000 acres were harvested or 23 percent more than in the previous crop year. The greatest threat to the continued existence of cane production had passed. A well-informed observer expressed the growers' concern:

> The indications are that in fact free sugar would have caused most of the Louisiana planters, perhaps all of them, to give up sugar and turn to something else. Their industry seems to

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[51]Sitterson, Sugar Country, p. 349.

> be, in the main, unable to hold its own without protection ...[52]

The same outlook clearly appied to the much smaller cane industry in Texas.

Sugar beet producers, in contrast to the cane growers, immediately expanded acreage in response to the events of 1914. Their acreage harvested increased in 1915 to over 600,000 acres, the largest recorded to that date (Figure 19). The following year growers expanded their acreage even further. Part of the increase was undoubtedly a response to the retention of the sugar duty, but equally important was the rising price of sugar which resulted from the possibility of a sugar shortage (Table 17).

After flirting with the idea of perhaps destroying mainland sugar production by withdrawing tariff protection, the federal government under wartime pressures reversed its position and brought the sugar industry completely under its control. In late 1917, a few months after the United States entered the war, the United States Food Administration was organized to obtain and allocate food supplies. One of its major functions was to regulate shipments of sugar to the United States and its allies in such a way as would assure sufficient supplies to Western Europe.[53] At first a voluntary policy was instituted, but it was of limited success. In 1918, the need for more effective control was recognized. The United States Sugar Equalization Board was created to exert more control over the sugar industry through price fixing and

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[52]Taussig, Some Aspects of the Tariff Question, p. 57.

[53]U.S., Department of Agriculture, History of Sugar Marketing, p. 24.

controlled distribution. All elements of the mainland sugar industry agreed to cooperate with the program until the wartime emergency ended.

Under the direct and indirect control of the federal government, mainland sugar growers attempted to help meet the demand for sugar both at home and abroad. They were hampered, however, by poor weather conditions, rising production costs, poor cultivation practices, and a shortage of labor. The widespread labor shortage was due to workers taking higher paying jobs in industry, the induction of some field laborers into the armed forces, and a drastic reduction in immigration from Europe and the Orient. In addition, many Mexican workers, fearful of being drafted, left the country, further complicating the growers' difficulties. To aid the growers, the government lifted all restrictions on the importation of Mexican workers, and thousands of new ones were brought in to serve as field hands in all the beet producing areas. Domestic workers were also recruited for the beet and cane fields. Growers sent labor agents to many of the major cities, especially those in eastern United States, the mining areas of West Virginia, and southern Texas to obtain field workers.[54] As shown in Figure 19, acreage harvested for sugar increased only slightly in 1917 and decreased during the following two years.

Cane growers did expand their acreage in 1917, but it declined in both the two following years (Figure 19). The temporary increase in 1917 was the result of relatively high prices for the 1916 crop and the expectation of even higher returns following American entry in the

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[54]Schwartz, Seasonal Farm Labor, pp. 110-111.

war.[55] The decline during 1918 and 1919 seemingly was not due to any dissatisfaction with the price paid to growers for their cane. Actually, prices were sufficiently high to promote the expansion of acreage if certain natural and human conditions had not been present. In the latter years of the decade, the cane area was subject to unfavorable weather, notably late spring frosts and excessive or inadequate rainfall during the summer and fall. Perhaps more important was the widespread neglect of good cultivation practices. Under the threat of free sugar, growers permitted their cane to deteriorate as they prepared to phase out cane production. When sugar prices rose in response to wartime disturbance of the market, many cane growers, eager to reap an immediate profit, milled their best cane and planted poor, even diseased, cane stalks.[56] Poor results from planting diseased cane were so widespread that some fields were abandoned, accounting in part for the decrease in acreage harvested. During the summer of 1919, Louisiana cane was found to be heavily infested with the mosaic disease, and again planters found it uneconomical to harvest their cane. Consequently, cane acreage harvested in 1919 was considerably less than in 1918 and even lower than in the years just preceding World War I when growers were responding to the threat to remove the sugar duty.

Beet growers tried to do their part to maintain sugar production. An appeal by the Food Administration in 1917 to increase acreage was effective to the degree that acreage remained about the same as in the previous year (Figure 19). Without the appeal, acreage would have

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[55]Sitterson, Sugar Country, p. 352.

[56]Ibid., p. 345.

probably declined, perhaps sharply, since costs were increasing and labor was in short supply. Prices paid for competing crops were rising, and farmers were giving serious thought to shifting to crops requiring less labor. In 1918, despite generally remunerative prices fixed by the government, there was a decline in beet acreage harvested for sugar. The major problem was a shortage of field labor and the consequent abandonment of some crops in the field. Growers responded to the brisk sugar market with a slight increase in acreage in 1919, but sugar remained in short supply.

Although the Department of Agriculture continued to be interested in the mainland sugar industry, it lost much of the zeal it had shown during the tenure of Secretary Wilson. It was increasingly involved in the agricultural aspects of sugar production as exemplified by its work on the mosaic disease in Louisiana and its efforts in trying to improve cultivation practices among sugar growers. After Wilson's removal the beet industry received much less special attention. No longer did the department collect and distribute promotional materials on beet culture. The production of sugar cane and beets had become part of the national farm pattern by World War I, and the continued personal attention of the Secretary of Agriculture seemed no longer necessary.

Reclamation continued to play an important role in the development and expansion of beet culture in the western states. By 1910, many of the reclamation projects authorized under the Reclamation Act of 1902 were nearing completion, while others were in earlier stages of construction. Between 1910 and 1919, sugar beet acreage on federal reclamation projects increased rapidly. In 1911, the first year complete

data were available, slightly more than 8,200 acres of beets were grown for sugar on these projects.[57] By 1919, beet acreage on the projects had increased to 38,000 acres.[58] This increase represented approximately 18 percent of the total increase in beet acreage between 1911 and 1919. An example of how reclamation stimulated beet culture during this period may be seen in the Strawberry Hill Project in central Utah. Water for irrigation became available at Strawberry Hill in 1915, and beets were first grown in 1916. By 1919, more than 8,000 acres of beets were harvested for sugar on the project.[59] The 1919 Strawberry Hill acreage accounted for 12 percent of the total increase in beet acreage in Utah between 1909 and 1919 (Figures 3 and 4).

When World War I ended there was considerable political disagreement over the desirability of an early return to freer market conditions.[60] A congressional inquiry concerning postwar sugar policy began in September, 1919, and eventually resulted in the passage of a bill to continue the Sugar Equalization Board through 1920. Although the President signed the bill, it was never implemented. A negotiated decision to abandon controls had already been made by the time the bill was passed. All that remained was to make the termination of controls

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[57]U.S., Department of the Interior, Reclamation Service, Eleventh Annual Report of the Reclamation Service, 1911-1912 (Washington, D.C.: Government Printing Office, 1913), p. 14.

[58]U.S., Department of the Interior, Reclamation Service, Nineteenth Annual Report of the Reclamation Service, 1919-1920 (Washington, D.C.: Government Printing Office, 1920), p. 553.

[59]Ibid.

[60]U.S., Department of Agriculture, History of Sugar Marketing, p. 26.

official. This was done in March, 1920, when the President declared an end to all federal controls on sugar which had been invoked for the wartime emergency.

The removal of controls on sugar prices and marketing by the federal government had an almost immediate impact on continental sugar growers. With memories of sugar shortages during the war, and a widespread belief that a new shortage was imminent, consumers stocked up on sugar and prices rose spectacularly. During 1919, with price controls in effect, the average retail price of a pound of sugar was 11.3 cents (Table 17). When controls were removed in 1920, the price rose to an average of 19.4 cents per pound. Such an abrupt rise in price was bound to stimulate mainland sugar production. Realizing that controls were to be lifted, and taking note that the price of sugar had started to increase in late December, 1919, growers made plans to expand their sugar acreage. In 1920, beet and cane acreage harvested for sugar exceeded 1,000,000 acres for the first time in history (Figure 19). Relative to the previous year, the 1920 acreage figure represented an increase of 30 percent (Figure 20).

Southern cane growers, however, were unable to take prompt advantage of the high prices and the rising demand for sugar. As shown in Figure 19, these producers were able to increase their acreage only slightly during 1920. They were slowed by their inability to cope with the diseases affecting the cane. In previous years, the Department of Agriculture frequently warned growers that unless appropriate measures were taken to prevent the spread of diseases, notably the mosaic diseases, the southern cane region might experience heavy losses and

irreparable damage. In 1919 and again in 1920, growers were informed of the availability of new diseases-resistant varieties and were urged to introduce them into their farming operation. A few of the larger planters responded, but most growers saw no necessity for the type of action called for by the federal officials or simply failed to act.[61] Consequently, the cane crop was smaller than it might have been, and growers were unable to take advantage of the rising prices in 1920.

Beet growers were under no such restraints. Alert to the price rise in early 1920, by planting time the old growers were ready to enlarge their acreage and many new growers were attracted to beet production. In the 1920 crop year, beet acreage harvested for sugar soared to 872,000 acres, an increase of 37 percent over 1919 and a record acreage for beets to that time (Figure 19).

Unfortunately for the industry, the postwar sugar boom, which had been stimulated by the removal of government controls, ended almost as soon as it started. Whereas the price of sugar was nearly 27 cents a pound in mid-1920, it fell to only 6.5 cents in December of the same year.[62] Alarmed by the dramatically rapid decline of agricultural prices in general, and sugar prices in particular, Congress met in special session in 1921 to attempt to provide some relief. During the session, Congress passed the Emergency Tariff Act of 1921 which increased the duty on imported sugar by 60 percent over the previous level (Table 15).

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[61]Sitterson, Sugar Country, p. 346.

[62]U.S., Department of Agriculture, Commodity Stabilization Service, Sugar Statistics and Data, I, Statistical Bulletin No. 214 (Washington, D.C.: Government Printing Office, 1957), p. 275.

Originally the emergency act was to be effective for six months, but it was extended and remained in effect until Congress enacted the Tariff Act of 1922. With passage of this act, the duty on imported sugar was increased by an additional 10 percent (Table 15).

The protection accorded mainland growers in the 1921 and 1922 tariff acts was greater than it had been under the previous measures of 1890, 1897, and 1909. To many informed citizens, the serious plight of agriculture seemed to require the enactment of higher import duties. But politics also played a significant role. In the national elections of 1920, the Republicans not only won the presidency - they also gained control of both houses of Congress. Even though the tariff issue played a minor role in the election campaign, it seemed certain to many that the Republican party would renew its traditional policy of protection.[63] Indeed, there was little dissent in Congress over raising the duty on sugar in 1921. It was altogether possible that Congress felt some guilt over encouraging the build-up of mainland sugar culture during the war and then permitting it to collapse when the conflict ended.[64]

There was more than passing disagreement, however, over the enactment of the 1922 tariff bill. Coastal refiners and representatives of the Cuban sugar industry, a considerable part of which was owned by United States citizens, testified against any increase in duty and generally requested that the duty effective prior to 1921 be reenacted. The refiners argued that an increase in the duty would result in higher

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[63]Frank W. Taussig, The Tariff History of the United States (8th ed.; New York: G. P. Putnam's Sons, 1931), p. 453.

[64]Arrington, Beet Sugar, p. 95.

prices to the consumer, thereby penalizing the entire American population. In opposition to those favoring lower duties, mainland sugar growers and offshore duty free producers pushed for maintaining or, if possible, increasing the duty. The major support and most persuasive influence for higher protection came from representatives of mainland growers, who now pursued high protection with a political fervor never before shown. With a unanimous voice the growers sought an import duty on raw sugar that was no less than the level provided by the Emergency Tariff Act of 1921.[65] Their arguments referred to higher costs of production, the patriotic character of the sugar industry during World War I, the value of sugar production to farmers and communities, the desire for more national self-sufficiency, and the past role of the government in the development of mainland sugar culture. Regarding the latter argument, a representative of the Michigan sugar beet industry said:

> The beet sugar industry in Michigan and the Middle West was established through the efforts of the United States Government. Its development followed the call of James A. Wilson, former Secretary of Agriculture, whose zeal for this project of the department led to personal appeals made by the Secretary to investing citizens and farmers of the country. In response to this earnest solicitation on behalf of the Government, and because of promised aid in the form of a tariff, money was subscribed, the plants were built, and extensive sugar beet farming in the Middle West cultivated. The part played by the Government in furthering sugar beet culture, and its recognition of the public advantage involved, is a matter of record in the files of the Department of Agriculture. Will the Government desert the industry which it has been instrumental in building up? If so, the end is at hand.[66]

The interests of mainland growers prevailed and the Tariff Act of 1922 provided sugar producers with increased protection.

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[65] U.S., Congress, Senate, Committee on Finance, Tariff Act of 1921, Hearings, 67th Cong., 2d sess., 1922, pp. 2173-2250.

[66] Ibid., p. 2276.

The reaction of mainland growers to the tariff acts of 1921 and 1922, the latter of which remained in effect until 1930, was inconsistent. As Figure 20 shows, acreage harvested for sugar declined in 1921 and 1922, increased during the next two years, declined from 1925 through 1928, and increased again in 1929. The general instability that characterized the United States mainland sugar industry was similar to the plight of other world sugar interests during the twenties. High prices for sugar in 1920 had stimulated production throughout the world, especially in the cane areas. When the world supply of sugar began to exceed demand and prices fell, importing countries with a domestic sugar industry increased the duty on sugar to provide their growers greater protection for their crop. In the case of the United States, a higher duty not only gave more protection to mainland growers; it also extended protection to the overseas, duty free supply areas such as Puerto Rico and the Philippine Islands. Since these areas were low cost producers, any additional duty served to increase their profit margin and therefore stimulate their production. As a result, sugar from these duty free areas tended to displace Cuban sugar on the United States market. Cuba was not inclined to reduce production despite declining access to the United States market, and the world market became glutted with surplus supplies of sugar. With no profitable market in sight, exporting countries, like Cuba, were often forced to sell their sugar at less than the cost of production and shipping. The result was chronic instability for the entire sugar industry. To some extent, the problem of oversupply was due to a miscalculation on the part of tropical cane producers about the European sugar beet industry. The beet growers recovered faster

than had been anticipated from the devastation of war. Consequently, the shrinkage of European import requirements and higher protection on the part of importing countries eventually caught tropical cane producers in an economic squeeze.

United States cane growers, encouraged by the higher duty on imported sugar, the ready availability of cheap labor as a result of the postwar deflation and industrial unemployment, and partial success in combating the cane diseases, harvested larger acreages in 1921 and 1922 (Figure 19). After 1922, however, the mainland cane industry went into a period of decline, and by 1927 the amount of land devoted to cane production was at an all time low. The reasons for the decline were many, but the most important one was the resurgence of the mosaic disease. At the time, the only sure method of controlling it was to destroy the infested cane. With few exceptions, however, cane growers seemed unable or unwilling to fight the disease with the vigor necessary to control it.[67] Lower prices offered the growers no encouragement. While production declined, costs remained relatively high. The accumulation of problems resulted in a severe economic depression in the southern cane region. Many plantations were sold and the value of sugar property declined.[68] A number of growers tried diversification, experimenting with sugar beets, cotton, and vegetables. For most, however, there seemed to be no feasible alternative to cane, and some large plantations turned into abandoned land.[69] In Texas, the cane growers never recovered from

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[67]U.S., Department of Agriculture, Agriculture Yearbook, 1923, p. 179.

[68]Sitterson, Sugar Country, p. 358.

[69]Ibid., p. 359.

the blows of postwar deflation and disease, and commercial production in that state ceased in the early twenties.

Unlike the cane growers who were struggling to save their industry, the beet growers weathered the chaotic conditions of the twenties with much less difficulty. Beet acreage harvested for sugar did decrease between 1921 and 1928, but the growers were never really in a struggle for survival (Figure 19). Despite the higher protection offered in 1921, beet acreage declined slightly. The decrease was largely a response to low prices in late 1920 and early 1921, although bad weather conditions and plant disease were also factors. When the price of sugar collapsed in 1921, even fewer beets were harvested for sugar in 1922. From 815,000 acres in 1921, beet acreage harvested dropped to 530,000 acres in 1922, a decrease of 35 percent. Growers generally shifted at least part of this land to other crops, but in some instances left good fields uncultivated. Since the higher duty accorded growers in the 1922 tariff act was not effective until September that year the added protection had little or no influence on the 1922 beet crop. Beet growers were continuing to react to the unsettled market conditions brought about by the swift removal of federal controls and the resulting postwar deflation of the economy.

In 1923 and 1924, the sugar situation seemed to stabilize somewhat and prices rose (Table 17). One factor in the price rise was the higher duty provided under the 1922 tariff act. Beet growers responded by increasing their acreage (Figure 19). When the favorable prices carried into 1924, growers again increased the amount of land devoted to beet production. Lower prices and plant disease were the main reasons

for a modest reduction in acreage in 1925. The price of sugar in 1925 was still below that of 1922 (Table 17). Beet acreage harvested increased slightly in 1926 and 1927 in response to slightly higher sugar prices, but when the price dropped again in 1928 beet acreage declined with it.

Despite continuing low prices, the southern cane industry started a comeback in the late twenties. The mosaic disease was finally eradicated by the introduction of new cane varieties. Much of the new cane was provided directly by the United States Department of Agriculture. From only 73,000 acres in 1927, cane acreage harvested rose to 131,000 and 192,000 acres in 1928 and 1929 respectively (Figure 19). Almost all the increase was recorded in Louisiana. Florida, however, was in the initial stages of reestablishing cane culture and harvested a small acreage. The return to cane culture in Louisiana was an economic necessity. Influenced by the threat of free sugar in 1912 and the persistent destruction brought by the mosaic disease, growers had sought without success to find some profitable alternative to sugar cane. To give up on cane culture was, for all practical purposes, to abandon a traditional way of rural life.

Federal reclamation activity continued to be a positive force for the expansion of beet culture. Although overall beet acreage harvested for sugar in 1929 was well below the level of 1920, acreage on federal reclamation projects had increased during the decade. The twenties saw sugar beet acreage harvested on federal reclamation projects increase by approximately 46,000 acres.[70] Since the total beet acreage

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[70]U.S., Department of the Interior, Nineteenth Annual Report,

decreased during the decade, beets grown on such projects in 1929 obviously represented a larger percentage of the total acreage than in 1920. States which increased acreage during the twenties generally did so with the aid of the federal reclamation program. Among these states were Nebraska, Wyoming, Montana, North Dakota, and South Dakota.[71] A comparison of Figures 4 and 5 suggests the influence of reclamation on the expansion of beet culture in these states. In South Dakota, the importance of reclamation to the development of beet culture was particularly clear. In 1919, slightly more than 1,100 acres of beets were harvested for sugar.[72] Of this production, nearly 1,000 acres were on land developed on the Belle Fourche reclamation project in the western part of the state.[73] A decade later South Dakota growers harvested approximately 12,000 acres of beets for sugar.[74] More than 8,000 of these acres were on federally reclaimed land on the Belle Fourche project.[75] Similar examples could be drawn from the other states mentioned.

The sugar market was an early participant in the world economic depression which began in late 1928 and 1929. As sugar stocks

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1920, p. 553, and U.S., Department of the Interior, Bureau of Reclamation, Twenty-Ninth Annual Report of the Commissioner of Reclamation (Washington, D.C.: Government Printing Office, 1930), p. 89.

[71] Ibid.

[72] U.S., Department of Commerce, Bureau of the Census, Fourteenth Census of the United States, 1920: Agriculture, V, p. 845.

[73] U.S., Department of the Interior, Nineteenth Annual Report, 1920, p. 553.

[74] U.S., Department of Agriculture, Sugarbeets, 1967, p. 13.

[75] U.S., Department of the Interior, Twenty-Ninth Annual Report, 1930, p. 89.

accumulated in the United States, the price of sugar dropped to a post-war low (Table 17). Growers appealed to Congress to provide relief by legislating higher import duties on sugar so as to bolster declining prices. In June, 1930, Congress responded by enacting the Tariff Act of 1930. It increased the duty on imported raw sugar to 2 cents per pound for Cuban sugar and 2.5 cents for other foreign sugar (Table 15). The Cuban rate was the effective duty, however, since sugar from other foreign areas represented less than 1 percent of all sugar marketed in the United States at the time (Table 1).

The effect of the 1930 tariff legislation was to stimulate expansion of the amount of land devoted to sugar production during the period 1930-1933 (Figure 19). By raising the duty, Congress was attempting to increase the price of sugar and improve the competitive position of the mainland sugar crop. Although the price of sugar still declined, as shown in Table 17, the decline in the price of competing crops was much greater.[76] As the general depression worsened and price for alternative crops became relatively less attractive, many farmers shifted to sugar production, not because it was so profitable, but because sugar was more remunerative than any of the other possibilities. The relative profitability of sugar clearly explains the record sugar acreage harvested in 1933. The year before, 1932, the price of competing crops had declined to unprecedented low levels. Unlike sugar, these crops were not imported, and therefore they could not be accorded an import duty to help bolster their price. Recognizing the more attractive

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[76]Dalton, Sugar, pp. 63-64, and U.S., Department of Commerce, Historical Statistics of the United States, 1961, p. 123 and 128.

position of sugar, farmers shifted to the more remunerative crop. Thus the year 1933, generally characterized as the most chaotic year in American agricultural history, was the time when the amount of land devoted to sugar production was at a record level.

Of the mainland sugar producers, the beet growers registered the largest increase in acreage during the 1930-1933 period (Figure 19). With a high duty to bolster the price of sugar and with declining prices for competing crops, especially wheat and vegetables, old growers expanded beet acreage, and farmers with no previous production record undertook beet culture for the first time. The beet harvest rose from 766,000 acres in 1930 to 983,000 acres in 1933, an impressive gain of 27 percent. Of the nineteen states growing sugar beets, thirteen increased their acreage harvested during the period. Several recorded substantial increases in acreage. In Michigan, the harvest rose from 74,000 to 154,000 acres, and in California the beet area expanded from 65,000 to 108,000 acres.[77] Most of the states losing acreage recorded only a very small decline. The expansion of beet acreage between 1932 and 1933 was particularly impressive. As shown in Table 19, every beet growing state except Washington increased its acreage in that year. The higher duty on sugar imposed by the Tariff Act of 1930 was clearly the key factor in the expansion of land devoted to beet culture in the early thirties.

Federal reclamation continued to play a role in the expansion of beet acreage in the early 1930's. Between 1929 and 1933, beet acreage harvested for sugar on reclamation projects increased by nearly

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[77]U.S., Department of Agriculture, Sugarbeets, 1967, p. 9 and 23.

TABLE 19

Sugar Beet Acreage Harvested and Percentage Change, 1932 and 1933

State	Acreage Harvested 1932	Acreage Harvested 1933	Difference	Percentage Change
Ohio	26,000	42,000	16,000	62
Michigan	122,000	154,000	32,000	26
Wisconsin	12,300	17,900	5,600	46
Minnesota	33,200	37,400	4,000	13
North Dakota	11,900	14,100	2,200	18
South Dakota	7,800	11,000	3,200	41
Nebraska	66,000	88,000	22,000	33
Kansas	9,900	15,200	6,300	64
Montana	54,000	68,000	14,000	26
Idaho	53,000	75,000	22,000	30
Wyoming	40,000	52,000	12,000	30
Colorado	156,000	209,000	53,000	34
Utah	56,000	74,000	18,000	32
Washington	3,700	3,100	-600	-16
California	104,000	108,000	4,000	4
Iowa	6,200	7,400	1,200	19
Indiana	650	4,800	4,200	646
Illinois	1,100	1,500	400	36
New Mexico	250	600	350	140
Total	764,000	983,000	219,000	29

Source: U.S., Department of Agriculture, Statistical Reporting Service, Sugarbeets, Statistical Bulletin No. 413 (Washington, D.C.: Government Printing Office, 1967), various pages.

one-third.[78] The most dramatic gain occurred in 1933 when low prices for competing crops made sugar beets especially attractive to farmers. Nearly 78,000 acres of beets were harvested on the reclamation projects in 1932.[79] In 1933, the harvested area was 110,000 acres, an increase of 41 percent.[80] Altogether, the expansion of beet acreage between 1932 and 1933 on federal reclamation projects represented 15 percent of the total increase in beet acreage that year.[81]

Cane growers also enlarged their acreage during the period 1930-1933. Again, much of the stimulus was provided by the 1930 tariff act. Many cane growers were struggling to recover from the disastrous years of the late 1920's. If Congress had decided to reduce the duty or simply retain it at the 1929 level, it is unlikely that the cane growers would have expanded their acreage, at least to the extent they did. When Congress enacted a higher duty, however, the growers were encouraged to continue their plans for recovery and expanded cane production. Between 1930 and 1933, cane acreage harvested for sugar rose from 187,000 to 211,000 acres (Figure 19). Nearly the entire increase in cane acreage was in Louisiana, although a small increase was recorded in

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[78] U.S., Department of the Interior, Twenty-Ninth Annual Report, 1930, p. 89, and U.S., Department of the Interior, Bureau of Reclamation, Thirty-Third Annual Report of the Commissioner of Reclamation (Washington, D.C.: Government Printing Office, 1934), p. 7.

[79] U.S., Department of the Interior, Bureau of Reclamation, Thirty-Second Annual Report of the Commissioner of Reclamation (Washington, D.C.: Government Printing Office, 1933), p. 53.

[80] U.S., Department of the Interior, Thirty-Third Annual Report, 1934, p. 7.

[81] Calculated from Table 10 and Reclamation records.

Florida (Appendices A and B). The latter state was just beginning to re-establish cane culture, but the economic constraints of the depression reduced the industry's ability to expand acreage very rapidly. The growth momentum of the cane industry in southern Florida was to come a little later.

Despite increases in the amount of land devoted to sugar production in the early 1930's and the favorable position of sugar growers compared to other farmers, the United States sugar policy was on the threshold of major change. The period since 1933, which saw an intensification of government influence over mainland sugar growers and has brought a further politicization of our entire national sugar program, is the subject of the following chapter.

CHAPTER VI

THE INFLUENCE OF GOVERNMENT POLICY ON LAND USED FOR SUGAR PRODUCTION, 1934 TO THE PRESENT (1973)

The chaotic conditions prevailing in American agriculture in the early 1930's could only be remedied with new and innovative policies. As described in Chapter V, the domestic sugar economy was part of the chaos. After ten years of depression it was clear that the United States sugar policy was in need of change. The protective tariff, which had served long and well for that purpose, no longer adequately safeguarded the interests of the mainland sugar growers. In addition, the trend towards economic nationalism in many sugar importing countries, including the United States, was having tragic repercussions on the Cuban economy. Cuba, for whose interests the United States government still felt somewhat responsible, had been forced to curtail sugar production and even then had been unable to sell some of its crop. Consequently the changes under consideration in the United States sugar policy were intended to provide relief to the Cuban sugar industry as well as to mainland sugar growers.

Background to the Sugar Acts

During the early months of 1933, the United States Tariff Commission carefully appraised the sugar situation and recommended a new

program emphasizing supply controls and market allocation rather than the traditional tariff method of assistance. The chairman of the Commission, in a letter to the President in April, 1933, acknowledged the failure of the tariff to solve the sugar problem.[1] He pointed out that the price of sugar had declined to extremely low levels for mainland and Cuban producers alike and urged that both be given price relief. To raise prices, he proposed, the supply of sugar available to the United States market should be limited by a quota system.

Just one month after the Tariff Commission went on record as favoring a change in the sugar policy, Congress passed the Agricultural Adjustment Act. This act was designed to raise farm prices high enough to restore the purchasing power of the farmer to the pre-World War I level. Under terms of the act, the Secretary of Agriculture was granted authority to raise farm prices (1) by restricting the production of the so-called basic farm commodities and making benefit payments to producers for such crop reduction, or (2) by restricting the sales of farm products through voluntary marketing agreements with distributors and processors.[2] Congress failed, however, to declare sugar beets and sugar cane as basic commodities. This omission did not preclude the development of a substitute for the tariff system. The Secretary of Agriculture, in seeking a new policy, simply used his authority to enter into voluntary agreements with distributors and processors.

In June, 1933, the Department of Agriculture invited delegates

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[1]United States Tariff Commission, Report to the President on Sugar, Report No. 73 (Washington, D.C.: Government Printing Office, 1934), p. 25.

[2]U.S., Congress, House, History and Operations of the U.S. Sugar Program, 1962, p. 22.

of the sugar industry to Washington to meet and formulate a voluntary agreement on sugar. Many of the sessions were quite stormy owing to the conflicting viewpoints among the conferees. The proposed plan for increasing the price of sugar involved reducing the amount of sugar placed on the market. Each segment of the industry was interested in having some other segment absorb any reduction. In September, a compromise plan was drafted and submitted to the federal government for approval. The Stabilization Agreement, as the plan was called, sought to

> achieve and maintain such balance between the production and consumption of sugar and such marketing conditions therefor in the United States as will effectuate the declared policy of the said Agricultural Adjustment Act.[3]

This was to be accomplished in four ways: (1) minimum prices were to be fixed for raw sugar; (2) deliveries of sugar from all producing areas were to be restricted under a quota system; (3) the agricultural production of beets and cane was to be limited to established marketing quotas; and (4) unfair methods of competition in the distribution of sugar were to be prohibited.[4]

Several weeks after the industry plan was submitted for consideration, the Secretary of Agriculture announced he would take no action on it. The Secretary made it clear that in his opinion, it failed to solve many of the basic problems facing the sugar growers.[5] He pointed

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[3]As quoted in Dalton, Sugar, p. 77.

[4]U.S., Department of Agriculture, Production and Marketing Administration, The United States Sugar Program, Agricultural Information Bulletin No. 111 (Washington, D.C.: Government Printing Office, 1953), p. 7.

[5]Dalton, Sugar, pp. 89-91, and U.S., Congress, House, History and Operations of the U.S. Sugar Program, 1962, p. 22.

out that the plan included no effective control of production and no specific method of enforcement. Another objection to the plan was that it did not adequately share the United States sugar market with Cuba.

The inability of the sugar industry to draft an acceptable marketing agreement did not dampen the general demand for a more effective form of assistance than the tariff. Anticipation that the Stabilization Agreement would be accepted had temporarily bolstered the price of sugar, but when it was rejected by the government, a speculative reaction brought declining sugar prices. The decline was due to a continuing oversupply of sugar on the United States market, especially with a record beet crop in 1933 and larger crops in Puerto Rico and the Philippine Islands. Both the sugar industry and the government were convinced that the problems were not going to be solved by a general improvement in business conditions. Positive action was required toward the development of a new and effective method of assistance. After rejecting the industry's plan, the government undertook the task of formulating and implementing an acceptable and workable sugar policy.

Several months after rejecting the Stabilization Agreement, the federal government set forth its own plan to assist the domestic sugar industry. In February, 1934, the President recommended the passage of a sugar quota law that would have the threefold objective

> of keeping down the price of sugar to consumers, of providing for the retention of beet and cane farming within our continental limit, and also provide against further expansion of this necessarily expensive industry.[6]

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[6]Myer Lynsky, Sugar Economics, Statistics, and Documents (New York: U.S. Cane Sugar Refiners' Association, 1938), p. 130.

Shortly after the President's message was sent to Congress, the Secretary of Agriculture explained the plan in detail.[7] The legislation was designed, he said, to stabilize the price and production of sugar for the benefit of producers both on the mainland and in the insular possessions. The Secretary denied allegations from beet interests that the plan would reduce or perhaps even eliminate their industry. It was true that an acreage reduction to a level below that of the record beet crop of 1933 was contemplated, but such a reduction was deemed necessary to the successful operation of the plan. Even if the President's proposal was not enacted, a reduction in the beet crop was a definite possibility. The Secretary also noted that the government sought an amendment to the Agricultural Adjustment Act to make sugar beets and sugar cane basic commodities. Approval would give the Department of Agriculture authority to restrict sugar production and make benefit payments to those growers adhering to the restrictions.

Sugar Act of 1934

In May, 1934, Congress enacted the government's plan. Known as the Sugar Act of 1934, and alternately as the Jones-Costigan Act, it was signed by the President shortly after passage by Congress. It ushered in a new era in the relationship between the sugar industry and the government. Under the tariff system, the relationship had been a relatively simple one. Congress enacted the duty and the treasury collected it at the ports of entry. Under the quota system, established

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[7] *Ibid.*, pp. 132-139.

by the Sugar Act of 1934, direct federal regulation was extended over all aspects of the sugar industry. Effective assistance to the industry required a planned method of control, and control inevitably brought increased government influence over the industry.

The government's new plan was in line with a world trend toward a closer relationship between public authority and the sugar industry. In nearly every important sugar producing country, especially during the period between World War I and 1932, there was a growing disposition to protect the sugar industry by increasing the import duty or by granting aid in the form of quotas, bounties, or subsidies.[8] These new forms of assistance obviously enlarged government influence and control over the sugar industry.

For the purpose of this study, the most important part of the Sugar Act of 1934 was the quota provision. In order to bring supply into line with demand, the Secretary of Agriculture was empowered to restrict the amount of sugar that could be sold on the United States market.[9] He would do so by estimating the amount of sugar needed for the forthcoming year and then, in accordance with the provisions of the act, by allocating the requirements to the various foreign and domestic suppliers, including mainland beet and cane growers. The act specified a fixed minimum amount to be allocated to mainland growers who could also supply not less than 30 percent of the sugar needed above 6,452,000 tons, raw value.[10] For the calendar year 1934, cane growers were granted

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[8]Dalton, Sugar, p. 72.

[9]Lynsky, Sugar Economics, Statistics, and Documents, pp. 186-192.

[10]Ibid., p. 188.

a minimum allocation of 260,000 tons and beet growers 1,550,000 tons.[11] Responsibility for consumption requirements, the establishment of quotas, and the division of these quotas to various supply areas represented a tremendous enlargement of government power and influence over the sugar industry. Indeed, it represented one of the most far-reaching attempts to that time of the federal government to regulate an agricultural industry.[12]

The record of the public hearings for the 1934 sugar act does not indicate that sugar industry representatives objected to the act or to the increase in federal influence and power associated with it. The act was patterned somewhat after the industry's own Stabilization Agreement and, therefore it contained many principles the industry had already accepted. Nevertheless, there was some disagreement over the act. As might be expected, differences concerned the division of the sugar quota among the various supply areas. Table 20 shows the difference in the quota allocated to mainland growers for the first year under the Stabilization Agreement, the President's recommended plan, and the Sugar Act as finally passed. These differences explain in large measure the disagreement over the quota provisions. As the table shows, considerable variation existed between the industry's plan and the presidential recommendation. The unwillingness of the government to accept the Stabilization Agreement was largely because that proposal did not restrain continental sugar production from further expansion, something the federal authorities considered necessary. Under the agreement, continental

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[11] Ibid.

[12] Dalton, Sugar, p. 110.

beet and cane growers would have been given a quota which was considerably above their average production for the years 1923-1933.[13] Only in 1933, when the beet crop yielded a record 1,757,000 tons, was sugar production greater than the quota proposed for mainland beet growers in the Stabilization Agreement.[14]

TABLE 20

Marketing Quotas

tons, raw value

Area	Stabilization Agreement[a]	President's Plan[b]	1st year of Sugar Act[c]
Mainland beet	1,750,000	1,450,000	1,550,000
Mainland cane	310,000	260,000	260,000

[a]John Dalton, Sugar: A Case Study of Government Control (New York: Macmillan Company, 1937), p. 102.

[b]Myer Lynsky, Sugar Economics, Statistics, and Documents (New York: U.S. Cane Sugar Refiners Association, 1938), p. 131.

[c]Ibid., p. 188.

It is not surprising that when the President's plan came before Congress for consideration the continental sugar growers opposed its quota provisions. Cane growers were dissatisfied with their quota, largely because of the method used to determine it. The plan recommended that the cane quota be based on the average of the last three marketing years, 1931 through 1933. Using this method, the quota would

[13]U.S., Department of Agriculture, Commodity Stabilization Service, Sugar Statistics and Related Data, II, Statistical Bulletin No. 244 (Washington, D.C.: Government Printing Office, 1959), p. 2 and 59.

[14]Ibid., p. 2.

have been 260,000 tons. Louisiana cane interests argued that the years 1931-1933 were not normal years for cane production. In their testimony, they considered none of the years following World War I to be typical because of low prices and the destruction which had been wrought by the mosaic disease. Planters claimed that the immediate prewar years, 1909-1913 inclusive, were the years of normal production and therefore should be used as the base in determining the mainland cane quota.[15] Using this period, the cane quota would be approximately 333,000 tons.[16] Growers stressed that while they were in agreement with many of the principles set forth in the government's plan, they also felt that the first duty of the United States government was to care for its own citizens. In their opinion, this meant that the federal government should in no way attempt to limit mainland sugar production, especially in the cane areas.[17]

Congress did not accept the arguments of the cane growers and adopted the quota recommended by the President. In a last-minute legislative effort, however, the growers were successful in inserting a provision in the act which made it possible for the Secretary of Agriculture, by administrative determination, to increase the basic quota legislated by Congress. In the revised quota section of the act, the Secretary was empowered for a given calendar year to determine the quota for any state producing less than 250,000 long tons of raw sugar during the preceding

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[15] U.S., Congress, Senate, To Include Sugar Beets and Sugar Cane as Basic Agricultural Commodities, Hearings, 1934, p. 89.

[16] Ibid.

[17] Ibid., p. 91.

calendar year.[18] Inasmuch as Florida and Louisiana together produced less than 250,000 long tons in 1933, the provision allowed the Secretary to increase the 1934 quota for those two states. By including the provision, Congress obviously did not solve the problem of the appropriate cane quota. Instead, it simply passed the quota determination on to the Department of Agriculture.

When it came time to implement the Sugar Act, the mainland cane growers urged the Secretary of Agriculture to enlarge their marketing quota so they could in turn increase acreage. In a petition presented to the Secretary, the Louisiana Sugar Cane Farmers Committee requested an increase in the cane quota which would allow their state a more equitable participation in the United States market. Not only did the petition refer to the unfair character of the legislated quota in terms of the industry's "true normal production," it advanced all the traditional arguments for protection including the one that

> there is no known profitable replacement crop for sugar cane in Louisiana. One hundred and fifty years of experience has proved it and the experience of the last twenty years emphasizes the proof. When forced out of cane, the district is forced into weeds.[19]

The Secretary of Agriculture, however, ignored the petition and sustained the statutory quota. Increasing the quota, he felt, was counter to one of the basic principles of the Sugar Act of 1934, namely, that it was desirable to limit the expansion of continental sugar production.

The sugar beet industry was similarly opposed to the quota

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[18]Lynsky, Sugar Economics, Statistics, and Documents, p. 188.

[19]As quoted in Dalton, Sugar, p. 174.

recommended in the President's plan, and eventually it succeeded in obtaining a larger quota through congressional action. An important reason for the political success of the beet growers was the spatial character of their phase of the industry. As Figure 5 shows, nineteen states harvested beets for sugar in 1929. The same states were producing beets in 1933. Although beet culture was perhaps not of major national significance, it had great sectional importance and appeal. In the Mountain region, for example, beet culture was deeply interwoven into community life and the local economy. Any withdrawal of government support would seriously damage the whole economy of the areas involved, especially in the so-called beet counties of Utah and Colorado. Thus, congressional representatives from these areas were sensitive to any attempt to limit or reduce beet culture. Further, the nature of political representation in Congress accorded the beet industry great political strength. Since each state, regardless of population, is equally represented in the upper house, no less than thirty-eight senators were interested in the beet industry in 1934. If they banded together in a common cause, the beet bloc, as some termed it, could exert substantial legislative power. The beet industry also had considerable influence in the House of Representatives. Although many of the beet producing states were sparsely populated relative to the industrialized states in the eastern part of the country, the production of beets in such populous states as Michigan, Ohio, and California gave growers substantial influence in the House as well.

A comparison of the Stabilization Agreement and the President's plan adequately explains the position of the beet growers in 1934

(Table 20). The agreement proposed granting the growers 1,750,000 tons whereas the government's plan recommended on 1,450,000 tons. As in the case of the cane growers, the Stabilization Agreement was rejected by the government because the quota requested by the beet growers was equivalent to unrestricted production. The government's plan, however, was far too low to suit the beet producers and after the plan was sent to Congress they fought to obtain free and unrestricted marketing or, if that failed, a quota amounting to the same thing.

The objections of the beet industry to the marketing quota recommended in the President's plan became the backbone of congressional opposition to the Jones-Costigan Act. All segments of the mainland sugar industry, but especially the cane and beet growers, expressed their disapproval with the proposed United States quota during the legislative actions on the measure. The American Farm Bureau Federation stated that:

> The sugar producing farmers should be allowed to control their acreage by enlarging it annually 10% to 15% until such enlargement gradually reaches the surplus point of production ... to require reduction now when only 25 percent, approximately, of our domestic requirements of sugar are produced domestically, is to subject sugar to a legal requirement which is not sought to be made operative on any other farm crop whatsoever.[20]

A similar position was put forth by the National Beet Growers Association. Remarking about the potential restrictive character of the beet marketing quota, a spokesman for the organization said:

> This would be a dangerous innovation and precedent ... We believe some plan for agreement is the only hope for decent sugar prices in the near future, and we want a plan that will do the job; but we cannot subscribe to any principle which would do violence to the farmer's inalienable right to the markets of

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[20]U.S., Congress, Senate, To Include Sugar Beets and Sugar Cane as Basic Agricultural Commodities, Hearings, 1934, p. 246.

the United States. We cannot take any other position.[21]

As legislative consideration of the measure progressed it became apparent that the beet interests had sufficient support in Congress to delay or even defeat the government's proposed sugar legislation. As either delay or defeat would have seriously crippled the government's ability to assist mainland sugar producers, a compromise was necessary to gain congressional approval. Under the compromise quotas which were approved, the beet interests accepted the theory of market limitation and in return gained a larger quota than had been recommended by the President. The President's plan had called for an annual mainland beet sugar quota of 1,450,000 tons. As part of the compromise, the government now accepted a quota of 1,550,000 tons, that is, a 100,000 increase above the figure proposed by the President (Table 20). The compromise actually represented a victory for both parties. The accepted quota was less than the record beet production of 1933 and therefore represented a check on further expansion of beet culture, something the government felt was absolutely essential. On the other hand, the quota was greater than the amount of beet-sugar marketed in any single past year.[22] Thus, while the beet industry accepted the principle of limited marketing, the new official quota still represented more than it had ever before marketed.

The continental refiners were also interested in the government's

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[21] Ibid., p. 41.

[22] U.S., Department of Agriculture, Sugar Statistics and Data, I, 1957, pp. 199-200.

desire to assist the mainland sugar industry as they had a stake in any decisions taken. Prior to 1930 the duty differential between raw and refined sugar had favored the importation of raw sugar and the development of coastal refining in the United States. In the Tariff Act of 1930, however, Congress inadvertantly set the duty on refined sugar slightly below that of raw sugar.[23] Cuba took immediate advantage of the situation and increased the amount of refined sugar it exported to the United States market.[24] As Cuban exports increased, the refining industry turned to the federal government for aid. It first requested the Tariff Commission to recommend to the President that the duty on refined sugar be increased, but the Commission refused. Determined to ameliorate their situation, the refiners participated in the formulation of the Stabilization Agreement which, as presented to the government, included a quota on imported refined sugar. When the Secretary of Agriculture rejected the plan, the refiners carried their plea to Congress. In testimony on the Sugar Act of 1934, they reiterated their desire for a direct limitation on imported refined sugar by a quota system. The representative of the cane sugar refiners said:

> The sugar refining industry of the United States is today threatened with extinction. The facts speak for themselves. The industry is appearing here to ask for fair treatment and nothing more, wholly in accord with the spirit of the President's sugar program ... The President asks for a quota system. The refiners ask the same ... that there be put into the bill reasonable quotas for importations of direct-consumption sugar ... Reasonable limitations on

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[23]Lynsky, Sugar Economics, Statistics, and Documents, p. 282.

[24]United States Tariff Commission, Report to the President on Sugar, p. 95.

> importations of direct-consumption sugar are absolutely vital to the continued existence of the domestic refining industry.[25]

When the Sugar Act was enacted it contained a quota on the importation of refined sugar. This quota restored to the refiners the protection they had lost in 1930.

With passage of the Sugar Act of 1934 the mainland sugar industry came under direct control of the federal government. Growers no longer concerned themselves with import duties or direct foreign competition. They were granted a marketing quota, and the amount of this quota determined the degree to which they participated in meeting the sugar requirements of the country. If growers later wanted a larger share of the sugar market, it would be necessary to change the law. Since the law could be changed only with the consent of Congress, a body which represented a mosaic of interests, the United States sugar policy was now highly politicized.

It soon became evident that 1934 would be a difficult year for the sugar program. When the Jones-Costigan Act was passed in May, the infrastructure for its implementation was not as yet formally established. Marketing quotas were in effect, to be sure, but the act was passed too late for the government to adjust acreage to the quotas. The anticipated overproduction, however, did not occur. Instead, acreage harvested for sugar declined sharply in 1934 (Figure 21). All of the loss in acreage was in the sugar beet area. From a record 983,000 acres in 1933, beet acreage harvested fell to 770,000 acres. Much of the decline was attributable to a severe drought in parts of the beet area, but perhaps

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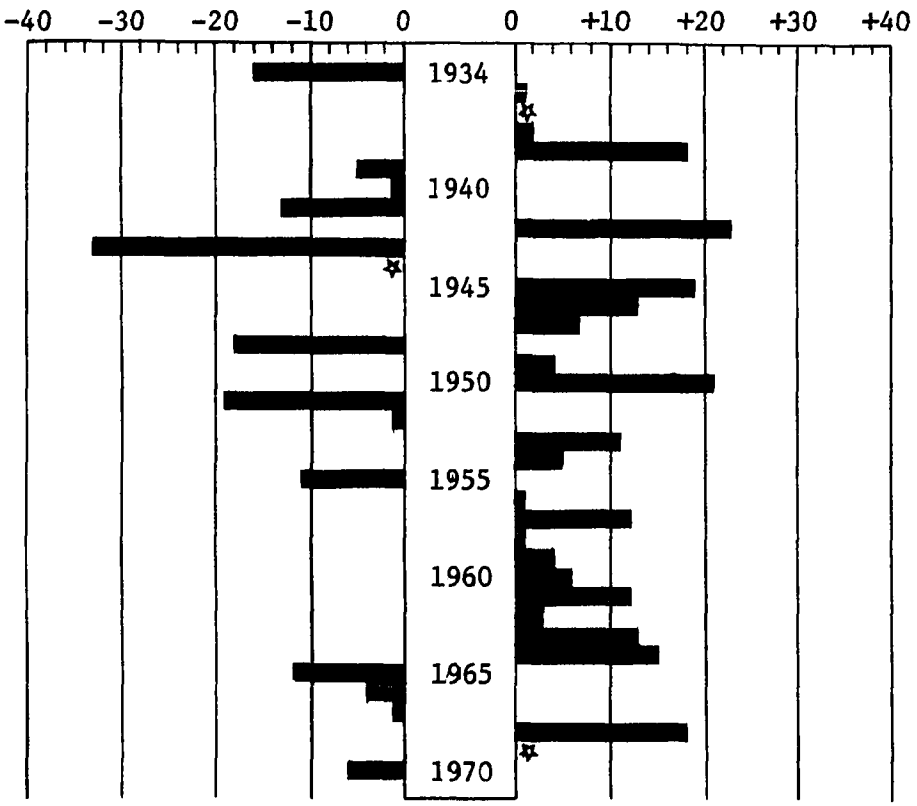
[25] U.S., Congress, Senate, To Include Sugar Beets and Sugar Cane as Basic Agricultural Commodities, Hearings, 1934, pp. 160-161.

FIGURE 21

PERCENTAGE CHANGE IN ACREAGE HARVESTED FOR SUGAR OVER PREVIOUS YEAR, CONTINENTAL UNITED STATES, 1934-1970



* less than one percent

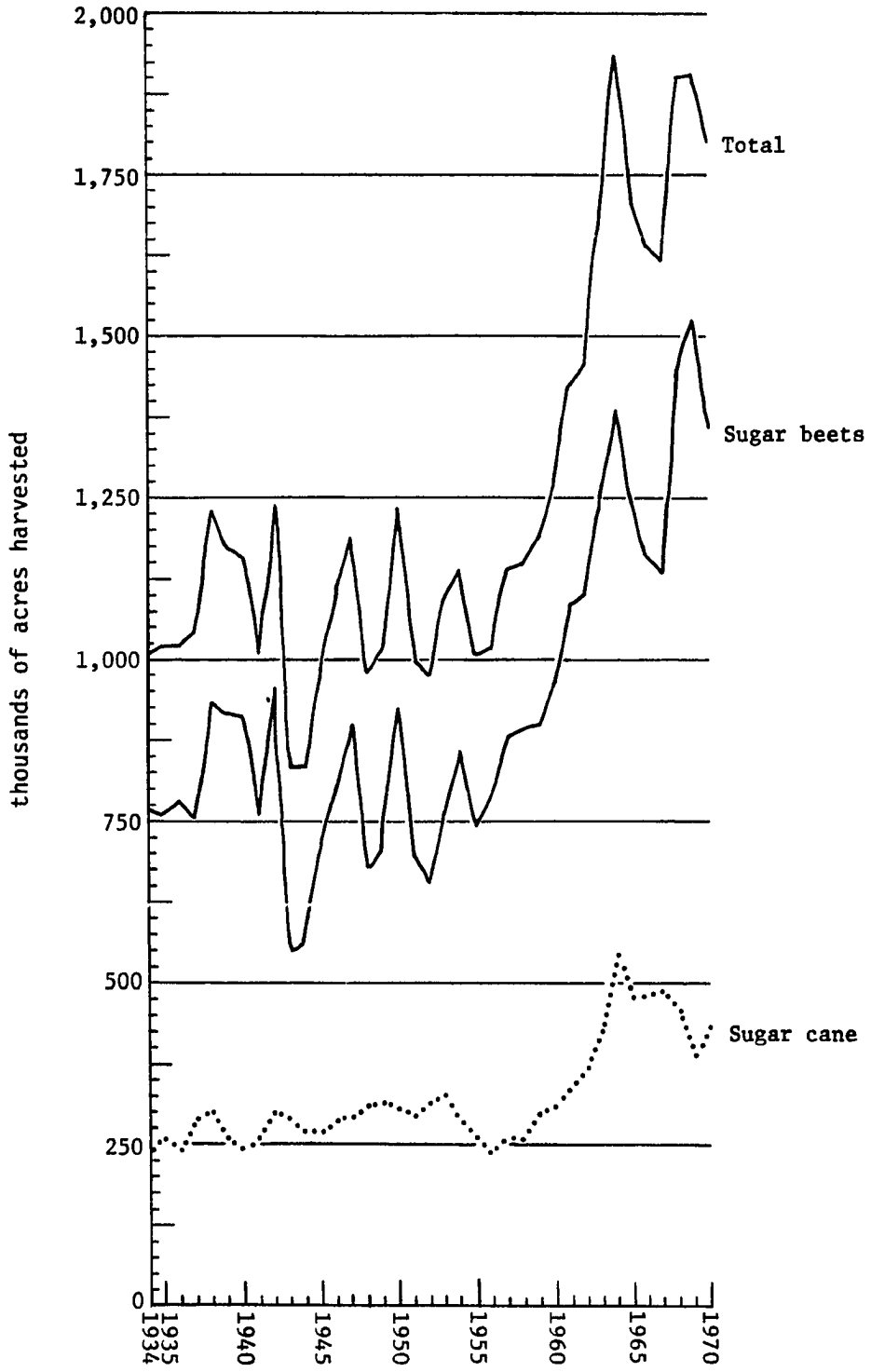
Source: Computed from Tables 10 and 14

of no less importance was grower skepticism over the long range future of the beet industry. Rejection of the industry's own marketing plan by the federal government, the Secretary of Agriculture's position that a reduction in beet acreage from the 1933 crop was necessary, the knowledge that the government was in favor of limiting any further expansion of mainland sugar production, and continued uncertainty over the details of the pending sugar program were all factors in the 1934 decrease in beet acreage. In contrast to the beet situation, acreage in the cane area increased in 1934 (Table 14). The entire increase was in Louisiana where growers were expanding acreage with the new disease-resistant varieties of cane.

By 1935 the government was ready to fully implement the provisions of the 1934 sugar act. Both beet and cane acreage were controlled so mainland sugar production could be adjusted to the established marketing quotas. Since the cane growers had failed to meet their quota in 1934, they were permitted a small increase in acreage in 1935 (Figure 22). Much of the expansion was in Florida. During the early thirties, the development of sugar cane in that state had been hampered by the economic conditions of the depression and the uncertain implications of the pending federal sugar policy. With passage of the Sugar Act, the Florida growers were ready to take advantage of the state's sugar producing potential. In the mainland beet area, the 1935 crop year was a near repeat of the previous one. Acreage was controlled, but with prices strengthening for other agricultural commodities, making them more attractive to farmers, and with local shortages of irrigation water,

FIGURE 22

ACREAGE HARVESTED FOR SUGAR, CONTINENTAL UNITED STATES
1934-1970



Source: Tables 10 and 14

beet growers did not plant the full acreage allotted to them.[26] As the harvested acreage was insufficient to meet the beet sugar marketing quota, the deficit was made up by using carryover supplies of beet sugar.[27]

By the beginning of 1936 it appeared as though the domestic sugar crisis was over. The Sugar Act had returned stability to the continental sugar industry. In January of that year, however, the United States Supreme Court, in the Hoosac-Mills case, ruled that a tax on processors of agricultural commodities was unconstitutional when used as a device to control production.[28] The decision crippled the sugar program since a processing tax was being used to make benefit payments to farmers for meeting certain conditions of the act, including the acceptance of a limitation on acreage and production. However, the decision left in tact the quota system which continued to assure mainland growers a protected market.

Shortly after the Supreme Court's decision in the Hoosac-Mills case, Congress passed the Soil Conservation and Domestic Allotment Act. This act provided supplemental cash payments for agricultural crops, including sugar beets and sugar cane, when growers met certain conditions. The payments were much lower, however, than those that had been received by growers under the Sugar Act of 1934. To be specific, payments in 1936 were only about one-third as much as those provide by the Sugar

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[26]Dalton, Sugar, pp. 137-139.

[27]U.S., Department of Agriculture, Report on the Sugar Industry, 1937, p. 31.

[28]U.S., Department of Agriculture, United States Sugar Program, 1953, p. 8.

Act.[29] They were, nevertheless, in line with the government's policy of trying to increase the purchasing power of the farmer to pre-World War I levels.

The Supreme Court's decision brought some instability to the mainland sugar industry. Many growers had considered the benefit payments to be the heart of the sugar program. When the payments were invalidated, growers, especially beet growers, considered shifting to alternate crops. The enactment of the Soil Conservation and Domestic Allotment Act only partially offset the loss of the higher payments. As Figure 21 shows, total acreage harvested for sugar increased only slightly in 1936. In the case of sugar cane, acreage harvested declined a bit, partly in response to the loss of higher benefit payments (Figure 22). Louisiana growers requested that Congress grant them a direct cash payment in lieu of the invalidated benefit payments.[30] Congress refused to take any such action. Cane growers, however, did receive payment as provided under the Soil Conservation and Domestic Allotment Act.

Sugar beet acreage harvested for sugar was essentially unchanged in 1936 (Figure 22). After struggling with unfavorable weather conditions for several years, it appeared that 1936 was the year beet growers would finally meet their marketing quota. Instead, the Court's decision invalidating the benefit payments and the low schedule of payments provided by the Soil Conservation and Domestic Allotment Act gave the

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[29]Dalton, Sugar, p. 159.

[30]Ibid., p. 181.

growers little incentive to expand beet acreage. While acreage was increased slightly, it was insufficient to meet the marketing quota. The beet sugar deficit of 1936 was reallocated to the mainland cane growers. Although cane acreage had increased only slightly in 1935 and not at all in 1936, unusually favorable weather conditions had produced large crops and the growers had exceeded their sugar marketing quota.

Sugar Act of 1937

After the Supreme Court's decision in early 1936, considerable pressure was brought on Congress to review the entire sugar program. Representatives of the continental sugar industry went to Washington to take part in conferences and discussions with members of Congress and various officials in the executive branch of government. John Dalton, chief of the Sugar Division of the Department of Agriculture during the mid-1930's, made the following observation concerning these meetings:

> No objection, from Democrat or Republican, was voiced against the contention that the nation should protect the sugar industry. That there should be free trade in sugar was never whispered. The industry was to receive assistance as it had for 50 years ... No one, Democrat or Republican, objected to the use of a quota system. Government, not business, was to maintain the economic balance of industry.[31]

By the end of 1936, there was a general feeling that new legislation was needed. Growers, in particular, were unhappy with the existing law. Benefit payment under the Soil Conservation and Domestic Allotment Act in 1936 were seen as unacceptably low after the higher payments made under the Sugar Act. Finally, the President in a message to Congress in

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[31] *Ibid.*, pp. 163-164.

early 1937, recommended new sugar legislation. Noting that the earlier Sugar Act had been both useful and effective, he stated:

> I therefore recommend to the Congress the enactment of the sugar quota system, and its necessary complements, which will restore the operation of the principles on which the Jones-Costigan act was based. In order to accomplish this purpose adequate safeguards would be required to protect the interests of each group concerned ... I recommend ... conditional payments to producers, to maintain the domestic industry as a whole and to make the production of sugar beets and sugar cane as profitable as the production of the principal other agricultural crops.[32]

Throughout much of 1936 continental cane growers clamored for a larger marketing quota. They continually criticized the government for basing the cane quota on crop years which, as they saw it, were anything but normal for cane production. Florida growers were especially unhappy and vocal about their small quota. Since Florida had only began commercial production in 1928, cane acreage was small during the years used to determine the marketing quotas. Quotas, as described earlier, were based on the extent of previous production. Consequently, the quota allocated to Florida seriously restricted the expansion of the cane industry in the Everglades. The United States Sugar Corporation, the single most important producer of Florida cane, condemned the entire federal sugar program. Through its president, Clarence R. Bitting, the company repeatedly protested against existing sugar legislation on grounds that it prevented mainland growers from marketing more than about 30 percent of the sugar consumed in the United States.[33] He was particularly embittered that Florida was permitted to supply only a very

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[32]Lynsky, Sugar Economics, Statistics, and Documents, p. 154.

[33]Sitterson, Sugar Country, p. 377.

small portion of the total sugar requirement. In an attempt to influence congressional opinion, Bitting, in December, 1936, brought members of Congress and other influential persons to Florida to look at the Everglades cane area.[34] Although the visitors were duly impressed with what they observed, Congress chose not to relax what Florida cane interests considered to be an overly restrictive quota.

After the President recommended new sugar legislation in early 1937, mainland cane growers saw it as a good time to seek a change in their marketing quota. One after another, representatives of the cane industry testified before Congress that they favored the principles of the sugar program, but wanted relief from the too restrictive cane quota. They pointed to the fact that cane production was increasing while the quota remained the same. Many asked why a productive industry should be restricted to such an extent. A spokesman for the Louisiana cane growers testified before the House Committee on Agriculture as follows:

> Every serious problem that has confronted the Louisiana sugar industry in the past several years and the Sugar Section in its administration of the Jones-Costigan Act in Louisiana, could be traced eventually to the fact that Louisiana does not have an adequate quota. We all recognize that fact.[35]

He further condemned the Sugar Section of the Department of Agriculture by stating:

> One branch of the Department of Agriculture is working hard to develop better varieties of cane that will produce more tonnage and more sugar, while another branch is discouraging the growth of these canes ... In this connection I will say

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[34] Ibid.

[35] U.S., Congress, House, Committee on Agriculture, Sugar, Hearings, before a special subcommittee of the Committee on Agriculture, House of Representatives, on H.R. 5326, 75th Cong., 1st sess., 1937, p. 145.

> that the Bureau of Plant Industry is making a swell job in furnishing us superior varieties of cane; that is, we are growing cane now that will produce far in excess of our biggest expectations, but the Sugar Section is not allowing us to enjoy this development to the fullest extent, because they are restricting our production in order that Cuba may profit thereby. I should say rather that the Sugar Section is discouraging the increase.[36]

Another representative of the Louisiana cane industry said:

> I am ... appealing and begging you, the Secretary of Agriculture, and the other gentlemen, to put your heads together and do something for us, and not impose that cruel small quota on Louisiana and Florida.[37]

The Florida cane growers also fought for changes in the marketing quota. Several members of Congress from the state and various representatives of the growers offered their views about new sugar legislation. Several argued that the Florida growers were not receiving the same treatment that other producers enjoyed. Speaking to this point, Clarence Bitting said:

> Beet producers have not produced their sugar quota, as has already been admitted during these hearings. This condition clearly indicates that the beet quota, as established in the proposed legislation is in fact, not a quota but for all practical purposes is permission for unrestricted production. We ask only equivalent treatment for Florida.[38]

As was just mentioned, several of Florida's congressional members sought to influence the proposed legislation. Testifying on the "inequity" of the existing marketing quota, one noted:

> I want these things to stand out in your mind. Here is a State that is not allowed to raise but one-half the amount of sugar we use in the State itself. That is rather startling, but that is the fact. Here is a State that has

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[36] *Ibid.*, pp. 144-145.

[37] *Ibid.*, p. 151.

[38] *Ibid.*, p. 173.

> cleared lands and is ready to raise cane, and that can raise cane cheaper than most areas, and still pay good wages, and wants to, but is not permitted to.[39]

Sugar beet growers, of course, were also extremely interested in the new sugar legislation. While they were interested in the level of their marketing quota, growers were equally concerned with increasing government payments over the 1936 level. Testifying before the Senate Committee on Finance, the President of the National Beet Growers Association said:

> The experience under the operation of the quota system and the accompanying benefit program ... shows that the program was sound and operated successfully in stabilizing the sugar industry as a whole and in restoring the sugar beet and sugar cane farmers a fair income from their crops. It must be obvious how vitally important and necessary it is to the sugar beet industry, and the many persons dependent upon it, that sugar legislation be passed at this session, continuing such a program.[40]

Without legislation containing higher benefit payments the beet growers faced a serious situation. Relying upon the passage of a sugar act as recommended by the President, growers were entering into production and wage contracts, the latter at increased rates. Commenting on this, a spokesman for the growers stated:

> If such legislation be not enacted, the farmers are presently faced with irreparable loss, and, unless the principles of a quota system and payment to farmers be enacted, the raising of sugar beets in many areas will be abandoned, and the economic existence of the entire beet sugar industry will be seriously endangered.[41]

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[39] Ibid., p. 176.

[40] U.S., Congress, Senate, Committee on Finance, Sugar, Hearings, on H.R. 7667, 75th Cong., 1st sess., 1937, p. 141.

[41] Ibid.

By mid-1937 Congress had heard from all the various groups interested in the new sugar legislation and in September enacted a new sugar law. This law, known as the Sugar Act of 1937, contained the essential features of the previous sugar act. These included (1) provisions for annual estimates of consumption requirements by the Secretary of Agriculture, (2) the apportionment of estimated requirements to the various supply areas in accordance with the formula set forth in the act, and (3) the allocation of proportionate shares to mainland beet and cane producers. As before, these allocations were the basis for conditional payments and could be used for applying acreage restrictions when necessary. The conditional payments were to be made directly to growers to make sure they shared in the benefits of the sugar program. These payments, of course, were in addition to income the growers received from their crop. To qualify for the payments, producers had to meet certain conditions. Among these were (1) the elimination of child labor, (2) the payment of fair and reasonable wages, (3) the preservation and maintenance of soil fertility, and (4) marketing no more than the alloted acreage. To provide funds for the payments, an excise tax was levied on all sugar refined in this country and also on refined sugar imported for direct consumption. In order to overcome the objections of the Supreme Court to the processing tax, the excise tax did not relate directly to the payments made to the growers. The payments were made with funds appropriated directly by Congress for that purpose. Revenue from the excise tax went directly into the general fund of the federal treasury.

An important feature of the 1937 sugar act was that it provided for a different method of determining quota allocations. Under the 1934

act, a specific tonnage had been allocated to each of the areas supplying sugar to the United States market. Quotas in the 1937 act, however, were specified only as percentages of total consumption requirements (Table 21). According to the new act, the Secretary of Agriculture was required to assign 55.59 percent of the total annual consumption to United States production areas, including Hawaii, Puerto Rico, and the Virgin Islands. The total allotment to these areas, however, was not to be less than 3,715,000 tons.[42] Of the share of the market allocated to the United States areas, mainland beet growers received 41.72 percent and cane growers 11.31 percent. This division represented a minimum of 1,550,000 tons for beet growers, or the same as had been allocated under the Sugar Act of 1934. For mainland cane growers, it meant a minimum quota of 420,000 tons, an increase of nearly 160,000 tons over the level set by the previous act (Table 20).

The 1937 sugar act gave sugar growers most of what they requested. Especially significant was the increase in the marketing quota for mainland cane growers. Growers in Florida were still annoyed, however, that Congress did not provide a separate line quota for each of the cane producing states rather than a single combined quota for Florida and Louisiana. This arrangement meant that Florida growers continued to have their annual quota based on past production relative to total cane production, a system they considered unfair and unacceptable. Still, the act did permit mainland growers to share in any increase in the consumption of sugar. Since marketing quotas were stated in percentage, continental

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[42] The Sugar Act of 1937, Statutes at Large, L, p. 905 (1937).

producers automatically benefited from any increased sugar consumption. For example, beet and cane growers received 1,550,000 and 420,000 tons respectively when national consumption requirements were below 6,682,670 tons.[43] When consumption exceeded this figure, each mainland supply area would share in the increase in accordance with its quota percentage. Thus, continental beet growers would receive 23.19 percent and cane growers 6.29 percent of the increase (Table 21). Mainland producers therefore not only received a liberal minimum quota in the 1937 legislation, but were also granted a share of any increase in consumption.

TABLE 21

Quota Allocation, Sugar Act of 1937

United States areas	Domestic	Total
	Percent	
Mainland Beet	41.72	23.19
Mainland Cane	11.31	6.29
Hawaii	25.25	14.04
Puerto Rico	21.48	11.94
Virgin Islands	.24	.13
	100.00	55.59

Foreign Countries	Foreign	Total
	Percent	
Philippine Islands	34.70	15.41
Cuba	64.41	28.60
Other	.89	.40
	100.00	44.41

Source: The Sugar Act of 1937, Statutes at Large, L, p. 905 (1937).

Since the Sugar Act was passed late in 1937 it had little influence on the sugar crop. Overall, acreage harvested for sugar increased by 2 percent (Figure 21). Beet acreage declined, but cane acreage

[43] Ibid.

increased. The drought, which had done so much damage to American agriculture in 1934 and 1936, continued to plague certain parts of the beet area, although it was far less important than during the previous years. A more significant reason was grower uncertainty about the final form of the new sugar legislation. Beet producers were concerned as to whether higher benefit payments would actually be included in the law. Although the President had recommended they be included, beet growers were not sure until the act was finally passed. The increase allowed in cane acreage was the result of an increased marketing quota for cane sugar, which had been inserted to offset the continued inability of the beet area to meet its quota. This increase accomplished, and also stimulated, a new vitality in the mainland cane area, one which signaled a complete recovery from the disastrous period of the late twenties.

The full impact of the 1937 sugar act was evident in 1938. Acreage harvested for sugar increased by 18 percent of the previous year (Figure 21). Cane acreage increased once again, and no small part of the increase was due to the larger marketing quota in the 1937 sugar act.[44] A substantial increase in acreage was also registered in the beet area (Figure 22). For the first time since statutory marketing quotas were legislated in 1934, the beet growers filled their quota. Several factors were reflected in the larger acreage. Agricultural prospects in general were bleak in the spring of 1938. Since sugar beets were assured a steady market and a firm price by the 1937 sugar legislation, there was strong inducement for farmers who had a choice of crops to plant

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[44]Timoshenko and Swerling, World's Sugar, p. 163.

beets.[45] Further, the Sugar Act brought the return of higher conditional payments, which also served to encourage many farmers to shift to beet production.

As a result of the large acreage harvested for sugar in 1938, mainland cane and beet production was the highest ever attained to that time.[46] In the case of both crops, production was in excess of the marketing quota and the result was a considerable increase in the year-end carryover of sugar. Consequently, acreage restrictions, as called for under the 1937 sugar act, were imposed in 1939 to adjust supply to the marketing quota. As Figure 21 shows, acreage harvested decreased by 5 percent in 1939. Since beet sugar production, with allowance for normal carryover, was near the marketing quota, only a slight reduction in beet acreage was required. Cane production, however, was far in excess of the quota and more drastic restrictions were necessary. An acreage reduction of 25 percent was planned for the mainland cane area.[47] Because of heavy grower investment in plant cane, however, the acreage adjustment was to be spread over a two-year period. As Figure 22 reveals, cane acreage harvested decreased in 1939.

The acreage reductions were especially severe in Louisiana, and the planters did not remain silent. On being ordered to plow up cane in the spring of 1939 to bring acreage in line with the quota, bitterness grew among the growers. An official of the American Sugar Cane League

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[45] Ibid.

[46] U.S., Department of Agriculture, Sugar Statistics and Related Data, II, 1959, p. 2, 68, and 77.

[47] U.S., Congress, Senate, Committee on Finance, Amending Sugar Act of 1937, Hearings, on S. 937, 77th Cong., 1st sess., 1941, p. 51.

declared:

> We'd rather have no quota at all, and no sugar benefit payments from the federal government, and take our chances than continue to try to grow sugar under a system of regulations by which we plant sugar cane in good faith, and then get orders to plow it up.[48]

A spokesman for the cane industry estimated that if marketing quotas were eliminated, cane acreage in the continental United States would increase, and total raw sugar produced from it might reach 1,000,000 tons within a few years.[49] It should be noted, however, that this estimate was based on the presumption of a return to pre-sugar act tariff levels.

The outbreak of war in Europe in September, 1939, resulted in a wave of sugar buying and speculation which increased the price of sugar in the United States. The President responded by suspending statutory marketing quotas, in accordance with provisions of the Sugar Act, to meet the demands of the consumer and, hopefully, to maintain price stability.[50] The action made immediately available to consumers a reserve supply of approximately 800,000 tons of domestic sugar.[51] Almost at once, prices fell and the President ordered the quota system reimposed in late December, 1939, to be effective January 1, 1940.

The temporary suspension of marketing quotas allowed mainland producers to market sugar in excess of their quotas. The carryover surplus therefore declined, and the need for further acreage restrictions eased.

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[48] As quoted in Sitterson, Sugar Country, p. 385.

[49] Ibid., p. 386.

[50] U.S., Department of Agriculture, Report of the Secretary of Agriculture, 1939 (Washington, D.C.: Government Printing Office, 1939), p. 109.

[51] Ibid.

In view of the disposal of a large portion of the beet sugar surplus, and with unfavorable crop prospects in certain beet areas, acreage restrictions were not reimposed on beets in 1940.[52] As shown in Figure 22, the beet acreage harvested in 1940 remained the same as in 1939. Exceptionally high yields of sugar per acre, however, brought a record production of 1,894,000 tons, an amount well in excess of the beet quota.[53] As a result, the government invoked its authority to restrict beet acreage for the 1941 crop year. The 1941 acreage was reduced substantially to bring production in line with the quota (Figure 22). To ascertain how the reduction was spatially applied, see Appendix C.

Continental cane growers were in the second year of their acreage adjustment program in 1940. The suspension of quotas and the marketing of some of the surplus cane sugar, however, meant that acreage restrictions did not have to be as severe as orginally planned. Cane acreage harvested was reduced, but the decline was much less than in 1939 (Figure 22). Although acreage decreased only slightly in 1940, extremely adverse weather conditions resulted in a drastic decline in cane production and below normal inventories of sugar. In 1941, therefore, acreage restrictions were removed and the amount of land devoted to sugar cane was expanded (Figure 22).

The War Years

The war in Europe intensified in 1941. To protect consumers from

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[52]U.S., Congress, Senate, Amending Sugar Act of 1937, Hearings, 1941, p. 51.

[53]U.S., Department of Agriculture, Sugar Statistics and Related Data, II, 1959, p. 2.

unreasonable price rises the government placed a price ceiling on sugar. Further, it was deemed advisable by Department of Agriculture officials to encourage sugar production in the mainland producing areas. First, the Sugar Act of 1937, which had been scheduled to expire at the end of 1941, was extended through 1944. The revised act provided for a 33 percent increase in the base rate for conditional payments during the wartime emergency.[54] The increase was enacted to stimulate production and help offset rising labor costs. Agricultural labor was in short supply as many workers joined the armed forces or left the rural areas for employment in manufacturing.

Japan's attack on the United States in December, 1941, brought a new dimension to the war and to the sugar program. Faced with the loss of sugar from the Philippine Islands, the President acted to maintain sugar supplies. Using power granted him in the Sugar Act, he suspended marketing quotas in April, 1942. The suspension of quotas and increased conditional payments provided the necessary stimulus for mainland sugar growers. In 1942, acreage harvested for sugar increased by 23 percent (Figure 21).

Mainland cane growers, who had been held back by peacetime controls, now took advantage of the removal of quotas and increased their acreage harvested in 1942 by 35,000 acres or 14 percent over the previous year (Table 14). The entire increase was in Louisiana and it reaffirmed once again that the cane area in that state had fully recovered from the disease-prone years of the 1920's. In Florida, cane acreage

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[54]U.S., Department of Agriculture, Report of the Secretary of Agriculture, 1942 (Washington, D.C.: Government Printing Office, 1942), p. 92.

harvested for sugar declined. The decline was largely the result of an inadequate labor supply resulting from higher pay for industrial workers.[55]

The President timed the suspension of quotas so as to make sure the mainland beet growers were able to take advantage of the situation. Removal of the beet sugar quota meant, of course, that acreage restrictions, necessary in 1941, were also withdrawn. Beet growers responded by increasing acreage harvested substantially over the previous crop year (Figure 22). The 1942 crop represented the largest acreage harvested since passage of the initial sugar act in 1934. Without question, the higher conditional payments offered by the government were the key factor in stimulating increased acreage. It is worth noting that conditional payments, originally intended as compensation to growers for conforming to output restrictions, now became an outright production subsidy to encourage maximum output. See Appendix C to ascertain how the increase in acreage was spatially distributed.

With the United States completely involved in the war, the challenge was to find ways of maintaining a supply of sugar adequate to meet civilian and military demands. Figure 21 shows the influence of the war on continental sugar production. In spite of the need for a greater sugar output, a sharp decrease in acreage was recorded in 1943. Acreage then remained steady in 1944 and increased during 1945, 1946, and 1947. Nevertheless, acreage never exceeded the 1942 level during this period.

Sugar beet production during the wartime period was particularly disappointing (Figure 22). Acreage harvested for sugar declined

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[55]Sitterson, Sugar Country, p. 376.

drastically in 1943 despite a price assistance program that guaranteed higher prices than in 1942.[56] Although numerous factors worked simultaneously, the basic reason for the decline in acreage was the high cost and general shortage of labor. Farmers preferred to grow competitive crops which were equally attractive financially but which required less labor than sugar beets. Little change occurred in beet acreage in 1944, although it did increase in 1945 and 1946. The acreage harvested in 1946 was 261,000 acres more than in 1943 (Table 10). An important factor in the recovery of beet acreage toward the end of the war was the implementation of several government programs designed to assist growers.[57] These programs included insuring adequate returns to growers and processors, assisting growers in obtaining fertilizers and equipment, and obtaining labor, including some foreign workers. As the war effort increased in intensity, the demand for agricultural labor became more urgent. The government responded by concluding an agreement with Mexico permitting the importation of Mexican nationals to overcome the labor shortage. During the period 1943-1946, the United States government brought some 198,000 Mexican agricultural workers to the United States.[58] Additional laborers were brought from Jamaica, Canada, the Bahama Islands, British Honduras, and Barbados.

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[56] U.S., Department of Agriculture, Report of the Secretary of Agriculture, 1943 (Washington, D.C.: Government Printing Office, 1943), p. 152.

[57] U.S., Department of Agriculture, Report of the Secretary of Agriculture, 1946 (Washington, D.C.: Government Printing Office, 1946), p. 98.

[58] Report of the President's Commission on Migratory Labor, Migratory Labor in American Agriculture (Washington, D.C.: Government Printing Office, 1951), p. 38.

Although government incentives to sugar beet growers were inadequate to maintain acreage during much of the war period, the crop nevertheless received more official attention than cane and for some good reasons. Beet sugar production normally represented two or three times that derived from cane. It was, therefore, absolutely necessary to sustain beet acreage if the country was to meet the wartime sugar emergency. Also, since an annual crop was involved, sugar beet acreage was more flexible and easier to control as the federal government moved from crisis to crisis. There was also a political factor in the background.[59] Small beet crops meant beet factories operating below capacity or even shut down. This was a situation that many legislators representing beet states wished to avoid because it brought pressure from labor, processors, and the community at large.

Between 1943 and 1947, mainland cane growers maintained production better than the beet growers. Although annual variations occurred, the most dramatic between 1945 and 1946, acreage harvested remained relatively steady (Figure 22). The shortage of labor was a factor, but it was never as acute in the cane as in the beet area.[60] Field labor from the Caribbean area was brought to Florida to assist in harvesting the Everglades cane crop. In Louisiana, the wartime labor shortage was partially overcome by mechanizing the cane operation. Although a general shortage of equipment existed, growers steadily increased the use of tractors and other equipment, including the mechanical harvester. The

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[59] Timoshenko and Swerling, World's Sugar, p. 173.

[60] U.S., Department of Agriculture, History of Sugar Market, p. 49.

harvesting machine was in an experimental stage prior to the war, but as wages rose and labor became scarce the number of mechanical harvesters increased rapidly. By 1946, 63 percent of the Louisiana cane acreage was harvested by machine.[61]

During the war and the immediate postwar period the United States provided its European allies with a portion of their sugar requirements. Very little sugar, however, was shipped prior to 1942. In that year, nearly 170,000 tons were exported, the bulk going to the Soviet Union and the United Kingdom.[62] The following year sugar exports more than doubled, and again most of it went to the same two countries.[63] There was a sharp decline in exports in 1944.[64] Among the recipients, the Soviet Union continued to receive the largest share with Italy a poor second. Almost no sugar was shipped to the United Kingdom. In 1945 and 1946, the amount of sugar exported to Europe was back at about the 1942 tonnage.[65] Almost all of the sugar in those years went to France, Switzerland, Italy, and Greece. Sugar exports declined in 1947 and later years to an insignificant amount.

Although the war ended in 1945 there was no rush to remove

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[61]Sitterson, Sugar Country, p. 394.

[62]U.S., Department of Agriculture, Agricultural Statistics, 1946 (Washington, D.C.: Government Printing Office, 1946), p. 487.

[63]Ibid.

[64]U.S., Department of Agriculture, Agricultural Statistics, 1948 (Washington, D.C.: Government Printing Office, 1949), p. 505.

[65]U.S., Department of Agriculture, Agricultural Statistics, 1950 (Washington, D.C.: Government Printing Office, 1950), p. 536.

government controls from sugar. Fresh in the minds of many people, including government officials, farmers, and businessmen, were the results of premature decontrol after World War I. Price controls had been removed on nearly all foods by late 1946, but controls on sugar were continued through much of 1947. Household rationing of sugar ended in mid-1947 and industrial rationing was abolished a short time later. The Sugar Act of 1937, as amended during the war, had been scheduled to expire at the end of 1946. It was extended through 1947 to give Congress sufficient time to consider a new sugar act.

The Sugar Act of 1948

Congress began work on new sugar legislation in early 1947. In August that year, the Sugar Act of 1948 was passed and signed by the President to be effective from January, 1948, through December, 1952. The entirely new act embodied many of the features of the pre-war sugar act, notably the quota provisions and the conditional payments to growers. One part of the previous act, especially important to this study, was changed. Under the 1937 sugar act, a fixed percentage of the estimated consumption requirements was assigned to each supply area (Table 21). When consumption increased, each area shared in the increase. The Sugar Act of 1948, however, assigned fixed tonnage quotas to mainland beet and cane growers, and to the Philippine Islands, but variable quotas to Cuba and other foreign countries. Mainland beet and cane growers received allocations of 1,800,000 and 500,000 tons respectively, both well above the previously legislated quotas.[66] The 1934 and 1937 acts, it

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[66] The Sugar Act of 1948, Statutes at Large, LXI, pp. 922-934 (1948).

should be recalled, had granted beet producers 1,550,000 tons. Cane growers had received 260,000 tons in 1934 and 420,000 tons in 1937. For beet growers, the 1948 quota could hardly be considered restrictive. After 1935, beet production exceeded this quota only in 1940 and 1947 and then by an infinitesimal amount.[67] Cane growers had also exceeded their 1948 quota only twice since 1935. In those two years, 1938 and 1939, production was above the 1948 quota by approximately 10 percent.[68]

In the 1948 sugar act, Cuba was not granted a fixed tonnage, but instead a variable quota. Any sugar requirement above 5,250,000 tons, the specific quota assigned the domestic areas and the Philippine Islands, needed to meet consumption was to be divided between Cuba and other foreign countries. Cuba recieved nearly 99 percent of this residual. The variable quota gave Cuba a large share of the United States market, actually about 40 percent of it. This generous treatment was intended as compensation for Cuban efforts in expanding production during the war. Without the increased wartime supply from Cuba, the United States, and its allies, would have felt a severe shortage. Further, it was to help the country market a record crop in 1948, just when it appeared world demand for Cuban sugar was on the decline.

In the past, consideration of new sugar legislation had usually meant that representatives of all interested groups appeared before the appropriate congressional committees to state their claims and aspirations.

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[67]U.S., Department of Agriculture, Agricultural Stabilization and Conservation Service, Sugar Statistics and Related Data, II, Statistical Bulletin No. 244 (Washington, D.C.: Government Printing Office, 1969), p. 9.

[68]Ibid.

Appropriate legislation was generally drafted by the Secretary of Agriculture and modified by Congress after hearings were completed. This was not the case with the 1948 act. At the public hearings in 1947, continental sugar interests were represented by a single person.[69] Furthermore, the normal legislative function was in part, perhaps in large part, delegated to private industry groups. When the Director of the Sugar Branch was asked by a member of the House Committee on Agriculture who drafted the proposed 1948 sugar bill, he responded:

> It was drawn up by a large group of people, representing primarily the domestic sugar industry, working with people in the Department of Agriculture.[70]

It is not surprising, therefore, that few objections were raised in the hearings on the new sugar legislation. Indeed, no dissatisfaction was recorded from either mainland beet or cane producers about their marketing quotas. This was a considerable change from past sugar hearings when the size of the quota was the main point of disagreement. The ability of continental sugar producers to obtain marketing quotas generally in excess of their past production performances, and thereby obtain what was essentially unrestricted production, demonstrates the political strength of these groups in Congress.

Since the 1948 sugar act fixed the marketing quotas for continental sugar producers, it meant that acreage was limited to the amount estimated to meet quotas. As Figure 21 shows, acreage harvested for sugar varied considerably during the years between 1948 and 1952, the time

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[69]See for example, U.S., Congress, House, Committee on Agriculture, Sugar Act of 1948, Hearings, 80th Cong., 1st sess., 1947.

[70]Ibid., p. 59.

period of the legislation. Refer to Appendices A, B, and C for the spatial distribution of acreage by state during these years.

During the period 1948-1952, mainland cane acreage showed remarkable stability, largely due to production restrictions (Figure 22). Although annual fluctuations occurred, they were minor in nature. Over the five year period, growers increased acreage about 3 percent. Both Louisiana and Florida growers harvested more cane in 1952 than in 1948, although the former's increase was extremely small (Appendix A and B). Florida producers increased acreage by nearly 8,000 acres. If planting had been unrestricted, there seems little doubt that both cane acreage and production would have been much larger in Florida than was the actual case.[71] Growers wanted to plant more cane for sugar, but the provisions of the 1948 sugar act prevented any substantial increase in the amount of land devoted to cane production in the state.

In contrast to cane, beet acreage was anything but stable during the five-year period the 1948 sugar act was in force (Figure 22). Most of the time growers failed to meet their quota obligation. Unlike in the cane area where few, if any, financially rewarding alternate crops were available, beet growers were able to choose from several competing crops, among them cotton and corn, which were about equally remunerative. In short, the rather extreme variation that occurred in the 1948-1952 period in sugar beet acreage harvested was directly related to competition from other crops. The drastic decline in acreage in 1948 reflected the ending of special wartime support for sugar beets, which had been designed

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[71]Sitterson, Sugar Country, p. 377.

to stimulate production, and a corresponding improvement in the competitive position of other crops, especially wheat, corn, and cotton. In 1950, beet acreage harvested rose dramatically, however, some 31 percent over the preceding year. The reason was that other crops under government programs, notably corn and cotton, were in a period of surplus production with consequent acreage restrictions and/or price declines.[72] In response, many farmers shifted to sugar beets. In California, for example, with cotton acreage abruptly restricted, sugar beet acreage harvested increased from 149,000 acres in 1949 to 209,000 acres in 1950 (Appendix C). Nebraska increased its acreage harvested from 38,000 to 59,000 acres the same year and, in fact, every major sugar beet producing state except Ohio increased beet acreage from 1949 to 1950 (Appendix C).

With the outbreak of war in Korea, controls on cotton were abandoned and prices for corn and wheat rose. Farmers once again shifted to more remunerative competing crops. Appendix C shows the impact of these changes on beet acreage. California's acreage harvested, for example, declined to 145,000 acres, or less than the 1949 figure. A substantial loss in acreage was also recorded in Michigan. Acreage harvested in that state fell sharply from 97,000 acres in 1950 to 53,000 acres in 1951. Indeed, only North Dakota of the major beet growing states did not register a decrease in acreage harvested in 1951. Continuation of the Korean War into 1952 meant assured supports at attractive price levels for competing crops, and farmers remained reluctant to shift back

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[72]For the best treatment of these programs prior to 1956 see Benedict and Stine, The Agricultural Commodity Programs.

to sugar beets. Beet acreage harvested for sugar in 1952, consequently, declined to the lowest level since 1944.

Sugar Acts, 1952-1960

In 1951, Congress reviewed the sugar program and the need for continuing protection for the mainland sugar producers through legislation. The Director of the Sugar Branch, Department of Agriculture, stated before the House Committee on Agriculture that termination of the quota and price support program would have serious effects on mainland sugar production.[73] Production was based largely on the confidence growers had in future financial returns. If the sugar act was terminated, the growers' confidence would be destroyed, since sugar prices would become subject to the erratic fluctuations of the world market. No doubt continental growers, particularly beet growers, would continue their shift to the production of other crops. Congress eventually agreed with the Department of Agriculture on the value and necessity of continuing the sugar program. With passage of a new support measure, the Sugar Act of 1948 as amended, in 1951 the government continued strict control over mainland sugar production through 1956.

While the amended act included several basic changes, none of these changes applied to continental growers. Marketing quotas for both sugar beet and sugar cane producers remained the same as under the previous act, 1,800,000 and 500,000 tons respectively. During the period the act was in force, mainland growers were not allowed a share in any increased

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[73]U.S., Congress, House, Committee on Agriculture, Extension of Sugar Act of 1948, Hearings, on H.R. 4521, 82d Cong., 1st sess., 1951, pp. 7-8.

consumption requirements except as they might be invited to fill temporary quota deficits from other supply areas.

As was the case in 1948, representatives of the continental sugar industry collaborated with the Department of Agriculture in drafting the new legislation. Once again the major mainland sugar producing and refining organizations were represented at the hearings on the act by a single spokesman and, as in 1948, it was Mr. Frank Kemp. In summarizing his testimony before the House Committee on Agriculture, this gentleman stated that the groups he represented had instructed him

> to express to you their joint and separate endorsement and approval of the bill, and their earnest hope it will receive your early and favorable consideration ... to resolve doubts and permit planting next spring without limitation because of legislative uncertainty.[75]

There were, however, some voices of dissent at the hearings. One sugar beet association protested the act's failure to increase the marketing quota for beet sugar.[76] The organization was especially concerned that the productive ability of the Red River Valley of western Minnesota and the eastern Dakotas was not being used and suggested that the sugar act was primarily the blame. The representative of the organization stated:

> Increases in quota for domestic beet sugar are ... deemed to be necessary by our association as assurance to growers that their investment in mechanized beet-growing equipment can be amortized over a period of years.[77]

The association received assistance from a Minnesota member of the

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[74] Ibid., pp. 143-154.

[75] Ibid., p. 146.

[76] Ibid., pp. 107-112.

[77] Ibid., p. 107.

Committee on Agriculture who complained that farmers were being restricted in their operations by so many government programs that non-surplus crops, such as sugar beets, should be allowed to be produced freely by the American farmer.[78] Another organization, this one representing farmers on reclamation projects in the western United States, took exception to the continuation of the same old marketing quotas for beets. Sugar beets, he said, represented one of the best crops for the West in that it helped to meet the expensive irrigation operations and maintenance costs in the region and complemented other aspects of the regional economy, notably the livestock industry. Consequently, his organization urged that any revision in the Sugar Act include an increase in the mainland beet marketing quota.[79] The request was especially urgent because of the potential expansion of irrigated acreage in the northwestern United States resulting from the completion of the federally assisted Columbia Basin reclamation project.

Perhaps the most critical testimony about the proposed act came from the Association of Cocoa and Chocolate Manufacturers of the United States, an organization of fifteen important sugar using industries. The organization's spokesman was critical of how the amended sugar act was drafted, arguing that consumers as well as producers should have been consulted.[80] Further, he was critical of the method used to determine consumption requirements. If estimated consumption requirements were

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[78] *Ibid.*, p. 72.

[79] *Ibid.*, p. 111.

[80] *Ibid.*, pp. 11-12.

in excess of demand, he said, the price of sugar was likely to be moderate. If the consumption estimate, however, was below actual requirements, an artificial shortage was created, and an increase in price was the natural result. The spokesman noted that the way the bill was drafted fulfilled one objective of the act, to protect the welfare of the continental sugar producers, but it did little to fulfill another objective, protection of the interests of consumers of sugar.[81]

In the final analysis, Congress passed the sugar legislation in much the same form as it was originally presented. Most important, there was no change in the marketing quotas for mainland sugar producers. It is worth noting that the Sugar Act of 1948 as amended in 1951 was to be effective for four rather than five years like the original 1948 act. The federal government desired a five-year period, but recognized that production, largely due to technical and scientific advancements, sometimes exceeded the authorized marketing quotas. Changes in the quotas were, therefore, going to be necessary if continental producers were to continue to share proportionately in the sugar market. An act that was in force for five years, however, was not flexible enough to suit the growers. Fixing the term of the bill at four years was a compromise acceptable to all major parties concerned with the legislation.

Acreage harvested for sugar by cane growers during the four years the amended act was in effect shows clearly the influence of government policy on the amount of land allocated to sugar production in the continental United States. In 1953, cane acreage harvested, as shown in Figure 22, increased slightly. Sugar production, however, amounted to

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[81] *Ibid.*, pp. 250-254.

633,000 tons, considerably above the established marketing quota of 500,000 tons.[82] The large crop was the result of unusually favorable weather, higher inputs of fertilizer, the introduction of several new cane varieties and, of course, slightly enlarged acreage. As a result of the bumper crop, the Secretary of Agriculture invoked his authority to restrict acreage the following year. The Secretary's decision brought a 12 percent reduction in cane acreage in 1954. Despite the lower acreage, sugar production in 1954 was still in excess of the marketing quota. Faced with an unsually large carryover from the previous year, the Secretary again reduced acreage in 1955. Although the acreage harvested declined by 6 percent because of restrictions, sugar production was once again in excess of the marketing quota. The Secretary had little choice but to restrict cane acreage again for the 1956 crop, to a level 13 percent below that of the previous year. With these allocation cuts, the 1956 acreage was the smallest harvested since the passage of the first sugar act in 1934. Table 22 shows how the acreage restrictions applied to Louisiana and Florida during the four year period.

TABLE 22

Sugar Cane Acreage Harvested, 1953-1956

thousands of acres

Year	Louisiana	Florida
1953	280	45
1954	247	39
1955	232	35
1956	204	30

Source: Appendix A and B.

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[82] U.S., Department of Agriculture, Sugar Statistics and Related Data, II, 1969, p. 9.

Altogether, government restrictions on acreage decreased the amount of land allocated to cane production by 27 percent in Louisiana and 33 percent in Florida during the 1953-1956 period.

The history of land allocation to sugar beets between 1953 and 1955 reflects very well how government influences mainland sugar acreage. Beet acreage harvested registered a moderate increase in 1953, largely due to accumulating surpluses of competing crops, lower prices for them, and associated acreage restrictions (Figure 22). Despite the larger acreage approved for 1953, sugar production was only 1,738,000 tons, or less than the marketing quota.[83] Consequently, sugar beet acreage increased again in 1954. This time the enlarged acreage resulted in sugar production exceeding the quota by nearly 200,000 tons.[84] To bring the supply into line with the marketing quota, the Secretary of Agriculture ordered beet acreage reduced in 1955. The consequence of the order was a substantial decrease in beet acreage harvested for sugar and a corresponding decline in production. Just how the reduction affected an individual grower was exemplified by the following testimony given before the House Committee on Agriculture.

> In the year 1953, I produced 100 acres of sugar beets. In 1954, I applied for and was granted a 10-percent increase in my acreage. After I made major investments to handle increased acreage, I was drastically cut to 80 acres.[85]

To ascertain how the acreage reduction in 1955 affected the various beet growing states, see Appendix C.

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[83] Ibid.

[84] Ibid.

[85] U.S., Congress, House, Committee on Agriculture, Amendments to Sugar Act of 1948, Hearings, on H.R. 5406, 84th Cong., 1st sess., 1955, p. 221.

Although the terms of the Sugar Act of 1948 as amended in 1951 were supposed to terminate at the end of 1956, the mainland sugar industry, notably the growers, applied pressure on Congress to review the act in 1955. At issue was the restrictive marketing quotas legislated in the 1951 act. As previously noted, in order to hold down sugar production acreage harvested in the cane areas had been cutback drastically between 1953 and 1956. Since remunerative alternate crops were unavailable, the cane growers sought relief through legislation. Sugar beet acreage too had been restricted in 1955, and many farmers who wished to grow beets had been unable to obtain an acreage allotment. As in the case of sugar cane, scientific and technological improvements had resulted in increased beet sugar production from less acreage. Although alternate crops were available, their relative remunerative position varied considerably, and net income per acre for them was generally below that from sugar beets. Furthermore, many of the alternate crops were being produced in surplus and acreage restrictions on them were common. Since sugar was a deficit crop in the United States, sugar beet and cane growers alike felt they should have a larger share of the sugar market so they could put to profitable use all of their productive land.

The Sugar Act of 1948 and its amended 1951 version had fixed the marketing quotas for the beet growers and cane growers at 1,800,000 and 500,000 tons of sugar, raw value, respectively. Although occasional temporary increases were awarded the cane and beet producers due to shortages elsewhere, these increases were never large and were always limited to one year. When hearings to amend the sugar act began in

mid-1955, the fixed marketing quotas were the major target of mainland sugar producers. In a provocative paper published in 1948, William C. Pendleton wrote that "the kind of policy we have is intimately related to the way it is made."[86] What he meant was that our sugar policy was guided by the interests of concurrent and competing political forces - sugar producing groups, executive agencies, and Congressional representatives of the various states. The Sugar Act of 1948 as amended in 1955, and later extended through 1960, was an excellent example of Pendleton's proposition.

Changes in the sugar act considered by the House Committee on Agriculture in mid-1955 were the result of mainland sugar suppliers working closely with government officials. As eventually modified, the bill restored to the mainland sugar growers participation in the growth of the United States sugar market. In its preliminary form, the new legislation would have increased the marketing quota for beet sugar to 1,885,000 and that for cane sugar to 580,000 tons.[87] Further, it specified that 55 percent of consumption requirements above 8,388,000 tons of sugar would be assigned to the domestic sugar areas (continental sugar beet and cane states, Hawaii, Puerto Rico, and the Virgin Islands). Of this anticipated market assigned to American producers, 40.7 percent was to be allocated to mainland beet producers and 12.5 percent to cane growers.

Testimony concerning the proposed bill reflected the vested

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[86]Pendleton, "American Sugar Policy - 1948 Version," p. 226.

[87]U.S., Congress, House, Amendments to Sugar Act of 1948, Hearings, 1955, p. 1.

interests of numerous groups. Once more, the major continental sugar interests were represented by a single individual, and again it was Frank Kemp. In a prepared statement Kemp referred to recent forced reductions in sugar beet and cane acreage, the government's unwillingness to let mainland sugar producers share in increased consumption under the previous two acts, the need for additional beet acreage to make farming profitable on the western reclamation projects, and the general desire of the American farmer to have a priority in producing for the American market.[88] In concluding his statement, he noted:

> The domestic industry and the sponsors of the legislation ... present the bills as a fair, honest compromise between the claims of our own industry and our wish to benefit foreign suppliers. By any test, the bills are in the best interest of the United States.[89]

The position stated by Kemp was vigorously supported by such organizations as the American Farm Bureau Federation, the Western Beet Growers Association, the Red River Valley Beet Growers, and the American Sugarcane League.[90] Numerous congressmen from beet and cane growing states also supported the proposed legislation.

Reclamation interests likewise added their vocal support for the proposed amended sugar act. Representing them, a Department of Interior spokesman testified as to the benefits of reclamation in the western United States. Since sugar beets were consistently an important crop on the reclamation projects, the department was interested in a

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[88] Ibid., pp. 164-173.

[89] Ibid., p. 173. Kemp used the plural form of bill in his statement because twenty-eight identical bills had been introduced into the House.

[90] See various testimony, Ibid.

larger beet quota so newly opened projects might obtain beet acreage. Of the total beet acreage harvested for sugar in the United States in 1954, approximately 80 percent was grown under irrigation, and of this irrigated beet acreage about 50 percent was on federal reclamation projects.[91] The department's reclamation program for the 1954-1959 period, including the Columbia Basin project, was scheduled to bring into production more than 797,000 new irrigated acres and farmers in these areas wanted to grow sugar beets.[92] The privately-supported National Reclamation Association strongly urged enactment of legislation that would remove the restrictive quota on mainland beet production. In summarizing its position, the Association's spokesman said:

> The association does strongly support the proposition that new demands for sugar rising from population increases belong to the American farmer first and to the foreign countries only to the extent that such demands cannot be filled by the American farmer.[93]

Since sugar was one of the important items of United States international commerce and one which had sensitive diplomatic implications, the Department of State had more than a passing interest in the proposed modifications in national sugar legislation. A department spokesman took exception to several parts of the new bill. He particularly questioned the extent to which domestic, especially mainland, growers should share in the increased sugar requirements. As originally written, the bill would have reduced Cuba's share of any increased consumption in the sugar market. The spokesman for the State Department felt that the bill

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[91] Ibid., p. 34.

[92] Ibid.

[93] Ibid., p. 226.

as written would jeopardize the Cuban economy and restrict the export trade of the United States.[94] Any reduction in our purchases of Cuban sugar would have serious repercussions on our export trade in other items and would thus affect industries in nearly every state. Moreover, the Cuban economy was already deteriorating and enactment of this bill might very well worsen the problem. Emphasizing possible political consequences, the Department of State spokesman argued as follows:

> Any action on our part which would materially worsen Cuba's present economic position would, of course, mean reduced public support in Cuba for the Government's present policy of close cooperation with the United States. It would also mean strengthening the hand of 25,000 active Communists in Cuba, just after the Cuban Government has established a new organization for the repression of Communist activities.[95]

A number of other groups voiced some disagreement with the legislation. Perhaps the strongest opposition came from the United States Cuban Sugar Council, the lobbying agent for a group of companies owning and operating sugar properties in Cuba. The stockholders of these companies were predominantly United States citizens. The council was strongly against the new bill pending in the House of Representatives. Reducing the amount of sugar Cuba was able to sell on the United States market, it insisted, would not only have serious consequences in Cuba, but it would be detrimental to the national interests of the United States.[96] Agreeing with the Department of State, the council representative argued that the bill would impair Cuban economic and political stability with unfortunate long range repercussions. Furthermore, it would

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[94] *Ibid.*, p. 13.

[95] *Ibid.*, pp. 13-14.

[96] *Ibid.*, p. 416.

directly injure the thousands of American stockholders who collectively owned the $650,000,000 of American capital invested in Cuba.[97] More than one-third of this capital was invested in thirty-eight sugar mills turning out nearly 40 percent of the total sugar production of the island.[98]

As usual, the bill that finally passed both houses of Congress and was signed by the President represented a compromise of the various positions.[99] Marketing quotas under the amended law were quite different from those in the previous act. The quota for mainland producers, however, remained unchanged as long as sugar consumption requirements were 8,350,000 tons or less.[100] The beet quota was still 1,800,000 tons and the cane quota 500,000 tons. The important change was that domestic producing areas, beginning in 1956, would receive 55 percent of any increase in consumption above 8,350,000 tons. Under the 1951 amended act growers had received only a fixed marketing quota and consequently they were not allowed to supply any part of increased sugar consumption. The change hence restored the right of domestic areas, including mainland cane and beet producers, to share in the growth of the United States sugar market. Of the first 165,000 tons allocated to domestic areas from increased consumption, 51.5 percent was assigned to the beet growers and 48.5 percent to the cane producers. The next 23,000 tons went to other domestic producers. Any further increase above 188,000 tons

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[97] Ibid.

[98] Ibid.

[99] U.S., Congress, Senate, Committee on Finance, Sugar Act Extension, Hearings, on H.R. 7030, 84th Cong., 2d sess., 1956, p. 245.

[100] The Sugar Act of 1948, Amendments Statutes at Large, LXX, pp. 217-221 (1956).

allocated to domestic areas would be apportioned among the areas on the basis of the overall quota then in effect for each of them. Thus, any increase above 188,000 tons would be assigned 40.7 percent to the mainland beet growers and 12.5 percent to the cane growers.

As Figure 21 shows, the Sugar Act of 1948 as amended in 1956 permitted mainland growers an increase the amount of land devoted to sugar production. Between 1956, when the quota provisions were implemented, and 1960, when the act expired, acreage harvested for sugar expanded from 1,018,000 to 1,261,000 acres, an increase of 24 percent (Tables 10 and 14).

As a result of the amended sugar legislation, continental cane acreage expanded to meet the increased marketing quota (Figure 22). During the 1957-1960 period, the harvested area increase by 43,000 acres. This was a substantial change from the preceding period, 1953-1956, when acreage declined by 92,000 acres. In 1957, cane acreage increased by 11 percent. This rather large expansion was due in part to the increased quota. An important factor, however, was the reduction in carryover supplies caused by the federal government's purchase of 100,000 tons of sugar, mostly cane sugar, for distribution to several underdeveloped areas, notably South Korea, Pakistan, and Indochina.[101]

Although cane acreage increased in 1957, it did not mean general acreage limitations had been removed. In fact, acreage limitations were imposed on sugar cane in 1954 and remained in effect through the 1959

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[101] U.S., Department of Agriculture, History of Sugar Marketing, p. 68, and U.S., Department of Agriculture, Agricultural Statistics, 1957 (Washington, D.C.: Government Printing Office, 1958), p. 111.

crop.[102] The 1957 increase was what might be referred to as a restricted or allocated expansion of acreage, authorized to assure that cane growers were able to meet their statutory sugar commitments.[103] In 1958, acreage harvested declined slightly, although the following year cane acreage harvested for sugar expanded by 43,000 acres (Table 14). The 1959 increase was established by the Secretary of Agriculture to make sure growers met their commitments, avoided excessive surpluses, and maintained sufficient carryover inventories.

As in the case of sugar cane, beet acreage harvested for sugar increased after the amended act was passed in 1956 (Figure 22). From 1957 through 1960 it expanded by 79,000 acres. During the entire four-year period, however, acreage limitations were in effect.[104] An increase in 1957 was permitted only to the extent that additional acreage seemed needed for the beet growers to meet their quota. The same constraint accounts for the small increase in 1958, the virtual lack of expansion in 1959, and the very modest increase in 1960. Through authority extended by the 1956 sugar act, the Secretary of Agriculture continued to determine how much additional acreage was to be allocated each year to sugar beets so the growers could meet their market commitment and still avoid accumulating an undesirably large surplus. The extent to which each beet area participated in the annual allotments was dependent on

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[102]U.S., Department of Agriculture, Agricultural Stabilization and Conservation Service, ASCS Commodity Fact Sheet: Sugar (Washington, D.C.: Department of Agriculture, June, 1968), p. 2.

[103]U.S., Department of Agriculture, History of Sugar Marketing, p. 68.

[104]U.S., Department of Agriculture, ASCS Commodity Fact Sheet: Sugar, June, 1968, p. 2.

its past acreage and production record.

The rise to power of Fidel Castro in Cuba in 1959, and the consequent worsening of Cuban-United States relations in early 1960, prompted Congress to amend the Sugar Act before its expiration date. In July, 1960, the act was amended so as to give the President the authority to determine the size of the Cuba quota for the remainder of 1960 and the first three months of 1961.[105] On the same day that the amendment went into effect, the President proclaimed that "in the national interest" no additional Cuban sugar, except that already certified for entry, would be imported in 1960. As it happened, Cuba had already shipped about three-fourths of its 1960 quota to the United States. The sudden sugar deficit, some 800,000 tons, was to be filled by purchases from other free world suppliers. The amended act terminated at the end of March, 1961. No marketing quota was assigned to Cuba for 1961 or for any subsequent year up to the time of writing in early 1973.

Since the Presidential proclamation allocated Cuba's share of the United States sugar market to other than domestic sugar producers, continental cane and beet growers did not receive any of the Cuban quota. As Figure 21 shows, however, acreage harvested for sugar on the mainland did increase in 1961. The Secretary of Agriculture, hoping to avoid a sugar shortage and rising sugar prices, suspended acreage limitations, permitting mainland growers to harvest as much sugar acreage as possible. The acreage limitations were temporarily removed so that continental sugar producers would be able to meet their own quotas as well as part of the sugar quotas assigned to Hawaii and Puerto Rico,

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[105] U.S., Department of Agriculture, History of Sugar Marketing, p. 68.

which areas at the time were not producing at authorized levels. Mainland cane acreage harvested in 1961 increased by approximately 10 percent (Figure 22). Louisiana recorded the largest acreage increase, but Florida had the greatest percentage expansion (Appendices A and B). Beet acreage harvested for sugar in 1961 expanded by 129,000 acres over 1960 (Table 10). California, Idaho, Minnesota, and Colorado together harvested nearly three-fourths of the increased acreage.

The Sugar Act was amended again in March, 1961, and extended through June, 1962. Marketing quotas for the mainland growers were not changed. The principal difference in the act was the formal setting aside of the quota of any country with which the United States was not in diplomatic relations.[106] As 1962 acreage limitations were again suspended, the area harvested for sugar increased from the level of the previous year (Figure 22). The expansion of cane acreage is shown in Figure 22. Florida growers recorded the entire gain in cane acreage, expanding from 56,000 to 114,000 acres (Appendix B). Producers had complained for years that the various sugar acts had retarded expansion of cane in the state. Now that acreage was unrestricted, growers in southern Florida were quick to take advantage of the situation. On the other hand, mainland beet acreage increased only slightly in 1962 (Figure 22).

In mid-1962, the Sugar Act of 1948 as amended was once again amended and extended through December, 1966.[107] Quotas for the various supply areas were revised, and this time there were substantial increases

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[106] U.S., Congress, House, United States Sugar Program, 1971, p. 38.

[107] The Sugar Act Amendments of 1962, Statutes at Large, LXXVI, pp. 156-157 (1962).

for mainland cane and beet producers. Under the amended law, whenever consumption needs were 9,700,000 tons or less, continental producers would receive a fixed quota. Beet growers would be permitted to supply 2,650,000 tons and cane producers 895,000 tons. These authorized levels represented marked increases over the minimum quotas established in the 1956 law. When consumption exceeded 9,700,000 tons, the excess was to be divided between domestic and foreign areas, the former receiving 65 percent and the latter 35 percent. It should be noted that the domestic areas were favored here, since previous legislation had granted them only 55 percent of excess demand. The excess sugar requirement allocated to domestic suppliers went to mainland beet and cane growers in proportion to their basic quotas, 75 percent and 25 percent respectively.

The sugar act as amended in 1962 provided for considerable expansion of the sugar beet industry during the 1962-1966 period. Sufficient acreage was authorized for an annual increase of 65,000 tons in the production of beet sugar. Over the next four years, authority was granted for increasing the beet area by 172,000 acres. Some of the approved expansion went to new growers, but additional acreage was also assigned to several established areas. Between 1962 and 1966, new sugar factories were constructed at Mendota, California (1963); Hereford, Texas (1964); Drayton, North Dakota (1965); Auburn, New York (1965); Presque Isle, Maine (1966); and Pheonix, Arizona (1966) to process beets grown on acreage allocated to these districts.[108] In addition, several established areas were allowed to expand processing facilities. These

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[108]U.S., Department of Agriculture, History of Sugar Marketing, p. 71.

expansion programs included Ottawa, Ohio (1964); Idaho Falls, Idaho (1964); and Carrolton and Croswell, Michigan (1964). Under the pre-1962 legislation, additional beet acreage would have been granted on the basis of past production performance of the regions concerned. Since most of these regions were new growing areas, however, acreage was assigned with no regard to previous productive history.

As in the case of every sugar law passed since 1948, the continental sugar industry took part in preparation of the 1962-66 extension legislation. At the hearings, the industry was once more represented by Frank Kemp. The mainland producers took advantage of the Cuban situation to press for a larger statutory marketing quota plus an increase in their share of the excess market requirements above a specific tonnage. In testimony before the House Committee on Agriculture, Kemp said:

> If we are no longer to depend so largely for our sugar supply upon a communistic regime in Cuba, why should not the privilege of supplying at least part of that sugar be accorded by the U.S. Congress to U.S. citizens who wish to become sugar producers.[109]

He further argued that an increase in the mainland quota was required to avoid the danger of having to reduce acreage due to increased yields achieved through the use of improved agricultural technology. Kemp insisted that an increase in the growers' share of excess requirements above a fixed tonnage was needed to satisfy "the insistent demands of new growers and new areas to share in sugar production."[110]

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[109] U.S., Congress, House, Committee on Agriculture, Sugar, Hearings, on H.R. 12154, 87th Cong., 2d sess., 1962, p. 13.

[110] Ibid.

As usual, a few dissident voices were heard at the 1962 hearings. Some of the large industrial users of sugar felt that an increased quota for domestic, especially mainland, producers would lead to a rise in the price of sugar for the consuming public.[111] The Department of State spokesman took few exceptions to the amended bill, although he did not want to see all of the former Cuban quota allocated on a permanent basis, just in case Cuba should make an about face in its political posture within the next few years.[112] At the end, however, the voices of dissent were far overshadowed by those favoring increased quotas for mainland producers. Many of these producers felt that the quotas as finally written in the bill were still too low and should have been increased more substantially.

The dominant role of the domestic sugar industry, particularly the mainland growers, in formulating the provisions of the 1962 sugar act is apparent in the initial statement of the chairman of the House Committee on Agriculture at the opening of hearings on the proposed legislation. He stated:

> I want, first, to congratulate the representatives of the domestic industry for what they have done to compose the differences within the industry and to agree upon, at least, some provisions of the bill which is now under consideration. I know ... how much work has gone into the building of this agreement. I know that for many long weeks and months, representatives of the various segments of the industry have conferred time and time again, and by the work of the representatives of the industry our work in the committee should be much easier.[113]

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[111] *Ibid*. See testimony beginning on p. 66 and 84.

[112] *Ibid*., pp. 91-93.

[113] *Ibid*., p. 1.

In effect, the chairman was stating publicly what he had told the sugar industry privately. Members of the sugar industry had been urged to get together and, taking into considerations the expectations of the various groups, present to him a bill that the entire domestic sugar industry was willing to accept.[114] Since the chairman introduced the bill for the sugar industry, it was assured of a favoring hearing, at least in the House of Representatives.

The new sugar legislation had a pronounced effect on the amount of land devoted to sugar production in the continental United States. A larger marketing quota and an additional quota attributed to the anticipated increase in consumption were a real stimulus for both cane and beet growers. As Figure 21 indicates, acreage harvested for sugar increased dramatically in 1963 and 1964. Indeed, the 1964 acreage was nearly one-third greater than it had been in 1962. During the following two years, 1965 and 1966, acreage had to be reduced, but total sugar acreage harvested in 1966 was still 171,000 acres above the 1962 level (Tables 10 and 14).

The cane industry played a large role in the expansion of acreage during the effective period of the 1962 sugar act. In 1963 and 1964, cane acreage harvested for sugar rose rapidly (Figure 22). In 1963, the increase was 18 percent, and 67,000 acres more were harvested than in the previous year (Table 14). Louisiana growers expanded their acreage by 41,000 acres and Florida producers increased theirs by 26,000 acres (Appendices A and B). An even greater increase was recorded in

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[114]Mr. James Witherspoon, private interview held in Hereford, Texas, March 5, 1971.

1964 when the total cane acreage harvested was 110,000 acres more than in 1963. Florida accounted for nearly three-fourths of this increased acreage.

With the rapid expansion of sugar cane acreage in 1963 and 1964 and a corresponding rise in sugar production, acreage restrictions were required in 1965. As a result, the cane acreage harvested that year fell sharply. The decrease came just after growers had harvested their largest crop in history. Acreage limitations remained in force in 1966, but to allow growers to meet their commitments, including a normal carry-over, a very small increase in cane acreage was permitted. Despite the sharp reduction in acreage harvested in 1965, the 1966 cane crop was 111,000 acres larger than that of 1962 (Table 14). Approximately two-thirds of the increased acreage was recorded by growers in Florida. The rapid growth of acreage in Florida can be seen as a reflection of the latent potential of the Everglades as a cane producing area. When unlimited acreage was permitted in 1962 and 1963 in that area, growers made ready to expand acreage as rapidly as possible. Furthermore, the rise of Castro had forced numerous Cubans, some with considerable experience in all aspects of the cane industry, to leave the country. Many of the Cuban refugees settled in Florida where they were ready to assist the cane industry when the opportunity arose for expansion in 1962 and 1963.

Beet growers also increased acreage in response to the 1962 legislation (Figure 22). Acreage rose sharply in 1963 and 1964. During the latter year, beet growers harvested a record 1,395,000 acres, approximately 290,000 acres more than in 1962 (Table 10). In the 1962-1964

period the overall growth was quite unevenly distributed (Appendix C). California and Idaho registered substantial gains in beet acreage, while the other major producing states recorded moderate to small increases. A notable addition to the list of important beet growing states was Texas. From only 2,300 acres in 1962 and 1963, the state sugar beet harvest mushroomed to nearly 26,000 acres in 1964. This increase in acreage was in response to the 1962 sugar act which specifically granted western Texas authority to enter into beet production. On the national scene, increased acreage and production forced the Secretary of Agriculture to impose acreage restrictions in 1965 and 1966. In consequence, sugar beet acreage harvested declined sharply, particularly in 1965. The decline was not uniform among the states, however, as shown in Appendix C. California, Idaho, and Colorado recorded sizable losses while New York and Texas actually increased acreage. Since only a minimum acreage was granted these two new producing areas under the 1962 sugar act, they were not subject to the 1965 acreage limitations. In 1966, the states absorbing the greatest decrease were California and Idaho.

In mid-1965 Congress began work on amending the sugar act. A new law was enacted in November to be effective from January, 1966, through December, 1971. Under provisions of the revised act, marketing quotas for continental growers were increased to 3,025,000 and 1,100,000 tons respectively for beet and cane sugar, assuming overall consumption requirements would fall between 9,700,000 and 10,400,000 tons.[115] Should consumption needs exceed 10,400,000 tons, mainland growers would be

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[115] The Sugar Act Amendments of 1965, Statutes at Large, LXXIX, pp. 1271-1281 (1965).

assigned 65 percent of the excess requirements. As before, beet producers received approximately 75 percent and cane producers about 25 percent of the additional consumption needs. If domestic consumption requirements fell below 9,700,000 tons, marketing quotas for mainland growers would be required to absorb 65 percent of the decrease. In this eventually, the decrease would be assigned to continental cane and beet producers in proportion to their authorized production quotas.

The 1965 legislation as passed again represented a compromise of the views held by the domestic sugar industry and various branches of the federal government. Before the legislation was introduced into the House Committee on Agriculture, the sugar industry was requested to develop a common legislative recommendation and did so.[116] On the advice of the chairman of the committee, the recommendation was presented to the Department of Agriculture, the Department of State, and other interested federal agencies in order that the proposed legislation would have the full endorsement of the sugar industry and the executive agencies.

As passed, the amended 1965 sugar act increased the statutory marketing quota for both continental beet and cane growers. It did, however, reduce their participation in expanded consumption requirements and accorded any quota deficits in domestic areas to foreign suppliers. The need for a larger marketing quota seemed more important at the time than participation in future market growth. Rapid expansion of mainland

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[116]U.S., Congress, House, Committee on Agriculture, Amend and Extend the Sugar Act of 1948, Hearings, on H.R. 10496, 89th Cong., 1st sess., 1965, p. 18.

sugar acreage in 1963 and 1964 had resulted in a considerable surplus of sugar.[117] Even the reduced acreage in 1965 did not substantially decrease the surplus. Thus, continental growers were primarily interested in higher marketing quotas so they could immediately dispose of the excess sugar before additional acreage reductions were necessary. Since for some years, both beet and cane growers had been improving yields and sugar content per acre, technological advancements alone might have meant additional cutbacks if larger quotas were not legislated. The mainland growers were able to convince Congress that they should be granted an increase 580,000 tons in their sugar marketing quota over the level provided for in the 1962 act, even though the basic consumption requirement of 9,700,000 tons remained unchanged. The increased quota for mainland producers was to accompany some reduction in foreign quotas. Foreign areas, however, might have the possibility of regaining the loss through greater participation in future market expansion. The foreign countries, of course, were not in favor of the new legislation, but then they were not represented in Congress. Among the suppliers of the United States market, by far the greatest political power was in the hands of the mainland cane and beet growers. Their ability to obtain a larger quota in 1965 reflected this political power.

As the larger mainland quotas merely allowed for the disposing of surplus sugar, the acreage harvested for sugar in 1967 was essentially unchanged from 1966 (Figure 21). In 1968, acreage increased sharply, nearly reaching the record harvest of 1964. The following year acreage was unchanged, and in 1970 a decrease was recorded. No acreage data

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[117] *Ibid.*, p. 9.

are currently available for the 1971 crop year, the final year the Sugar Act of 1948 as amended and extended in 1965 was in effect.

The expansion of cane acreage continued to be hampered by the imposition of acreage restrictions from 1967 through 1970.[118] By continuing acreage limitations, the Secretary of Agriculture hoped to avoid a substantial excess in mainland cane supplies in any given year beyond that needed to meet each area's quota and provide for a normal carryover. Under the administrative guidelines, acreage harvested was permitted to increase slightly in 1967 (Figure 22). In 1968, however, inventories were such that the Secretary deemed it necessary to reduce acreage. The following year a more drastic cut was imposed. The primary reason was rising yields, leading to increased sugar production from decreasing acreage. With the reductions, the 1969 cane acreage harvested figure was only slightly above the 1962 figure and represented a decrease of 156,000 acres from the record year of 1964 (Table 14). In 1970, cane acreage harvested was permitted to increase by 12 percent over the previous year. Although acreage restrictions were still in effect, the Secretary of Agriculture felt this much increase was needed to permit the cane industry to meet its commitments. To ascertain how the variation in acreage harvested under acreage limitations applied to Louisiana and Florida, see Appendices A and B.

Sugar beet acreage likewise varied considerably between 1967 and 1970 (Figure 22). Although no limitations were in force in 1967, acreage declined slightly. The following year beet acreage harvested for sugar

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[118] U.S., Department of Agriculture, Agricultural Stabilization and Conservation Service, ASCS Commodity Fact Sheet: Sugar (Washington, D.C.: Department of Agriculture, April, 1970, rev.), p. 2.

rose sharply. The harvest was 306,000 acres, or 27 percent above the level of 1967 (Table 10). Since no acreage limitations were in effect, farmers were free to harvest as many beets as they wanted so long as they did not exceed their individual delivery contracts with the processing plant. Despite the increased acreage, the beet areas continued to produce below their quota. As a result, acreage was unrestricted in 1969 and once again growers increased their plantings. Acreage harvested during the 1969 crop year actually reached an all-time high (Figure 22). Increased acreage and anticipated high yields from the 1969 crop, however, forced the Secretary of Agriculture to announce in late 1969 that acreage restrictions would be necessary for the 1970 crop year. In April, 1970, he rescinded the order because harvest season rain, snow, and frost in the Rocky Mountain region lowered the sugar content of the beets and beet sugar production declined.[119] Beet growers were free to plant as many beets as they wished, subject only to the limitation of their contracts with processors. Despite the removal of acreage limitations in time for additional planting, farmers did not respond and beet acreage harvested decreased in 1970. Evidently the farmers, thinking acreage limitations were to be in effect, had already decided to shift to other types of land use.

New legislation was enacted in late 1971 which continued the federal sugar program through 1974.[120] Marketing quotas were revised,

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[119] U.S., Department of Agriculture, Agricultural Stabilization and Conservation Service, Sugar Reports, No. 212 (January, 1970), p. 6, and U.S., Department of Agriculture, Agricultural Stabilization and Conservation Service, Sugar Reports, No. 215 (April, 1970), p. 7.

[120] Sugar Act Amendments of 1971, Public Law 92-138, 92d Congress, H.R. 8866 (October 14, 1971).

again to benefit mainland producers. Beet growers received a new sugar quota of 3,406,000 tons, an increase of 201,000 tons over the previous one. Cane growers likewise obtained an increase in their quota. The new allotment was 1,539,000 tons, 439,000 tons more than had been legislated in 1965. This quota represented an astonishing increase of approximately 40 percent over the level previously approved. Mainland cane growers had been pressing Congress to revise the Sugar Act in 1968 so as to permit them to market more sugar. Unable to achieve this, the cane industry decided to wait until the act expired to renew its demand for a larger quota. In the meetings of the mainland sugar producers and at the hearings on the new legislation introduced in Congress to amend and extend the Sugar Act, the cane producers were unyielding in their desire for a larger share of the sugar market. James Marshall, speaking for the domestic sugar industry, stated their case in this fashion:

> It is the sugar industry's recommendation that the quota for Mainland Cane (that is, Louisiana and Florida) be established at 1,539,000 short tons ... The recommended increase takes into account currently unused agricultural and milling capacity in the two States which resulted from an expansion made in 1963 and 1964 when there were no restrictions ... It also recognizes that mainland cane producers subsequently lived with some rather severe restrictions during the life of the current act. At the present time, it is the only domestic area operating under such restrictions. The added quota will relieve the pressure built by these limitations.[121]

The act also permits continental producers to share in any growth of sugar requirements beyond 11,200,000 tons. When consumption is greater than this, continental growers are to receive 65 percent of the

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[121]U.S., Congress, House, Committee on Agriculture, Extension of the Sugar Act, Hearings, 92d Cong., 1st sess., 1971, p. 37.

increase. If consumption is less, their quota is reduced in the same proportion. The division between the two groups of mainland producers is approximately 70 percent to beet growers and 30 percent to cane producers. It is worth noting that under the previous act mainland growers had a fixed quota at a level of 9,700,000 tons and were forbidden to take part in market growth until consumption exceeded 10,400,000 tons. Thus, the market had to grow by 700,000 tons before continental suppliers shared in the increase. In the 1971 act, that provision was revised at the expense of foreign quota holders so that mainland growers shared directly in any increase consumption needs above the established minimum of 11,200,000 tons.

Further, the act presently in force allows for some expansion of the continental cane and beet culture during the life of the legislation. The amount of authorized expansion for the beet area has not been announced. A new cane producing region, however, has been approved for southeastern Texas. The Rio Grande Valley Sugar Growers Inc. was granted permission to plant 25,700 acres of sugar cane for harvest during the fall of 1973.[122] This is not a totally new producing area. Sugar cane was grown in the region for a time in the early part of this century, but local growers failed to surmount the problems of disease and ceased commercial production in the mid-1920's. In an interview with Mr. James Witherspoon, executive secretary of the Texas-New Mexico Sugarbeet Growers Association, the writer was informed that Witherspoon had been told by Congressman W. R. Poage (D-Texas), chairman of the House Committee on Agriculture, that southeastern Texas would definitely receive

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[122] Amarillo Sunday Globe-News, June 11, 1972, p. 2b.

a sugar cane quota under the provisions of the impending sugar legislation.[123] This interview took place two months before hearings on the act were held in Congress and seven months before the new amended act was signed. It seems rather clear that political influence played a role in the new Texas sugar cane quota. It also seems likely - to put it mildly - that the increased market participation by the mainland sugar growers, as legislated in the 1971 sugar act, was the result of considerable political pressure.

Several additional points need to be mentioned regarding government influence on the amount of land allocated to sugar production in the continental United States, especially since World War II. One of these has to do with agricultural labor. Mention has already been made of the extensive use of foreign labor during and immediately following the war. In the cane area of Louisiana, where the circumstances were somewhat atypical, labor was largely obtained locally. With mechanization and the use of chemicals, practices which developed rapidly during the war, there was reduced need for field labor. Despite a general decrease in the availability of agricultural labor, the Louisiana growers, under normal circumstances, have never experienced a labor shortage since the war. One factor that helped attract labor to the sugar industry was a provision in the 1948 sugar act and its later amended versions that labor was to share in the benefits of the sugar program. A fair wage as determined by the Department of Agriculture, often above other farm wage rates, was to be paid to sugar workers. In Florida,

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[123] Mr. James Witherspoon, private interview held in Hereford, Texas, March 5, 1971.

where mechanization of the muck lands of the Everglades is more difficult, the availability of field labor has continued to be somewhat of a problem in the expansion of cane culture. Following a practice initiated during the war, Florida growers continue to import cane workers from the Caribbean islands to work in the fields, especially during the harvest season. No labor can be imported unless the growers are able to demonstrate conclusively that domestic labor is unavailable. Over the years, however, the Florida growers have been unable to find sufficient domestic labor for the cane fields, and consequently the federal government has continued to permit labor from the Caribbean islands, notably from Jamaica, to be imported.

In the beet areas, the shortage of labor during the war was an important influence on the amount of land devoted to sugar production. The use of Mexican labor, with government approval and assistance, partially solved the wartime labor problem. When the wartime labor law expired in 1947, the importation of Mexican labor continued by invoking a little used section of the 1917 immigration act which authorized the admission of temporary agricultural workers. Unlike the importation of labor during the war period, when the federal government was directly involved, the admission of Mexican labor from 1948 to 1951 was achieved through contracts negotiated by the individual farmer or his representative. In general, the years 1948-1951 constituted, from the government's position, the "laissez faire era in Mexican migratory labor policy."[124]

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[124] Richard B. Craig, The Bracero Program: Interest Groups and Foreign Policy (Austin: University of Texas Press, 1971), p. 63.

By 1951, the Mexican government was expressing concern over the labor recruitment practices, especially since Mexican workers often claimed United States employers were not living up to the contract provisions. Mexico then requested a renewal of the government-sponsored system. When the Korean War broke out in 1950, and the demand for agricultural labor increased, Congress enacted legislation granting temporary authority for contracting foreign labor on a government-to-government basis. This was followed in July, 1951, by passage of P.L. 78 which enabled an agency of the United States government to recruit Mexican labor and made the government the actual guarantor of individual work contracts.[125]

Support for P.L. 78 came from many sources, but the most important were agricultural interests. Among those expressing themselves in favor of labor importation were the Department of Agriculture, the American Farm Bureau Federation, the National Grange, some of the large sugar manufacturers (Holly, Amalgamated, Great Western, etc.), the Farmers and Manufacturers Beet Sugar Association, the California Sugar Beet Growers Association, and numerous congressmen, including representatives and senators from Texas, California, Michigan, Iowa, Utah, Florida, and Louisiana. Passage of the law institutionalized the importation of Mexican workers. As one writer put it:

> Institutionalization of the Mexican labor program ... demonstrated that those groups possessing political access and utilizing coordinated tactics receive the political spoils.[126]

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[125] To Amend the Agricultural Act of 1949, Statutes at Large, LXV, pp. 119-121 (1951).

[126] Craig, The Bracero Program, p. 148.

Throughout the fifties, the bracero program came under relatively little political pressure. Agricultural interests were able to obtain an extension each time the enabling law was scheduled to expire. In 1960, however, those against the legislation nearly succeeded in terminating the program. For the first time, supporters of the program encountered opposition from within the federal administration. During the Eisenhower years, growers enjoyed direct access to Secretary of Agriculture Ezra Taft Benson, a past president of the American Farm Bureau Federation, and a generally sympathetic reception from the whole executive branch. By 1960, however, congressmen no longer saw such a pressing need for the program. In 1963, the opposition was well organized, but agricultural interests succeeded in obtaining a one year extension of the law. It was not extended again, and the bracero program was terminated at the end of 1964.

It is possible that the importation of Mexican labor might have stopped as early as 1961 had not the Mexican government become reluctant to end the program. During the early years the law was in effect, Mexico was not entirely satisfied with the program and at times considered requesting its termination. By the early sixties, however, rural drought in some areas and generally unfavorable economic conditions changed the government's mind. The extension of the law in 1961 and 1963 was as much attributable to pressure from Mexico as from agricultural interests in the United States.[127]

Termination of the bracero program did not substantially influence sugar beet production. During the fifties, and especially the sixties,

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[127] *Ibid.*, p. 196.

growers required less labor as improved technology, notably mechanization, and the use of chemicals reduced the need for field workers. While labor is still needed, it is not of itself a critical factor in the expansion of beet acreage.

Government encouragement of agriculture through public reclamation projects continues to influence the development of the sugar industry, especially beet culture. In some instances, the United States sugar program and domestic reclamation objectives run counter to each other. The sugar program has been designed to share the market with other countries and thereby to limit the growth of mainland sugar culture. The promotion of international commerce is a national objective. Reclamation, however, has brought new land into production and improved the productive capacity of previously used land. The newly reclaimed land, to a large degree, has been in areas where sugar beets grow well and therefore can serve as an important rotational cash crop. The Columbia Basin and Missouri River Basin projects are two such examples. Their capacity to grow beets is currently far ahead of their authorized acreage. Since sugar is a deficit crop in this country and many alternate or competing crops are being produced beyond national consumption requirements, it seems likely that pressure from those directly or indirectly interested in these projects will be forthcoming to increase the availability of sugar beet acreage to the reclamation farmer.

Up to now this study has focused on the way government has influenced the amount of land devoted to sugar production in the continental United States at the national, regional, and, to a lesser degree, the state level. The following chapter presents two case studies, one of the

Florida sugar cane industry and the other on the sugar beet industry of western Texas and eastern New Mexico. The purpose of these studies is to illustrate in more detail the role or influence of government, through political pressures to political decisions and finally to legislation, upon the amount of land allocated to sugar production.

CHAPTER VII

TWO CASE STUDIES: THE FLORIDA SUGAR CANE INDUSTRY AND THE WESTERN TEXAS-EASTERN NEW MEXICO SUGAR BEET INDUSTRY

The facts presented in the preceding two chapters can leave little, if any, doubt that the amount of land used for sugar production in the continental United States has been markedly influenced by government policies. Often these policies have been directly related to the amount of political influence that each of the groups involved in the sugar industry had with the executive and legislative branches of government. Two case studies have been made to demonstrate how these policies have influenced the amount of land used for sugar production at the state and local level. The Florida sugar cane industry and the sugar beet industry of western Texas and eastern New Mexico are examined in some detail in this chapter.

Florida Sugar Cane Industry

The modern sugar cane industry in Florida is a development of recent years. Although cane production in the state dates back to the late 1700's, continuous successful production of sugar cane for sugar began in the late 1920's after an extensive drainage project permitted the use of land in the northern part of the Everglades. The project, which included a levee constructed around the southern shore of Lake

Okeechobee and a system of arterial canals connecting the lake with the Atlantic Ocean, firmly and permanently established the cane production in southern Florida. The initial levee and canal project was carried out with funds provided by the State of Florida. In 1928, after a hurricane caused many deaths and extensive property damage along the southern shore of Lake Okeechobee, the United States Congress appropriated funds to remedy continuing drainage and water control problems in the area. Nearly twenty years later, damaging floods resulted in the development of a vast federal-state water management system in the northern Everglades. This system, financed by a combination of federal and state funds, consisted of a series of canals and water control structures designed to remove flood waters in wet periods and to conserve and store excess water for use during dry periods. A number of local groups were interested in the Lake Okeechobee-Everglades project. Most of them were concerned with developing the agricultural potential of the area. This group included sugar cane promoters as well as people interested in fruit and vegetable production and the livestock industry. Other groups felt the canals and associated structures would provide additional recreational potential for the southern part of the peninsula.

Since the beginning of the modern sugar industry in the late twenties, nearly all of Florida's cane has been grown on the fertile muck lands of the northern Everglades. Acreage is presently concentrated in Palm Beach, Hendry, and Glades counties (Figure 23). Cane acreage harvested for sugar has changed spatially as new lands have been brought into production and some older areas have been abandoned. At the present time, Palm Beach County, on the southeast side of Lake Okeechobee, has

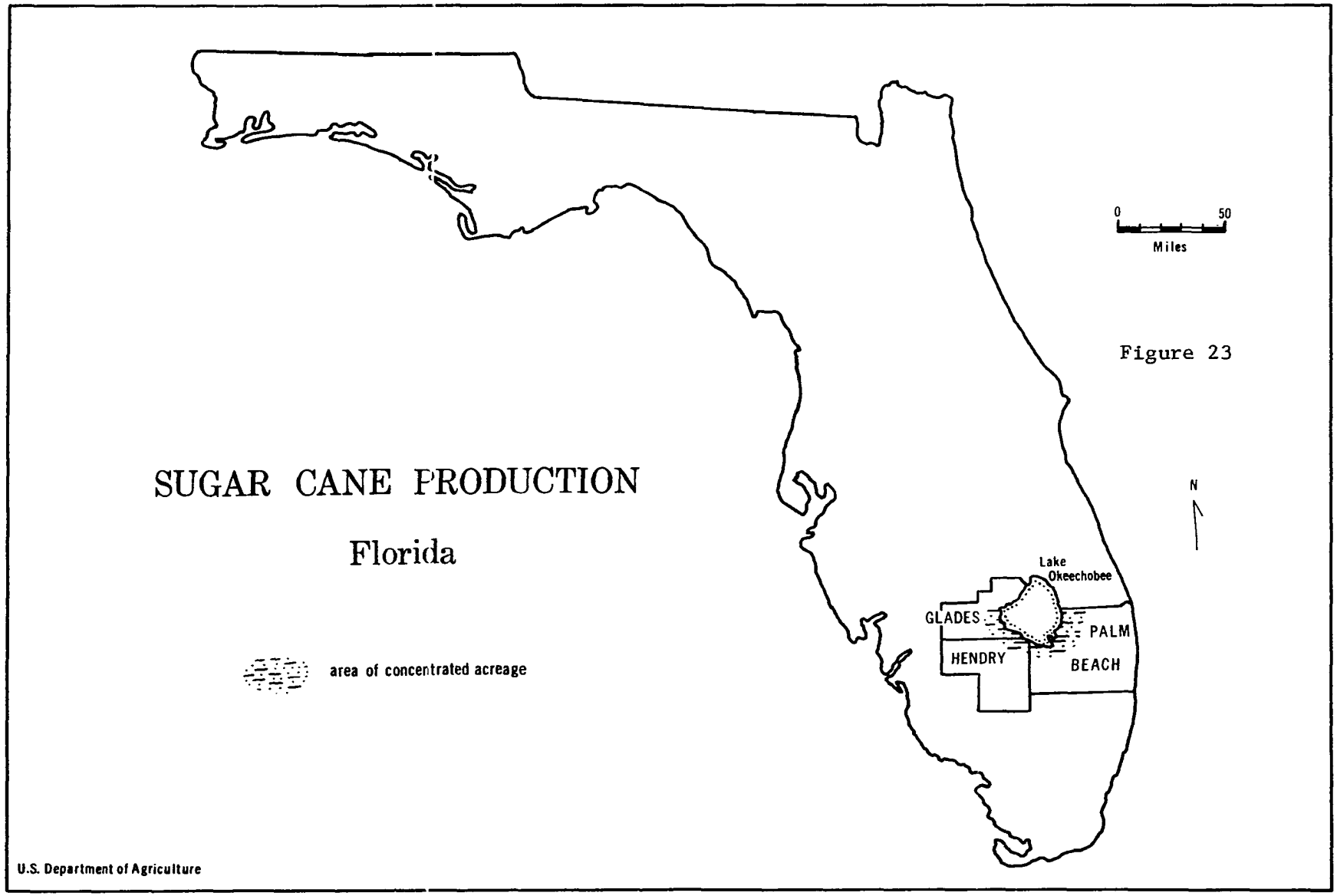
SUGAR CANE PRODUCTION
Florida
area of concentrated acreage
0
50
Miles
N
Lake Okeechobee
GLADES
HENDRY
PALM BEACH
U.S. Department of Agriculture

Figure 23

the largest area in sugar cane and annually harvests between 80 and 90 percent of Florida's cane crop.[1] Nearly all of the remainder is in Hendry and Glades counties on the southwest side of the lake.

The development of the modern cane industry in Florida was the result of several factors. Although commercial production in the state had ceased in the 1890's, the desire to grow sugar cane for sugar was never lost among landowners in the region. Production had ceased largely because of inadequate drainage facilities, ignorance of proper cropping and manufacturing methods, poor business practices, and the termination of government bounties. The last of these reasons was particularly important. Passage of the Tariff Act of 1890, with its bounty provision, greatly encouraged the expansion of cane production.[2] Much of the encouragement for expansion was directly related to the length of time, fifteen years, the bounty was to be effective. Framers of the tariff wrote into the legislation that the bounty was to be paid on all sugar produced in the continental United States until 1905. While a number of things contributed to the demise of cane culture in Florida in the 1890's, the final "coup was dealt by the repeal of the sugar bounty in 1894, contrary to the intent of Congress which had passed it."[3]

The entire mainland cane industry was in some danger of disappearing during the twenties. Diseases, especially the mosaic disease, in the

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[1]Mr. Charles Freeman, private interview held in Clewiston, Florida, July 19, 1972.

[2]Sitterson, Sugar Country, p. 362. Also, U.S., Congress, House, National Defense Migration, Hearings, "Sugar Production in Florida," 1942, p. 12956.

[3]U.S., Congress, House, National Defense Migration, Hearings, "Sugar Production in Florida," 1942, p. 12956.

Louisiana cane area were so destructive that continental cane production nearly ceased. It was well known that the climate and soils of southern Florida were at least as well suited to cane culture as those of southern Louisiana. Thus, when the Louisiana cane industry appeared to be on its way to extinction, a number of large growers and investors made plans to develop cane culture in Florida. In addition, the role of the United States Department of Agriculture must not be minimized. The department had been concerned about the Everglades because of the many failing attempts to produce sugar on a commercial basis in the region, but it was also interested in using the area to seek a solution to the problem created by the mosaic disease in Louisiana.[4] The warm climate and rich soils of the lower peninsula offered an opportunity for research investigation leading to the development of more resistant cane varieties. In 1920, the department established a sugar cane experiment station near Canal Point, on the eastern shore of Lake Okeechobee. Thousands of cane varieties were tested at the station, and a number of them which showed resistance to frost, mosaic, and various root diseases were developed and distributed. The work carried out by the Department of Agriculture not only played an important role in the recovery of the Louisiana cane industry in the 1930's, but it ultimately provided many of the cane varieties suitable to the climate and soil of the Everglades region. As B. A. Bourne, former officer with the United States Sugar Corporation, has stated:

> In fact, had it not been for the extensive collection of important breeding canes brought together by the U.S. Department of

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[4]Banks B. Vest, Jr., "South Florida Sugar Production: A Geographic Analysis" (unpublished M.A. thesis, University of Florida, 1963), p. 35.

> Agriculture at Canal Point during the early years ... it is almost certain that the present major segment of the Florida sugar industry, which has enjoyed successful and profitable operations for the past thirty years, would have ceased to exist.[5]

The successful development of the cane industry in the late 1920's did not result in an immediate sugar boom for Florida. As Figure 24 shows, the cane acreage harvested for sugar was still extremely small in 1928, about 700 acres. Within five years, by 1933, the amount of cropland harvested for sugar in the state increased to slightly more than 14,000 acres. Between 1934 and 1960, cane acreage harvested for sugar generally increased, although at no time did it exceed 50,000 acres. The harvested area increased by twenty times between 1928 and 1933, but from 1934 to 1960 only a further threefold increase was recorded. After 1960, the harvested area rose dramatically again, reaching nearly 220,000 acres in 1964. A decline followed, but acreage harvested has not since dropped below 150,000 acres. The rather slow increase in acreage from 1934 to 1960 and the rapid expansion after 1960 were the direct result of government influence and policy, as legislated and implemented in the various federal sugar acts.

The initial establishment and early development of the modern Florida sugar cane industry in the twenties was greatly facilitated by actions and policies of government, both state and federal. Most of the impetus, however, came from federal legislation, notably the various sugar acts. While the acts brought a measure of stability to the

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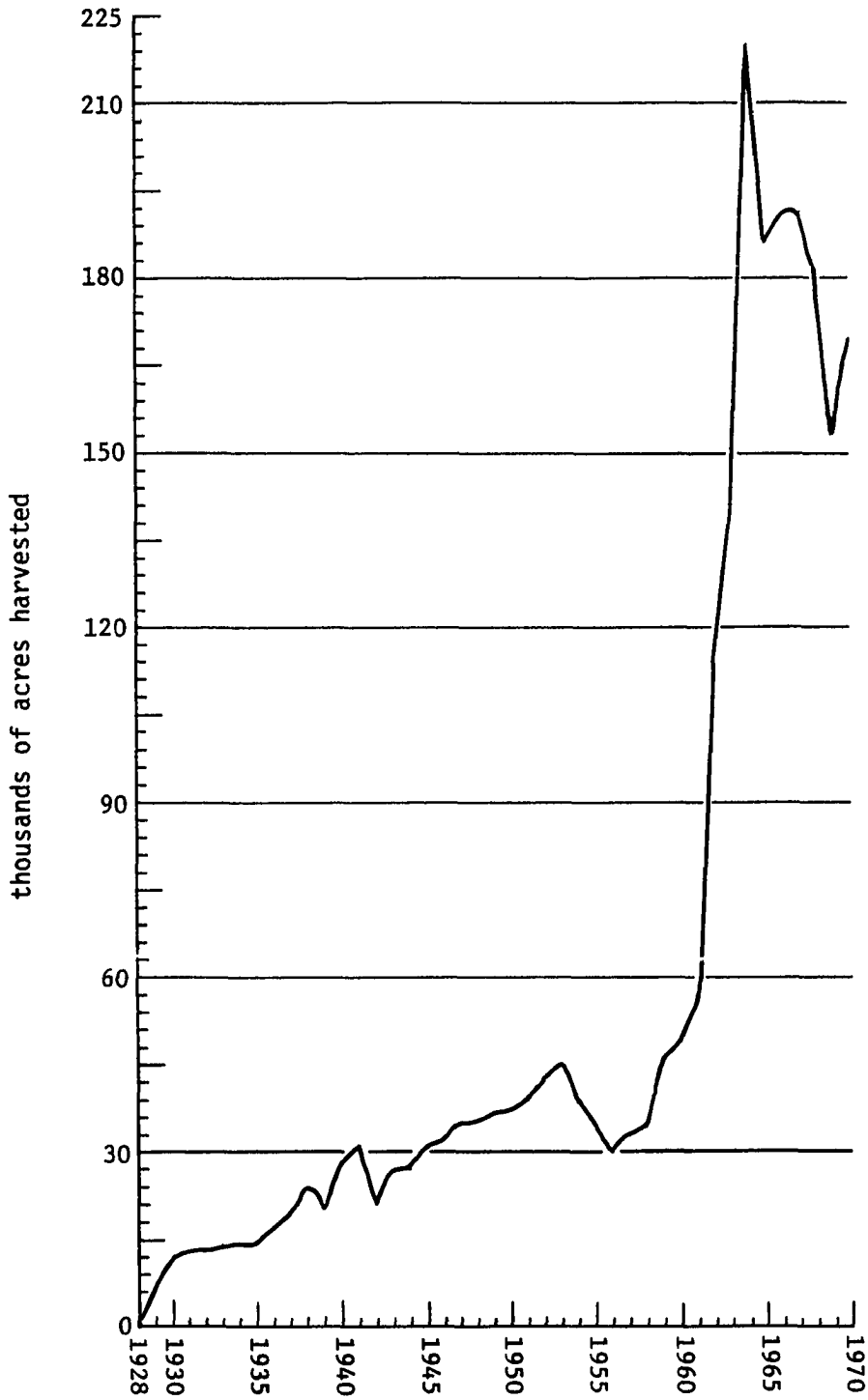
[5]Speech presented by Mr. B. A. Bourne, Vice President, United States Sugar Corporation, before the 21st annual meeting of the Soil and Crop Science Society of Florida, Tallahassee, Florida, November 14, 1961, p. 5.

FIGURE 24

SUGAR CANE ACREAGE HARVESTED, FLORIDA
1928-1970



U.S. Department of Agriculture

continental sugar producers, they have not satisfied all parts of the industry. Florida sugar interests have continually, often bitterly, complained that the federal sugar legislation has been too restrictive in that it has placed an unwarranted limitation on an area able to produce sugar cane in quantity, and economically too, with a modest amount of protection and encouragement.

Apart from the land drainage and plant improvement work already mentioned, the first piece of legislation to significantly influence cane culture in Florida was the Tariff Act of 1930. As the price of sugar declined in the late twenties, Florida growers, along with other mainland sugar interests, sought to bolster sugar prices by increasing the duty on imported sugar. A remunerative price was of special importance to Florida growers since commercial production had just been reestablished in the state. Growers were in no position to continue expansion of cane culture in a situation of declining prices. Passage of the 1930 tariff act, however, helped to bolster sugar prices and provided growers with encouragement to plan for further expansion of cane production. As Figure 24 shows, Florida cane acreage harvested rose sharply in 1930, then increased more slowly during the following three years. The slowed rate of expansion was the result of economic constraints placed on the infant industry during the worst years of the depression.

The Florida sugar cane industry was influenced by the protective tariff system for only a short period of time. In 1934, when Congress enacted the first of several sugar acts, Florida cane growers, like other mainland sugar producers, came under direct government control.

The Sugar Act of 1934 allocated a certain marketing quota to all continental cane growers. By controlling the amount of sugar which could be marketed by the growers, the act indirectly controlled the amount of land devoted to cane production. Landowners were obviously not inclined to grow cane for sugar if they were unable to market their product. Under the Sugar Act's provisions, mainland cane growers were awarded an annual marketing quota of 260,000 tons (Table 20). Of this amount, Florida growers received an allocation of 39,780 tons or approximately 15 percent of the total cane quota.[6] The state allotment represented only .6 percent of the total sugar estimated to be marketed in the United States in 1934.

The small marketing quota assigned Florida growers seriously hindered expansion of the state's cane acreage. At the time, with reclaimed swampland becoming available, growers possessed the physical capacity to substantially enlarge acreage and production.[7] In Louisiana, the growers were still recovering from the disease infestation of the twenties and were having some difficulty meeting their marketing quota. The division of the cane quota between the two states was based upon past production, the years 1932 and 1933 being used as the base.[8] Since the Florida sugar cane industry was in its infancy, its quota was a very small one. The general method of allocating the mainland quota, then, severely limited the expansion of cane production. As Figure 24 shows, Florida growers did not increase acreage significantly during the period of the

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[6]Dalton, Sugar, p. 102.

[7]Ibid., p. 184.

[8]Ibid.

first sugar act (1934-1937) was in effect.

So restrictive was the 1934 sugar act in its application to Florida that nearly everyone directly or indirectly associated with the state's cane industry clamored for a larger marketing quota.[9] Nothing could be accomplished in 1935 or 1936, but when new sugar legislation was proposed in 1937, Florida cane interests took the offensive in an attempt to obtain a larger quota. In a speech before the Florida Chemurgic Conference in Gainesville, Florida, in early 1937, Clarence Bitting said:

> With continental production at only one-quarter of our own sugar requirements ... it seems strange indeed that a continental area, producing sugar at a cost less than most of the offshore areas ... should be restricted and prohibited from supplying the American market with American products.[10]

About one month later, Bitting, speaking before the Miami Kiwanis Club, spoke of the right of Florida growers to a larger share of the sugar market. He was especially critical of the proportion of the national sugar market allocated to Cuba and the offshore areas of Puerto Rico and Hawaii. Bitting referred over and over again to the discriminatory aspects of the state's small quota and emphasized with emotion that Florida producers were entitled to a larger share of the United States market.[11]

When new sugar legislation was introduced in Congress in 1937, Florida cane interests went to Washington to plead their case for a more

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[9]George H. Salley, A Report on the Florida Sugar Industry, privately printed, 1966, pp. 13-14. Also, Sitterson, Sugar Country, p. 377.

[10]Clarence R. Bitting, Some Talks on Sugar (New York: Benj. J. Tyrrel Press, 1938), p. 18.

[11]Ibid., pp. 23-27.

generous quota. Several congressmen testified on behalf of the state's cane industry, but it was Bitting who presented the most forceful arguments for a change in the sugar program. He was uncompromising in his view that the American market was for American producers. In summing up his lengthy testimony at the hearings on the proposed legislation, Bitting remarked:

> Florida producers cannot agree to any restriction to an amount less than the amount the State is capable of producing ... If Florida be prohibited from producing sugar to meet the requirements of the American consumer, then Florida sugar producers would rather see no bill whatsoever and a termination of all sugar legislation. If Florida not be permitted to produce sugar on its fertile lands, ideally adapted to that culture, to employ American labor, and, in doing so, to meet the requirements of the American market, let us put sugar on the free list and let foreign countries, such as Java, have our market.[12]

Passage of the Sugar Act of 1937 indicated congressional recognition of past restrictive character of the quota for mainland cane growers. Whereas the quota was 260,000 tons in 1934, it was set at a minimum of 420,000 tons in the 1937 act, an increase of more than 50 percent. Florida's share of the quota increased from approximately 40,000 tons to just over 66,000 tons.[13] This represented 15 percent of the mainland cane marketing quota and .94 percent of the total amount of sugar to be approved for sale on the United States market. The larger quota clearly influenced the amount of land subsequently devoted to cane production in Florida. As Figure 24 shows, acreage rose in 1937 and 1938. The increase in the latter year was greater, for by that time growers had had more time to adjust their land use pattern to the new opportunity.

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[12]U.S., Congress, House, Sugar, Hearings, 1937, p. 199.

[13]Florida received .94 percent of the total basic marketing quota of 7,042,000 tons.

The larger quota granted in the 1937 legislation to mainland cane areas was partially attributable to a recognition of unused productive capacity. Recovery of cane culture in Louisiana was well underway by the mid-1930's. Yields per acre and sugar content of the cane were increasing. If the quota had not been increased it would have been necessary to reduce the amount of land devoted to cane production. Louisiana and Florida cane interests all wanted to avoid a cutback in acreage.

Increased acreage and higher yields in the mainland cane areas resulted in their marketing quota being greatly exceeded in 1938.[14] Consequently, the Secretary of Agriculture restricted cane acreage in 1939. It was to be reduced by 25 percent, although growers were permitted to defer some of the reduction until 1940.[15] In Florida, the decline in acreage harvested in 1939 was directly related to the federal government's decision to reduce acreage to avoid the accumulation of excessive sugar supplies (Figure 24). The actual reduction in acreage was 17 percent. With the outbreak of war in Europe, and the possibility of a sugar shortage if overseas suppliers, especially Cuba, should divert their sugar to the war zone, the government temporarily rescinded marketing quotas in late 1939. This action allowed the mainland cane area to dispose of the excess cane sugar carried over from the 1938 crop. As a result, it became unnecessary for the deferred acreage reduction to be implemented in 1940, and instead cane acreage harvested for sugar increased. The rather large expansion in acreage was due to the continued

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[14] U.S., Congress, Senate, Amending Sugar Act of 1937, Hearings, 1941, p. 51.

[15] Ibid.

threat of a sugar shortage as the war widened in Europe, but it also reflected the productive capacity of the Florida cane area and continued political pressure by Florida cane interests. When the wider war in Europe seriously threatened foreign sugar supplies and Japan had seized the Philippine Islands, the marketing quotas were suspended in early 1942. During the remainder of the war, however, the shortage of labor and the diversion of capital to other enterprises prevented Florida producers from significantly expanding cane acreage.

The Sugar Act of 1937 had been scheduled to expire at the end of 1940. Since the United States was not as yet directly involved in the war and there was time to attend to domestic interests, Congress held hearings on new sugar legislation in mid-1940. Florida growers were still upset over the small marketing quota they had been given in the 1937 act. They were especially embittered over the enforced reduction in acreage in 1939. While several people testified on behalf of the industry, once again it was Clarence Bitting who most clearly articulated the position of the producers. Bitting was uncompromising about the right of Florida growers to a larger share of the American market. He said:

> We, of Florida, object to the American consumer being denied the right to purchase the produce of American soil ... We, of Florida, object to any limitation or restriction on the traditional and inherent right of Americans to supply their own needs.[16]

Further, he contended that Florida had the potential to produce much more cane than the small quota of approximately 66,000 tons then permitted. Bitting told the House Committee on Agriculture that there was

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[16]U.S., Congress, House, Committee on Agriculture, Sugar Legislation, Hearings, 76th Cong., 3d sess., 1940, p. 82.

sufficient acreage under water control in the Everglades to produce 1,000,000 tons of sugar per year.[17] All that was required to tap this supply was a quota that recognized the area's productive potential.

The period following World War II further exemplifies the impact and influence of government policies on the amount of land devoted to sugar cane in Florida. Although the state's cane industry was nearly twenty years old by the end of the war, much of its productive capacity remained unused. As peacetime conditions replaced the emergencies of war, Florida growers looked forward to a period of expansion and prosperity.

Passage of the Sugar Act of 1948, however, temporarily frustrated the hope of Florida growers for a rapid expansion of cane culture. The act allocated the mainland cane areas a fixed marketing quota of 500,000 tons. As Table 23 reveals, continental cane production had varied significantly during the period 1937-1946. The average annual production during those years was approximately 460,000 tons. While some federal officials, particularly those in the State Department, considered the 1948 quota to be fair, even excessive in light of the ten-year record, cane growers felt it was too low and far too restrictive. The growers pointed to the fact that the new quota was below the production levels of 1938 and 1939. Further, they noted that even with the disruptions of the war, production was maintained at near quota levels in 1943 and 1945. Since the whole domestic sugar industry was represented by a single spokesman at the 1948 legislative hearings, it is impossible to ascertain the precise position of the Florida growers at that time.

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[17] *Ibid.*, p. 78.

The spokesman did imply in his testimony, however, that some differences of opinion existed between segments of the mainland sugar industry over their respective quotas. He said:

> There is no single American group that feels that the bill fully recognizes its just rights. The bill has been built by a succession of sacrifices of earnest claims, compromises, and surrenders by each interest ... Yet all are willing to take their risks under the bill. Time alone will tell whether the risks are evenly divided.[18]

Florida growers were among those who went along with the legislation, but almost certainly felt their quota to be too restrictive.[19]

TABLE 23

Continental Sugar Cane Production, 1937-1946

thousands of tons, raw value

Year	Amount	Year	Amount
1937	459	1942	458
1938	584	1943	497
1939	507	1944	438
1940	332	1945	470
1941	416	1946	425

Source: U.S., Department of Agriculture, Agricultural Stabilization and Conservation Service, Sugar Statistics and Related Data, II, Statistical Bulletin No. 244 (Washington, D.C.: Government Printing Office, 1963), p. 35.

It should be emphasized at this point that Congress, in passing the 1948 sugar act, was under great pressure, especially from the State Department, to help the Cuban sugar industry make a smooth transition

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[18]U.S., Congress, House, Sugar Act of 1948, Hearings, 1947, p. 29.

[19]Salley, Report on the Florida Sugar Industry, p. 16.

from wartime to peacetime conditions. Cuba had sharply increased sugar production during the war, with encouragement from the United States government, and it was generally agreed, especially within the Department of State, that this stand-by service should be recognized in any new sugar legislation. Under the 1948 act, domestic producers and the Philippine Islands received fixed quotas. Cuba was granted 98 percent of consumption requirements above the fixed quota, plus an additional 95 percent of any deficit production which might be incurred in any other supply area.[20] Since the Philippine industry was in ruin and several of the domestic areas proved unable to meet their quotas with regularity, Cuba was spared any dramatic decrease in its sugar exports to the United States market during the five-year period of the legislation. Granting nearly all of the deficit production to Cuba, and fixing by law the marketing quota for the mainland cane areas, removed any hope the Florida growers had for increasing the amount of land used for sugar cane during the life of the act. As shown in Figure 24, Florida growers did achieve some increase in acreage during the period 1948-1952, but the growth was modest and far less than would have been possible. The most marked increase was between 1951 and 1952 when expansion was permitted to meet the emergencies created by the Korean War.

The new sugar legislation implemented in 1953 did little to encourage development and expansion of cane culture in Florida. The annual marketing quota for mainland cane growers remained the same, 500,000 tons, and the proportion allocated to Florida was also unchanged.

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[20] Sugar Act of 1948, Statutes at Large, LXI, p. 925 (1947).

At the same time, however, cane yield per acre and average sugar content were increasing in the state. Whereas the yield of cane per acre harvested was 28.7 tons in 1948, it rose to 33.4 tons in 1956 and 41.7 tons in 1958.[21] Sugar content increased from 9.58 percent in 1948 to 12.51 and 12.72 percent in 1954 and 1956 respectively.[22] In consequence, it became necessary to invoke acreage restrictions in 1954. These limitations remained in effect through 1959. Figure 24 shows the influence of the restrictions on cane acreage harvested for sugar in Florida. Table 24 indicates the maximum acreage the state was permitted to harvest annually. There were two anomalous years in the period from 1955 through 1959. One was 1956, when a sizeable decrease was recorded, and the other was 1959, when a substantial increase was registered. In the latter year, as relations with Cuba were becoming uncertain, the Secretary of Agriculture eased acreage restrictions so as to permit some excess acreage to be harvested for sugar (Table 24).

In 1956, however, the situation was quite different. Even with acreage restricted in 1955, cane production had been in excess of the quota, and an additional acreage reduction was necessary to bring supply into line with the quota. Accordingly, acreage was reduced by 4,650 acres in 1956 (Table 24). The following year the allocation was increased by roughly the same amount as the previous year's decrease. The 1957 increase in acreage was permitted for two reasons. As explained in Chapter

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[21] U.S., Department of Agriculture, Agricultural Stabilization and Conservation Service, Sugar Statistics and Related Data, II, Statistical Bulletin No. 244 (Washington, D.C.: Government Printing Office, 1963), p. 53.

[22] Ibid., p. 54.

TABLE 24

State Acreage Allocation, Florida, 1955-1970

Year	Acres
1955	35,838
1956	31,188
1957	35,860
1958	35,848
1959	47,493[a]
1960	No acreage restrictions
1961	No acreage restrictions
1962	No acreage restrictions
1963	149,311[b]
1964	No acreage restrictions
1965	191,888
1966	197,403
1967	197,400
1968	188,550
1969	160,270
1970	179,120

[a]Restrictions eased in March, 1959, to permit excess cane acreage to be harvested for sugar.

[b]Restrictions removed completely May, 1963.

Source: U.S., Department of Agriculture, Agricultural Stabilization and Conservation Service, Sugar Statistics and Related Data, I, Statistical Bulletin No. 293 (Washington, D.C.: Government Printing Office, 1969), p. 110.

VI, the federal government through the foreign aid program, reduced the cane sugar carryover in 1956 by purchasing sugar for distribution to underdeveloped countries. Perhaps a more important change was a provision in the amended Sugar Act of 1956 which permitted mainland cane growers to participate immediately in market growth even though the old law, as amended in 1951, did not expire until the end of 1956. As yields and sugar content were continuing to increase, even the right to participate in market growth did not mean a larger acreage in 1958 (Table 24). It merely meant that acreage could be maintained and did not have to be reduced. Were it not for the government allotment program, cane acreage in Florida would surely have increased substantially rather than simply maintaining acreage during the period 1955-1958 -- assuming, of course, some system of protection for the domestic sugar industry as a whole.

The continued reduction in acreage during 1953-1955 seriously concerned Florida growers. When new legislation was considered in 1955, these growers vigorously sought a larger quota and more participation in market growth in order to be able to devote more land to cane production. The spokesman for the entire sugar industry, Frank Kemp, referred to the restrictive nature of the existing legislation on mainland producers. He said:

> Deprived of the chance for any upward adjustment, they face the certainty of inevitable decline and deterioration. The domestic people believe they have the right as American citizens to share in the growth of their country and in its increased sugar demand. The increase should not, as is now the case, be handed over completely as a windfall to foreign suppliers.[23]

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[23]U.S., Congress, House, Amendments to Sugar Act of 1948, Hearings, 1955, p. 168.

Speaking on behalf of cane interests, a representative of the American Sugarcane League supported Kemp's views. The representative reminded members of the House Committee on Agriculture that the small fixed quota accompanied by increased operator efficiency and greater productivity had resulted in larger inventories and shrinking acreage. He noted:

> It is extremely difficult -- yes, impossible -- for the average sugarcane farmer to understand why a nonsurplus farm commodity should be subjected to any restriction. It is even beyond his imagination to comprehend restrictions to the extent of those presently in effect.[24]

When Congress approved the 1956 sugar act, it gave Florida growers what they wanted most, participation in the growth of the sugar market. The normal acreage quota, however, was affected very little. The amended act, nevertheless, permitted growers at least to sustain the amount of land devoted to cane production.

With the rise of Castro in Cuba and the expropriation of American sugar properties, the fortunes of the Florida cane industry rapidly improved. The easing of acreage restrictions in 1959 increased the amount of land devoted to sugar cane. When the President suspended diplomatic relations with Cuba in 1960 and rescinded the marketing quotas established for mainland growers, Florida growers were presented with the opportunity they had sought for nearly two decades.

As relations between Cuba and the United States were worsening in the late 1959 and early 1960, concern arose as to whether Cuba could be counted on to continue supplying sugar to the United States market.

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[24] *Ibid.*, p. 209.

To guard against the possible sudden loss of Cuban sugar, which at the time covered about one-third of all sugar consumption requirements, the Secretary of Agriculture suspended the mainland cane quota and acreage restrictions in 1960 (Table 24). After relations with Cuba were officially severed in mid-1960, the marketing quota was suspended for 1961. Later the suspension was extended through 1964.

The suspension of the marketing quota in 1960 did not result in an immediate large expansion of cane acreage in Florida (Figure 24). A small increase did occur in 1960 and another in 1961. In 1962, however, cane acreage in the state more than doubled. The dramatic increase was attributable to new sugar land just brought into production. Some of the increase came from old growers who simply expanded their acreage. Much of it, however, came from new growers, many of whom had previous associations with the sugar industry in Cuba.[25] A few of the growers were Cubans who had left their homeland during or after 1960 and settled in southern Florida. Some of the new growers were Americans whose association with the Cuban sugar industry was ended abruptly by the Castro regime. During 1963, cane acreage harvested in Florida again increased though the expansion was far less impressive than in the previous year. In 1964, the amount of cropland harvested for sugar once more increased sharply, reaching a record high of 220,000 acres. Most of the increase was on the fertile muck land of Palm Beach County, although some expansion was also recorded in Hendry and Glades counties.

The expansion of Florida cane acreage in 1963 and 1964 was attributable to several factors. First, with quota and acreage restrictions

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[25]Salley, Report on the Florida Sugar Industry, pp. 21-24.

removed, there was a prime opportunity to make use of the productive potential of the Everglades. Furthermore, American and Cuban sugar interests, no longer permitted to operate in Cuba, found Florida an excellent place to invest their capital and continue their operations. As noted earlier, much additional land suited to cane culture had been made available by federal and state reclamation work. Finally, the expansion was due to a new attitude by the government regarding the philosophy of the sugar program. No longer would the United States become so committed to one foreign country for such a large share of its sugar requirements. Mainland growers would be permitted a greater portion of the national sugar market, thereby leading to less dependence on foreign areas. The length of time that the marketing quota and acreage restrictions were suspended for mainland growers, 1960 through 1964, could only mean that the government condoned, even encouraged, the expansion of mainland cane acreage, especially in Florida.

Beginning in 1965, the marketing quota system was once again invoked and acreage limited. Both of these practices remained in effect through 1970. As a result of the government's decision to restore the quota, a sharp decrease in cane acreage occurred in Florida in 1965 (Figure 24). The reduction was necessary to bring acreage and hence sugar production into line with the quota. During the following two years, 1966 and 1967, cane acreage harvested for sugar stabilized somewhat and even showed a modest increase. The increase was the result of a larger marketing quota for all mainland cane growers. Also of assistance was the right to participate in the market growth, as provided for in the amended 1965 sugar act. In the hearings on the 1965 legislation, it will

be recalled, mainland producers asked for and received a larger fixed marketing quota and the privilege of participation in the growth of the sugar market.

A slight decrease in Florida cane acreage was recorded in 1968, and a more substantial decline occurred in 1969. The reason was simple. Rising sugar content, higher cane yields per acre, and greater recovery of sugar resulted in sugar production well in excess of the state's quota. In 1970, acreage once again was permitted a modest increase since the smaller acreage of the preceding season had resulted in lower production and some reduction in the sugar inventory.[26] Consequently, the Secretary of Agriculture permitted enough expansion in acreage to assure that Florida growers could meet their commitments.

When the Secretary of Agriculture announced that acreage was to be restricted in 1968, Florida growers became concerned about the impact on their industry. Unrestricted expansion in the early sixties and the continuing increase in sugar content, cane yield, and sugar recovery were forcing Florida growers to severely reduce the amount of land devoted to sugar cane. In hopes of improving their position, growers went to Washington in mid-1968 to request an increase in the cane marketing quota. At an informal meeting with the House Committee on Agriculture, the growers asked that Congress consider amending the 1965 sugar act, scheduled to expire in 1971, so as to allow mainland cane growers a larger quota. A spokesman for the group said:

> We have been warned of the dangers involved in reopening the Sugar Act because of other amendments that may be proposed.

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[26]U.S., Department of Agriculture, Sugar Reports, No. 212, p. 7.

> We are cognizant of such possible dangers ... However, this is somewhat like a warning to a drowning man of the danger of stepping in quicksand if he is able to get out of the water. The known danger and consequences of the severe acreage reduction which we face at this moment, necessarily outweigh those unknown dangers which might possibly result from reopening the Act. We have confidence in the fairness of this committee and its ability to obtain passage of a bill which is equitable for all concerned.[27]

Congress, however, was not inclined to amend the 1965 sugar act before its expiration date, and the growers returned to Florida with no assurance that anything would be done to alleviate their problem.

The situation that occurred with respect to cane acreage in Florida in 1968-1969 is an excellent illustration of how politics influences land use. In August, 1968, shortly after the growers returned from their informal meeting with the House Committee on Agriculture, the Secretary of Agriculture announced the amount of cane Florida would be permitted to harvest in 1969. The allocation was 150,840 acres.[28] One month later, the Secretary amended his original order and increased the allocation to 160,270 acres (Table 24). The increase in acreage was a response to several factors, but political pressure and influence were the most effective and important.[29] After receiving news of the original allocation by the Secretary in August, 1968, Florida growers returned to Washington and argued that it was totally impossible for them to

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[27]Statement of William S. Chadwick, representing Louisiana and Florida sugar cane farmers and processors, informal Agricultural Committee meeting, House of Representatives, May 14, 1968, p. 7.

[28]Personal letter from Tom Murphy, May 17, 1972. Also, Mr. Charles Freeman, private interview held in Clewiston, Florida, July 19, 1972.

[29]Mr. Charles Freeman, private interview, July 19, 1972. Also Mr. J. Nelson Fairbanks, private interview held in Clewiston, Florida, July 19, 1972.

operate economically under such limited acreage. The allocation, they pointed out, represented a decrease of nearly 38,000 acres from 1968 and approximately 50,000 acres from the 1967 authorization (Table 24). Growers initially sought relief by requesting the Secretary of Agriculture to reconsider his announcement and increase acreage. When he appeared unable or unwilling to make any modification in the allocation, the cane interests took their case directly to the President of the United States. Somehow, as a result of their efforts, the Secretary of Agriculture shortly thereafter was able to issue an amended allocation which granted Florida growers an additional 9,430 acres for 1969.[30]

Western Texas-Eastern New Mexico Sugar Beet Industry

Although the sugar beet industry in western Texas and eastern New Mexico dates from the late 1930's, the region was of very limited importance until the mid-1960's (Table 25). The rapid growth in land used for sugar production, notably in western Texas in 1964, was the culmination of several years of effort on the part of a Texas-New Mexico group, consisting primarily of landowners, bankers, and lawyers, working in cooperation with groups in other states to bring about an expansion of the sugar beet industry in their part of the country. Expansion was not a simple matter of planting, harvesting, and marketing the beets. Farmers in Texas and New Mexico, as elsewhere, were allowed to grow all the beet they wished, but processors were under no obligation to purchase

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[30]In a private interview with Mr. Charles Freeman, July 19, 1972, the writer was told that while it was impossible to find the relationship between political pressure and the increased acreage allocation in written documented form, it was a well-known fact throughout the Florida cane area that the larger allocation was the direct result of political pressure by local cane interests.

TABLE 25

Sugar Beet Acreage Harvested, Western Texas and Eastern New Mexico, 1937-1970

000's acres

Year	Texas	New Mexico	Total
1937	a	b	b
1938	a	b	b
1939	.1	.4	.5
1940	.2	.4	.6
1941	.1	.3	.4
1942	.2	.3	.5
1943	b	.3	.3
1944	.1	.1	.2
1945	.3	.1	.4
1946	1.0	a	1.0
1947	2.4	a	2.4
1948	4.2	a	4.2
1949	1.5	.4	1.9
1950	3.9	1.4	5.3
1951	1.4	1.3	2.7
1952	.8	.6	1.4
1953	1.2	.4	1.6
1954	1.4	.6	2.0
1955	1.6	.7	2.3
1956	1.6	.5	2.1
1957	1.8	.6	2.4
1958	1.8	.7	2.5
1959	1.8	.6	2.4
1960	1.7	.6	2.3
1961	2.1	.2	2.3
1962	2.3	.2	2.5
1963	2.3	a	2.3
1964	25.9	2.5	28.4
1965	28.1	2.6	30.7
1966	28.2	2.6	30.8
1967	29.8	3.7	33.5
1968	37.9	4.1	42.0
1969	37.4	5.5	42.9
1970	28.8	2.4	31.2

[a]no recorded production for sugar

[b]less than 100 acres

Source: Appendix C.

more beets than they had contracted to take from the growers. Under provisions of the various sugar acts, processors were granted an annual sugar marketing quota, and marketing in excess of the quota was unlawful. The processors, therefore, contracted only for the acreage necessary to meet their quota and provide for a small carryover for emergency purposes.

Sugar beets grown in the western Texas-eastern New Mexico area prior to 1964 had been shipped to a refinery near Rocky Ford in southeastern Colorado. While the farmers wanted to grow more beets, the nearest available refinery was neither ready nor able to contract for the additional acreage the farmers desired to plant. Besides, shipping the beets to Colorado, a heavy expense in itself, meant that the growers were unable to obtain any of the by-products of refining. The main by-product, important for livestock feeding, consisted of beet pulp, either wet or dry, to which beet molasses, another by-product, was often added. These by-products were available all right, but the freight rates were so high that it was prohibitive to ship them back to the growing area. From the standpoint of the growers, the obvious solution was to construct a sugar beet refinery in the western Texas-eastern New Mexico area and thereby alleviate most, if not all, of the attendant economic problems. A nearby plant would help farmers to win approval for a substantially increased beet acreage. Since the beets would be grown adjacent to the refinery, freight rates to the plant would be greatly reduced. Finally, the by-products of refining would be available to the growers, many of whom also raised livestock, and to other related agricultural industries.

There were several additional reasons why farmers in the case

study area wanted to grow more sugar beets. One of these reasons was clearly related to the federal government's policy toward other crops grown in the area. During the late forties and early fifties, the rapid expansion of well irrigation brought an increase in the acreage devoted to field crops, especially wheat. As a national wheat surplus was accumulating, the government found it necessary to restrict acreage. Table 26 shows the result of wheat acreage restrictions in two counties in western Texas (Figure 25). In Deaf Smith County, for example, wheat acreage harvested declined by 50 percent between 1949 and 1959, while at the same time irrigation was making additional land available for production. Farmers were clearly in need of an alternate and remunerative cash crop.

TABLE 26

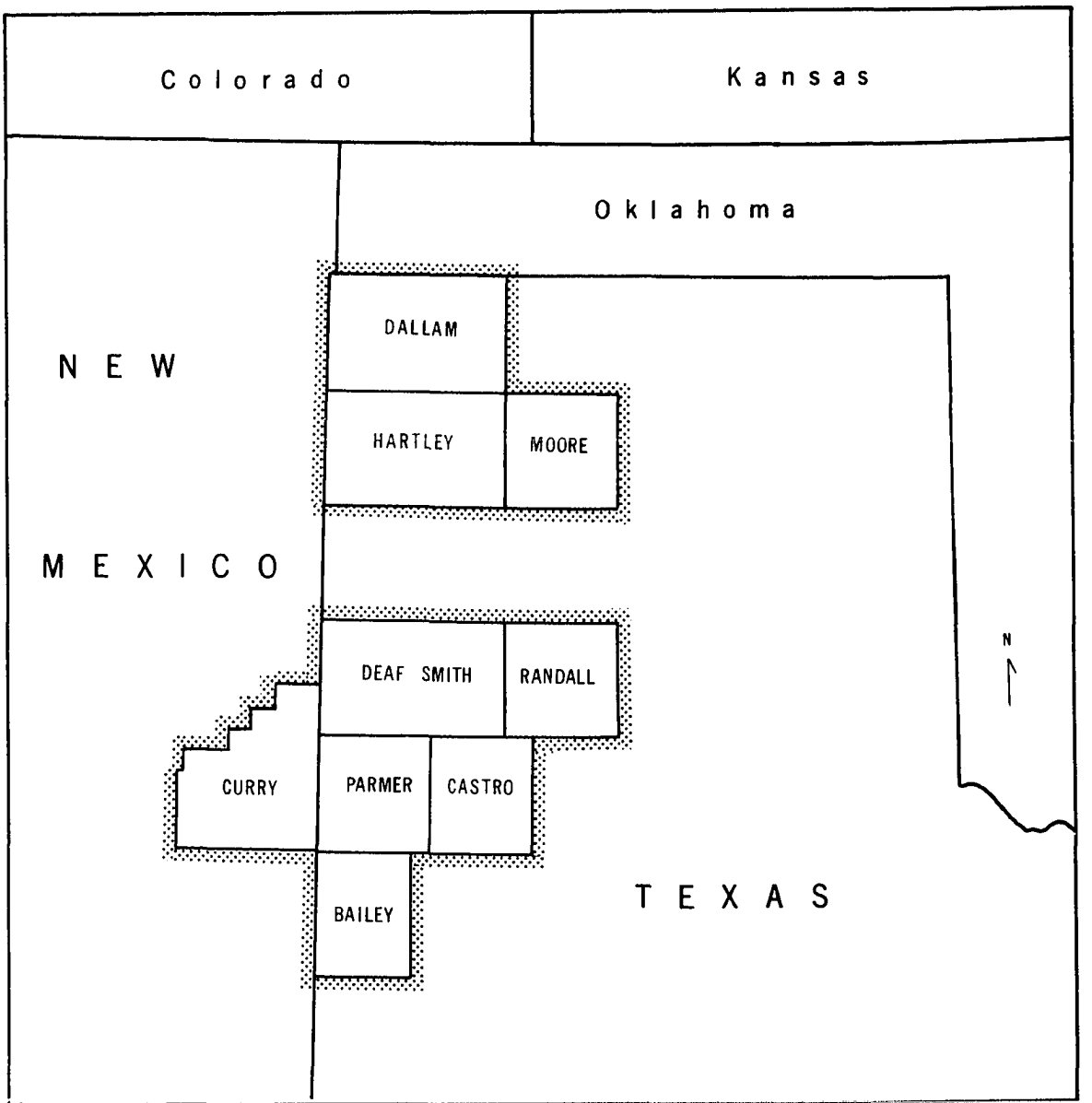
Wheat Acreage Harvested in Two Western Texas Counties
1949-1959

thousands of acres

Year	Deaf Smith County	Parmer County
1949	260	148
1954	145	67
1959	130	79

Source: U.S., Department of Commerce, Bureau of the Census, United States Census of Agriculture: 1954, Vol. 1, Counties and State Economic Areas, Part 26, Texas, p. 260 and 278, and U.S., Department of Commerce, Bureau of the Census, United States Census of Agriculture: 1959, Vol. 1, Counties, Part 37, Texas, p. 399 and 408.

The political-economic revolution which brought Castro to power in Cuba in 1959 also served to raise hopes for increasing sugar beet production in western Texas and eastern New Mexico. As noted in Chapter



SUGAR BEET PRODUCING COUNTIES

Western Texas - Eastern New Mexico

0 80
MILES

Figure 25

U.S. Department of Agriculture

VI, when relations between Cuba and the United States deteriorated there was considerable feeling among mainland sugar interests that Cuba's marketing quota should be cancelled and reallocated to continental producers. Farmers in western Texas naturally felt that part of the reassigned quota should be given to areas like theirs which desired to grow beets but were not permitted to do so by law. As a landowner from Deaf Smith County said:

> The farmers of our country, especially the younger ones -- the ones that served in the last two wars -- are desparate for a cash crop to grow that will let them make enough money to support their families and begin to pay the loans on their land, as well as the loans at the bank. This group of farmers at home often ask me if this Congress will not pass legislation enabling them to grow sugarbeets, rather than to continue to let some foreign country produce sugar we consume. Some of them simply say, "Will the Congress favor the farmers of America or will they favor Americans with some foreign investments?"[31]

As wheat acreage declined under government regulation, farmers sought to grow beets to make use of the productive capacity of their land. It had been already proven that the soil and climate were suitable in the case study area. Further, sugar beets would complement very well the local crop rotational pattern.

Obtaining increased sugar beet acreage, however, was not a simple matter. As previously discussed, continental sugar production was strictly controlled by the federal government through the various sugar acts. The legislation governed the amount of sugar that mainland growers and associated refiners were allowed to market annually. In the case of the beet sugar quota, it was divided among the various beet sugar

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[31]U.S., Congress, House, Committee on Agriculture, Sugar, New Areas and New Growers, Hearings, 87th Cong., 1st sess., 1961, p. 44.

processors, who in turn contracted with nearby farmers to grow just enough to meet their individual production quotas. Since the marketing quota for processors, and thereby for farmers, was based on past production, it was impossible for farmers in the western Texas-eastern New Mexico area to grow the beet acreage they desired without special enabling legislation. It has already been mentioned how acreage restrictions on certain alternate crops in the older beet growing areas were having an impact on land use, and farmers in these areas could not be expected to release any part of their beet quota to new areas like western Texas. It seemed necessary, therefore, to change the sugar law so as to increase the overall marketing quota for mainland beet producers and then to secure from that quota a larger specific quota for the western Texas-eastern New Mexico area. Such a change in the law would permit increased acreage and production with minimal or no damage to the older beet producing areas. Changing the law, then, became the chief concern of the farmers in western Texas and eastern New Mexico.

The Cuban situation provided a favorable climate in which to obtain sugar legislation advantageous to new or previously small beet producing districts such as the case study area. Nevertheless, there was considerable opposition to increasing the marketing quota to the benefit of such areas. Opposition came from the coastal cane refiners, the mainland cane growers, the established sugar beet areas, the Department of State, and other groups interested for whatever reason in maintaining the existing division of the industry. To obtain favorable legislation meant that political maneuvering and pressure were required. The larger marketing quota eventually granted to the western Texas-eastern New Mexico

area in the Sugar Act of 1948 as amended in 1962 is an excellent example of how politics influences rural land use in the United States.

As the sugar acts were laws of Congress, it was first necessary to convince that body that a change was necessary and desirable. To this end, interested people in the case study area organized the Texas and New Mexico Sugar Beet Growers Association, hereafter known as the Association. It included representatives of twenty-seven separate organizations in western Texas, two in eastern New Mexico, and two in southwestern Oklahoma. The local organizations contacted their state and federal representatives and senators to encourage them to use their influence to pressure Congress to enact a new sugar law that would permit the expansion of sugar beet production. In a letter to all Texas representatives and senators, the Association's chairman wrote:

> Texas farmers are in need of additional crops to be grown for a sound farm economy, since the strict allotments on wheat and cotton and the price of grain sorghum will not permit a profit over growing costs, and the tenant and lessee farmers are being forced out of business. The sugar beet crop would help as an answer to this dire need. The situation in Cuba would indicate that the American farmer should receive this benefit heretofore accorded to Cuban farmers, since Castro has shown his Communistic colors and kicked the United States in the teeth.[32]

The Association lent support to similar organizations in other states, including Arizona, North Dakota, New York, Maine, and Indiana, and encouraged them to contact their congressmen on behalf of amending the Sugar Act to permit new areas to undertake sugar beet production.

In late March, 1960, a bill was introduced in the Senate to extend the Sugar Act, then scheduled to expire December 31, 1960, through

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[32]Letter, Mr. James Witherspoon to all Texas congressmen, January, 1960.

1965. If the act were extended through 1965, the fate of the quota appeals from the new areas would be left to the discretion of the Secretary of Agriculture. For all practical purposes, this would mean that the new areas would not achieve their desired participation in the sugar program. The chairman of the Association wrote to a Texas senator:

> The Department of Agriculture cannot and will not do it unless they are made to do so by Congress since the Agriculture Department is wholly dominated by the sugar refineries.[33]

Pursuing an amended sugar act favorable to new areas, the Association contacted numerous people to solicit their support and assistance. The Speaker of the House of Representatives, Sam Rayburn, Democrat of Texas, was asked to use his influence with other House members to gain favorable legislation.[34] To put pressure on the sugar refiners, especially the coastal refiners who provided considerable opposition, the Association requested Congress to investigate the whole sugar refining industry to see if a monopoly existed.[35] The coastal refiners were opposed to the expansion of beet production because it would mean no increase, and perhaps even a decrease, in imported raw sugar. Reduced raw sugar imports would bring stagnation to their business. An attempt was even made by the Association to have Congress investigate the entire sugar program to see if by its own design it violated any federal law. All of these moves had one end in mind. They were taken to put pressure on those parts of the mainland sugar industry that opposed the entry of new areas into the

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[33]Letter, Mr. James Witherspoon to Senator Ralph Yarborough, April 12, 1960.

[34]Letter, Mr. James Witherspoon to Representative Sam Rayburn, April 16, 1960.

[35]Letter, Mr. James Witherspoon to Senator Estes Kefauver, April 18, 1960.

sugar program. The objective was to bring sufficient pressure, both in Congress and through the public media, on these interests so that they would support a change in the law in order to avoid any damage to the overall United States sugar program.[36]

Cancellation of Cuba's marketing quota in July, 1960, was encouraging to members of the Association whose leadership felt strongly that a large part of the quota should be allocated to American farmers. As noted earlier, however, the Department of State was opposed to the permanent allocation of any part of the Cuban quota to mainland producers. If it were transferred on a permanent basis it would be unavailable for reassignment if Castro should be overthrown and a more friendly Cuban government came into power. Also, the State Department felt that assigning the quota to continental producers would seriously affect our international trade posture, since many of the countries from which we imported sugar used the exchange to purchase United States goods. In other words, farmers seeking to expand the production of sugar beets not only had to overcome the opposition of other groups within the mainland sugar industry, who had considerable influence in Congress and the Department of Agriculture, but they had to surmount the opposition and influence of the Department of State.

In mid-1960 the Sugar Act was extended through March, 1961. The events in Cuba led to modifications in the entire sugar program, and it became impossible for Congress to complete work on a revised law prior to the December 31, 1960, expiration date. For mainland farmers seeking

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[36]Mr. James Witherspoon, private interview held in Hereford, Texas, March 5, 1971.

a share of the sugar market the extension of the act was a momentary setback. Unfortunately, Congress was slow in responding to the March deadline. As a result the existing Sugar Act had to be extended for an additional fifteen months. The extension was agreed upon by all parties interested in the legislation. Some groups, however, such as the Association, were willing to agree only after they were assured that hearings would be held during 1961 on a new sugar law.[37]

The House Committee on Agriculture held hearings in May, 1961, on proposed revisions of the Sugar Act. Representatives of new areas and new growers were invited to present their views and make recommendations. The Committee listened to the special pleading of individuals and organizations from New Mexico, South Dakota, Kansas, Minnesota, North Dakota, Idaho, Nebraska, Arizona, Washington, Maine, Missouri, California, Oklahoma, and Texas.[38] All of the various spokesman asked that the American farmer be given a chance to increase his participation in the sugar program. The representative of the Association said:

> Gentlemen, if it is good for our country, if it is good for our farm economy, if it is good for the national economy, if it is good for the farmer, if it is good for America -- let us do it now, please. And I plead with you for these many, many people in our area, and there are in excess of more than a million people in western Texas and eastern New Mexico and southwestern Oklahoma that are interested in this thing. Not only is the farmer interested, but I would like to say to you that people all over the country in Texas -- the merchants, the bankers, the lawyers, the doctors -- everyone who has been giving any consideration to this, and they are all giving consideration to it, they are thinking about it, they are reading it in the

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[37]Mr. James Witherspoon, private interview held in Hereford, Texas, June 6, 1972.

[38]U.S., Congress, House, Sugar, New Areas and New Growers, Hearings, 1961, various pages.

> newspapers, and it is not just a farm proposition, it is a philosophy that they believe is good for America that they would like to see happen and take place as soon as possible.[39]

After the lengthy hearings ended, the matter of revision was dropped for the remainder of the year since the chairman of the Agriculture Committee, Harold Cooley, was not in favor of new sugar legislation at that time.[40]

The Association continued its quest for new legislation by seeking the support of the Texas Democratic Party organization, leaders in the Texas state legislature, and even the President John F. Kennedy. In a letter to the Office of the President, the Association requested Kennedy's assistance in enacting new sugar legislation without any further delay.[41] The letter noted that Chairman Cooley had rebuffed all efforts by farmers of the western Texas and eastern New Mexico area to obtain legitimate participation in the sugar program.

During the latter part of 1961 the House Committee on Agriculture made it known that when Congress convened in January, 1962, a new sugar law was a first priority item. Consequently, representatives of the Texas and New Mexico Sugar Beet Growers Association doubled their efforts to bring about the enactment of sugar legislation favorable to their areas. The Association again encouraged everyone concerned, including numerous state and local organizations, to write to their congressional representatives, the Department of Agriculture, and the President setting

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[39] Ibid., pp. 31-32.

[40] Newsletter, office of Representative George Mahon, 19th District, Texas, August 18, 1961.

[41] Letter, Mr. James Witherspoon to Mr. Lawrence O'Brien, June 6, 1961.

forth their position on extending participation in the beet industry.[42] To win their case, it was especially important to convince the House Committee on Agriculture and its chairman, Harold Cooley, as well as certain individuals within the administration, notably in the Department of Agriculture, of the merits of expanding sugar production into new areas. If their persuasive effort proved successful, a favorable law could surely be enacted since many congressmen vote for the recommendations of the Committee on Agriculture and the administration. The Department of State, however, remained unconvinced that expansion of continental sugar production was desirable or in the best interests of the country. As the chairman of the Association wrote:

> The danger which we face is that the administration may be influenced by the Department of State which will apparently, from all indications, favor the political philosophy of the Eastern cane refineries which refine the foreign imported sugar and importers to whom the importation of sugar is big business for their special interests. The Department of State does have a great deal of influence in the administration, and particularly with international affairs in the state we are now in.[43]

The Association felt that if enough political pressure were applied in Congress and with other parts of the administration, the opposition of the State Department might lessen.

Consideration of new sugar legislation was not initiated immediately when Congress convened in January, 1962. The delay was partly due to the fact that the administration was not yet ready to present its views and recommendations. Also, pressure was growing in Congress to

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[42] News release, Mr. James Witherspoon, October 31, 1961.

[43] *Ibid*.

permit the expansion of mainland sugar production, and little had been done to seek a compromise between positions of the various interested parties. Opposition to mainland expansion from within the sugar industry was beginning to fade. Sugar interests were afraid that prolonged disagreement, climaxing with a possible Congressional investigation of the entire sugar program, would seriously influence present and future sugar legislation. Accordingly, the various parties interested in the new sugar legislation met and worked out a compromise proposal before public hearings were held in May, 1962.[44] Passage of the Sugar Act of 1948 as amended in 1962 was relatively easy once the various interests within the industry reached agreement on its provisions. As far as the Texas-New Mexico beet growers were concerned, the major provision of the act was the one providing for the expanion of the national sugar beet acreage.[45] Acreage was to be expanded annually for the next four years in an amount necessary to produce 65,000 tons of sugar. The allocation was to provide acreage for development and expansion in new or previously small beet growing areas. Assignment of the acreage was left to the Department of Agriculture. The acreage was to be assigned only after each interested area could prove it had sufficient producers to grow the proposed acreage. In the case of new areas, there also had to be assurance that a refinery would be built to process the beets. The western Texas-eastern New Mexico area met these requirements and was assigned additional acreage for production beginning in 1964. Passage

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[44]Mr. James Witherspoon, private interview held in Hereford, Texas, March 5, 1971.

[45]Sugar Acts Amendments of 1962, Statutes at Large, LXXVI, 1962, p. 164.

of the 1962 law brought to a successful conclusion the three-year campaign of the Association to obtain a larger and more permanent marketing quota for the area.

The impact of the 1962 sugar act on the amount of land used for beet production in western Texas and eastern New Mexico is shown in Table 25. From 2,300 harvested acres in 1963, when all of the beets were still shipped to the refinery in southeastern Colorado, the harvested area rose to 28,400 acres in 1964. Although an expanded acreage had been authorized for 1963, the local farmers did not grow the beets. The reason was simple. In 1963, there was no available local refinery and the southeastern Colorado refinery was unable to handle any more beets than it had been receiving from the area in the past. With completion of the Holly Sugar Company's Hereford refinery in Deaf Smith County in 1964, however, farmers made full use of the authorized acreage. Beet acreage continued a general increase in the years 1964-1970, reaching a high of nearly 43,000 acres in 1969.

Not only did the 1962 sugar legislation influence the amount of land devoted to sugar beets at the regional level, it also had a profound effect at the county level. Table 27 shows the beet acreage harvested for sugar in Deaf Smith County, Texas. From 1947 through 1963, the harvested area in the county was usually between 1,000 and 1,500 acres. The smallness of this acreage was not due to apathy on the part of the local farmers. Indeed, farmers were searching for alternate cash crops to grow during much of the fifties and early sixties when wheat and cotton acreage was declining under government restrictions. They simply were unable to grow more beets because of the control exercised

over mainland sugar production by the various federal sugar acts. When the 1962 sugar act provided for a larger marketing quota for the western Texas-eastern New Mexico area, Deaf Smith County farmers, eager for an alternate cash crop, were among the first to seek beet acreage. Consequently, sugar beet acreage increased dramatically in the county. The 1964 acreage harvested for sugar was nearly twelve times greater than the acreage in 1963. Thereafter, the area in beets fluctuated from year to year, reaching a peak of almost 18,000 acres in 1968.

TABLE 27

Sugar Beet Acreage Harvested for Sugar, 1947-1970
Deaf Smith County, Texas

Year	Acreage	Year	Acreage
1947	1,555	1959	1,215
1948	3,573	1960	1,379
1949	1,478	1961	1,506
1950	3,014	1962	1,559
1951	1,369	1963	1,064
1952	527	1964	12,166
1953	1,206	1965	14,032
1954	1,022	1966	14,004
1955	1,089	1967	13,366
1956	1,069	1968	17,877
1957	1,307	1969	14,437
1958	1,266	1970	12,506

Source: U.S., Department of Agriculture, Agricultural Stabilization and Conservation Service, Deaf Smith County, Hereford, Texas.

To avoid overstating the general hypothesis of this study, it should be acknowledged that the variation in sugar beet acreage in the western Texas-eastern New Mexico area, as shown in Table 25, or in Deaf Smith County, as shown in Table 27, was not totally related to government policy. The expansion which occurred in 1964 would have been impossible

without the 1962 change in the sugar law. The larger acreage, therefore, represents a direct influence of government policy on land use in the region and the county. Part of the variation in acreage since 1964 can be attributed to local factors. Some farmers soon became disenchanted with sugar beets as a crop. Growing beets, they found, required a large increase in capital investment. Labor too was somewhat of a problem. While obtaining labor was relatively simple, since most of the needed workers lived in the general area, the quality of the labor was often poor. Farmers found many of their new employees unable to handle the large and expensive equipment, while others simply proved undependable. It was easier to accept a less remunerative crop with lower capital investment and fewer labor problems. A number of farmers became disillusioned with beet culture when their net returns did not meet their expectations. Rainy weather in the fall of the year sometimes lowered sugar content and made harvesting more expensive. Disease infestation often reduced tonnage and sugar content. Heavy applications of nitrogen, required for high yields of the traditional crops of the region, adversely influenced the sugar beet crop.[46] When the soil carries excessive nitrogen, the beet continues to grow in size rather than store sugar. This one factor, excessive use of nitrogen, largely explains the abrupt decrease in acreage harvested between 1968 and 1970. The year 1968 was a record year for beet acreage in Deaf Smith County, but it was near disaster for the growers. Soon after the beginning of harvest, growers were informed by refinery officials that the sugar content of

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[46]Mr. Jay Boston, private interview held in Hereford, Texas, June 15, 1972.

their beets was so low that it was necessary to rewrite the purchase contracts or the factory would be unable to accept the beets. After the contracts were rewritten, many growers found that the return on their crop was insufficient to cover expenses. Consequently, the following year a number of them refused to grow beets and returned to other crops such as sorghum or vegetables.

The two case studies presented in this chapter reveal clearly how government policies have influenced the amount of land devoted to sugar production. The Florida sugar cane industry was unable to expand to meet its productive capacity until the Cuban crisis of the early sixties brought a relaxation of marketing and acreage restrictions by the Department of Agriculture. In the latter part of the sixties, we have seen how the growers were required by the federal government to reduce the amount of land devoted to sugar cane in order to bring sugar production in line with their overall quota. The western Texas-eastern New Mexico area, where the sugar story involves another crop and a quite different environment, affords a second example of how government policy influences land use and how political pressure has been used to alter that policy. In the fifties, when the acreage in other cash crops was being reduced by political-economic pressures, farmers sought to grow additional sugar beets. They were not permitted to increase beet acreage, however, because sugar legislation did not allow them to sell their beets for sugar if the beets were not under contract to a processor. To obtain the required regional acreage allocation the sugar law had to be changed. Achieving the change necessitated organizing interested parties and applying effective political pressure on appropriate persons,

groups, and the government establishment. The outcome of the effort was the enactment of new sugar legislation that allowed greater participation by the western Texas-eastern New Mexico area in the United States sugar program.

CHAPTER VIII

SUMMARY AND CONCLUSION

Man's taste for sweets and sweeteners is an ancient one, but contemporary man has been better able than any of his ancestor to gratify this taste. In the most basic sense, the growing demand for sugar is a response to population increase, to improved living standards, and to changing food habits and social patterns. While sugar can be produced from many different plants, the modern sugar industry has concentrated on just two, sugar cane and sugar beets. The former is largely confined to tropical and subtropical environments whereas the latter is well adapted to the cooler climates and different soils of the middle latitudes. Production costs vary from place to place, depending upon such factors as the natural environment, the value of land, the cost of labor, the extent of mechanization, the availability of transportation, and the distance to market.

Over the past several centuries a variety of factors have influenced the development of the sugar industry in the United States and elsewhere in the world. One of the sometimes neglected factors has been the influence of government policy. Very often this policy has been encouraged and even largely formed by a particular group or groups interested in the industry. In this country specifically, politics has

played an important, probably decisive, role in the development of the sugar industry in all its phases, cane and beet production, refining, and marketing. The general concern of this study has been the relation of politics on the production of sugar. More specifically, it has dealt with the influence of government policies on the amount of land devoted to sugar production in the continental United States since 1890.

Within the span of years studied, two distinct periods are identifiable. The first of these periods extends from 1890 through 1933, and the second includes the period from 1934 to the present (1973). During both periods federal government policies had a strong impact, sometimes positive and at other times negative, on the amount of land used for sugar production. Politics on the state and local level have also played an important role in the formulation and implementation of sugar policies, while at the federal level international politics has at times been an important influence.

During the period from 1890 through 1933 government policy influencing the amount of land used for sugar production was primarily reflected in the tariff legislation. The tariff acts of 1890, 1897, 1909, and 1930 all encouraged and promoted the production of more sugar on the United States mainland. Sugar beet acreage, for example, was greatly expanded as a result of the passage of the 1897 tariff legislation. Conversely, the 1913 tariff act had a negative impact on mainland sugar production. The influence of the act on cane culture was especially severe. It not only result in an immediate decline in cane acreage, but it was an important influence in the near extinction of cane culture in Louisiana in the mid-twenties.

While tariff legislation was probably the most important government influence on mainland sugar production from 1890 through 1933, other federal policies also had a bearing on the amount of land used for sugar. Officials and research agencies in the Department of Agriculture were of considerable importance in the development and expansion of sugar culture. From 1897 to 1913, the department, under the guidance of Secretary James Wilson, made sugar beets a household word in many rural areas. It distributed vast amounts of literature, much of it of a promotional or propagandist nature, and conducted research in all aspects of beet culture. Wilson personally sought and obtained the participation of farmers, merchants, and bankers in the establishment of the sugar beet industry in local areas. There seems to be little doubt that the Department of Agriculture, especially under the leadership of Wilson, contributed much to the development of beet culture in this country under its general charge to attend to the interests of American farmers. While the department particularly encouraged the expansion of beet growing, it certainly did not ignore or neglect the cane industry. It was instrumental in identifying the mosaic disease and other cane diseases in Louisiana. When grower apathy brought near ruin to cane culture in that state, the department helped in its revival by providing new varieties of cane and suggesting improved methods of cultivation. Furthermore, it played an important role in the permanent establishment of cane culture in Florida in the late 1920's.

The government policy of reclaiming the dry lands of the western United States in order to promote agricultural settlement, explicit in the legislation establishing the Reclamation Service (later the Bureau

of Reclamation) in 1902, also influenced the growth of mainland sugar culture. Government officials considered sugar beets to be a natural and integral part of the cropping pattern on reclamation projects in the western states. Thus, as successive projects were completed, the amount of land devoted to sugar beet production was increased. The expansion of beet acreage in such western states as Utah, Montana, Idaho, and Colorado was closely related to the irrigation of land which earlier had been unusable for intensive crop agriculture. Reclamation legislation also played an important role in the development and expansion of cane culture, especially in the northern Everglades of Florida. So important was federal and state aid in reclaiming the muck lands of the Everglades that without it the amount of land devoted to sugar cane in that area would probably not yet have reached any appreciable level.

The Spanish-American War, an expression of American foreign policy, was clearly a factor in the development of mainland sugar culture during the period 1890-1933. Its impact, however, was of relatively short duration as compared to the influences mentioned earlier. As a result of the conflict with Spain in 1898, three important sugar producing countries, Puerto Rico, the Philippine Islands, and Cuba, were brought under United States control. Each of these areas eventually received a tariff reduction on sugar shipped to this country. Hawaii, annexed in 1898, also was given preferential treatment. The concessions to these offshore suppliers were commonly granted over the opposition of the mainland sugar producers. The fear and uncertainty generated by the concessions sometimes caused mainland growers to reduce their sugar acreage, as, for instance, immediately after tariff reductions were

granted to the former Spanish colonies. Cane growers were particularly fearful of changes in the sugar duty. Although cane acreage declined in the short run as a result of the new overseas competition, the long range fears of the growers were largely unfounded and after several years cane acreage was again increased. As for beet culture, the impact of the tariff concessions is harder to evaluate. While reducing the sugar duty certainly did not halt the expansion of beet acreage on the mainland, it probably hindered the growers from achieving the desired rate of expansion.

World War I, like the Spanish-American War, influenced the relationship between the government and mainland sugar producers. During the war, the federal government took direct control of the continental sugar industry, encouraging production and regulating the price and distribution of sugar. Although price controls were removed shortly after the war ended, peace did not bring an end to direct government involvement in the mainland sugar industry. As the postwar agricultural deflation of the early twenties deepened into a general economic depression by the early thirties, mainland sugar growers sought support and aid from the federal government. By the mid-1930's, the government had once again taken full and direct control of the production and marketing of sugar in the United States.

Finally, in 1890-1933 period the federal government influenced sugar production and acreage by enacting legislation generally helpful in securing labor for the mainland sugar industry. This legislation particularly benefited the beet growing areas, since the labor needed for cane production was largely obtainable from nearby. Since American

workers were generally unwilling to perform the stooping and knee-crawling tasks required in the sugar beet fields, foreign labor was often used. Although there were some legislative restrictions on migration to this country prior to World War I, at that time there was generally sufficient labor available to satisfy the demands of the growers. By the time the war broke out, however, there was a widespread feeling that immigration should be reduced. The government responded to this sentiment by passing restrictive legislation, notably the literacy test, which reduced the number of new arrivals. When immigration from Europe declined as a result of the war and American labor continued unwilling to work in the fields, agricultural interests, among them the vegetable and fruit growers and sugar beet producers, successfully pressured the federal government to relax its requirements so as to temporarily admit Mexicans for agricultural work. This concession marked the beginning of the widespread use of Mexican laborers as field workers on American farms.

Beginning in 1934 the character of government policy toward the sugar industry changed. The tariff, long the most important means used to encourage and promote mainland sugar culture, was discarded. In its place Congress passed a series of sugar acts. The new pattern of legislation not only increased government influence over the continental sugar industry, and thereby the amount of land devoted to sugar production, it almost totally politicized both our sugar production and consumption. Influence over the industry was basically expressed by a legislated market quota system which annually granted continental beet and cane growers a fixed share of the United States sugar market. The quota,

specified in tons of sugar, was translated into the number of acres of sugar beets and cane estimated as needed to meet the quota. The total acreage was then alloted to growers largely on the basis of their past production history. When the cane and beet growing states exceeded their individual sugar marketing quotas the federal government used its authority to restrict or reduce the amount of land devoted to sugar production the succeeding year in order to bring the supply of sugar in line with the marketing quota. A reasonable amount of carryover was permitted to take care of minor crop and market fluctuations. The quota system was therefore an indirect control on the amount of land used for sugar production. In order to increase its sugar acreage, it was necessary for a given region to obtain an increase in its marketing quota. Since the quota was legislated by Congress, any upward change required an amendment to the sugar law. The law as written, or as later amended, represented a compromise between the positions of various interested groups. Thus, the United States sugar program, including the quota system, was and is totally tied to politics through the influence of the concerned interests.

Until the mid-fifties the successive sugar acts, except during the emergency period of World War II, permitted mainland supply areas to market a fixed amount of sugar, always less than half the total consumption (Table 1). In 1956, however, as pressure from mainland sugar interests mounted, the law was amended to permit continental growers greater participation in supplying the sugar market. Increased yields per acre of both beets and cane, higher sugar content in the beet roots and cane stalks, and a higher recovery of sugar at the factory made it necessary to reduce the amount of acreage devoted to sugar production

in order to stay within market quota commitments. The reduction angered growers because few or no financially rewarding alternate crops were available. These growers had little, if any, appreciation for the concern of the federal government, notably the State Department, with continued protection for Cuba in the United States sugar market. Neither did they seem appreciative of the general need to balance commodity exports with imports. The growers had recognized the need to help the Cuban sugar industry, which had greatly expanded production to meet wartime emergencies at the request of the United States government, through a postwar transition period. After ten years had elapsed, however, many mainland producers no longer saw a need to continue granting Cuba a large marketing quota at the expense of the American grower. Cane growers were especially concerned about protection since they did not have a remunerative alternate crop. Beet growers had some crop alternatives all right, but during the fifties the acreage of these crops was being reduced under other federal agricultural programs. As a result, cane and beet growers alike sought an increase in their marketing quotas in order to maintain or, preferably, to expand the area devoted to sugar production. Although the growers received a substantially larger sugar quota under provisions of the sugar act as amended in 1956, the amount of land allocated to sugar production was not greatly enlarged. The continued rise of yield and sugar content absorbed much of the increased quota granted to the mainland beet and cane areas.

While the larger marketing quotas legislated in 1956 pleased mainland growers, some felt that they were still too restrictive. Florida cane interests, for example, remained dissatisfied with their quota.

Their hopes of a real boom in sugar cane had never been realized because the federal government, through its various sugar acts, had not encouraged development of the state's cane producing potential. Part of the problem was that Florida's cane production was small relative to the total continental sugar production, and its influence within the sugar industry was thereby limited. The Florida producers also lacked political clout in Congress since their only sure support came from the state's few representatives and its two senators. Cane growers in Louisiana were also concerned about the restrictive character of the 1956 legislation, but that state did not have the latent cane potential available in Florida. Beet growers naturally welcomed the larger quota, but with higher yields, generally higher sugar content, greater sugar recovery, and few remunerative alternate crops available, they too feared the quota would soon be painfully restrictive.

Along with the established cane and beet growers, several other groups were concerned with the restrictive character of the federal sugar program. Farmers in the midwestern and western sections of the country had regularly been on the lookout for new cash crops to replace traditional crops whose acreage was being reduced by the federal government. Since much of the sugar consumed in the country was of foreign or offshore origin, sugar beets were envisioned as an excellent replacement crop. Using the general argument that the American farmer should supply the American market, agricultural organizations set out to modify the sugar law so as to allow their membership to participate in the United States sugar program. One such group of farmers desiring to grow sugar beets was located in western Texas and eastern New Mexico.

An especially good chance for the continental sugar growers to increase their participation in the federal sugar program presented itself in 1959. The successful socialist revolution led by Fidel Castro in Cuba, the confiscation of American owned sugar estates and refineries on the island, and the ensuing deterioration of diplomatic relations with the United States caused legitimate doubts about the Cuban desire and/or ability to continue meeting its sugar marketing quota. To protect the American consumer against a shortage of sugar, the Department of Agriculture temporarily suspended continental marketing quotas, permitting farmers to grow all the sugar cane and beets the processors were able to accept. Mainland cane and beet areas alike took advantage of the temporary suspension of quotas. The area that derived the most immediate benefit from the action was the Florida sugar cane industry. With land available to grow cane and an influx of Cuban refugees on hand to work in the factories and fields, sugar cane acreage was expanded rapidly in the state.

For virtually all of the mainland supply areas holding marketing quotas prior to the suspension of the Cuban quota, expanding sugar production was not too difficult. In new areas like western Texas and eastern New Mexico, however, significantly larger acreage had to await a change in the sugar law. Under provisions of the 1962 sugar act the necessary change occurred. Congress not only enlarged the mainland marketing quota, it provided that part of the acreage expansion was to be alloted to new sugar growing areas. Among those areas receiving a large beet sugar quota for the first time was the western Texas-eastern New Mexico region. The ability of this region to obtain the quota reflected

not only the effects of the Cuban situation, but the political influence and skillful maneuvering of local groups.

In subsequent sugar acts, the mainland sugar producers received an even larger share of the United States sugar market. Expanded acreage, higher yields per acre, rising sugar content, and greater recovery of sugar at the factory, however, periodically forced the federal government to invoke its authority to reduce acreage. Cane acreage, for example, had to be reduced in both 1968 and 1969. The reduction in Florida in 1969 would have been greater had not the state's cane interests exerted political pressure on the Department of Agriculture through the office of the President to enlarge the acreage allocation.

In many ways, government influence on the amount of land devoted to sugar production in mainland United States has been indicative of the role of government generally in commodity production. The principal reason the United States government has undertaken to influence, and sometimes to control, commodity production has been to insure agricultural producers a fair price for their crops, thereby sustaining agriculture as a viable part of the national economy. Also, to some extent the official policy has been related to the government's desire to maintain at least partial self-sufficiency in commodities considered to be basic to the normal diet. In general, such a policy has been closely associated with national security.

The federal government in its powerful but sometimes cumbersome fashion has proceeded to implement policies and programs to insure that these two objectives, rural prosperity and national security, have been realized. From 1890 through 1933, the government maintained a protective

tariff at a level that would insure the mainland sugar grower a market, and at the same time receive for his crop a price that was sufficient for him to continue his operations. When an emergency arose, as during World War I, the government took firm control of commodity production and encouraged expansion with special price incentives. During the early and middle 1930's, American agriculture was in a severe depression, with excessive production, large carryovers, and low prices. To help the farmers obtain a fair price for their crops, the government implemented a series of programs to bring supply in line with demand. It was necessary to reduce production to accomplish the task. In general, the reduction was accomplished through programs that restricted acreage and/or allocated marketing quotas. In return for accepting restrictions, the federal government offered farmers a supported price for their basic crops. In the case of sugar, a marketing quota was alloted to mainland growers, while other quotas were assigned to offshore suppliers, and sufficient acreage was granted to farmers to meet this quota. When sugar production exceeded the established quota, acreage was restricted or reduced the succeeding year. For adhering to the provisions of the sugar program, growers were granted a protected and assured outlet through the marketing quota system. Under the operation of the system, the price of sugar has been generally sufficient to make the crop remunerative. The price has been manipulated through the government's control of sugar marketing. The Department of Agriculture estimates annual sugar consumption and then permits only the required amount of sugar to be marketed.

The government's policy of restricting or reducing commodity

production had been used not only to raise prices, but also as a means for adjusting annual supplies in a way that would avoid a large carryover and the creation of unwieldly and costly storage problems. As supply has sometimes exceeded the market demand, storage of the various farm commodities has occasionally become a major problem. To avoid this problem, the government has attempted to hold the supply near the demand level and restrict the carryover to the amount necessary to assure continuity of supply. In the case of sugar, storage in most years has been sufficient to provide for normal continuity since the government annually estimates consumption and attempts to regulate production so that it does not substantially exceed sugar requirements. When sugar production greatly exceeds the marketing quota, as happened in Florida during part of the 1950's and 1960's, production has to be restricted in order to reduce the amount of sugar in storage during the following year. Commodity storage has been considered to be for continuity of supply and for emergency situations rather than as a holding place for excessive, unrestricted production.

Under some circumstances the federal government has influenced the production of commodities because of their importance to the welfare of the population and to national security. Very often these commodities could be purchased on foreign markets at a price lower than the cost of domestic production. Because of their importance, however, the production of these commodities has been encouraged and supported at home. This has clearly been the case with sugar. During the past five or six decades, sugar has become an increasingly important part of the American diet. To assure that some sugar is always available, the

federal government has implemented policies that provide for a partial supply through domestic production. The desirability of such a policy has been demonstrated on several occasions, the latest being the Cuban crisis of 1959 and 1960. At the time of Fidel Castro's rise to power, Cuba was supplying about one-third of our sugar requirements. Had not the federal sugar program been reserving to continental sugar growers a rather large segment of the United States sugar market, the Cuba proportion would likely have been higher. If this had been the case when the government severed relations with Cuba and suspended sugar imports, the United States sugar market would have been in turmoil. As it turned out, the market went through only a minor upheaval, largely because of a reliable supply of sugar from mainland growers. The Cuban situation encouraged the implementation of a revised sugar policy that would have the country rely less on a single foreign supplier and more on mainland producers. To accomplish this end, the government enacted legislation granting a larger share of the sugar market to mainland suppliers. Foreign countries have continued to share in the market, but the foreign quota has been distributed among so many countries that none has an individual quota large enough to upset the sugar program or the supply of sugar should that market quota be suspended or substantially reduced for any reason.

It is recognized that the production of sugar in the continental United States has generally been more expensive than production costs in competing foreign areas. For this reason, the federal government has refrained from enacting a policy that would encourage the production of our entire sugar requirements at home. The government has always been

aware that sugar is an important item in the country's international trade pattern. Sugar quotas alloted to foreign suppliers, the government has argued, make possible an export market for other United States products, including many agricultural commodities.

It seems appropriate at the conclusion of this study to comment in a somewhat more general way on the matter of the "national interest." Is it desirable for the federal government to influence land use in such a way as to encourage or sustain sugar production in the mainland United States? The position one takes in response to this question depends on his particular bias or point of view. There are many people who say that utilizing land for sugar production in this country is both wasteful of land resources and expensive to the consumer. They point to the fact that mainland sugar production is largely artificial, and that without a protective tariff, quotas, or other means of protection, sugar culture would likely be reduced considerably and perhaps even disappear. In a peaceful world, imported sugar would be available on the market at lower prices that consumers presently pay. Unrestricted United States imports would be a substantial boon to many sugar producing countries in the tropics and subtropics. For some, the advantages might well exceed the gains they now receive from American foreign aid programs. Not only would unrestricted imports lower sugar prices and benefit low income sugar producing countries, our international trade position would probably be benefited as well. If we purchased more of their sugar, other sugar producing countries would be encouraged to purchase more of our products, products which we produce more efficiently and many of which would be other agricultural commodities.

On the other hand, there are those individuals and groups who maintain that such a high degree of dependence on foreign supplies for a crop so vital to our diet is unrealistic in terms of today's international uncertainties. Government influence in supporting sugar production in the continental United States is, as they see it, a question of national security as well as one of supporting legitimate special interest groups. While those who support our present policy admit that the price of sugar to the consumer is higher because it is keyed to mainland rather than foreign production costs, they point out that total destruction or elimination of mainland sugar production might well eventually lead to higher, not lower, prices. Foreign suppliers would have greater leverage on price and might organize, like the petroleum exporters, to demand higher prices for their product. In the long run, they say, consumers would not benefit from unrestricted importation of sugar. While greater sugar imports might stimulate other agricultural exports, there is no guarantee, as they see it, that the goods exported would be of the kind that would provide sugar growers with alternate remunerative use of their land. Mainland cane growers have long argued that they have few, if any, alternate uses of their land that are as financially rewarding as sugar cane. A similar cry has been heard of late from the beet growers. These producers are aware that acceptable competing crops are generally unavailable at the present time, largely because many of these crops are currently in oversupply. With higher yields per acre characteristic among all the traditional crops, the growers argue that they need sugar beets to maintain their farming operation.

Both of these points of view have validity, and continuous review and compromise is probably the correct approach. One thing, however, is clear about the United States sugar plan. It has been one of the most successful of all the federal commodity programs. No doubt this success is related to the basic fact that sugar is a deficit commodity, and that when adjustment has been necessary it has been easy to shift the burden to foreign producer-suppliers. On the whole, the federal sugar program has had remarkable success in stabilizing the mainland sugar industry. The relative assurance of both market volume and price as a result of government policy protects farmers and processors alike from wide fluctuations in their operations. Thus, they have been able to plan ahead and to invest wisely in equipment, facilities, and research on a scale that would not otherwise have been feasible.

Since 1934, general price stability has been characteristic of the domestic sugar market. There have been fluctuations, of course, along with a gradual upward price movement, but the fluctuations have been within a reasonably narrow range. This price stability has reduced the uncertainties for all consumer's, both large and small. Industrial users, for example, need not carry excessive sugar inventories to counter a possible sudden increase in price, nor do they have to fear that the value of their stocks will suddenly shrink. There is no doubt about the general success and widespread acceptance of the present United States sugar policy. When disagreements have occurred among mainland producers, they have been primarily concerned with quota allocations and not with the fundamental concepts of the program.

In summary, it is clear that government policy has greatly influenced the amount of land devoted to sugar production in the mainland

United States since 1890. Without government influence it is unlikely that the amount of land used to produce sugar would be anywhere near its present area. It must be remembered that policy comes out of politics. Politics have been an important, at times even a determining, factor in the amount of land devoted to sugar production. Additional studies are needed to provide insight and understanding concerning the influence of politics and government policy on other aspects of rural land use. For example, studies somewhat similar to this one could be done for corn or wheat, cotton or tobacco, peanuts or soybeans. An equally important line of research would be an examination of the influence of United States commodity policies and programs on land use patterns in other countries. A worthwhile study of this type would be a consideration of the influence of the United States sugar policy on the amount of land devoted to sugar production in Cuba, Puerto Rico, or the Philippine Islands. In the past American geographers have largely ignored the influence of political pressures and government policy on rural land use. This study, it is hoped, demonstrates that political considerations deserve as much attention as economic and physical factors if land use patterns in the United States and elsewhere are to be completely understood. There is still much work to be done on the fringe areas between political science, economics, and geography.

APPENDIX A

Sugar Cane Acreage Harvested for Sugar, Louisiana
1890-1970

thousands of acres

Year	Acreage	Year	Acreage	Year	Acreage
1890	147	1917	221	1944	246
1891	175	1918	231	1945	234
1892	226	1919	179	1946	255
1893	205	1920	183	1947	259
1894	247	1921	226	1948	274
1895	185	1922	242	1949	279
1896	203	1923	215	1950	273
1897	191	1924	163	1951	258
1898	208	1925	190	1952	275
1899	134	1926	128	1953	280
1900	204	1927	73	1954	247
1901	239	1928	130	1955	232
1902	207	1929	185	1956	204
1903	195	1930	175	1957	226
1904	200	1931	169	1958	219
1905	242	1932	208	1959	250
1906	210	1933	197	1960	255
1907	217	1934	222	1961	277
1908	240	1935	239	1962	254
1909	282	1936	227	1963	295
1910	300	1937	266	1964	325
1911	310	1938	272	1965	288
1912	197	1939	234	1966	288
1913	248	1940	211	1967	294
1914	213	1941	224	1968	282
1915	183	1942	269	1969	236
1916	221	1943	257	1970	266

Source: 1890-1900: USDA, Bureau of Statistics, International Sugar Situation, by Frank R. Rutter, Bull. 30 (Washington, D.C.: GPO, 1904), p. 93; 1901-08: USDA, ASCS, Sugar Statistics and Related Data, II, Stat. Bull. 244 (Washington, D.C.: GPO, 1963), p. 44; 1909-59: USDA, Statistical Reporting Service, Sugarcane, Stat. Bull. 315 (Washington, D.C.: GPO, 1962), p. 4; 1960-67: USDA, ASCS, Sugar Statistics and Related Data, II, Stat. Bull. 244 (Washington, D.C.: GPO, 1969), p. 40; 1968: USDA, ASCS, Sugar Reports, No. 212 (Washington, D.C.: GPO, 1970), p. 31; 1969: USDA, ASCS, Sugar Reports, No. 224 (Washington, D.C.: GPO, 1971), p. 31; and 1970: USDA, ASCS, Sugar Reports, No. 236 (Washington, D.C.: GPO, 1972), p. 25.

APPENDIX B

Sugar Cane Acreage Harvested for Sugar, Florida 1928-1970

thousands of acres

Year	Acreage	Year	Acreage
1928	1	1950	37
1929	7	1951	39
1930	12	1952	43
1931	13	1953	45
1932	13	1954	39
1933	14	1955	35
1934	14	1956	30
1935	14	1957	33
1936	17	1958	34
1937	19	1959	46
1938	24	1960	49
1939	20	1961	56
1940	29	1962	114
1941	31	1963	140
1942	21	1964	220
1943	27	1965	186
1944	27	1966	191
1945	31	1967	191
1946	32	1968	182
1947	35	1969	153
1948	35	1970	170
1949	37		

Source: 1928-59: USDA, Statistical Reporting Service, Sugarcane, Stat. Bull. 315 (Washington, D.C.: GPO, 1962), p. 4; 1960-67: USDA, ASCS, Sugar Statistics and Related Data, II, Stat. Bull. 244 (Washington, D.C.: GPO, 1969), p. 49; 1968: USDA, ASCS, Sugar Reports, No. 212 (Washington, D.C.: GPO, 1970), p. 31; 1969: USDA, ASCS, Sugar Reports, No. 224 (Washington, D.C.: GPO, 1971), p. 31; and 1970: USDA, ASCS, Sugar Reports, No. 236 (Washington, D.C.: GPO, 1972), p. 25.

APPENDIX C

Sugar Beet Acreage Harvested by State and Region 1937-1970

thousands of acres

State and Region	1937	1938	1939	1940	1941	1942
Pacific						
California	134.3	162.4	165.3	173.2	124.5	168.5
Oregon	4.5	8.2	6.9	8.7	6.5	11.6
Washington	7.6	15.4	13.2	14.7	11.8	13.3
Mountain						
Idaho	50.9	71.2	72.6	70.7	59.8	77.5
Nevada	0	.6	1.6	0	0	0
Arizona	0	.1	.2	0	0	0
Montana	69.9	77.7	74.1	82.4	64.3	75.1
Wyoming	47.0	53.3	49.4	46.7	38.8	43.3
Utah	46.5	51.7	52.9	47.1	40.1	44.5
Colorado	160.0	136.6	144.5	140.1	132.2	180.4
New Mexico	a	a	.4	.4	.3	.3
West North Central						
North Dakota	12.2	13.8	12.6	14.2	11.0	14.0
South Dakota	5.0	8.9	7.5	7.8	7.4	7.8
Nebraska	62.9	77.3	69.2	69.3	60.5	80.0
Kansas	6.6	8.6	6.9	10.3	8.0	8.0
Iowa	2.7	5.9	5.8	6.0	4.3	4.8
Minnesota	26.3	35.5	36.9	37.8	27.4	35.0
West South Central						
Texas	0	0	.1	.2	.1	.2
East North Central						
Wisconsin	9.0	14.4	17.6	20.6	15.2	17.0
Illinois	2.0	4.5	2.4	2.0	1.9	2.6
Indiana	6.4	11.2	8.9	8.4	7.9	10.0
Michigan	76.5	122.4	120.1	112.2	93.8	111.3
Ohio	24.7	50.9	46.7	40.8	37.6	47.8
Total Beet Area[b]	755.0	930.0	916.0	914.0	753.0	953.0

[a]less than 100 acres

[b]rounded to nearest whole number

APPENDIX C--Continued

State and Region	1943	1944	1945	1946	1947	1948
Pacific						
California	69.6	70.9	95.9	137.8	170.9	149.0
Oregon	8.5	12.7	15.6	19.3	24.7	23.4
Washington	10.2	12.0	12.3	15.0	17.8	13.3
Mountain						
Idaho	41.8	43.1	53.2	76.0	102.2	79.5
Nevada	0	0	0	.4	0	0
Arizona	0	0	0	0	0	.5
Montana	56.6	63.9	81.8	72.7	76.7	55.2
Wyoming	24.7	27.7	34.8	36.0	35.8	27.0
Utah	31.6	30.5	31.5	40.7	44.5	34.6
Colorado	132.6	116.8	151.8	153.4	167.6	103.1
New Mexico	.3	.1	.1	0	0	0
West North Central						
North Dakota	11.2	12.8	17.2	15.1	16.9	19.2
South Dakota	4.8	5.4	6.9	6.9	6.1	3.7
Nebraska	48.8	46.2	58.3	60.2	70.5	41.7
Kansas	4.6	4.4	5.2	7.0	8.3	4.9
Iowa	1.4	.8	1.6	1.9	2.1	.7
Minnesota	23.8	24.7	33.2	37.3	37.6	35.8
West South Central						
Texas	a	.1	.3	1.0	2.4	4.2
East North Central						
Wisconsin	11.3	11.5	14.9	13.4	17.4	6.8
Illinois	.8	.9	1.8	2.6	3.5	2.2
Indiana	3.1	.2	.2	.4	.6	.3
Michigan	47.4	59.2	77.6	95.3	66.4	52.1
Ohio	11.4	12.6	20.9	25.6	21.1	13.0
Total Beet Area[b]	545.0	557.0	715.0	818.0	893.0	670.0

[a]less than 100 acres

[b]rounded to nearest whole number

APPENDIX C--Continued

State and Region	1949	1950	1951	1952	1953	1954
Pacific						
California	149.4	209.3	144.6	144.4	188.2	198.1
Oregon	15.6	20.9	15.6	13.2	16.8	17.9
Washington	13.7	20.5	19.1	21.1	31.2	34.2
Mountain						
Idaho	59.5	87.2	66.0	56.5	74.6	89.1
Arizona	2.0	.1	0	0	0	0
Montana	58.8	62.2	44.9	37.3	43.6	54.1
Wyoming	28.3	36.1	31.2	34.0	33.8	36.3
Utah	28.0	37.6	25.6	20.4	26.8	33.1
Colorado	117.2	146.3	124.3	112.9	115.5	115.1
New Mexico	.4	1.4	1.3	.6	.4	.6
West North Central						
North Dakota	23.6	27.5	29.7	25.6	34.8	37.1
South Dakota	3.9	4.5	3.3	3.4	4.7	6.0
Nebraska	37.6	58.5	55.0	57.9	51.7	60.1
Kansas	5.0	8.4	5.1	4.7	4.9	6.1
Iowa	1.1	2.3	.9	.9	.6	.9
Minnesota	44.7	57.7	54.5	56.8	63.8	73.1
West South Central						
Texas	1.5	3.9	1.4	.8	1.2	1.4
East North Central						
Wisconsin	8.9	15.8	5.2	7.7	8.9	11.1
Illinois	2.7	2.7	1.4	1.4	1.4	1.8
Indiana	.8	.7	.2	.1	.2	a
Michigan	76.6	97.7	53.4	49.3	48.3	64.2
Ohio	23.9	22.4	12.7	11.8	13.7	15.2
Total Beet Area[b]	703.0	923.0	696.0	661.0	765.0	856.0

[a]less than 100 acres

[b]rounded to nearest whole number

APPENDIX C--Continued

State and Region	1955	1956	1957	1958	1959	1960
Pacific						
California	166.2	175.4	199.9	194.2	200.1	211.4
Oregon	16.8	17.3	19.2	19.2	19.3	20.3
Washington	27.7	30.4	34.2	34.4	34.1	37.5
Mountain						
Idaho	76.6	74.8	88.0	87.0	87.8	94.9
Nevada	0	.2	.4	.4	.4	.5
Montana	50.0	51.1	56.9	55.9	52.6	60.5
Wyoming	30.3	33.7	36.9	37.6	38.0	41.5
Utah	29.0	27.0	29.1	31.5	31.2	31.5
Colorado	102.0	120.7	135.6	142.1	143.2	155.1
New Mexico	.7	.5	.6	.7	.6	.6
West North Central						
North Dakota	34.0	34.7	37.1	37.6	33.8	42.5
South Dakota	5.1	5.0	5.0	5.6	6.0	6.2
Nebraska	46.3	56.1	59.8	61.1	63.9	68.7
Kansas	6.5	7.1	8.9	8.1	8.4	9.0
Iowa	.9	1.2	1.4	1.1	1.2	1.4
Minnesota	64.4	64.6	66.2	72.9	70.9	80.8
West South Central						
Texas	1.6	1.6	1.8	1.8	1.8	1.7
East North Central						
Wisconsin	6.1	6.4	7.9	8.9	6.5	5.9
Illinois	1.6	1.7	1.7	1.8	1.8	1.6
Indiana	a	a	a	a	a	0
Michigan	60.1	63.4	70.0	71.4	74.1	67.9
Ohio	18.0	16.3	21.9	21.9	21.7	22.4
Total Beet Area[b]	744.0	789.0	883.0	895.0	897.0	962.0

[a]less than 100 acres

[b]rounded to nearest whole number

APPENDIX C--Continued

State and Region	1961	1962	1963	1964	1965	1966
Pacific						
California	249.9	236.9	305.8	351.4	301.3	260.4
Oregon	20.6	19.6	19.3	20.3	18.1	18.1
Washington	54.5	55.5	59.4	60.9	55.6	52.7
Mountain						
Idaho	117.9	127.1	145.6	174.7	156.7	119.5
Nevada	0	.3	1.2	2.8	1.7	.9
Arizona	0	0	0	0	0	9.0
Montana	60.6	63.4	65.7	69.6	60.5	58.7
Wyoming	51.6	48.7	57.5	63.9	53.3	47.4
Utah	22.7	24.0	24.9	32.8	32.1	28.3
Colorado	167.0	170.7	170.8	177.4	137.1	140.5
New Mexico	.2	.2	0	2.5	2.6	2.6
West North Central						
North Dakota	46.9	53.9	50.5	51.1	66.7	66.7
South Dakota	9.2	10.2	12.5	11.0	0	0
Nebraska	77.7	72.7	83.1	85.8	66.5	65.2
Kansas	10.3	14.0	19.0	23.5	19.3	20.9
Iowa	1.6	2.4	4.7	4.0	2.7	1.7
Minnesota	97.2	106.9	118.1	119.5	121.0	123.0
West South Central						
Texas	2.1	2.3	2.3	25.9	28.1	28.2
East North Central						
Wisconsin	5.7	0	0	0	0	0
Illinois	1.5	1.0	1.0	1.2	.8	.5
Indiana	0	0	a	a	0	0
Michigan	72.2	66.2	78.1	84.8	69.2	76.2
Ohio	21.5	25.0	29.1	30.1	30.1	31.2
Middle Atlantic						
New York	0	0	.3	.1	16.0	6.0
Maine	0	0	0	.1	0	3.3
Total Beet Area[b]	1091.0	1101.0	1249.0	1393.0	1240.0	1161.0

[a]less than 100 acres

[b]rounded to nearest whole number

APPENDIX C--Continued

State and Region	1967	1968	1969	1970
Pacific				
California	211.2	279.3	290.9	286.1
Oregon	19.5	21.6	23.8	20.3
Washington	47.7	54.8	64.0	61.6
Mountain				
Idaho	146.9	182.3	185.6	168.9
Arizona	14.7	24.4	28.4	12.0
Montana	57.1	65.7	67.5	56.9
Wyoming	51.2	62.1	67.4	59.0
Utah	25.3	29.3	31.8	29.1
Colorado	127.6	168.1	180.7	145.2
New Mexico	3.7	4.1	5.5	2.4
West North Central				
North Dakota	78.3	87.2	95.1	93.3
Nebraska	62.9	72.3	87.3	78.7
Kansas	23.1	39.1	40.4	43.8
Iowa	.7	1.5	1.7	1.7
Minnesota	126.7	161.4	165.1	150.5
West South Central				
Texas	29.8	37.9	37.4	28.8
East North Central				
Illinois	.3	0	0	0
Michigan	72.0	90.0	92.6	89.9
Ohio	25.0	36.0	38.0	39.1
Middle Atlantic				
New York	3.9	3.1	7.8	0
Maine	8.0	22.2	10.8	c
New England				
Pennsylvania	0	0	1.3	c
Total Beet Area[b]	1136.0	1442.0	1524.0	1367.0

[a]less than 100 acres

[b]rounded to nearest whole number

[c]not available

APPENDIX C--Continued

Source: 1937-49: USDA, Commodity Stabilization Service, Agricultural, Manufacturing, and Income Statistics for the Domestic Sugar Areas, Stat. Bull. 150 (Washington, D.C.: GPO, 1954), pp. 29-30; 1950-66: USDA, ASCS, Sugar Statistics and Related Data, II, Stat. Bull. 244 (Washington, D.C.: GPO, 1969), p. 20; 1967: USDA, ASCS, Sugar Reports, No. 208 (Washington, D.C.: GPO, 1969), p. 33; 1968-69: USDA, ASCS, Sugar Reports, No. 225 (Washington, D.C.: GPO, 1971), p. 47; and 1970: USDA, ASCS, Sugar Reports, No. 237 (Washington, D.C.: GPO, 1972), p. 21.

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