a 281.9
Ag 80
no. 18
Crops Protection Research Branch
Crops ... ARS
U. ... Agriculture
Beltsville, Maryland

Agricultural Economic Report No. 18

ECONOMIC EFFECTS OF ACREAGE CONTROL PROGRAMS IN THE 1950's

LIBRARY
RECEIVED
OCT 22 1962
BELTSVILLE

UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service Farm Economics Division

CONTENTS

	Page
SUMMARY AND CONCLUSIONS	1
INTRODUCTION	2
The Programs	2
Developments Leading to Programs	3
Problem	5
Scope of the Report	6
CHANGES IN ALLOTMENT CROPS	6
Production of Tobacco, Rice, and Peanuts Reduced	7
Cotton Production Reduced in Some Years	9
More Wheat Produced on Fewer Acres	12
Corn Production Increased Greatly	15
MARKETING QUOTA AND OTHER CROPS COMPARED	17
Uses of Diverted Acres	17
Yields Rise as Much for Other Crops as for Quota Crops	19
Production Up Greatly for Other Crops	20
Price Changes Had Little Effect	21
MAJOR OVERALL EFFECTS OF THE PROGRAMS	21
Total Crop Production Continued to Expand	21
Little Change in Resource Use Trends	22
Fertilizer Substituted for Land	23
Production Expenditures Continued to Rise	24
Normal Production on Soil Bank Land	26
Conservation Accomplishments Important	28
THE CONSERVATION RESERVE IN SELECTED AREAS	31
Findings From 1957 Studies	31
Studies Made in 1959	31
Characteristics of Farms and Farm Operators	34
Crop Production Reduced on Participating Farms	37
Conservation Uses Being Established	38
Little Reduction in Machinery, Fertilizer, and Other Inputs	38
Many Reasons for Participation	39
LITERATURE CITED	39
APPENDIX - DESCRIPTION OF THE PROGRAMS	40
Acreage-Allotment and Marketing-Quota Programs in the 1950's	40
The Acreage Reserve Program	42
The Conservation Reserve Program	44
Participation in Soil Bank Programs	46

Washington, D. C. October 1962

ECONOMIC EFFECTS OF ACREAGE CONTROL PROGRAMS IN THE 1950'S

by

Raymond P. Christensen and Ronald O. Aines
Agricultural Economists
Farm Economics Division
Economic Research Service

SUMMARY AND CONCLUSIONS

Despite acreage-control programs designed to retard output expansion and shift cropland to conservation uses, in recent years agricultural production has continued to expand more than market outlets. During the 1950's, surplus production caused prices of farm products to decline about 20 percent more than prices paid by farmers. Carryover stocks of farm products went up greatly. If it had not been for acreage restrictions on crop production, however, price declines and stock accumulations would have been even greater.

Major conclusions concerning the economic effects of acreage-control programs during the 1950's include the following:

Acreage-allotment and marketing-quota programs reduced the output of crops to which they were applied. They can be effective in total production control, provided national allotments are permitted to decrease sufficiently. Acreage reductions were large enough to reduce production of peanuts, rice, and tobacco during the 1950's. They were also large enough to reduce production of wheat and cotton in 1954-57, the years immediately following imposition of acreage restrictions on these crops. However, as farmers kept their best land in these relatively high-value crops, production did not decline in proportion to acreages.

Acreage-allotment and marketing-quota programs caused land and other resources to be diverted from marketing-quota to other crops. From 1952 to 1955, the harvested acreage of the quota crops--wheat, cotton, peanuts, rice, and tobacco--decreased by 33 million acres, but that of other crops increased by 25 million. The total output of quota crops decreased by 12 percent, but output of other crops increased enough to cause total crop production to expand. Diversion of land from wheat and cotton to feed grains added to the growing problem of excess feed grain production.

Diversion of land and other resources from marketing-quota crops was not the major source of expansion in production of nonquota crops during the 1950's. Rapidly rising yields per acre resulting from increased use of fertilizer, better crop varieties, and other technological improvements were more important. Total production of nonquota crops increased 36 percent from 1952 to 1960. The harvested acreage of these crops increased 4 percent, chiefly as a result of acreage diversion, but yields went up more than 30 percent. Thus, the higher yields were several times as important as the larger acreages in causing production of nonquota crops to expand.

Contrary to public opinion, yields per acre have increased about as much for nonquota as for quota crops since 1952. Most of the rise in yields of quota crops took place from 1952 to 1955, when the total acreage decreased by a third under acreage-allotment programs, and farmers retained their best land in these high-value crops. From 1955 to 1960, yields went up less than 10 percent for quota crops as compared with 30 percent for nonquota crops. Apparently by 1955 economic possibilities for improving yields had been more fully realized for quota than for nonquota crops.

From 1951 to 1960, prices of quota crops decreased 12 percent and those of nonquota crops 38 percent, but despite the greater decrease in price, over the 10-year period rates of fertilizer applied per acre went up much more for nonquota than for quota crops.

The Soil Bank Programs beginning in 1956 kept crop production below what it would have been without them. Land in the program could not be harvested nor could it be grazed. The Acreage Reserve Program of the Soil Bank, which was in effect during 1956-58, reduced production of cotton,

peanuts, rice, and tobacco, as acreage reductions more than offset the effects of higher yields. Production of wheat and corn, the other crops to which the Acreage Reserve Program applied, did not decrease in 1956-58, but production would have been greater if the allotment acres of these crops that were placed in the acreage reserve had been used for production.

The Conservation Reserve Program of the Soil Bank, under which more than 28 million acres of cropland were retired from use in 1960, had important effects on immediate production and will have declining effects for 10 years or more. The 2.2 million acres of cropland devoted to forest trees will probably represent a permanent land use adjustment. A considerable part of the acreage on which a permanent grass cover has been established may not be returned to production of grain or to other intensified cropping use. However, because some of the 125 million acres of cropland that were in soil-improvement crops, fallow, rotation pasture, idle, or other uses when the program began were brought into harvested use during 1956-60, the reduction in acreage of all harvested crops amounted to only about half the acreage placed in the conservation reserve. Some diversion of labor, machinery, and other resources to cropland remaining in use accompanied land-retirement programs. Because of this and the fact that the program is most attractive to farmers having the greatest difficulty in their farming operations, crop output could not be expected to decrease in proportion to the reduction in acreage.

Long-time land-rental programs such as the conservation reserve help farm people make long-term adjustments. This program has provided an important income alternative for older farm people who wish to retire and for others who desire to shift to nonfarm employment while continuing to live on their farms. In fact, most participants in the conservation reserve can be classified into these two groups. This is in contrast to the participants in the acreage reserve who were mostly full-time farm operators. Land-retirement programs under which land is placed in conservation uses may improve soil productivity and make possible a larger crop output in the future.

Soil bank programs did not, as might be expected, reduce the quantities of fertilizer, machinery, petroleum products, or other purchased materials used in farm production. Total expenditures by farmers for production items increased 36 percent from 1955 to 1960, as compared with 13 percent from 1950 to 1955, when Soil Bank Programs were not in effect. About half of the increase in each period was due to larger quantities of inputs purchased and about half to the higher prices paid for them.

Intensification of use of nonland inputs such as fertilizer, pesticides, machinery and other technological improvements have limited the effectiveness of acreage-control programs in retarding expansion of crop output.

Increased use of fertilizer has been the most important single factor. Plant nutrients in fertilizer used on farms increased from 4.4 million tons in 1950 to 6.6 million in 1960. Estimates indicate that a ton of plant nutrients adds at least as much to crop output as 10 harvested acres at recent average yields. On this basis, increased use of fertilizer since 1950 has added the equivalent of at least 22 million harvested acres to total crop-production capacity.

If land retirement programs are to be relied upon mainly as a means of bringing crop production into balance with market outlets at prices considered acceptable by farmers, much larger acreages will need to be retired. It has been estimated that continuation of the 1960 harvested acreage would result in a crop production in excess of market outlets equivalent to the output from 15 to 25 million acres by 1965. This assumes that no land not now in harvested use is shifted to crop production. Where land-retirement programs also result in limiting use of inputs other than land they will be more effective in controlling output.

INTRODUCTION

The Programs

This report reviews experience during the 1950's with Government programs designed to influence farm production and resource use through establishment of controls on land inputs. It presents information that should help in evaluating similar programs that may be put into effect in the future to help achieve a better balance of farm production with market outlets and to improve returns to resources used in farming.

Three kinds of acreage-control programs have been in effect in recent years:

1. Acreage-allotment and marketing-quota programs under which farmers were required to reduce acreages of the so-called basic crops--wheat, corn, cotton, rice, peanuts, and tobacco--in order to be eligible for price support and, in the case of quota crops, to market these commodities without penalties. Land diverted from these crops could be used to grow other crops.
2. The Acreage Reserve Program of the Soil Bank, under which farmers could make 1-year agreements in 1956, 1957, and 1958 to reduce acreages of wheat, corn, cotton, rice, peanuts, and tobacco below their allotted acreages and receive payments to compensate them for loss of income.
3. The Conservation Reserve Program of the Soil Bank, under which farmers could make contracts for 3 to 10 years, beginning in the years 1956 through 1960, to reduce acreages of harvested crops and receive rental payments each year of contract and practice payments to help pay costs of establishing conservation cover when needed on land retired from harvested use.

No crops could be harvested from land in the Soil Bank, nor could it be grazed. Farmers were required to reduce the total acreage of harvested crops on their farms by the acreage they placed in the conservation reserve. This requirement was also in effect for the acreage reserve in 1958. Farmers had to comply with acreage allotments in order to be eligible for Soil Bank payments.

A more detailed description of these programs is given in the appendix.

Despite these three programs, total farm output has increased to record high levels (fig. 1). Farm production in excess of market outlets has caused downward pressure on prices of farm products, declining incomes for farm operators, growing stocks of farm products, and large Government costs for price support and surplus disposal. Consequently, there is much interest in developing new programs that will retard expansion of output and help bring farm production into balance with market outlets at prices that will give farm operators incomes from capital investments and labor used in farming comparable to those received by similar resources in nonfarm uses.[1]

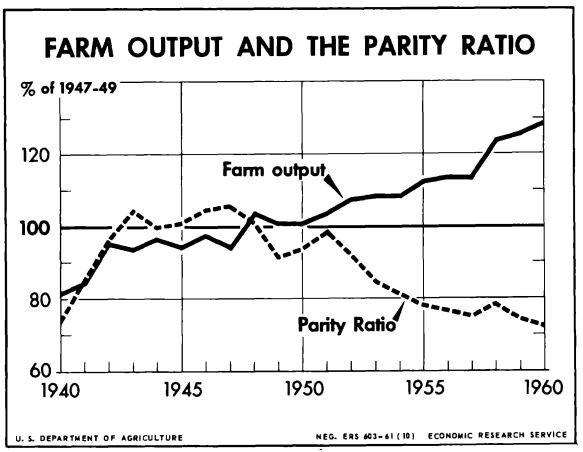


Figure 1

Developments Leading to Programs

During the years immediately after World War II, farm output was relatively well balanced with market outlets. Prices of farm products and incomes of farm operators reached record high levels during the Korean War years of 1950-52. But during the next few years, production of many farm products was larger than could be disposed of in domestic and foreign markets at prevailing prices, and large stocks of wheat, feed grains, cotton, and rice were accumulated. In 1952 and in 1953, additions to stocks of wheat, feed grains, and cotton were equal to the quantities harvested from 24 million acres (table 1).

Acreage allotments authorized under the Agricultural Adjustment Act of 1938, as amended, were put into effect for wheat, corn, cotton, and rice in 1950 only. This was the first limitation since 1942 on acreages of these crops that farmers could grow and market. In 1954, acreage allotments were put into effect for wheat, corn, and cotton, and in 1955 for rice.

[1] The 1961 Feed-Grain Program was an additional effort to influence farm production by reducing acreages of corn and grain sorghum. It was extended to 1962 and to include barley. A provision requiring farmers to reduce wheat allotments 10 percent or pay penalties in order to be eligible for price supports has been included in the 1962 Wheat Program. This report does not consider these new programs and provisions, which were developed subsequent to this analysis.

TABLE 1.--Harvested acreage and acreage equivalent of carryover stocks of wheat, feed grains, and cotton, United States, 1950-60

Year	Harvested acreage				Acreage equivalent of carryover stocks[1]			
	Wheat	Feed grains	Cotton	Total	Wheat	Feed grains	Cotton	Total
	Million acres	Million acres	Million acres	Million acres	Million acres	Million acres	Million acres	Million acres
1950	62	143	18	223	17	26	3	46
1951	62	134	27	223	11	18	3	32
1952	71	132	26	229	26	24	6	56
1953	68	133	24	225	40	29	11	80
1954	54	146	19	219	44	35	12	91
1955	47	146	17	210	44	39	16	99
1956	50	132	16	198	39	44	13	96
1957	44	142	14	200	38	54	10	102
1958	53	137	12	202	56	61	10	127
1959	52	143	15	210	56	68	8	132
1960[2]	52	139	15	206	65	74	8	147

[1] Acreage equivalent of carryover stocks at end of crop year at 1956-60 average yields. Feed grains include corn, oats, barley, and sorghum grain.
[2] Preliminary estimates of carryover stocks at end of 1960 crop year.

Acreages of corn planted changed very little under these programs, but acreages of wheat, cotton, and rice were reduced. However, all these commodities continued at levels larger than those that could be disposed of in domestic and foreign markets at price-support levels. Stock accumulations continued in 1955, although in smaller quantities than in 1953. The acreage equivalent of additions to carryover stocks of wheat, cotton, and feed grains from crops harvested in 1954 was 11 million acres; the equivalent of 8 million acres was carried over from crops harvested in 1955.

Excess production was not limited to acreage-allotment crops. Production of milk, for example, was much larger than could be disposed of at prevailing prices in 1954 and 1955. Purchases by the U. S. Department of Agriculture of milk fat and solids not fat in dairy products for price-support and related programs were equivalent to about 7 percent of total milk production in 1954 and nearly 5 percent in 1955, as compared with less than 1 percent in 1951 and 1952. Large supplies of feed grains also caused rapid expansion in production of other livestock and poultry products.

Declining prices and incomes accompanied excess production and stock accumulations. Prices received for farm products averaged nearly a fourth lower in 1955 than in 1951, while those paid by farmers were only slightly lower. Realized net income of farm operators from farming, including Government payments, decreased from $15.2 billion in 1951 to $11.5 billion in 1955, or nearly a fourth.

It was under these conditions that the Soil Bank Act of 1956 was passed. It was recognized (1) that less crop production was needed currently and (2) that the production potential should be conserved for future use. Conservation studies had shown that much land used to grow crops needed to be shifted to less intensive uses in order to maintain or improve its future productivity. Estimates made by the Soil Conservation Service in 1950, for example, indicated that 40 million acres of cropland were not suitable for growing crops because they were too steep, too eroded, too stony, or otherwise poorly adapted to cultivation. In addition, 49 million acres were designated as suitable for cultivation only occasionally in longtime

rotations (15, pp. 34-36).[2] Nearly half of this cropland was in the Great Plains and Mountain Regions. Much of it had been used to grow wheat and other grain crops.

The acreage reserve part of the Soil Bank was designed to bring about immediate reduction in acreages and production of allotment crops and thereby to help reduce large carryover stocks of wheat, feed grains, cotton, rice, and tobacco. The acreage of allotment crops placed in the program totaled 12 million in 1956, 21 million in 1957, and 17 million in 1958. The proportion varied from 10 percent of all allotment acreage in the program in 1956 to 19 percent in 1957 and 15 percent in 1958.

The Conservation Reserve part of the Soil Bank was a long-term program designed to bring about more permanent shifts in land use, that would better balance crop production with market outlets and at the same time achieve greater conservation of land and other natural resources. Cropland retired from harvested use under this program increased gradually to 28.7 million acres in 1960, an acreage equivalent to 6 percent of the total cropland area. The amount of land kept out of production by this program will gradually decrease from 1960, the last year in which contracts were written, to 1970 when the longest contracts expire.

[2] Numbers in parentheses refer to Literature Cited, p. 39.

Problem

Total crop production continued to expand after initiation of Soil Bank programs, as higher yields per acre more than offset the effects of reductions in harvested acres. Production in excess of market outlets caused carryover stocks of wheat and feed grains to go up greatly. The acreage equivalent of carryover stocks of wheat, feed grains, and cotton, for example, was nearly 150 million acres before harvest of the 1961 crops, as compared with 100 million at the end of the 1955 crop year.

Production in excess of market outlets at price-support levels caused holdings of farm commodities by the U. S. Department of Agriculture to increase to a record high of $9.2 billion at the end of 1960 (fig. 2).

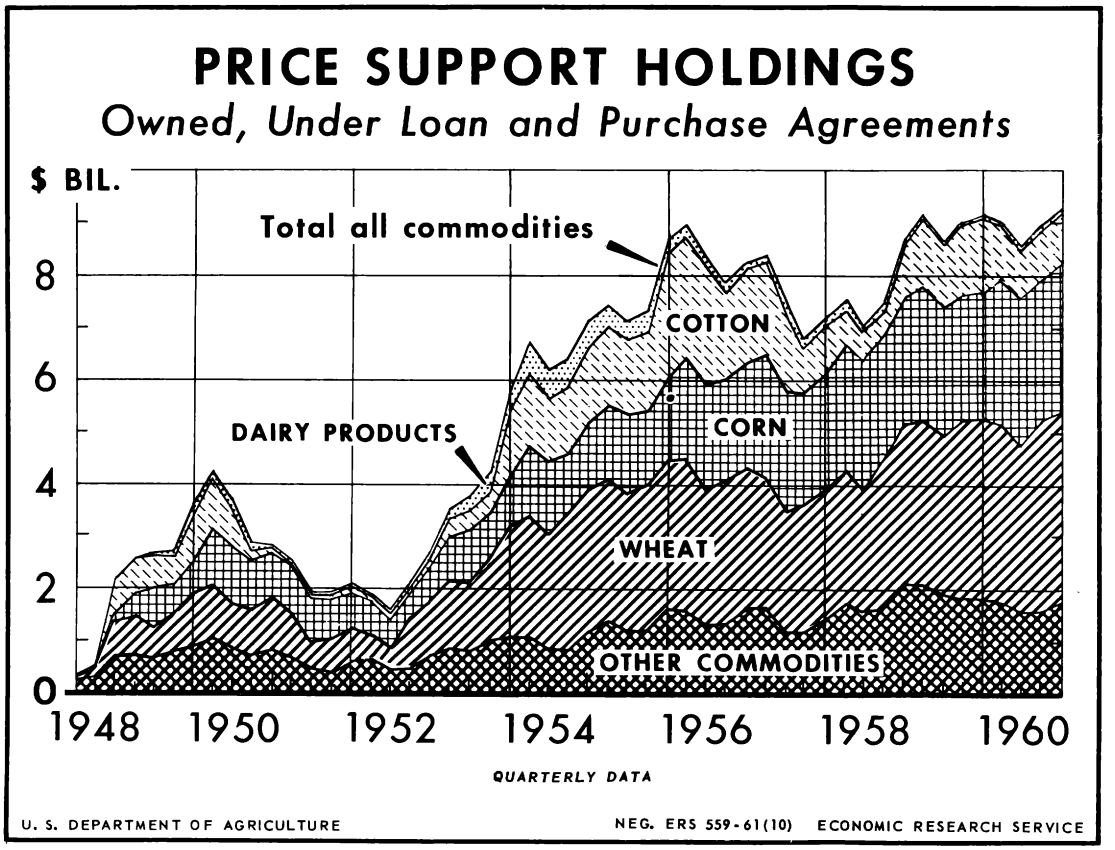


Figure 2

These commodities accumulated despite special export programs that greatly expanded the volume of agricultural products moved into foreign markets.

Prices received by farmers continued to decline relative to those paid by them. The parity ratio, for example, decreased from 84 percent in 1955 to 80 percent in 1960. But lower real prices for farm products did not retard the rate of output expansion. Total farm output in 1960 was at a record high, 29 percent larger than the average for 1947-49. If prices had been more favorable, economic logic would have encouraged farmers to increase use of fertilizer and other inputs from nonfarm sources more than they did, expanding output even further.

Changes in farm production and resource use have been influenced by other developments as well as by acreage-control programs. Technological advances and expansion in supplies of fertilizer and other resources available from nonfarm sources have had important effects. In general, individual farmers found it profitable to use additional inputs from nonfarm sources, to apply improved production techniques and expand farm output so long as they continued to rely on farming as their main occupation. In this way, they were able to reduce costs per unit of production, expand output, and obtain net incomes larger than those they would have realized if they had continued to farm as in earlier years.

But farmers as a group have not benefited from adoption of improved production techniques and use of additional inputs. Lower prices for farm products caused by the rapid expansion in total farm output relative to growth in market outlets tended to transfer to others the economic benefits of technological gains in farm production. For example, income per person for farm people decreased about 10 percent from 1950 to 1960; for nonfarm people, it increased about a fourth. As prices paid by farm people for consumption items went up about 15 percent from 1950 to 1960, their real incomes went down about a fourth. In 1960, income per person averaged $965 for farm people compared with an average of nearly $2,300 for nonfarm people (fig. 3).

Acreage-control programs did not require reduction in inputs other than cropland. Farmers were free to step up the use of fertilizer, pesticides, mechanical power and machinery, and other items on land not retired from use under Soil Bank programs. They could grow other crops on

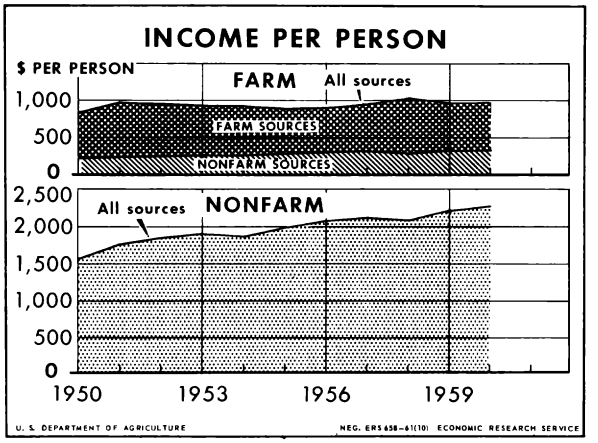


Figure 3

land shifted out of allotment crops under acreage-allotment programs.

Land has important characteristics that distinguish it from other inputs, but it is only a small part of all inputs used in farming. Cropland valued at market rental rates accounts for not more than 10 percent of the annual value of all inputs used in farm production. In view of the relative importance of inputs other than land, it is evident that if programs are to be effective in retarding the rate of output expansion they must reduce rates of increase in use of inputs that may be substituted for land.

Scope of the Report

This report indicates answers to questions such as--How effective are limitations on the acreages of particular crops, such as we have had under acreage-allotment programs, in reducing production and improving prices of these crops? How is production of other crops influenced by diversion of land and other resources from allotment to other crops? What happens to the use of inputs other than land when cropland is retired from harvested use under land-rental programs, such as the Soil Bank? How have acreage-control programs influenced the long-term adjustments required for a more prosperous agriculture and greater conservation of land resources?

CHANGES IN ALLOTMENT CROPS

Allotment crops--wheat, cotton, corn, rice, peanuts, and tobacco--make up a large

part of total crop production. In 1960, for example, they accounted for 49 percent of the total harvested acreage of all field crops and for more than 63 percent of the total farm value of all field crops. Both Soil Bank and acreage allotment programs have influenced the acreages and production of these crops.

Experience during the 1950's indicates that production of individual crops can be reduced or stabilized if acreages are sufficiently reduced. Production of tobacco, rice, and peanuts was less in 1959 and 1960 than in the early 1950's as a result of acreage reductions. Acreage reductions were large enough to reduce production of cotton and wheat in 1954-57, the years immediately following imposition of acreage restrictions, but in 1959 and 1960, when higher yields per acre offset the effects of fewer acres, production was about as large or larger than in 1952 and 1953, before allotments were in effect. Acreages of corn declined very little in 1954 and 1955; in 1956-58, they were reduced somewhat under the Acreage Reserve Program; in 1959 and 1960, higher yields, together with larger acreages, caused production to rise to record high levels.

Acreage-control programs caused land and other resources to be shifted from allotment to other crops. These effects are considered in the sections that follow. Changes in each of the allotment crops are discussed here.

Production of Tobacco, Rice, and Peanuts Reduced

Acreage allotments and marketing quotas were in effect for tobacco and peanuts throughout the 1950's. These crops all showed reductions in production in 1959 and 1960, as compared with 1951 and 1952 (figs 4 and 5). Less rice was produced in the years 1955-60 than in 1954, the last year before allotments went into effect for this crop (fig. 6). However, yields per acre went up during the 1950's for all three crops, and in no case did production decline in proportion to acreage.

Tobacco was the only allotment crop whose price rose during the 1950's. Price-support levels for most types of tobacco were maintained at 90 percent of parity throughout the decade, and parity prices increased as prices paid by farmers rose. Prices received by farmers for rice and peanuts averaged about the same in 1960 as in 1950,

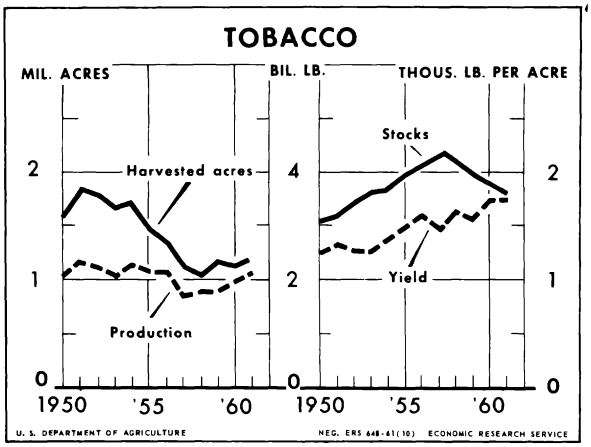


Figure 4

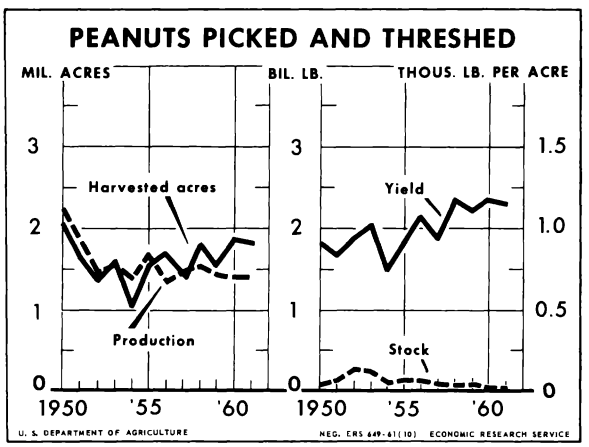


Figure 5

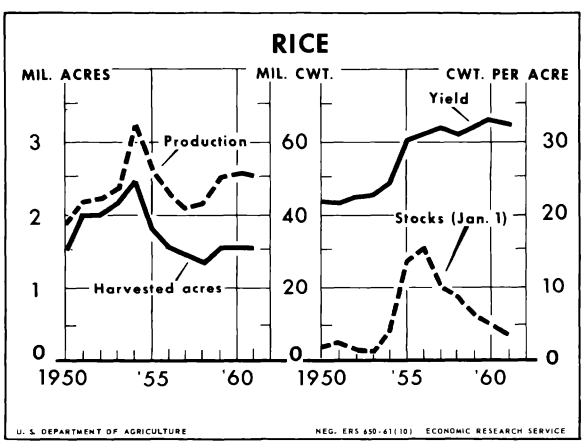


Figure 6

TABLE 2.- Tobacco: Participation in the Acreage Reserve Program, 1956-58[1]

Item	Unit	1956	1957	1958
Acreage Reserve:				
Number of agreements	Thousand	20	52	69
Number of acres	1,000 acres	33	80	111
Acres per agreement	Acre	1.6	1.5	1.6
Total rental payment	Mil. dol.	7	18	27
Payment per agreement	Dollar	330	344	385
Payment per acre	do.	204	223	240
Acreage allotment for all farms:				
Number of allotments	Thousand	583	584	548
Number of acres	1,000 acres	1,364	1,172	1,166
Proportion of-				
Allotment farms with agreements	Percent	3.4	8.9	12.6
Allotment acres in acreage reserve	do.	2.4	6.8	9.5
Estimated reduction in production:				
Total quantity	Mil. lbs.	25	93	138
Percentage of total production	Percent	1.1	5.6	7.9
Payment per pound of production reduced	Dollar	.27	.19	.19
Farm price per pound	do.	.54	.56	.60

[1] These data are from the Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture.

but real prices for these crops decreased because prices paid by farmers increased by nearly 15 percent from 1950 to 1960.

Legislation provided that national acreage allotments for rice and peanuts could not decline below specified levels. If national acreage allotments had been permitted to decrease to lower levels as stocks were accumulated, total supplies of rice and peanuts would have been smaller and their prices higher.

Carryover stocks of rice declined after 1955 as acreage reductions were effective in reducing production. Carryover stocks of tobacco reached a record high level in 1957 but have declined since then, partly as a result of a decrease in production.

Acreage-allotment programs were chiefly responsible for acreage reductions of the three crops. However, for tobacco and rice the Acreage Reserve Program also was important in 1957 and 1958.

The harvested acreage of peanuts decreased from 2.2 million in 1950 to 1.4 million in 1960, or slightly more than the reduction in the national acreage allotment. A little less than 3 percent of the peanut allotment acreage was placed in the acreage reserve in 1956, the only year in which this program was in effect for peanuts.

The total harvested acreage of tobacco decreased from 1.6 million in 1951 to 1.1 million in 1960, or about a third. This reduction was mainly due to lower allotments, but the acreage reserve was important also. In 1958, nearly 10 percent of the tobacco allotment acreage was placed in this program, with nearly 12 percent of the farms with allotments participating.

Apparently, the Acreage Reserve Program was effective in reducing tobacco production. It is estimated that tobacco production would have been nearly 6 percent larger in 1957 and about 8 percent larger in 1958 if there had been no program.[3] Payments to producers averaged only $0.19 per pound of production reduced in 1957 and 1958, or about a third of the average farm price for tobacco (table 2).

The harvested acreage of rice declined from 2.5 million acres in 1954 to 1.6 million acres in 1955, the year acreage allotments went into effect. The national rice acreage allotment did not change after 1956, but the Acreage Reserve Program reduced the harvested acreage of rice by an additional 242,000 acres in 1957 and 174,000 acres in 1958 (table 3). It has been estimated that rice production would have

[3] These and similar estimates regarding reduced production attributable to the Soil Bank Program were made by members of the Agricultural Stabilization and Conservation Service, U. S. Department of Agriculture.

TABLE 3.--Rice: Participation in the Acreage Reserve Program, 1956-58[1]

Item	Unit	1956	1957	1958
Acreage reserve:				
Number of agreements	Thousand	1.1	4.8	5.6
Number of acres	1,000 acres	28.2	242.0	174.0
Acres per agreement	Acre	25.2	50.2	31.2
Total rental payment	1,000 dol.	1,394	15,467	11,942
Payment per agreement	Dollar	1,248	3,206	2,140
Payment per acre	do.	49.51	63.91	68.55
Acreage allotments on all farms:				
Number of allotments	Thousand	17.0	16.7	17.1
Number of acres	1,000 acres	1,653	1,653	1,653
Acres per allotment	Acre	97	99	97
Proportion of-				
Allotment farms with agreements	Percent	6	29	33
Allotment acres in acreage reserve	do.	2	15	11
Estimated reduction in production:				
Total quantity	1,000 cwt.	450	6,000	6,000
Percentage of total production	Percent	1	14	14
Payment per 100 pounds of production reduced	Dollar	3.10	2.58	1.99
Farm price per 100 pounds	do.	4.86	5.11	4.67

[1] These data are from the Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture.

been 14 percent larger in 1957 and 1958 if no rice allotment acreage had been placed in the acreage reserve. Payments to producers averaged about $2.50 per 100 pounds of production reduced, or about half of the farm price per 100 pounds in 1957 and 1958.

The Conservation Reserve Program influenced acreages of tobacco and rice very little. But it is estimated that the acreage of peanuts would have been about 7 percent larger in 1959 and 8 percent larger in 1960 if there had been no Conservation Reserve Program.

Cotton Production Reduced in Some Years

Total cotton production decreased only slightly under acreage-allotment programs that went into effect beginning in 1954. More than 16 million bales of cotton were produced in 1953 compared with a little under 14 million in 1954 and nearly 15 million in 1955 (fig. 7). The total harvested acreage of cotton decreased from 24 million in 1953 to 17 million in 1955, but yield per acre increased nearly 30 percent from 1953 to 1955. Diversion of the least productive land from cotton undoubtedly was a

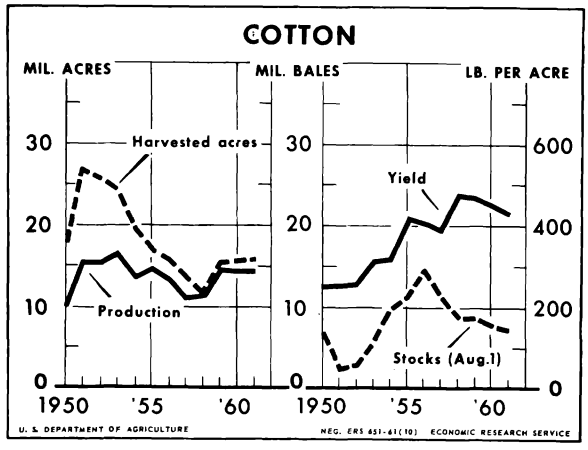


Figure 7

major factor causing average yields to go up greatly.

The Acreage Reserve Program was relatively effective in reducing cotton production. Total production decreased from 14.7 million bales in 1955 to 13.3 in 1956, 11.0 in 1957, and 11.5 in 1958. Total allotment acreage in the program increased from

1.1 million acres in 1956 to 3.0 in 1957 and 4.9 in 1958 (table 4). A large proportion of cotton producers participated--32 percent in 1957 and 46 percent in 1958.

It is estimated that land diverted from cotton under the Acreage Reserve Program would have produced about 2 million bales of cotton in 1957 and about 3 million in 1958. Thus, payments per pound of reduction in cotton production averaged about $0.16 in 1957 and $0.19 in 1958, or slightly more than half the farm price. If account is taken also of the value of cottonseed, payments to producers for land rental amounted to about half the farm value of cotton lint and seed that would have been produced on this land.

The Conservation Reserve Program also influenced cotton acreages, especially in 1959 and 1960 when all eligible land on many farms was placed in the program. Farms prohibited by conservation reserve contract from growing any cotton had cotton allotments totaling 439,000 acres in 1959 and 628,000 acres in 1960. The estimated reduction in cotton acreage on all contract farms was 517,000 for 1959 and 683,000 for 1960.

Carryover stocks of cotton continued to increase after imposition of allotments in 1954. Before the 1955 crop was harvested, they totaled approximately 15 million bales, about one year's production (fig. 7). Less production in 1957 and 1958 as compared with 1955 and 1956 resulted under the Acreage Reserve Program and helped to reduce carryover stocks. But larger exports also were important.

As in the case of peanuts and rice, legislation provided that the national acreage allotment on cotton could not be reduced below a specified acreage. As a result, the Acreage Allotment and Soil Bank Programs did not limit production sufficiently to prevent farm prices of cotton from decreasing. The average farm price for upland cotton decreased from nearly $0.40 per pound in 1951 to slightly less than $0.32 in 1953. It remained slightly below $0.32 in most of the following years. In 1960, it averaged a little more than $0.30 a pound.

Long-term trends toward more cotton in irrigated areas of the West and less in the Southeast continued under the acreage-control programs of the 1950's. The total

TABLE 4.--Cotton: Participation in the Acreage Reserve Program, 1956-58[1]

Item	Unit	1956	1957	1958
Acreage reserve:				
Number of agreements	Thousand	96	301	445
Number of acres	1,000 acres	1,121	3,016	4,926
Acreage per agreement	Acre	12	10	11
Total rental payment	Dollar	27,336	153,296	270,208
Payment per agreement	do.	286	509	608
Payment per acre	do.	24.38	50.83	54.85
Acreage allotments on all farms:				
Number of allotments	Thousand	963	953	957
Number of acres	1,000 acres	17,436	17,585	17,555
Acres per allotment	Acre	18	18	18
Proportion of-				
Allotment farms with agreements	Percent	10	32	46
Allotment acres in acreage reserve	do.	6	17	28
Estimated reduction in production:				
Total quantity	1,000 bales	250	2,000	3,000
Percentage of total production	Percent	2	18	26
Payment per pound of production reduced	Dollar	.23	.16	.19
Farm price per pound	do.	.32	.29	.33

[1] These data are from the Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture. The 1956 figures include a small amount of extra long staple cotton.

harvested acreage in the West was more than 50 percent larger in 1960 than in 1950, while that in the Southeast decreased by about a third (table 5). Shifts of cotton production to higher yielding areas have increased average yields for the United States.

Allotment programs reduced cotton acreages in all regions in 1954 and 1955, but reductions during these years were relatively larger for the West than for other regions. Cotton acreage decreased 45 percent in the West from 1953 to 1955 as compared with 36 percent in the Southeast, 33 percent in the Delta, and 22 percent in the Southwest.

The Acreage Reserve Program was more important in the Southeast than in other regions. In 1958, for example, 47 percent of cotton allotment acreage in the Southeast was in the acreage reserve compared with 26 percent in the Delta, 25 percent in the Southwest, and only 6 percent in the West.

Harvested acreages of cotton increased in all regions in 1959 after the Acreage Reserve Program was discontinued, but this program may have accelerated the long-term reduction in cotton acreage in

TABLE 5.--Upland cotton: Harvested acreage, allotment, and acreage reserve, by regions, United States, 1950-60[1]

Item	Southeast	Delta	Southwest	West	United States
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Harvested acreage:					
1950	3,829	5,493	7,495	1,026	17,843
1951	4,785	6,650	13,335	2,179	26,949
1952	5,011	6,633	11,920	2,357	25,921
1953	5,046	7,027	9,920	2,347	24,341
1954	3,623	5,459	8,660	1,509	19,251
1955	3,206	4,746	7,690	1,287	16,928
1956	2,969	4,441	6,915	1,290	15,615
1957	2,182	3,683	6,445	1,248	13,558
1958	1,550	3,206	5,805	1,288	11,849
1959	2,488	4,168	6,975	1,459	15,090
1960	2,493	4,284	6,955	1,577	15,309
Allotment:					
1950	4,924	6,401	9,157	1,072	21,554
1954	4,155	5,836	9,817	1,571	21,379
1955	3,397	4,934	8,485	1,297	18,113
1956	3,192	4,631	8,260	1,308	17,391
1957	3,212	4,627	8,390	1,358	17,585
1958	3,232	4,653	8,302	1,368	17,555
1959	3,059	4,412	7,600	1,239	16,310
1960	3,080	4,416	7,593	1,221	16,310
Allotment including choice B acres:					
1959[2]	3,112	4,701	8,044	1,471	17,328
1960	3,107	4,702	8,140	1,579	17,528
Acreage Reserve:					
1956	101	62	940	18	1,121
1957	902	652	1,328	134	3,016
1958	1,521	1,223	2,097	85	4,926

[1] States in each region are: Southeast--Virginia, North Carolina, South Carolina, Georgia, Florida, and Alabama; Delta--Missouri, Arkansas, Tennessee, Mississippi, Louisiana, Illinois, and Kentucky; Southwest--Texas, Oklahoma, and Kansas; and West--California, Arizona, New Mexico, and Nevada.

[2] Includes a small amount of extra long staple cotton.

the Southeast. About 20 percent of the total harvested acreage was in the Southeast in 1950. This compares with 16 percent in 1960, a year in which harvested acreage was nearly 20 percent less than the total acreage of cotton allotments in the region. In 1956-58, harvested acres plus allotment acres in the acreage reserve amounted to almost as much as the total cotton acreage allotment for the region. In 1960, approximately 200,000 acres of the 500,000 acres of cotton allotment acreage not harvested, were on farms with all eligible land in the conservation reserve. The remaining 300,000 acres of cotton allotments not harvested, or about 10 percent of the total allotted in the Southeast, were voluntarily not used for cotton without being diverted under a Government program.

In 1959 and 1960, a special cotton program--the "choice B plan"--permitted growers to exceed their allotments by as much as 40 percent provided they agreed to accept a lower level of price support (65 instead of 80 percent of parity.) This program was more important in the West than in other regions. Additional acreages resulting from this program in 1960, expressed as percentages of basic allotments, were as follows: the West, 29 percent; Southwest, 6; Delta, 6; and Southeast, less than 1 percent.

More Wheat Produced on Fewer Acres

Acreage-allotment and marketing-quota programs apparently were effective in reducing wheat production in 1954 and 1955. Harvested acreages decreased from 71 million acres in 1952 to 47 million acres in 1955, or about 30 percent, and production decreased in almost the same proportion (fig. 8).

During the 1956-58 period, however, when much allotment land was placed in the acreage reserve, total wheat production did not go below the 1955 level. Expressed as percentages of national allotments, wheat allotments in the acreage reserve were 10 percent in 1956, 23 percent in 1957, and 10 percent in 1958 (table 6). However, harvested acreage did not decrease by a comparable amount, as shown by the following:

Item	1954	1955	1956	1957	1958
	Million acres				
National allotments.	62.8	55.8	56.2	55.0	55.0
Acreage Reserve....	---	---	5.7	12.8	5.3
Allotment less Acreage Reserve.	---	---	50.5	42.2	49.7
Harvested acreage..	54.4	47.3	49.8	43.8	53.4

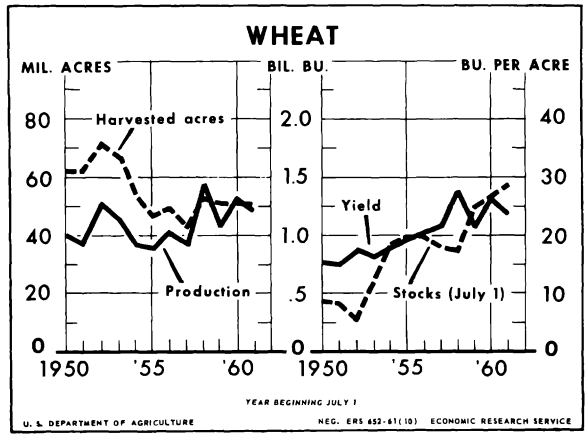


Figure 8

For the country as a whole, in both 1957 and 1958 harvested acreages of wheat exceeded total allotment acreage less allotment acreage in the acreage reserve. In most regions, this was the situation in 1956 as well as in 1957 and 1958. Apparently there was more overplanting of allotments in these years than in 1954 or 1955. It is significant that the total harvested acreage of wheat was only a million acres less in 1958 than in 1954, although in 1958 more than 5 million acres of allotment land were in the acreage reserve.

Higher yield per acre was an additional factor causing wheat production to expand. Much of the record high yield per harvested acre in 1958 may have resulted from the growing of wheat on land that had been fallowed while in the acreage reserve in 1957.

The Acreage Reserve Program was less attractive to wheat growers in 1958 than in 1957 as indicated by the drop in allotment acreage in the acreage reserve from 13 million acres in 1957 to 5.3 million acres in 1958. In 1958, producers were required to reduce their total acreage of Soil Bank base crops by the acreage they placed in the acreage reserve, a requirement not in effect in 1956 or 1957. To be in compliance in 1956 and 1957, producers had only to reduce their harvested acreages of wheat to their allotments less the part of the allotment they placed in the acreage reserve. Acreages placed in the acreage reserve had to be designated and left idle. However, producers could expand harvested acreages of other crops on other land on their farms. Additional reasons for lower

TABLE 6.--Wheat: Participation in the Acreage Reserve Program, 1956-58[1]

Item	Unit	1956	1957	1958
Acreage reserve:				
Number of agreements	Thousand	111	233	174
Number of acres	1,000 acres	5,670	12,783	5,289
Acres per agreement	Acre	51	54.9	30.3
Total rental payment	Mil. dol.	45	231	105
Payment per agreement	Dollar	403	991	603
Payment per acre	do.	7.89	18.06	19.87
Allotments on all farms:				
Number of allotments	Thousand	1,659	1,721	1,816
Number of acres	Mil. acres	56	55	55
Acreage per allotment	Acre	34	32	30
Percentage of-				
Allotment farms with agreements	Percent	7	14	10
Allotment acreage in Acreage Reserve	do.	10	23	10
Estimated reduction in production:				
Total quantity	Mil. bu.	28	175	117
Percentage of actual total production	Percent	3	18	8
Payment per bushel:				
Production reduced	Dollar	1.63	1.32	.90
Farm price per bushel	do.	1.97	1.93	1.75

[1] These data are from the Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture.

participation in 1958 were (1) the end of the prolonged drought in the Southern Plains and (2) imposition of the $3,000 limit on rental payments to a producer for each farm.

Although wheat production did not decline in 1956-58, it undoubtedly would have been much larger if the Acreage Reserve Program had not been in effect. It is estimated that wheat production would have been 3 percent larger in 1956, 18 percent larger in 1957, and 8 percent larger in 1958 if allotment land in the program had been used to grow wheat (table 6). These estimates assume that yields per acre on land in the program would have been considerably lower than yields realized from the acreage actually harvested. Payments to producers per bushel of production reduced are estimated to have been $1.63 in 1956, $1.32 in 1957, and $0.90 in 1958. These rates are substantially less than the farm prices per bushel or the prices that growers could receive under price-support programs. On the other hand, participants were spared costs of land preparation, seed, harvesting and marketing.

The Conservation Reserve Program also had important effects on wheat acreage and production, especially in 1959 and 1960, when total acreage retired from use under this program increased greatly. Estimates of reductions in acreage and production of wheat attributable to the Conservation Reserve Program are as follows:

	1,000 acres	1,000 bushels	Bushels per acre
1957	497	9,399	19
1958	776	17,845	23
1959	2,330	46,130	20
1960	3,183	76,387	24

Total acreage in the conservation reserve increased from a little less than 10 million acres in 1958 to more than 22 million in 1959 and more than 28 million in 1960. This included much wheat-allotment acreage formerly in the acreage reserve that was shifted to the conservation reserve. Whole farm units accounted for 66 percent of all land in the conservation reserve in 1959 and for 71 percent in 1960. Many of these whole farm units were farms with wheat allotments.

Apparently, acreage-control programs did not significantly modify the regional distribution of wheat production (table 7).

TABLE 7.--Wheat: Harvested acreage, allotment, and acreage reserve, by wheat regions, United States, 1950-60[1]

Item	Pacific Northwest	Spring wheat States	Hard winter wheat States	Soft winter wheat States	All other States	United States
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Harvested acreage:						
1950	4,841	18,131	26,686	7,793	4,290	61,741
1951	5,302	21,390	22,818	8,939	3,043	61,492
1952	5,527	20,771	31,480	9,564	3,243	70,585
1953	5,854	20,287	27,383	10,722	3,415	67,661
1954	4,346	15,910	23,279	8,152	2,669	54,356
1955	4,020	14,927	18,019	7,781	2,543	47,290
1956	4,044	14,158	20,867	8,059	2,640	49,768
1957	3,786	13,316	15,845	8,111	2,696	43,754
1958	4,036	13,931	24,686	7,856	2,538	53,047
1959	3,982	13,425	24,153	7,748	2,473	51,781
1960	3,866	13,952	24,867	7,671	2,287	52,643
Allotment:						
1950	5,088	19,596	34,073	10,455	3,564	72,776
1951	4,914	19,533	34,505	10,324	3,509	72,785
1954	4,441	17,882	29,341	8,339	2,806	62,809
1955	4,050	15,712	26,153	7,388	2,499	55,802
1956	3,989	16,059	26,349	7,362	2,467	56,226
1957	3,969	14,857	26,415	7,365	2,394	55,000
1958	3,991	14,883	26,361	7,378	2,387	55,000
1959	3,997	14,782	26,215	7,544	2,462	55,000
1960	4,003	14,840	26,216	7,467	2,474	55,000
Acreage reserve:						
1956	54	1,975	3,526	55	60	5,670
1957	519	2,700	8,438	622	504	12,783
1958	151	1,373	2,538	789	438	5,289
Allotment less acreage reserve:						
1956	3,935	14,084	22,823	7,307	2,407	50,556
1957	3,450	12,157	17,977	6,743	1,890	42,217
1958	3,840	13,510	23,823	6,589	1,949	49,711

[1] States included in each region are as follows: Pacific Northwest--Washington, Oregon, and Idaho; Spring Wheat--Montana, North Dakota, South Dakota, Minnesota, and Wisconsin; Hard Winter--Colorado, Wyoming, New Mexico, Nebraska, Kansas, Oklahoma, and Texas; and Soft Winter--Iowa, Missouri, Illinois, Indiana, Michigan, Ohio, Tennessee, Kentucky, West Virginia, Virginia, Maryland, and Delaware.

Harvested acreage decreased by approximately the same percentage in all important wheat-producing regions from 1952-53, when allotments were not in effect, to 1959-60, when they were in effect.

The Acreage Reserve Program, however, was more important in some areas than in others, especially in 1956 and 1957. This is evident from the following data showing by regions the percentages of wheat allotments placed in the acreage reserve:

Region	Percentage of wheat allotments in acreage reserve		
	1956	1957	1958
	Percent	Percent	Percent
Pacific Northwest	1	13	4
Spring wheat States	12	18	9
Soft winter wheat States	1	9	10
Hard winter wheat States	13	32	10
All other States	2	21	9
United States	10	23	10

Because of increased yields, record large quantities of wheat were produced in the late fifties despite large reductions in wheat acreages. Wheat production in 1958-60, for example, averaged nearly 15 percent larger than in 1951-53, although the harvested acreage of wheat was down 14 million acres, or about 20 percent. Some of the rise in yield was due to relatively favorable weather in the last few years of the decade.

Carryover stocks have built up to record large levels in recent years (fig. 8). Stocks on June 30, 1961, may total 1.4 billion bushels, more than an average year's production. Additions to carryover stocks from crops grown in 1952 and 1953, when there were no acreage restrictions, were especially large. They decreased slightly from 1955 to 1957, but were again large in 1958, 1959, and 1960.

The price-support level for wheat decreased from 90 percent of parity in 1954 to 75 percent in 1960. The farm price per bushel decreased from $2.05 in 1954 to $1.76 in 1960, or nearly 15 percent. Obviously, wheat acreages were not reduced enough to bring production into balance with market outlets at 1954 prices, and excess production has lowered prices to producers.

Corn Production Increased Greatly

Under the acreage allotment program without marketing quotas of 1954 and 1955, the acreage of corn harvested for grain was 2.5 million acres less than the 1952-53 average of 71 million acres. Under the Acreage Reserve Program in 1957 and 1958, it averaged 7.7 million acres less. In 1959, after discontinuation of both programs, it increased to 72 million acres (fig. 9).

Yields per acre have gone up steadily. They were large enough to offset the effects of smaller acreages of corn in 1957 and 1958; consequently, total production of corn has also gone up almost every year since 1952. Greatly expanded production resulted from the large acreages and high yields in 1959 and 1960.

As corn accounts for more than 70 percent of all the feed grains produced, the increase in corn production has contributed to the record high production of feed grains in the last few years. Carryover stocks of feed grains have increased each year since 1952. Farm prices have decreased more

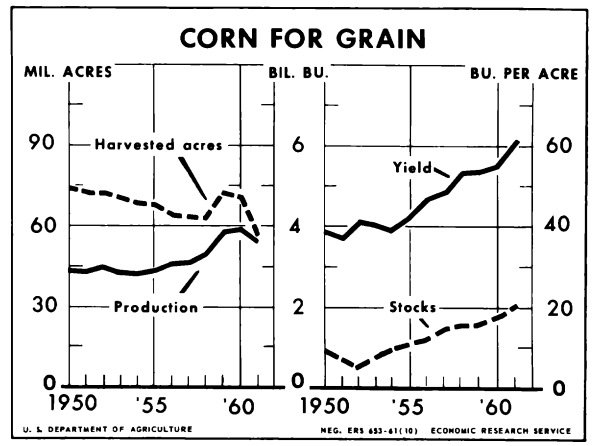


Figure 9

for feed grains than for marketing quota crops. For example, the farm price of corn was 40 percent lower in 1960 than in 1950.

Acreage allotments were in effect for corn from 1954 to 1958, but only in counties designated as being in the commercial area. In 1954 and 1955, producers in these counties had to comply with their allotments in order to be eligible for price support. In 1956, however, noncompliers in the commercial area were also eligible for price supports, but at $0.25 a bushel less than the support prices for compliers; in 1957 and 1958 they were eligible at $0.30 per bushel less. During the entire period 1954-58, price supports were available at a lower level to producers outside the commercial corn area. The United States average farm price of corn decreased from $1.43 per bushel in 1954 to $0.96 in 1960.

Many farmers in the commercial corn area did not comply with allotments. As marketing quotas were not in effect, they could produce as much corn as they wanted for feeding on their farms or for sale at prevailing market prices. The part of the total acreage in the commercial corn area planted by farmers complying with acreage allotments was 20 percent in 1954, 40 percent in 1955, 24 percent in 1956, 14 percent in 1957, and 12 percent in 1958.

Planted acreages in the commercial corn area averaged close to 60 million acres in 1954-55, or about the same as in 1952-53 (table 8). Decreases on compliance farms apparently were offset by increases on noncompliance farms.

TABLE 8.--Corn: Acreage planted, yield per acre, and production, 1958 commercial and noncommercial corn areas, United States, 1952-60

Year	Planted acreage			Yield per planted acre			Production		
	Commercial area[1]	Noncommercial area	United States total	Commercial area[1]	Noncommercial area	United States total	Commercial area[1]	Noncommercial area	United States total
	Million acres	Million acres	Million acres	Bushels	Bushels	Bushels	Million bushels	Million bushels	Million bushels
1952.....	59.1	23.1	82.2	47.6	20.6	40.0	2,815	477	3,292
1953.....	60.3	21.3	81.6	44.7	24.0	39.4	2,699	511	3,210
1954.....	60.2	22.0	82.2	43.4	20.2	37.2	2,614	444	3,058
1955.....	60.0	21.1	81.1	43.4	29.5	39.8	2,608	622	3,230
1956.....	57.9	20.3	78.2	49.6	28.7	44.2	2,874	581	3,455
1957.....	54.0	19.9	73.9	52.1	30.5	46.3	2,813	609	3,422
1958.....	54.4	20.1	74.5	57.0	34.8	51.0	3,103	698	3,801
1959.....	64.6	19.8	84.4	55.8	34.3	50.7	3,602	679	4,281
1960.....	64.1	18.8	82.9	57.5	35.5	53.5	3,686	667	4,353

[1] Acreage, yield, and production for each year in the area determined as 1958 commercial corn-producing area.

The Acreage Reserve Program was more effective than acreage allotments without marketing quotas in reducing corn acreages. Planted acreage in the commercial area decreased from 60 million in 1954-55 to 54 million in 1957-58, or by about the acreage placed in the Acreage Reserve. However, after the discontinuation of the Acreage Reserve and of acreage allotments, the planted acreage of corn in the commercial area increased sharply. It was more than 64 million in 1959-60, or over 10 million acres more than in 1957-58. This increase was much larger than the acreage that had been retired from corn under the Acreage Reserve Program--there were 6.7 million acres of corn allotments in acreage reserve in 1958 and 5.2 million in 1957. Actual reductions in corn acreages on participating farms were much larger because farmers had been exceeding their corn acreage allotments. The 6.7 million reserve acres in 1958, for example, represented a 12-million acre reduction from corn acreages grown on participating farms in the years immediately before the program.

Other developments have influenced corn production much more than have acreage-control programs. Increased use of fertilizer, better weed-control methods, and other technological advances have made it economic for farmers in the Corn Belt to put larger proportions of their cropland into cultivated crops.

Although acreage-control programs did not reduce the total production of corn, production probably would have been larger if programs had not been in effect. Total corn production in the commercial area was about 200 million bushels larger in 1957 and nearly 500 million bushels larger in 1958 than in 1954 or 1955, but it averaged about 1 billion bushels larger in 1959-60 than in 1954-55.

Production of corn in the 1956-58 period probably would have been more like that in 1959 and 1960 if there had been no Acreage Reserve Program. Nearly 20 percent of the farmers with allotments participated in the Acreage Reserve Program. It has been estimated that corn production would have been 3 percent larger in 1956, 10 percent larger in 1957, and 13 percent in 1958, if corn allotments placed in the acreage reserve had been used to grow corn (table 9). These estimates assume that yields on land in the program would have been somewhat lower than those realized on other land used to grow corn in 1956-58. Payments per bushel of production reduced amounted to a little more than half the farm price per bushel in 1957 and 1958.

TABLE 9.--Corn: Participation in the Acreage Reserve Program, 1956-58[1]

Item	Unit	1956	1957	1958
Acreage reserve:				
Number of agreements	Thousand	315	324	356
Number of acres	1,000 acres	5,316	5,233	6,658
Acres per agreement	Acre	16.9	16.2	18.7
Total rental payment	Mil. dol.	180	196	282
Payment per agreement	Dollar	571	607	793
Payment per acre	do.	33.80	37.53	42.39
Acreage allotments on all farms:				
Number of allotments	Thousand	1,698	1,790	1,832
Number of acres	Acre	43,281	37,289	38,818
Acres per allotment	Acre	25.5	20.8	21.2
Percentage of-				
Allotment farms with agreements	Percent	19	18	19
Allotment acres in acreage reserve	do.	12	14	17
Estimated reduction in production:				
Total quantity	Mil. bu.	112	329	493
Percent of total actual production	Percent	3	10	13
Percentage of actual production in commercial corn area	do.	4	12	16
Payment per bushel of production reduced	Dollar	1.60	.60	.57
Farm price per bushel	do.	1.29	1.11	1.12

[1] These data are from the Agricultural Stabilization and Conservation Service, U.S. Department of Agriculture. The number of counties having allotments and offering an acreage reserve program were: 840 in 1956; 894 in 1957; and 922 in 1958.

The Conservation Reserve Program also influenced corn acreages and production, especially in 1959 and 1960. Estimates of reductions in acreages and production of corn by the conservation reserve are as follows:

	1,000 acres	1,000 bushels	Bushels per acre
1957	891	32,936	37
1958	1,458	57,732	40
1959	3,518	148,099	42
1960	4,628	204,560	44

MARKETING QUOTA AND OTHER CROPS COMPARED

Uses of Diverted Acres

Land shifted out of wheat and cotton when acreage-allotment programs went into effect for these crops beginning in 1954 was used to grow more oats, barley, sorghum grain, sorghum forage and silage, soybeans, and flaxseed. From 1952 to 1955, the total harvested acreage of the latter crops increased by 24 million acres, or about a third, as compared with a reduction of 33 million acres in marketing-quota crops (table 10). Total harvested acreage declined by about 8 million acres, mainly because of unfavorable weather in the Southern Plains in 1955.

Important reductions in acreages of cotton, rice, tobacco, corn, oats, flaxseed, and hay took place under Soil Bank programs beginning in 1956. From 1955 to 1958, the harvested acreage of these crops decreased by about 27 million. Acreages of corn, cotton, rice and tobacco went up after 1958 when the Acreage Reserve Program was discontinued, but acreages of sorghum grain, hay, barley and oats were reduced.

In addition to acreage-control programs, other developments influenced the use of cropland during the 1950's (fig. 10). For example, soybeans were substituted for oats on about 10 million acres. This shift resulted chiefly from larger market outlets for soybeans. Increased use of fertilizer, better weed-control methods, and other improved cultural practices helped to make possible the larger acreages of soybeans and corn. In the Corn Belt, for example, the acreage of corn increased from 32

TABLE 10.--Harvested acreages of major crops, United States, selected years 1952 to 1960

Crop	1952	1955	1958	1960
	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Marketing-quota crops:				
Wheat	71,130	47,290	53,047	52,643
Cotton	25,921	16,928	11,849	15,316
Rice	1,997	1,826	1,415	1,595
Peanuts	1,443	1,669	1,516	1,408
Tobacco	1,772	1,495	1,078	1,144
Total	102,263	69,208	68,905	72,106
Other crops:				
Corn	80,940	79,367	72,224	82,117
Oats	37,012	39,027	31,247	27,091
Barley	8,236	14,523	14,791	13,951
Sorghum grain	5,326	12,891	16,524	15,444
Sorghum forage and silage	5,372	7,900	3,536	3,808
Soybeans for beans	14,435	18,620	23,993	23,516
Flaxseed	3,304	4,914	3,679	3,431
All hay	75,147	74,956	70,547	69,294
Total	229,772	252,198	236,541	238,652
Total, 47 other crops	9,278	9,973	10,293	10,065
Total, 59 crops	341,313	331,379	315,739	320,823

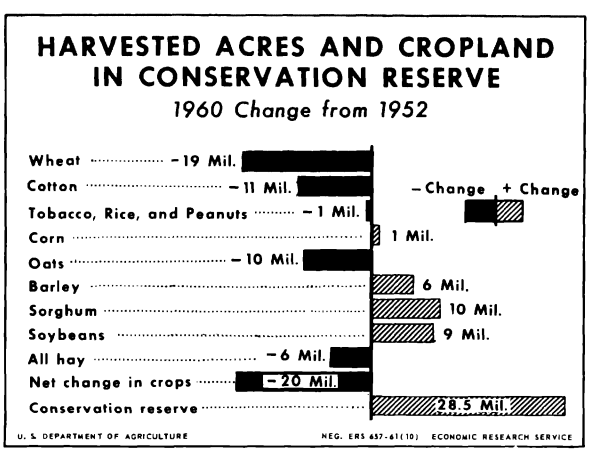


Figure 10

million acres in 1952 to 36 million in 1960, while that of soybeans increased from 10 million to nearly 14 million acres. However, other acreage shifts--less wheat, cotton, tobacco, rice, and peanuts, and more barley and sorghum grain--were due chiefly to acreage-control programs. The net reduction of 20 million in the total harvested acreage of 59 crops from 1952 to 1960 may be attributed chiefly to the large acreages in the Soil Bank.

Effects of acreage control programs on acreages of crops grown differed among regions (table 11). In the four western regions (Southern Plains, Northern Plains, Mountain, and Pacific) the harvested acreage of wheat and cotton decreased by 21 million acres from 1952 to 1960. About 12 million of these acres apparently were shifted to feed grains. The conservation reserve accounted for most of the remaining 9-million-acre reduction in wheat and cotton.

In the eastern regions, acreages of feed grains, as well as those of wheat and cotton, were reduced. Cropland was shifted mainly to soybeans or placed in the Soil Bank.

Reductions in acreages of hay took place in most regions, mainly because of the Soil Bank Program.

TABLE 11.--Changes in harvested acreages, selected crops, by regions, 1952 to 1960

Region[1]	Wheat	Cotton	4 feed grains	Soybeans for beans	All hay	Total 8 crops	Soil Bank, 1960
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Northeast.....	-672	--	-427	282	-652	-1,469	1,210
Lake States.....	-564	--	-561	1,108	-758	-775	3,429
Corn Belt.....	-1,237	-103	-78	4,229	-2,479	332	2,955
Appalachian.....	-345	-715	-1,246	652	-786	-2,440	1,334
Southeast.....	-27	-2,156	-1,451	485	-657	-3,806	2,339
Delta.....	162	-1,914	-1,149	2,046	-115	-970	1,158
Southern Plains...	-333	-4,937	4,463	110	135	-562	5,159
Northern Plains...	-10,587	--	4,263	169	-602	-6,757	6,839
Mountain.....	-3,278	-338	1,999	--	-234	-1,851	3,456
Pacific.....	-1,606	-442	1,276	--	295	-447	781
United States...	-18,487	-10,605	+7,089	+9,081	-5,853	-18,745	28,660

[1] Northeast--Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, District of Columbia; Lake States--Michigan, Wisconsin, Minnesota; Corn Belt--Ohio, Indiana, Illinois, Iowa, Missouri; Appalachian--Virginia, West Virginia, North Carolina, Kentucky, Tennessee; Southeast--South Carolina, Georgia, Florida, Alabama; Delta--Mississippi, Arkansas, Louisiana; Southern Plains--Oklahoma, Texas; Northern Plains--North Dakota, South Dakota, Nebraska, Kansas; Mountain--Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada; Pacific--Washington, Oregon, California.

Yields Rise As Much For Other Crops As For Quota Crops

Production per harvested acre of marketing-quota crops went up greatly from 1953 to 1955 (fig. 11). Most of this increase probably resulted from selection of the most productive land for growing these crops when their acreages were reduced.

After 1955 the total acreage of quota crops changed very little, and yields of quota crops went up less than did those of other crops. (Corn is included with "other major crops" in these comparisons, as it was not an allotment crop in 1959 and 1960, or a quota crop in any year.) The large increase in the average yields for other than quota crops, about 30 percent from 1953 to 1960, is especially significant in view of the fact that it accompanied an increase in harvested acreage.

Some of the rise in the composite yield of quota crops since 1957 resulted from a larger proportion of the cotton acreage in the relatively high-yielding irrigated areas of the West. Some also resulted from high yields for wheat in 1958 and 1960 attributable in large part to favorable weather. Apparently, yields per acre of the quota crops were influenced very little by attempts to offset the effects of acreage reductions on production by applying more fertilizer or otherwise using cropland remaining in these crops more intensively. Fertilizer applications for growing cotton, tobacco, peanuts, and rice have been large for many years, and the possibilities of increasing yields of these crops by applying more fertilizer are limited.

In recent years, economic and physical possibilities for improving yields apparently have been fewer for quota crops than for other crops. Yield increases have been especially large for corn and grain sorghum. They have resulted from adoption of improved varieties, greater use of fertilizer, better control of weeds, and other improved production methods.

Increased use of fertilizer has been a major factor affecting crop yields. According to estimates based on data from the

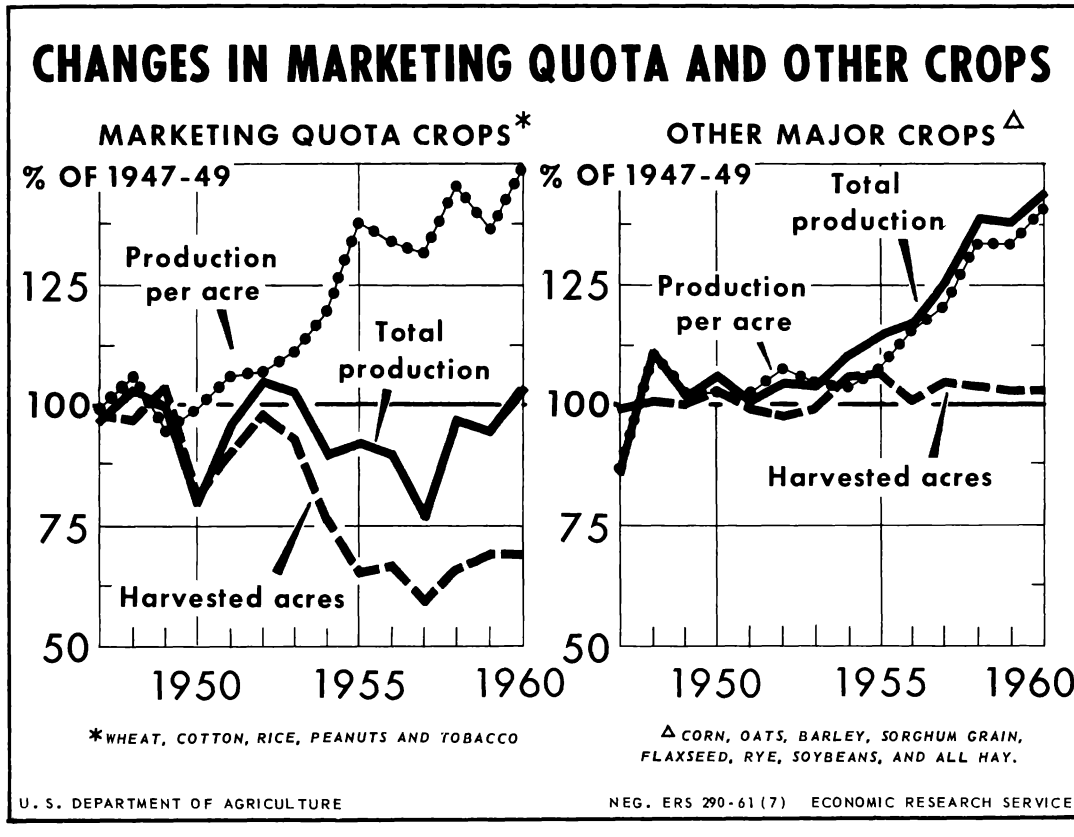


Figure 11

census of agriculture and other sources, from 1950 to 1954 the quantity of plant nutrients applied per acre increased 70 percent for nonquota crops compared with 20 percent for quota crops. Data from the 1959 Census of Agriculture indicate that rates of fertilizer use have continued to go up more for other crops than for quota crops.

Production Up Greatly For Other Crops

Output expansion of other than quota crops has been especially rapid since imposition of acreage-control programs. The total output of these crops rose nearly 40 percent from 1952 to 1960. Production of feed grains went up more than 40 percent.

Diversion of cropland from quota to other crops contributed to surplus production of feed grains and indirectly influenced production and prices of livestock and poultry products. To some extent, surplus production capacity was shifted from quota to other crops.

Higher yields per acre, however, have been a more important source of output expansion for other than quota crops than has acreage diversion. About four-fifths of the expansion in production of these crops from 1952 to 1960 can be attributed to higher yields and about one-fifth to larger acreages. The total acreage of other than quota crops increased nearly 8 percent from 1952 to 1960, while yields per acre rose about 30 percent. However, expansion in production of these crops resulting from diversion of land from quota crops would have been much larger from 1952 to 1960 had it not been for the Conservation Reserve Program under which more than 28 million acres were retired from use in 1960.

Diversion of cropland from wheat and cotton to feed grains accounted for a part of the expansion in production of feed grains. Total feed grain production increased from 120 million tons in 1952 to 168 million tons in 1960. Approximately a

fourth of this increase may be attributed to the shifting of 12 million acres in the four western regions from wheat and cotton to feed grains. The remaining three-fourths resulted from generally higher yields per acre throughout the country.

The annual addition to carryover stocks of feed grains--about 12 million tons--approximately equals the feed grains produced on land diverted from wheat and cotton to feed grains in recent years. However, the expansion in feed grains produced annually resulting from higher yields per acre during the 1950's was about three times as large as the annual addition to stocks in recent years.

From 1952 to 1957, reductions in acreages of quota crops more than offset the effects of higher yields, and total production of these crops was reduced by about 10 percent. In 1958-1960, however, larger acreages, together with higher yields caused total production to rise to a level nearly as large as that in 1952-53.

Price Changes Had Little Effect

Prices received by farmers for quota crops decreased 12 percent from 1951 to 1960, but those for other crops decreased 38 percent. Index numbers of farm prices for selected years are as follows:

	Quota crops	Other crops
1947-49	100	100
1951	114	104
1953	106	94
1955	104	82
1960	100	64

Price-support levels were not reduced as much for quota as for other crops. In 1960, for example, corn was supported at 65 percent of parity and other feed grains at about 60 percent, as compared with 90 percent for most varieties of tobacco, 78 for rice, and 75 percent for wheat and cotton.

Higher prices for quota relative to other crops might be expected to cause production and yields of quota crops to rise relative to those of other crops. But this has not been true. Total output of other crops increased 40 percent from 1953 to 1960, a period during which prices of these crops decreased 40 percent. On the other hand, total output of quota crops decreased in some years after 1953, but in 1960 it was about the same as in 1953.

During the 1950's farmers were faced with considerable uncertainty as to future prices for both quota and other crops. In general, price-support levels were lowered from one year to the next, and prices paid by farmers for production items changed very little. There was about as much certainty about probable future prices for quota as for other crops.

It seems evident that technological developments and expansion in supplies of fertilizer and other inputs available for use in farm production have been much more important than price changes in influencing crop yields and production in recent years.

MAJOR OVERALL EFFECTS OF THE PROGRAMS

Total Crop Production Continued To Expand

Expansion in production of nonquota crops was more than enough to offset the effects of reduction in production of quota crops resulting from acreage-control programs after 1953 and to cause total crop production to increase. In fact, total production of major field crops went up more in the 7 years--1953 to 1960--than it did in the previous 6 or 7 years when acreage allotments were in effect only for peanuts and tobacco (fig. 12).

During the 1950's, developments favoring higher yields per acre were more important than acreage-control programs in affecting total crop production. The total harvested acreage of major field crops decreased

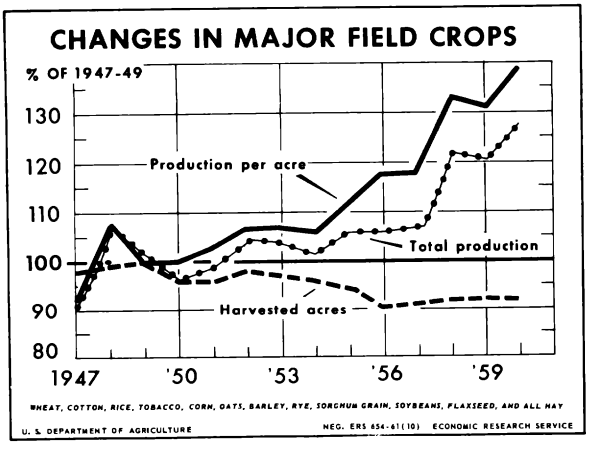


Figure 12

about 8 percent from 1947-49 to 1960, but production per acre increased 39 percent. However, total crop production probably would have been somewhat larger if acreage-control programs had not been in effect. Certainly, less progress toward improved conservation of land resources would have been made.

Little Change In Resource Use Trends

Changes in resources used in farming help to explain why yields per acre have increased greatly in recent years.

Inputs of fertilizer, mechanical power, and machinery increased greatly following World War II. Farmers made large expenditures for tractors, farm machinery, and other capital items during the 1947-52 period when incomes from farming were relatively good. The lower rates of increase in use of fertilizer, mechanical power, and machinery since 1952 may be due more to a decline in net incomes of farmers than to acreage-control programs. Inputs of miscellaneous items showed a steady increase throughout the 1950's. Acreage-control programs apparently had very little influence on long-term changes in resources used (fig. 13).

The amount of labor used in farming has decreased gradually with greater mechanization of farming operations. However, reduction in labor was no greater during the last years of the Fifties when Soil Bank programs were in effect than it was during the preceding 5 years.

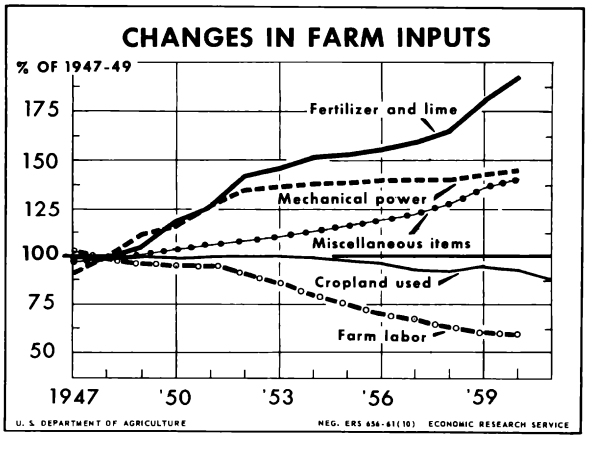


Figure 13

Some decreases in the total acreage of cropland used have accompanied Soil Bank programs, but the increase per acre of other inputs has been greater. Much of the increase in yield per acre in the last few years can be attributed to application of more fertilizer, better control of weeds, and more timely field operations made possible by increased mechanization.

In addition to higher yields per acre, the fact that the total acreage harvested and the total used for crops (including crop failure and summer fallow) did not decrease by as much as the total acreage placed in the Soil Bank helps to explain why crop production expanded so much. Changes in total acreages harvested and used and total acreage in the Soil Bank are as follows:

Year	Total acreage in Soil Bank	Change from 1955 to year indicated	
		Acreage harvested	Acreage used for crops
	Mil. acres	Mil. acres	Mil. acres
1956.....	13.6	-14	-8
1957.....	27.8	-14	-18
1958.....	27.0	-12	-20
1959.....	22.4	-10	-13
1960.....	28.6	-12	-20

Differences in total acreages harvested between 1955, when Soil Bank Programs were not in effect, and 1957, 1958, 1959, and 1960 amounted to half or less than half of the acreage placed in the Soil Bank. The acreage of cropland harvested did not decline by as much as that placed in the Soil Bank because of reductions in the acreages of crop failure and summer fallow and shifts in cropland from pasture, idle, and soil-improvement uses to crop use. There were 465 million acres of cropland in 1954 before the Soil Bank Programs were in effect, but 126 million acres, or more than a fourth, were not harvested. Thus when part of the cropland area is retired from harvested use the total harvested acreage might be maintained by growing crops on land that had previously been in pasture or soil-improvement crops, or idle.

Total acreage of harvested crops decreased in most regions after 1955 as cropland was placed in the Soil Bank (table 12). However, reductions generally were less than acreages retired from use by the program. In the Northern Plains, for example, nearly 10 million acres were

TABLE 12.--Cropland in Soil Bank in 1957 and 1960 and change in cropland harvested, 1955 to 1957 and 1960, by regions

Region[1]	Cropland in Soil Bank[2]		Change in cropland harvested	
	1957	1960	1955 to 1957	1955 to 1960
	Million acres	Million acres	Million acres	Million acres
Northeast	0.5	1.2	-0.6	-1.1
Lake States	1.6	3.4	-1.9	-1.7
Corn Belt	2.9	3.0	-3.1	-1.2
Appalachian	.9	1.3	-2.1	-2.0
Southeast	1.4	2.3	-1.5	-2.3
Delta States	.8	1.2	-1.2	-.9
Southern Plains	5.6	5.1	-.7	.6
Northern Plains	9.7	6.8	-3.7	-3.4
Mountain	3.7	3.4	.6	([3])
Pacific	.7	.8	-.1	.1
United States	27.8	28.5	-14.3	-12.1

[1] See table 11.
[2] Cropland in Acreage Reserve and Conservation Reserve in 1957 and in Conservation Reserve in 1960. The Acreage Reserve Program was discontinued after 1958.
[3] Change is less than 100,000 acres.

in the Soil Bank in 1957, but the total harvested was only about 4 million acres less in 1957 than it was before the program in 1955. In the Mountain Region, the total harvested acreage increased at the same time that more than 3 million acres of cropland were retired from use. In these regions and in the Southern Plains, however, there was much crop failure in 1955 and weather was better in 1957, so that a larger proportion of planted acreage was harvested in 1957 than in 1955.

The possibilities for maintaining the total harvested acreage near historical levels by shifting cropland from pasture, idle, or soil-improvement uses have been reduced now that more than 28 million acres are in the conservation reserve. Reductions in total acreages of harvested crops would be expected to more nearly equal those retired from use if land-rental programs were expanded.

Fertilizer Substituted for Land

Much of the rise in crop production per acre in recent years has resulted from the use of additional fertilizer. It has been estimated, for example, that 60 percent of the increase in crop production per acre from 1940-41 to 1950-51 and 70 percent of the increase from 1951-52 to 1955 may be attributed to the use of more fertilizer (table 13). Increased use of fertilizer added the equivalent of 22 million acres to total crop production from 1940-41 to 1950-51 and 21 million acres during the period from 1951-52 to 1955. On the average, each additional ton of plant nutrients in fertilizer added the equivalent of about 7 acres of cropland to total crop production from 1940-41 to 1950-51 and about 19 acres from 1951-52 to 1955.

Estimates of the proportion of the rise in crop production per acre resulting from the use of additional fertilizer have not been made for the years 1956-60. An estimate of 40 percent, however, would appear to be conservative. On this basis, additional cropland equivalent attributed to higher yields resulting from the use of more fertilizer amounts to 35 million acres for the 1955-60 period. This is substantially more than the 28 million acres in the conservation reserve

TABLE 13.--Estimates of additional acres of cropland equivalent resulting from use of additional fertilizer, United States, selected periods, 1940 to 1960[1]

Item	Unit	1940-41 to 1950-51	1951-52 to 1955	1955 to 1960
1. Cropland used at beginning of period.....	Mil. acres	368	380	377
2. Increase in crop production per acre during period.....	Percent	10	8	23
3, Cropland equivalent of higher yield (1 X 2)	Mil. acres	37	30	87
4. Proportion of higher yield attributable to use of additional fertilizer.....	Percent	60	70	40
5. Cropland equivalent of higher yield attributable to additional fertilizer (4 X 3).....	Mil. acres	22	21	35
6. Additional fertilizer used, plant nutrients	Mil. tons	3.2	1.1	1.4
7. Cropland equivalent added per ton of plant nutrients in fertilizer (5÷6).....	Mil. acres	7	19	25

[1] Estimates of cropland used, crop production per acre, and fertilizer used are from Changes in Farm Production and Efficiency (14). Estimates of proportion of higher yield per acre attributable to use of more fertilizer from 1940-41 to 1950-51 and from 1951-52 to 1955 are from Changing Sources of Farm Output (2). The proportion of higher yields per acre attributable to use of more fertilizer from 1955 to 1960 is assumed. Other data are computed as indicated.

in 1960 or in the acreage reserve and conservation reserve in 1957. If account also is taken of the fact that cropland in the conservation reserve is below average in productivity, it is evident that since 1955 increased use of fertilizer has been more important in expanding crop production than the Conservation Reserve Program has been in reducing crop production.

Many farmers have found that use of more fertilizer is a more economical method of expanding farm production than purchase or rental of additional land. In recent years, a ton of plant nutrients in fertilizer has cost farmers about $175. From 1955 to 1960, average crop production added as the result of the use of an additional ton of plant nutrients was equivalent to that produced on about 25 acres (table 13). On this basis, it would be economical for farmers to buy additional fertilizer rather than rent additional land if rental cost averaged more than $7 per acre. If an additional ton of plant nutrients added only the equivalent of 10 acres of cropland to crop production, it would be as profitable to buy additional fertilizer as it would be to rent additional cropland at $17.50 per acre. Other costs to farmers for expanding crop production are much less if the expansion is achieved on the same acres by using more fertilizer than they are if it is achieved by farming additional acres.

Production Expenditures Continued to Rise

There is little evidence that acreage-allotment or Soil Bank programs influenced expenditures for farm production items to any great extent. The dollar value of farm production expenses increased 13 percent from 1950 to 1955 as compared with 20 percent from 1955 to 1960 (fig. 14). Larger quantities of purchased inputs accounted for about half these increases and price inflation for about half. The total volume of purchased inputs went up about 7 percent from 1950 to 1955. It went up about 10 percent from 1955 to 1960.

Changes in current dollar expenditures for important categories of inputs in recent years were as follows:

Items	Percentage change	
	1950 to 1955	1955 to 1959
	Percent	Percent
Fertilizer and lime	28	15
Repair and operation of capital items.	17	19
Hired labor	0	7
Miscellaneous	24	23
Total production expenses.....	13	20

Expenditures for farm production items have increased in all regions of the country (table 14). In most regions, they have gone up more since 1955, with acreage-allotments and Soil Bank programs in effect, than they did in the previous 5-year period.

Apparently, neither production expenditures nor the physical volume of purchased inputs have tended to rise less in regions in which a large proportion of cropland was placed in the Soil Bank than in those where participation was relatively small. For example, from 1955 to 1959, farm production expenses rose by a fourth or more in the Great Plains and Mountain Regions where 8 percent or more of total cropland was in the Soil Bank in 1960 (table 14).

These data suggest that as a group farm operators did not reduce use of inputs other than land when they participated in Soil Bank programs. However, it is possible that use of inputs other than land would have risen even more if there had been no acreage-control programs.

In some areas within a State where relatively large proportions of cropland were placed in the Soil Bank, total crop production and purchases of farm machinery, fertilizer, petroleum products, and other supplies may have been reduced. In no instance, however, did total farm production expenses for an entire State decrease in the program years. In New Mexico, where 35 percent of the total cropland area was in the Soil Bank in 1960, the highest proportion for any State, farm production expenses increased from $145 million in 1955 to $200 million in 1960, or nearly 40 percent.

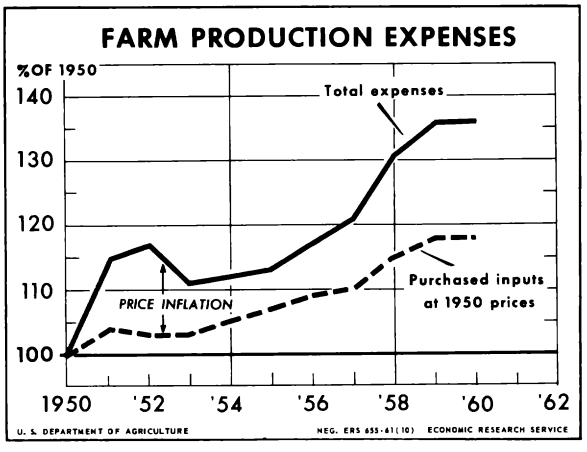


Figure 14

TABLE 14.--Percentage change in total farm production expenses, 1950 to 1959, and percentage of cropland in Soil Bank, 1957 and 1960, by regions, United States

Region[1]	Percentage change in total farm production expenses[2]		Percentage of cropland in Soil Bank[3]	
	1950 to 1955	1955 to 1959	1957	1960
	Percent	Percent	Percent	Percent
Northeast	9	10	2	5
Lake States	16	21	4	8
Corn Belt	13	17	3	3
Appalachian	18	18	3	4
Southeast	34	24	6	9
Delta States	25	21	4	11
Southern Plains	8	23	11	10
Northern Plains	3	29	10	7
Mountain	9	28	9	8
Pacific	15	26	3	3
United States	13	21	6	6

[1] See footnote 1, table 11.
[2] Changes in farm production expenses computed from The Farm Income (13, pp. 28-49).
[3] Includes cropland in acreage reserve and conservation reserve in 1957 and conservation reserve in 1960.

Normal Production on Soil Bank Land

Reference was made earlier to estimates prepared by the Commodity Stabilization Service of normal production on cropland in the Soil Bank. They may be considered estimates of how much larger crop production would have been in recent years without Soil Bank programs if it is assumed that normal production on cropland not in the Soil Bank also would actually have been realized.

Estimates of normal production for land in the acreage reserve are expressed as percentages of actual production in 1956, 1957, and 1958 in table 15. They show that production of wheat, corn, and cotton would have been much larger in 1957 and 1958 if acreages of these crops had not been reduced. For the 3 years that the Acreage Reserve Program was in effect, estimated normal production on land in the program was equivalent to 9 percent of the actual production of the six allotment crops and to nearly 5 percent of the actual production of all crops.

Estimates of normal crop production for land in the conservation reserve show that production of feed grains, soybeans, flaxseed, and wheat would have been substantially larger if cropland in the conservation reserve had been used to grow crops (table 16). Total value of normal crop production at prevailing farm prices on all land in the program was equivalent to 4.5 percent of the total farm value of all crops produced in 1960. Yield estimates for cropland in the conservation reserve averaged about 30 percent lower than those realized on all cropland in 1960.

Total normal production of cropland in the Soil Bank is expressed as percentages of total value of actual crop production and total acreage of cropland used in the tabulation that follows:

Year	Percentage of total crop production	Percentage of total cropland used
1956.....	1.4	3.7
1957.....	7.2	7.7
1958.....	8.7	7.7
1959.....	3.7	6.2
1960.....	4.5	8.0

In each year except 1958, percentage reductions in cropland were greater than percentage reductions in crop production. In 1958, a large part of the acreage in the

TABLE 15.--Estimates of normal production on cropland in the acreage reserve expressed as percentages of actual crop production, 1956, 1957, and 1958[1]

Crop	1956	1957	1958	1956-58 average
	Percent	Percent	Percent	Percent
Wheat.....	2.7	18.4	8.0	9.4
Corn.....	3.3	9.6	13.0	8.8
Cotton.....	1.9	18.2	26.1	14.7
Rice.....	.9	14.0	13.5	9.1
Tobacco.....	1.1	5.6	7.9	4.6
Peanuts[2].....	.8	([2])	([2])	.3
Total, 6 crops[3].....	2.5	12.5	13.2	9.2
Total, 79 crops[3].....	1.4	6.2	7.0	4.8

[1] Computed from estimates by the Soil Bank Division, Agricultural Stabilization and Conservation Service of normal production on acreages in the acreage reserve and from estimates of actual crop production by the U.S. Agricultural Marketing Service.

[2] The program did not apply.

[3] Total farm value at current prices of normal production on cropland in the acreage reserve expressed as percentages of actual farm value of the 6 crops and of 79 crops as reported by Crop Values, Seasonal Average Prices Received by Farmers and Value of Crop Production (5).

TABLE 16.--Estimated normal production on cropland in the conservation reserve expressed as percentage of actual production, 1957-60[1]

Crop	1957	1958	1959	1960	1957-60 average
	Percent	Percent	Percent	Percent	Percent
Wheat	1.0	1.2	4.1	5.6	2.7
Corn	1.0	1.5	3.5	4.9	3.0
Barley	2.2	3.8	7.7	11.0	6.1
Oats	2.9	5.1	10.3	14.5	7.6
Sorghum grain	9.5	14.5	22.0	22.8	16.8
Soybeans	1.5	1.2	3.4	4.1	2.4
Flaxseed	3.0	6.1	12.6	15.5	8.9
Hay	.6	1.2	5.3	7.0	3.8
Total, 79 crops[2]	1.0	1.7	3.7	4.8	2.9

[1] Computed from estimates by the Soil Bank Division, Agricultural Stabilization and Conservation Service, of normal production on acreages in the conservation reserve and from estimates of actual crop production. 1960 figures are preliminary.

[2] Total farm value at current prices of normal production on cropland in the conservation reserve expressed as percentage of actual farm value of 79 crops as reported by Crop Values, Seasonal Average Prices Received by Farmers and Value of Crop Production (5).

Soil Bank was allotment land that would have been used to grow cotton, corn, tobacco, rice, and wheat. These crops have relatively high values per acre compared with values for other crops.

Inputs of labor, fertilizer, mechanical power, and other items used in farming would have been larger if total crop production and acreages of cropland used had been larger by the percentages indicated above. Additional resources for marketing and storage also would have been required. The additional production would have caused lower farm prices unless it had been moved into storage at price-support levels. Government costs of farm price-support programs would have been larger.

Government costs for rental payments may be compared with value of normal crop production on land in the Soil Bank to obtain estimates of value of production reduced or avoided per dollar of rental payment. Estimates of normal production are valued at actual farm prices.

In the case of the acreage reserve, crop production was reduced by $1.70 for each dollar of rental payment in 1956-58 (table 17). In 1958, the value of crop production was reduced nearly $2 for each $1 of rental payment. Reductions per dollar of payment were largest for tobacco and rice, which require relatively large cash costs relative to total costs for farm production.

In the case of the conservation reserve, reductions in value of crops produced per dollar of rental payment averaged as follows:

1957	$3.19
1958	3.72
1959	2.77
1960	2.80
1957-60 average	2.92

These estimates indicate that average reductions per dollar of rental payment were larger for the conservation reserve than for the acreage reserve. They show also that average value of crop production reduced per dollar of rental payment decreased after 1958 when rental rates under the conservation reserve were increased.

Programs that are successful in preventing or avoiding crop production reduce Government costs for price-support acquisitions. In recent years, Government price-support losses on acquisitions of wheat and corn have exceeded amounts paid to farmers for these crops (table 18). According to estimates for the 1959 fiscal year, for example, Government price-support losses on acquisitions averaged $2.70

TABLE 17.--Estimates of reduction in value of crop production per dollar of rental payment achieved by the Acreage Reserve Program[1]

Crop	1956	1957	1958	1956-58 average
	Dollars	Dollars	Dollars	Dollars
Wheat	1.21	1.46	1.95	1.57
Corn	.81	1.88	1.96	1.62
Cotton	1.39	2.40	1.77	1.77
Rice	1.57	1.98	2.35	2.11
Tobacco	2.02	2.93	3.12	2.91
Peanuts	2.35	--	--	2.35
Total, 6 crops	.98	1.74	1.93	1.70

[1] Computed from estimates by the Agricultural Stabilization and Conservation Service, of normal production on acreages in the acreage reserve and from data on rental payments on land in this program. Estimates of normal production on cropland in the acreage reserve were valued at current farm prices.

TABLE 18.--Estimated Government price-support losses on acquisitions, selected commodities, 1957-59[1]

Commodity	Unit	Losses per unit acquired		
		1957	1958	1959
		Dollars	Dollars	Dollars
Corn	Bushel	2.03	1.99	1.75
Wheat	do.	2.89	2.71	2.70
Cotton, upland	Bale	31.52	43.64	39.48
Rice	Cwt.	2.33	2.13	2.07
Oats	Bushel	.77	.77	.66
Barley	do.	1.64	1.62	1.46
Soybeans	do.	.74	.74	.50
Grain sorghum	Cwt.	2.13	2.10	1.79
Flaxseed	Bushel	.97	.84	.44

[1] Computed from Congressional Record (9). Losses are costs to the Government of commodities acquired at price-support rates plus added costs for storage, handling, transportation, and interest until final disposition less returns to the Government on commodities disposed of by the Commodity Credit Corporation under export and domestic sales for dollars and barter and payment-in-kind export programs.

per bushel for wheat and $1.75 for corn, or substantially more than the national average price-support rates of $1.81 for wheat and $1.36 for corn from 1958 crops. For most other crops, price-support losses amounted to more than half the amount the Government paid for these crops.

Conservation Accomplishments Important

Conservation, as well as production adjustment, was an important objective of the conservation reserve. Establishment and maintenance of a conservation cover where none existed on cropland placed

under the program was required. Other approved conservation practices included measures for wildlife and water conservation.[4]

Contracts in force in July 1960, including those entered into in previous years, called for establishment with governmental cost share assistance of grass or legume cover on a little more than 19 million acres (table 19). Most of this cover has been established. Much of it is in the Great Plains, although there are large acreages in the Southeast and Lake States. In addition, more than 7 million acres in the program already had acceptable cover or will be established in grass at no cost to the Government.

Tree plantings under the conservation reserve are larger than those under any other program in the Nation's history. Existing contracts call for about 2.2 million acres to be planted to trees for erosion control, watershed protection, shelterbelts, or forestry purposes. Except where planting stock was not available, this planting was largely completed during 1961. All tree-planting contracts are for a 10-year period, and no trees may be harvested for the life of the contract. Tree-planting activity has been greatest in the Southeast, particularly in Georgia and South Carolina.

Land planted to grass and trees is an important source of feed and shelter for wildlife. In addition, the Conservation Reserve Program provided for specific wildlife cover practices under which cover and food plots for game are planted on the retired acreage. Contracts in effect in 1960 call for about 305,000 acres of wildlife cover of this type.

Ponds have been built on conservation reserve land for water conservation and fishing. Farm owners have contracted to build nearly 7,000 ponds covering approximately 14,600 acres. These ponds help to protect land by trapping water and retarding runoff. They cannot be used for irrigation since this might interfere with the production-adjustment objectives of the program.

The conservation reserve also provided for wetland and marsh management practices, under which bottom land or marshland

[4] Observations in this section are based mainly on Supplemental Report of the Secretary of Agriculture on the 1960 Soil Bank Conservation Reserve Program Enlarging Preliminary Report of July 13, 1961 (10).

TABLE 19.-- Conservation cover with Government cost-sharing assistance required under contracts in force, July 15, 1960, and estimated Government cost-share payments[1]

Region[2]	Conservation cover required by contracts					Estimated Government cost-share payments
	Grass and legume cover	Trees	Ponds	Wildlife cover	Flooded for wildlife	
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 dollars
Northeast.....	237	104	1	7	0	7,377
Lake States.....	1,537	88	0	6	0	12,030
Corn Belt.....	1,492	17	6	31	3	21,577
Appalachian.....	652	179	3	3	1	12,882
Southeast.....	663	1,438	1	5	2	20,374
Delta States.....	549	251	4	2	2	5,344
Southern Plains..	4,372	68	0	98	0	30,206
Northern Plains..	5,847	10	0	90	1	39,576
Mountain.....	3,247	4	0	1	0	13,429
Pacific.....	420	10	0	62	3	3,822
United States..	19,016	2,169	15	305	12	166,617

[1] Data pertain to all contracts in force on July 15, 1960, that were entered into during 1956-60. Most of the conservation cover required by contracts had been established by the end of 1960.

[2] See footnote 1, table 11.

that has been drained and cropped is flooded for water and wildlife conservation. Contracts called for nearly 600 such structures covering a total of more than 12,000 acres.

Government costs of establishing conservation uses have been relatively low. In 1960, for example, the Government cost share averaged only a little more than $5 per acre for establishing grass or legume cover and a little less than $10 per acre for establishing trees (table 20). Farm owners have paid a large part of the costs of establishing cover. They pay all costs of maintaining the cover, except that if cover is destroyed by natural disaster the Government usually pays 25 percent of the reestablishment cost.

Experience has shown that a cover satisfactory for conservation purposes can be established at less than the usual cost of establishing stands of grass for use as pasture and hayland. Since the primary purpose is to hold fertility and prevent wind and water erosion, lighter seeding and less use of fertilizer produces acceptable cover. In many instances, adequate cover is achieved through self seeding or volunteer action at no cost to either the farmer or the Government. New land placed in the conservation reserve in 1960 obligated the Government for an average of only $4.34 per acre for establishment of conservation cover. This land was contracted for an average of 7.26 years per acre so the average cost to the Government is only 60 cents per acre per year.

Gradual release of land in the conservation reserve as contracts expire will raise problems concerning the future use of this land. The situation at the end of each year apparently will develop about as follows:

Year	Contracts expiring	Contracts remaining
	Mil. acres	Mil. acres
1960	0.1	28.3
1961	2.5	25.8
1962	1.3	24.5
1963	6.8	17.7
1964	3.4	14.3
1965	.6	13.7
1966	2.3	11.4
1967	1.7	9.7
1968	6.1	3.6
1969	3.6	0.0

All of this land will have been protected with vegetative cover for several years, and the production potential of some of it may be improved. The 2.2 million acres planted to trees probably will be permanently removed from crop use. Nearly 9 million acres in the Great Plains will have been returned to native grasses and much may remain out of crop use. However, much of the remaining acreage in the conservation reserve may come back into crop use when contracts expire. Unless conservation reserve land is kept in conservation cover, it may become an important source of future surplus crop production.

TABLE 20.-- New uses established on conservation reserve land and Government payments to cover a share of the cost of establishing these uses, 1960[1]

New use	Acreage	Cost-share payment	Payment per acre[2]
	1,000 acres	1,000 dollars	Dollars
Grass and legumes	4,159.5	21,010	5.05
Trees	526.2	5,137	9.76
Ponds	1.0	277	285.48
Wildlife cover	102.1	771	7.55
Shallow flooding	2.2	36	15.92
Total	4,791.0	27,231	5.68

[1] Data are for 1960 calendar year. They exclude reserve acres already in cover, acres established at no cost to the Government, and acres where reestablishment was necessary in 1960 because of failure of cover to get established in previous years.
[2] Computed from unrounded data.

THE CONSERVATION RESERVE IN SELECTED AREAS

The Conservation Reserve Program differed from other acreage-control programs in that it was designed to help farm people make long-term adjustments in their farming operations and improve conservation of natural resources. The provisions for retiring parts of farms or whole farm units from crop production for 3 to 10 years made the program an attractive alternative to many farm owners who wanted to reduce the size of their farming operations or to discontinue crop production. Removal of whole farm units under long-term contracts was expected to remove labor, machinery, and other resources from farm use. The conservation reserve was also expected to have much more permanent effects on farm production and resource use than would acreage-allotment and acreage reserve programs under which land was diverted from one use to another or was retired from use for only one year.

Findings from two groups of studies of the effects of the Conservation Reserve Program on individual farms are reported upon here. Findings from the first group, made in 1957, are described only briefly as they have been reported in detail elsewhere.[5] The second group of studies, made in 1959, is discussed here in greater detail.

Findings From 1957 Studies

Altogether, more than 1,000 farm operators were interviewed in study areas in six different States in 1957. About half of them were participating in the conservation reserve. For the country as a whole, only about 1.5 percent of the total cropland area was in the conservation reserve in 1957, but comparable percentages were higher for the study areas.

It was concluded that the Conservation Reserve Program was helping farmers make adjustments they had wanted to make and was speeding adjustments that had been in progress. The program was especially attractive to farm owners who wanted assured incomes from their cropland and who wanted to conserve and build up their soil resources. Annual rental payments under the program usually represented a reasonable return on investment in land. However, the payments were not large enough to compensate farmers for reductions in earnings of labor, machinery, and other resources which took place when land was put in the program.

Participation was influenced by many things in addition to payment rates. Some older farmers used the program to allow them to retire and still get income from their land. Others found it advantageous to put land in the program and take a job full or part time off the farm. Some operators of large farms utilized the program to reduce both the size of their farming operations and their need for hired labor. In most of the study areas, participants were older than nonparticipants, more of them had nonfarm jobs, and more of them lived off their farms.

Most farmers not participating in the program said they needed all their cropland to operate efficiently. Many had small farms and enough machinery and labor to operate larger units; some said they would like to add land to their farms and thereby increase their incomes. Much higher payment rates would have been necessary to make participation profitable for most farm operators who worked full time on their farms. The national payment rate averaged only $10 per acre in 1957 for land that had been used to grow Soil Bank base crops (most crops other than hay) and $3 per acre for cropland that had been in hay or other forage uses.

Studies Made in 1959

Important changes in the Conservation Reserve Program were made beginning in 1959, when the Acreage Reserve Program was discontinued in order to make more attractive the inclusion of whole farm units and of more productive land. Basic rental rates were increased to $13.50 per acre, or by 35 percent, and a 10-percent premium was added to the rental rate when all eligible cropland on a farm was placed in the program. Studies made in 1959 were designed to help learn about the effects of these changes in addition to providing more complete information about effects of the program in additional areas.

In 1959, nearly 1,500 farm owners or operators were interviewed in study areas located in five States. Nearly two-thirds had land in the conservation reserve (table 21). Some participants had contracts beginning in earlier years--1956, 1957, or

[5] See, The Conservation Reserve Program of the Soil Bank, Effects in Selected Areas, 1957 (11).

TABLE 21.--Participation in conservation reserve, study areas, 1959[1]

Study area	Farm owners interviewed		Participation in conservation reserve, 1959		
	Participants	Non-participants	Percentage of cropland in program[2]	Percentage in whole farm units[3]	Rental rate per acre[4]
	Number	Number	Percent	Percent	Dollars
Maine:					
Aroostook	124	46	17	83	11.90
Franklin and Kennebec	101	42	8	79	6.90
Georgia:					
Piedmont[5]	176	65	12	74	12.07
Coastal Plain[6]	160	60	18	41	11.43
Iowa: South Central[7]	153	132	6	84	14.86
Nebraska: 4 counties[8]	103	63	8	66	10.69
New Mexico:					
Curry and Roosevelt	94	64	41	64	9.05
Torrance	69	20	73	70	5.74

[1] Field surveys were made late in 1958 or 1959 and included new participants in 1959. Detailed reports on these studies have been published or are being prepared for publication as follows: The Conservation Reserve of the Soil Bank in Maine . . .(1); The Conservation Reserve Program in Georgia . . . (3); The Conservation Reserve Program in New Mexico (4); and Butcher, W. R. and Rigler, L., The 1959 Conservation Reserve Program in Iowa (in process).

[2] Percentage that cropland in the conservation reserve was of all cropland reported by the 1954 Census of Agriculture.

[3] Percentage that cropland in the conservation reserve on farms with all eligible land in program are of all cropland in the conservation reserve.

[4] Payment rate per acre for all land in program.

[5] Elbert, Henry, and Meriwether Counties.

[6] Dodge, Jefferson, and Laurens Counties.

[7] Appanoose, Clarke, Decatur, Lucas, Monroe, Ringgold, Union, and Wayne Counties.

[8] Franklin, Johnson, Pawnee, and Webster Counties.

1958. Field interviews were completed before the 1960 program was initiated and no new participants in 1960 were included in the surveys.

For the country as a whole, approximately 5 percent of the total cropland area was in the conservation reserve in 1959. Extent of participation varied widely among study areas. Cropland in the program in 1959 expressed as a percentage of all cropland reported by the 1954 Census of Agriculture was only 6 percent in south-central Iowa as compared with 73 percent in Torrance County and 41 percent in Curry and Roosevelt Counties, N. Mex. There were also large differences among study areas in the proportion of all land in the program accounted for by participants who put all eligible cropland on their farms in the program. The percentage varied from 83 percent in Aroostook County, Maine, to 41 percent in the Coastal Plain of Georgia. Rental-payment rates varied from less than $6 per acre in Torrance County, N. Mex., to nearly $15 per acre in south-central Iowa.

The study areas differ widely with regard to types of farming. Important features of agriculture in each area are described briefly here. The data are mainly from the 1954 Census of Agriculture.

Aroostook County, Maine.--In 1954, farms in Aroostook County averaged about 200 acres in size. Nearly 90 percent were

classified as commercial as compared with about 50 percent for the rest of the State. Potatoes accounted for nearly a third of the harvested cropland and for about 90 percent of all cash farm receipts. Other crops included hay and small grain. The total value of farm products sold per farm averaged nearly $15,000. Net farm incomes in this county are highly variable, chiefly because of the wide fluctuations in prices received for potatoes.

Franklin and Kennebec Counties, Maine.--In 1954, farms in these counties averaged about 150 acres in size. Only 45 percent were classified as commercial units; more than half were part-time or residential units. About half the farm operators worked off their farms 100 or more days. Livestock and livestock products accounted for nearly 90 percent of the farm products sold. Hay and small grain were the main crops. Only 30 percent of the land in farms was cropland.

Piedmont, Georgia.--In 1954, farms in the Georgia Piedmont averaged about 115 acres in size. Nearly 60 percent were commercial and a little more than 40 percent were part-time or residential units. A third of the farm operators worked 100 or more days at nonfarm jobs in 1954, compared with less than 10 percent in 1940. Cotton, corn, and small grain were the major crops. Only about a fourth of the land in farms was harvested. The rest was chiefly woodland and pasture.

Coastal Plain, Georgia.--In 1954, farms in the Georgia Coastal Plain averaged about 192 acres in size. Nearly 75 percent were classified as commercial and about 25 percent as part-time or residential units. Only 20 percent of the farm operators worked off their farms 100 or more days. Cotton, corn, and small grain were the major crops. Nearly 40 percent of the land in farms was in harvested crops.

South-central Iowa.--In 1954, more than 85 percent of the farms in this area were classified as commercial. Farms averaged about 200 acres in size. Corn accounted for more than 40 percent of all crops harvested. Other important crops were soybeans, oats, and hay. Only about half the land in farms was in harvested crops; about half was in permanent and rotation pasture. Cattle and hogs were the major livestock enterprises.

Four counties, Nebraska.--In 1954, farms in these counties averaged 364 acres, about a third larger than in 1940. Nearly 95 percent were classified as commercial units. Relatively few farm operators had nonfarm jobs. Only 9 percent worked 100 or more days off their farms in 1954. Corn, wheat, other small grains, and hay were the main crops. About half the land in farms was in harvested crops and about half was in pasture. Cattle and hogs were the main livestock enterprises.

Curry and Roosevelt Counties, New Mexico.--Because of variable rainfall, crop yields are highly variable in this area. For several years preceding initiation of the Soil Bank Program in 1956, droughts caused much crop failure and low yields. In 1954, only 14 percent of the land in farms was harvested. Irrigated land accounts for much of the crop production. Grain sorghum and wheat were the main crops. Most farms had cattle enterprises. In 1954, farms averaged about 1,000 acres in size, about 40 percent larger than in 1940. More than 20 percent of the farm operators worked 100 or more days off their farms.

Torrance County, New Mexico.--Rainfall in this county averages only about 12 inches annually as compared with 17 inches in Curry and Roosevelt Counties. Crop yields are highly variable and crop failure occurs often. Irrigated land accounts for most of the crops produced. Major crops are dry beans, alfalfa hay, sorghum grain, sugar beets, and potatoes. Cattle and sheep are important livestock enterprises. In 1954, about 60 percent of the farms were classified as commercial and about 40 percent as part-time or residential units. Farms averaged nearly 2,800 acres in size, about 2-1/2 times as large as in 1940.

Major adjustments in farming have occurred in all the study areas as a result of mechanization and other technological improvements in farming methods, changing market outlets for farm products, and growth of nonfarm employment opportunities.

Farm population has decreased in all study areas, but reductions have been especially large in the New Mexico, Maine, and the Coastal Plain area of Georgia.

Farms have decreased in number and increased in size in all areas, but changes have been largest in the Maine and New Mexico areas and in the Coastal Plain area of Georgia (table 22).

South-central Iowa is the only study area in which the acreage of harvested crops increased from 1940 to 1954. All other areas except the Nebraska counties showed large decreases. Much of the reduction shown for New Mexico was due to crop failure in 1954. However, the decreases

TABLE 22.-- Changes in selected items related to farming, study areas, 1940 to 1954[1]

Study area	Change from 1940 to 1954			Farm operators working 100 or more days off farm	
	Number of farms	Land per farm	Total cropland harvested	1940	1955
	Percent	Percent	Percent	Percent	Percent
Maine:					
Aroostook County.....	- 31	43	- 14	11	19
Franklin-Kennebec.....	- 37	48	- 34	30	50
Georgia:					
Piedmont.....	- 18	8	- 43	12	30
Coastal Plain.....	- 31	58	- 25	8	20
Iowa: South Central.....	- 16	19	14	9	15
Nebraska: 4 counties.....	- 22	28	- 7	5	10
New Mexico: Curry-Roosevelt..	- 15	38	- 38	10	20

[1] Data from U.S. Census of Agriculture.

for the Georgia areas reflect the long-term trends toward less cotton, corn, and other grain crops, more hay and pasture, and increased emphasis on forage-consuming livestock and forestry.

Characteristics of Farms and Farm Operators

Farm owners participating in the conservation reserve differ from those not participating in several important ways (table 23). They have more nonfarm income, more of them have off-farm jobs, more are retired or partially retired, and more live off their farms. Relatively few full-time commercial farm operators have discontinued farming to enter the program. However, some farm owners in this group participated with parts of their farms.

In the Maine, Iowa, and New Mexico study areas, participants, especially whole-farm participants, averaged older than nonparticipants, but this was not true in the Georgia and Nebraska areas. In the Georgia study areas, many relatively young participants combined off-farm employment with part-time farming or continued to live on their farms when they placed whole farm units in the program.

In general, whole-farm participants had more nonfarm employment and income than did part-farm participants. Also, a larger proportion of the whole-farm participants lived off their farms.

The various groups differed little with regard to the length of time they had owned or operated their farms.

In all areas, part-farm participants had larger farms than did whole-farm participants or nonparticipants (table 24). However, few other general observations can be made about how the farms of those interviewed differed in size. In the Maine, Georgia, and Iowa areas, whole-farm participants had farms that were smaller than those of part-farm participants or nonparticipants. In Nebraska and New Mexico, farms of whole-farm participants were smaller than those of part-farm participants.

Quality of cropland in the program in 1959 compared with other cropland in the study areas, as indicated by yields, market value, real estate taxes per acre, and other measures, was about as follows:

Maine - Below average in 1956-58 but about average in 1959.

Georgia - Slightly below average.

Iowa - About 20 percent below average.

Nebraska - About 25 percent below average.

New Mexico - Equal to other dryland in the area.

TABLE 23.-- Characteristics of participants and nonparticipants in Conservation Reserve Program, selected study areas, 1959[1]

Item	Unit	Maine		Georgia		Iowa, south-central	Nebraska, 4 counties	New Mexico	
		Aroostook County	Franklin and Kennebec Counties	Pied-mont	Coastal Plain			Curry and Roosevelt Counties	Torrance County
Average age:									
Whole-farm participants.....	Year	59	58	55	51	57	53	61	59
Part-farm participants.....	do.	53	53	55	54	50	58	50	53
All participants.....	do.	57	57	55	52	55	57	59	57
Nonparticipants.....	do.	53	53	55	55	52	61	50	44
Average number of years owned or operated the farm:									
Whole-farm participants.....	do.	25	23	19	16	16	--	--	--
Part-farm participants.....	do.	17	17	20	22	13	--	--	--
All participants.....	do.	23	21	20	20	15	14	--	--
Nonparticipants.....	do.	20	19	23	22	15	22	--	--
Percentage living on the farm:									
Whole-farm participants.....	Percent	64	76	51	52	49	--	56	48
Part-farm participants.....	do.	77	76	77	84	75	--	80	85
All participants.....	do.	68	76	68	73	57	57	60	--
Nonparticipants.....	do.	96	100	94	87	96	79	86	80
Percentage working off-farm 100 days or more:[2]									
Whole-farm participants.....	do.	41	47	59	59	47	--	--	--
Part-farm participants.....	do.	41	52	51	31	17	--	--	--
All participants.....	do.	41	49	54	41	38	--	--	--
Nonparticipants.....	do.	13	31	31	27	18	--	--	--
Percentage that had retirement incomes, 1953:[3]									
Whole-farm participants.....	do.	30	34	--	--	37	--	46	--
Part-farm participants.....	do.	34	28	--	--	10	--	47	--
All participants.....	do.	31	32	30	19	29	--	47	--
Nonparticipants.....	do.	4	14	31	25	--	--	41	--
Percentage that had nonfarm incomes of $500 or more, 1958:[4]									
All participants.....	do.	46	57	52	39	--	46	16	--
Nonparticipants.....	do.	13	31	28	22	--	29	14	--

[1] See footnote 1, table 21 for studies from which these data were compiled. Data relate to owners or operators of the farm. New Mexico data are for operators living in area. [2] Worked off farm 2 months or more in case of Iowa. [3] Percentage that received Social Security payments in Nebraska and nonemployment income in New Mexico. [4] Percentage with $1,200 or more in Maine and $2,500 or more in Georgia.

TABLE 24.-- Characteristics of farms with land in conservation reserve compared with nonparticipant farms, selected study areas[1]

Item	Unit	Maine		Georgia		Iowa, south-central	Nebraska, 4 counties	New Mexico	
		Aroostook County	Franklin and Kennebec Counties	Pied-mont	Coastal Plain			Curry and Roosevelt Counties	Torrance County
All land per farm:									
Whole-farm participants.....	Acre	135	152	181	214	177	225	870	--
Part-farm participants.....	do.	197	258	373	488	288	305	1,452	--
All participants.....	do.	146	172	306	393	211	274	1,210	--
Nonparticipants.....	do.	166	223	186	277	243	203	399	--
Cropland per farm:									
Whole-farm participants.....	do.	63	34	58	88	89	124	290	287
Part-farm participants.....	do.	104	63	139	226	179	162	738	581
All participants.....	do.	71	42	112	181	117	148	--	--
Nonparticipants.....	do.	92	44	68	140	142	120	295	290
Value of farm real estate per acre:									
Whole-farm participants.....	Dollar	88	77	83	86	--	74	59	22
Part-farm participants.....	do.	91	70	81	77	--	67	86	63
All participants.....	do.	89	75	82	79	--	72	78	--
Nonparticipants.....	do.	112	63	83	67	--	140	251	75
Percentage of farms that had dwellings occupied, 1959:									
Whole-farm participants.....	Percent	75	89	--	--	68	--	92	59
Part-farm participants.....	do.	95	88	--	--	87	--	98	100
All participants.....	do.	79	89	94	94	77	--	--	--
Nonparticipants.....	do.	--	--	98	98	--	--	100	95

[1] See table 21, footnote 1, for studies from which these data were compiled.

In the Maine and Georgia study areas, the value of farm real estate per acre was about as high for whole-farm participants as for part-farm participants and nonparticipants. The much higher value per acre for nonparticipants than for participants in New Mexico resulted from the fact that most nonparticipants had irrigated land.

Farm owners who contracted parts of their farms usually placed their least productive land in the program. In Nebraska and Iowa, the proportion of part-farm participants was larger than in other areas. In New Mexico, nonparticipants had cropland of relatively high value because about half of it was irrigated. However, participation in 1959 was mainly by whole farm units.

Most participating farmers had farm buildings, machinery, and livestock, although they had less of these resources than nonparticipating farmers.

Crop Production Reduced on Participating Farms

Crop production on participating farms would have been larger in all areas if it had not been for retirement of cropland from harvested use. However, expansion in crop production on farms of nonparticipants was large enough in most of the study areas to cause total crop production to expand.

Estimates were made of reductions in crop production valued at current prices achieved per dollar of rental payment. Reductions were largest on farms whose operators placed all eligible land in the program. Increased emphasis on participation by whole farm units beginning in 1959 helped to achieve a larger reduction in crop output per dollar of rental payment than in earlier years.

In Aroostook County, Maine, where many farmers who formerly produced large acreages of potatoes were participating in the program, reduction in value of crops produced averaged nearly $6 for each dollar of rental payment. Reductions per dollar of payment were relatively large on these farms because cash expenses for hired labor, seed, fertilizer, petroleum products, and other supplies averaged more than 75 percent of gross receipts from sales of potatoes and other farm products. Because of larger acreages on nonparticipating farms, however, the total acreage of potatoes in the county was about as large in 1959 as in 1954 and 1955 before the program. But the potato acreage might have increased if there had been no program. Only about a third of the cropland in Aroostook County is used to grow potatoes, and much additional land is suitable for growing this crop. In the Franklin-Kennebec area, where most of the cropland is used to grow hay, reductions in crop production were relatively small.

Estimates for south-central Iowa indicate that the value of crops produced was reduced about $2 for each $1 of rental payment on participating farms. However, only a small percentage of the cropland area was in the program, and crop production on nonparticipating farms more than offset reductions on participating farms. Thus, total crop production increased.

In the Georgia study areas, estimates indicate that crop production valued at current prices was reduced about $4 for each dollar of rental payment on participating farms. With discontinuance of the Acreage Reserve, cotton acreages increased from 1958 to 1959, but cotton acreage per farm of participants averaged less in 1959 than in 1957 or earlier years. Participating farms also reduced their acreages of peanuts, small grains, and hay. Although total crop production in the study areas may not have been greatly reduced, no doubt it would have been substantially larger had there been no program.

Much larger quantities of wheat and sorghum grain would have been produced in the New Mexico areas in the 1958-60 period if it had not been for the program. Weather was very favorable in the last few years as compared with the 1950-56 period. It was estimated that production reduction with crops valued at current prices amounted to about $3 per dollar of rental payment in 1958 and 1959. However, with normal weather and yields of wheat averaging 6 bushels and of grain sorghum 10 bushels, reduction in value of crops produced would have averaged only $2 for each $1 of rental payment. Although crop production would have been larger had there been no land-rental program, total crop production in the study areas increased as yields improved with favorable weather.

In the Nebraska study area, production of corn, wheat, and sorghum grain was reduced by about three-fourths of 1 percent for each 1 percent of cropland placed in the program. These estimates suggest that crop production in the study area would

have been about 6 percent larger in 1959 if 8 percent of the cropland had not been retired from use. As in other areas, crop production on nonparticipating farms increased enough to offset reductions on participating farms and to cause total crop production to increase.

Rental payment rates in 1959 generally were considered high enough to attract additional participation of average quality land in whole-farm units. In most sections of the country, applications to place cropland in the conservation reserve in 1959 exceeded the acreage that could be contracted with available program funds. The priority ratings for individual farms that were established were based on productivity and value of the cropland and on the rates at which farm owners offered to place cropland in the program. Farm owners who had the most productive land relative to the rental rates at which they offered the land were awarded contracts.

Rental payments usually provided reasonable returns to farm owners for their investments in land. For example, in Aroostook County, Maine, rental payment per $100 of farm real estate value after real estate taxes averaged a little under 5 percent for whole-farm participants. Net returns were much less, as participants had to pay part of the cost of establishing conservation cover, preventing growth of weeds and brush on land put in the program, and maintaining fences, buildings, and other improvements. However, they had the use of buildings and noncropland on these farms.

Rental rates were not high enough to compensate farm operators for losses of income to labor, machinery, and other inputs used in farm production. Consequently, the program was attractive mainly to farm owners who had alternative uses for their labor and other inputs and were concerned chiefly with receiving reasonable returns from their investments in land and establishing conservation cover. Much higher rental payment rates would have been necessary to provide reasonable returns to other resources that were idled as a result of discontinuing crop production.

Conservation Uses Being Established

Establishment of conservation cover on cropland not well suited to crop production has been a major program benefit.

In the Georgia and Maine study areas, much cropland that could not be used profitably for growing crops had been planted to trees. In Franklin and Kennebec Counties, Maine, about 30 percent of the contracted acreage had been planted to trees and in the Georgia study areas, nearly 70 percent. Much of the land contracted in Georgia is subject to erosion or is otherwise not well suited to cultivation.

In the Iowa and Nebraska areas, participation had been greatest in areas where much of the cropland is hilly and subject to erosion. Grass had been established on the conservation reserve land.

Large areas of cropland in New Mexico had been converted to grass. Establishment of vegetative cover had been difficult, but wind erosion had been reduced and soil fertility maintained. Some nonparticipating farmers commented adversely on the program because land under contract was sometimes a source of weeds. However, damage from this source was reduced as good grass cover was established.

Most participants had not decided upon the use to which they would put cropland in the conservation reserve when contracts expired. In the Georgia and Maine study areas where much of the acreage in the program has been planted to trees, the shift of land out of crop use is relatively permanent. In the Iowa and Nebraska study areas, however, most of the land in the program may be used to grow crops when contracts expire. In the New Mexico study areas, about two-thirds of the participants said they planned to keep the land in grass. But if weather is favorable, much of this land may be used to grow wheat and grain sorghum.

Little Reduction in Machinery, Fertilizer, and Other Inputs

Little change in expenditures for farm production items had resulted from the Conservation Reserve Program at the time field interviews were made. Expenditures for seed, fertilizer, and other items to get conservation cover established on contracted acres largely offset reductions in expenditures for materials that would have been used to grow harvested crops on land placed in the program.

Some participants had sold farm machinery. For example, in the Iowa, Maine, and New Mexico study areas, about a third of those who had contracted all eligible land on their farms had sold some farm machinery. The comparable percentage for the Georgia areas was only 15 percent. Many of the whole-farm participants planned

to keep farm machinery for mowing Conservation Reserve land and other farm jobs. Few part-farm participants planned to dispose of any farm machinery.

Less fertilizer, petroleum products, and other farm supplies probably will be used on participating farms now that conservation cover has been established on most land in the program. There was little evidence to indicate that fertilizer applications per acre had increased on farms with part of the eligible land retired from use. For example, potato growers in Maine and cotton growers in Georgia who used large amounts of fertilizer did not change their rates of fertilizer applications when they reduced their acreages of potatoes and cotton. Fertilizer use on farms of nonparticipants had increased for corn, small grains, hay and pasture, and in most areas, these increases were large enough to cause total fertilizer use to increase.

Most participants had continued to live on their farms. Relatively few had taken nonfarm jobs since placing land in the program, although many may do so in the future. Some have used the program as a means of retiring or reducing the amount of farmwork they perform. Many participants reported that they hire less farmwork done.

Many Reasons for Participation

Farm owners usually had several reasons for participating. Many elderly owners, for example, said that they wanted to do less farmwork or retire, that rental payments were at least as much as they could get from renting out land, and that they wanted to conserve and improve their land. Many of the younger participants had nonfarm jobs. The survey studies showed that, in general, participants are concerned chiefly with receiving reasonable returns from their investments in land, not with earning returns from use of their labor and machinery in farming.

In Maine, participants could be classified by employment status before placing land in the program as follows: Little or no farmwork because of retirement or poor health - 40 percent; nonfarm jobs of 100 or more days - more than 40 percent; mainly farmwork - less than 20 percent.

In Iowa, labor committed to farming was the major factor affecting participation. Almost a third of the participants were not farming before they entered the program. Most of them participated with whole-farm units. More than 90 percent of the remaining two-thirds had off-farm employment, or were at least 60 years old. Farm owners who put parts of their farms in the program had relatively large farms and probably could use their labor, machinery, and other resources effectively on a smaller acreage.

Many of the Georgia participants said that the conservation reserve was the most profitable use for the kind of cropland they put in the program. Difficulty in obtaining satisfactory hired workers, an assured annual income from land, and the opportunity to conserve and improve land resources were other reasons given for participation. Help in establishing tree stands was an important incentive for participating.

In New Mexico, many participants had received little or no return from their land for several years before participation because of droughts and crop failure. Most participants, therefore, thought that the conservation reserve would provide a more profitable use of cropland than continued crop production. Many of the participants had irrigated farmland.

Most nonparticipants said they needed all their cropland in order to utilize their labor and machinery effectively. Many had enough machinery and labor to operate larger farms. In some areas, nonparticipants mentioned that the program had reduced the area of land available for rent. In some areas, the program may have retarded the trend toward larger farms.

There is little evidence that the program accelerated the downward trend in total farm population. In many instances, participants who would have sold their farms and moved away retired and continued to live on them. Some who shifted to nonfarm work and continued to live on their farms said they would have moved to towns or cities if it had not been for the opportunity to obtain a reasonable return from their investments in farm property by putting land in the conservation reserve. In these instances, land might have become a part of neighboring farms and farm population would have decreased more than it did with the program.

LITERATURE CITED

(1) Christensen, R. P., and Micka, E. S. 1960. The Conservation Reserve of the Soil Bank in Maine. Effects in Aroostook, Franklin, and Kennebec Counties. U. S. Agr. Res. Serv. ARS 43-123, 31 pp., illus.

(2) Durost, D., and Barton, G. T.
1960. Changing Sources of Farm Output. U. S. Dept. Agr. Prod. Res. Rpt. 36, 57 pp., illus.

(3) McArthur, W. G.
1961. The Conservation Reserve Program in Georgia. Its Effects in Piedmont and Coastal Plain. U. S. Dept. Agr. Econ. Res. Serv. ERS-31, 29 pp., illus.

(4) Taylor, M. M.
1961. The Conservation Reserve Program in New Mexico. N. Mex. Agr. Expt. Sta. Res. Bul. 54, 25 pp.

(5) U. S. Agricultural Marketing Service, Crop Reporting Board.
1956-60. Crop Values. Season Averages, Prices Received by Farmers and Value of Crop Production. Annual. Washington, D. C. (Mimeographed.)

(6) U.S. Bureau of the Census.
1956. U.S. Census of Agriculture: 1954. 3 vols. Washington, D. C.

(7) U.S. Commodity Stabilization Service.
1960. Acreage Allotment and Marketing Quota Summary. 48 pp. Washington, D. C.

(8) _____ and Agricultural Conservation Program Service.
1959-61. Conservation Reserve Program of the Soil Bank. Statistical Summary. Annual. Washington, D. C.

(9) U.S. Congress. House.
1959. Congressional Record, House, June 30, 1959, vol. 105, pt. 9, p. 12300. 86th Cong., 1st sess.

(10) U. S. Department of Agriculture.
1961. Supplemental Report of the Secretary of Agriculture on the 1960 Soil Bank Conservation Reserve Program Enlarging Preliminary Report of January 13, 1961. 16 pp., illus. Washington, D. C.

(11) _____
1958. The Conservation Reserve Program of the Soil Bank. Effects in Selected Areas, 1957. U. S. Dept. Agr., Agr. Inform. Bul. 185, 34 pp., illus.

(12) U. S. Department of Agriculture, Office of Information.
1957. The Soil Bank Program for 1957. How It Operates. How It Helps Farmers. 16 pp. Washington, D. C.

(13) U. S. Economic Research Service.
1961. The Farm Income. A Supplement to the Farm Income Situation for July 1961. State Estimates 1949-60. U. S. Econ. Res. Serv. FIS-183, 102 pp.

(14) _____ Farm Economics Division.
1961. Changes in Farm Production and Efficiency. U. S. Dept. Agr. Statis. Bul. 233, 48 pp., illus.

(15) Wooten, H. W., and Anderson, J. R.
1955. Agricultural Land Resources in the United States. U. S. Dept. Agr., Agr. Inform. Bul. 140, 107 pp., illus.

APPENDIX - DESCRIPTION OF THE PROGRAMS

Acreage-Allotment and Marketing-Quota Programs in the 1950's

Acreage-allotment and marketing-quota programs are an integral part of price-support programs for the basic commodities. The U. S. Department of Agriculture is required by law to announce in advance of the marketing year the levels at which prices to farmers for these commodities will be supported. If production exceeds what market outlets will take at these prices, the Department supports prices by nonrecourse loans or purchase agreements with farmers. It is by this process that the Department has acquired large holdings of the basic commodities. Accumulations of stocks have two effects: (1) They tend to lower the minimum levels of price support for crops other than tobacco; and (2) they may affect the size of acreage allotments and bring into effect marketing-quota programs designed to reduce acreages and thereby reduce production and maintain or improve prices of the basic crops.

Legislation in effect during the 1950's required that prices of basic commodities be supported at not more than 90 percent of parity nor less than levels called for by minimum support schedules ranging from 65 to 90 percent of the parity price, depending upon the relation of total supply

to normal supply. Total supply includes stocks and estimated production and imports for the year ahead. Normal supply includes normal carryover stocks and estimated exports and domestic use in the year ahead. Parity prices measure the purchasing power of a commodity in terms of things farmers buy for use in production and consumption against the base period, 1910-14, equal to 100 percent.

The Department is required by law to proclaim marketing quotas for peanuts and tobacco each year. Quotas must be proclaimed for other quota crops as follows: upland cotton if total supply exceeds normal supply, extra long staple cotton if total supply exceeds normal supply plus 8 percent, rice if total supply exceeds normal supply plus 10 percent, and wheat if total supply exceeds normal supply plus 20 percent. Individual farm as well as national marketing quotas are established. Before they can become operative, marketing quotas must be approved by at least two-thirds of the affected growers voting in referendums. If producers disapprove quotas, support levels drop to 50 percent of parity in the case of wheat, cotton, rice, and peanuts, and become inapplicable in the case of tobacco.

When acreage allotments are in effect, growers must comply with allotments to be eligible for loans or purchase agreements under price-support programs. When acreage allotments with marketing quotas are in effect, penalties may be assessed on growers who exceed their allotments.

Acreage-allotment and marketing-quota programs were in effect for peanuts and most types of tobacco throughout the 1950's (table 25). They were in effect for wheat, cotton, and rice in 1950, but were discontinued in 1951 because of the national emergency caused by the Korean war when market outlets expanded mainly because of larger exports. As stocks of wheat, cotton, and rice accumulated, acreage allotments with quotas were established for wheat and cotton beginning in 1954 and for rice beginning in 1955. They have continued in effect since then.

Acreage allotments for corn were in effect from 1954 through 1958 and were then discontinued. As corn was not a quota crop, growers could exceed their allotments and market corn without penalty, but if they did so, they were not eligible for price support under Department programs.

TABLE 25.-- National acreage allotments for basic farm commodities, 1950-60[1]

Year	Wheat	Corn (commercial areas)	Cotton, upland	Rice	Peanuts	Tobacco	
						Burley type 31	Flue-cured types 11-14
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
1950.....	72,776	46,247	21,000	1,593	2,200	418	969
1951.....	---	---	---	---	1,889	472	1,119
1952.....	---	---	---	---	1,706	475	1,127
1953.....	---	---	---	---	1,678	433	1,045
1954.....	62,809	46,996	21,379	---	1,610	399	1,053
1955.....	55,802	49,843	18,113	1,928	1,610	309	1,007
1956.....	56,226	43,281	17,391	1,653	1,650	309	888
1957.....	55,000	37,289	17,391	1,653	1,611	309	711
1958.....	55,000	38,818	17,391	1,653	1,612	309	712
1959.....	55,000	---	16,000	1,653	1,612	309	713
1960.....	55,000	---	16,000	1,653	1,612	309	713

[1] Acreage allotments announced for wheat and rice in 1951 were terminated because of the national emergency caused by the Korean war. The allotment announced for corn in 1956 was terminated by the Agricultural Act of 1956, which provided for use of a 51-million-acre "base acreage" for the commercial corn-producing area in 1956. Acreage allotments were not in effect for corn in 1959 and 1960. For additional explanation, see Acreage Allotment and Marketing Quota Summary (7).

If special legislation had not established minimum quotas, acreage allotments would have been smaller after 1954 as carryover stocks continued to increase. For example, national acreage allotments could not be less than 1,610,000 acres for peanuts beginning in 1954, 55 million acres for wheat beginning in 1955, and 1,653,000 acres for rice beginning in 1956. They could not be less than 17,391,000 acres for upland cotton in 1956, 1957, and 1958 or less than 16,000,000 in 1959 and 1960. In 1959 and 1960, however, growers of upland cotton could exceed their allotments by as much as 40 percent if they were willing to accept a lower level of price support.

Levels of price support announced by the Department were at 90 percent of parity for all basic commodities in 1950 (table 26). They have remained at this level for most types of tobacco, but have decreased for the other basic crops as stock accumulation caused total supplies to increase relative to normal supplies.

The Acreage Reserve Program

Under the Acreage Reserve Program, farmers who agreed to reduce their acreages of wheat, corn, upland cotton, rice, peanuts, and most types of tobacco below their allotments for these crops were eligible to receive annual payments from the U. S. Department of Agriculture to compensate them for loss of income. The program was effective for corn only in areas designated as commercial under acreage-allotment programs, for peanuts only in 1956, and included some long staple cotton only in 1956. Agreements or contracts were for one year. No crops could be harvested from land put in acreage reserve, nor could the land be grazed. If the farmer harvested more acres of the contract commodity than were allowed by his agreement, or if he grazed or harvested his reserve acreage, he lost his rental payment and was required to pay a civil penalty equal to half the agreed upon amount of rental.

TABLE 26.--Parity ratio for all farm products and percentages of parity at which farm prices of basic commodities were supported, 1950-60[1]

Year	Parity ratio for all farm products	Percentage of parity at which prices of basic commodities were supported[2]						
		Wheat	Corn	Upland Cotton	Rice	Peanuts	Tobacco	
							Burley type 31	Flue-cured, types 11-14
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1950...	101	90	90	90	90	90	90	90
1951...	107	90	90	90	90	88	90	90
1952...	100	90	90	90	90	90	91	91
1953...	92	91	90	90	91	90	91	92
1954...	89	90	90	90	91	90	91	90
1955...	84	82.5	87	90	86	90	91	91
1956...	83	82.6	84	82.5	82.5	86	90	90
1957...	82	80	77	78	82	81	90	90
1958...	85	75	77	81	75	81	90	90
1959...	81	75	66	80	75	75	90	90
1960...	80	75	65	75	75	78	90	90

[1] The parity ratio measures the purchasing power of real value of farm commodities in terms of the goods and services farmers buy for use in production and consumption with the base period, 1910-14, equal to 100 percent.

[2] Support levels above 90 percent in some years resulted because the support price per unit of product announced early in the year to reflect 90 percent of parity actually resulted in a support level above 90 percent later in the year when the commodity was marketed.

Farmers could participate in both the Acreage Reserve and the Conservation Reserve Programs, but the same land could not be placed in both programs in the same year. Each tract of land placed in a program had to be designated.

Historical acreage allotments of farmers taking part in the Soil Bank were protected. The part of the farm acreage allotment put in the acreage reserve was classed as land used to produce the crop for which the allotment was established. Thus, future allotments for a farm, a county, or a State were not reduced because land was put in the acreage reserve. Similarly, if any acreage of allotment crops was diverted into the conservation reserve, the acreage-allotment history was protected during the contract period.

Farmers who participated were required to comply with all of their acreage allotments in order to be eligible for rental payments. However, farmers could harvest up to 15 acres of wheat and 1 acre of peanuts without becoming ineligible for rental payments or price supports on the other basic crops. Payments to individual producers for placing land in the acreage reserve in 1958 could not exceed $3,000 for any one farm.

The Soil Bank law provided for protection of the interests of tenants and sharecroppers. They were eligible to participate and share in payments together with landowners.

There were no restrictions in 1956 or 1957 on uses of remaining land on farms where part of the cropland acreage was placed in the acreage reserve. Acreages of other crops, for example, could be increased by shifting land from pasture to crops. In 1958, however, farmers who participated in the acreage reserve were required to reduce their total harvested acreage of crops designated as Soil Bank base crops by the acreage they placed in the program. Soil Bank base crops were cultivated crops, grains, and most others except those harvested for hay or forage.

Acreage goals and payment rates for 1957 illustrate program provisions (table 27). Approximately $750 million were available for making annual payments. Acreage goals called for reductions in allotment crops totaling between 20 and 25 million acres. They were approximately equal to the acreage equivalent of annual additions to carryover stocks of wheat, feed grains, cotton, and rice from crops harvested in 1952-55.

Rental payments per acre were established for individual farms for each allotment crop by county Agricultural Stabilization and Conservation Committees. These rates varied among farms, counties, and States, depending upon differences in land productivity, methods of farming, and other conditions. In general, per acre payment rates depending upon yield estimates and national "base" unit rates. For example, the approximate national average rate of $20.04 for wheat was the product of the estimated national yield of 16.7 bushels per acre multiplied by the national base unit rate of $1.20 per bushel (table 27). National base unit rates compared with national average farm support prices for farmers who complied with their allotments in 1957 were as follows:

Crop	Unit	National base unit rate	Average support price	National base unit rate as percentage of support price
		Dollars	Dollars	Percent
Wheat	Bu.	1.20	2.00	60
Cotton, upland	Lb.	.15	.288	52
Corn	Bu.	.90	1.40	64
Rice	Cwt.	2.25	4.72	48
Tobacco, flue-cured	Lb.	.18	.508	35

Funds were allocated among States for eligible crops, taking into account State acreage allotments, normal yields, and expected participation. State Agricultural Stabilization and Conservation Committees apportioned funds among counties.

Initial limits on the number of acres a farmer could put in the program were established in order to afford an opportunity for a large number of farmers to participate. These were as follows:

Cotton - 10 acres or 30 percent of the allotment, whichever is larger.

Corn and rice - 20 acres or 30 percent of the allotment, whichever is larger.

Wheat - 50 acres or 50 percent of the allotment, whichever is larger.

Tobacco - Burley, dark air-cured, fine-cured, and Virginia sun-cured: 1 acre or 30 percent of the allotment, whichever is larger.

- All other tobacco: 3 acres or 30 percent of the allotment, whichever is larger.

However, since available funds were not exhausted by farmers who signed up to put land in the program all limits were rescinded and farmers were permitted to

TABLE 27.-- Goals, allocated funds, and approximate payment rates per unit of production and per acre under 1957 Acreage Reserve Program, United States[1]

Crop	Program goal	Allocated funds	Per acre yield estimates	National base unit rates[2]	Approximate rates per acre[3]
	1,000 acres	1,000 dollars		Dollars	Dollars
Wheat	12,000-15,000	267,630	16.7 bu.	1.20	20.04
Cotton[4]	3,500-4,500	217,500	361 lb.	.15	54.15
Corn	4,500-5,500	217,500	47.4 bu.	.90	42.66
Rice	175-225	14,000	28.08 cwt.	2.25	63.18
Tobacco[5]	125-140	34,055	1,440 lb.	.176	253.44
Total	20,300-25,365	750,685	--	--	--

[1] Data are from The Soil Bank Program for 1957 (12).
[2] These are payment rates per unit of production, dollars per bushel, per pound, or cwt.
[3] These rates are those that would apply if all farmers participated to the same extent with land of average quality.
[4] Upland cotton.
[5] Average for all types.

put their full allotments in the program except for cigar binder types 51 and 52.

Acreage goals and per acre payment rates for 1958 were similar to those for 1957.

The Acreage Reserve Program was discontinued after 1958. However, the writing of new contracts under the conservation reserve part of the Soil Bank Program continued until 1960. As these contracts may run as long as 10 years, some land will continue in the conservation reserve through 1969. A few contracts will extend beyond 1969 because of inadequate supplies of tree seedlings in 1960.

The Conservation Reserve Program

All land used regularly to grow crops, including land in crops not requiring tillage, such as tame hay, was eligible for the conservation reserve. Farmers entered into contracts for 3 to 10 years. They agreed to keep land placed in the program out of production for the duration of the contract and to reduce the total acreage of crops grown on their farms by the acreage put in the program. They also agreed to establish a permanent vegetative or woody cover for soil protection or a water-storage facility if an acceptable vegetative cover did not exist. If the land already had suitable cover, contracts could be for 3 years; otherwise, they had to run for 5 to 10 years. When trees were planted for cover, contracts had to be for 10 years.

Farm operators and owners received two kinds of payments: (1) Annual per acre rental payments each year of contract and (2) cost-sharing payments for carrying out conservation measures in the year these measures were carried out. Cost-sharing payments were made for establishing cover crops where needed, for planting trees, for building dams, pits, or ponds to protect cover crops or store water, and for protecting wildlife through cover, shallow flooding of cropland for wildlife, water marsh management, or dam and pond construction on land placed in the program. No crops could be harvested from land put in the conservation reserve, nor could the land be grazed.

Rental payments were at two rates. A regular or diversion rate was paid for reductions in acreages of Soil Bank base crops. These are cultivated crops, grains, and most other crops except those harvested for hay or forage. A nondiversion rental payment was made for reductions in eligible cropland in excess of the Soil Bank base.

The basic regular or diversion rate averaged $10 per acre for the country as a whole in 1956, 1957, and 1958. In 1956 and 1957, the nondiversion rental rate was 30 percent of the regular rate, or $3 per acre. Basic annual payment rates varied among States. In 1957, for example, they ranged from $7 per acre in Nevada to $13 per acre in Connecticut, Massachusetts, New Jersey, and Washington. State Agricultural Stabilization and Conservation Committees could vary payment rates by counties based on differences in land values, prevailing land rents, and land productivity. They could also establish differing payment rates to take into account differences in soil productivity and other conditions among farms within counties.

Changes were made in provisions pertaining to nondiversion rental rates in 1958 to encourage more farm owners and operators to participate with whole-farm units, to encourage participation by farmers who had large acreages of hay, and to put greater emphasis on forestry and wildlife practices. In 1957, farmers with a Soil Bank base of 30 acres or less could put any part of this acreage in the program at the regular diversion rate and any part of their remaining cropland at the nondiversion rate. But farmers with a Soil Bank base of more than 30 acres were required to put all of this acreage in the program before they could put in any land at the nondiversion rate. In 1958, however, a farmer with a Soil Bank base of more than 30 acres was permitted to put land in the Conservation Reserve at the nondiversion rate up to the number of acres he put in at the regular rate.

In 1958, also, County Agricultural Stabilization and Conservation Committees were authorized to raise the nondiversion payment rates to 50 percent of the regular rate, when all eligible land on a farm was placed in the conservation reserve, or when any land placed in the program was planted to forest trees. County committees also were authorized to raise the nondiversion payment rate up to 100 percent of the regular rate when all of the eligible land on a farm was placed in the program and planted to forest trees.

In 1956 and 1957, payments could be made to cover up to 80 percent of the cost to farmers of establishing conservation practices on land put in the program. However, in 1958, as well as in 1959 and 1960, practice payments were the same as those under the Agricultural Conservation Payments Program wherever the latter were at a level lower than 80 percent of cost.

What generally became known as the experimental bid program was also in effect in 1958. Early in 1958, farmers in Maine, Illinois, Nebraska, and Tennessee were invited to make bids or offers to put all eligible land on their farms in the conservation reserve for not less than 5 or more than 10 years. Farm owners indicated on application forms the annual rental rates they would accept, the number of eligible acres on their farms, the length of contract requested, and acreages and yields of crops grown in the last few years, together with other information. County Agricultural Stabilization and Conservation Committees made productivity ratings for farms for which bids were received. These ratings were based on a number of considerations including yields, kind of soil, location of the farm, and improvements on the land. County committees had no knowledge of the bid rates submitted by farmers when these productivity ratings were made. Productivity ratings were expressed as percentages of the county average. Bid rates submitted for individual farms were then divided by productivity ratings to obtain adjusted bid rates. These adjusted bids were arrayed from the lowest to the highest. However, only in Maine were any of these bids accepted. In this State, nearly a fourth were accepted. Farm owners whose bids were not accepted were eligible to put cropland in the regular program in 1958, and many did so.

Major changes in program provisions were made beginning in 1959, after the Acreage Reserve Program was discontinued, to encourage farm owners to place relatively high-yielding land in the conservation reserve and to make participation of whole farm units more attractive. The national basic annual rental rate was increased to $13.50 per acre, or by 35 percent. Farm owners who agreed to put all eligible land on their farms in the program could earn the regular or diversion rate plus 10 percent for all eligible acres, provided the contract period was for not less than 5 years.

In 1959, also, County Agricultural Stabilization and Conservation Committees established what were called maximum annual payment rates for land on applicants' farms. These maximum rates could vary from 50 percent below to 50 percent above the county average annual basic payment rate, depending upon productivity, usual rental rates, and market value of land on individual farms. However, they could not exceed 20 percent of the estimated value of the land or $25 per acre, whichever was lower. Farm operators or owners who made applications were notified of the maximum payment or rental rate established for their farms. They could then offer eligible land at less than these maximum rates if they wanted to gain additional assurance that their land would be accepted. It was explained to farmers that if applications were larger than could be accepted with available funds, those who offered their land at the lowest rates relative to the maximum rates established for their farms would be accepted first. More than 51 percent of the land offered was at rates lower than the maximums established.

Other program provisions in 1959, including those relating to eligible land and payment rates for establishing conservation practices, were similar to those under the 1958 program.

Program provisions in 1960 were similar in most respects to those in 1959. However, additional restrictions on eligible land were established. For example, cropland was not eligible if its ownership had changed since 1956, unless ownership had changed because of inheritance upon the death of the 1956 owner. Lands owned by State, county, town or local units of government, or by certain clubs and associations were not eligible. Farms that had been operated by or with tenants in 1958 and 1959 were not eligible unless the contract designated tenants to share in the annual payment. Farms that were idle in both 1958 and 1959 were not eligible unless the farm was idle as the result of a conservation reserve contract or acreage reserve agreement. Land that had been rented for cash or for a fixed amount of a commodity could not be approved for contract at an annual rate higher than the rent per acre paid for the land. In addition, a change in method of approving contracts was made. Applications for contracts were not accepted unless the payment rate per acre offered by the applicant was below the basic rate (or what has been referred to above as the maximum rate) established by the county committee for the land offered. This provision was designed to help obtain as much participation as possible from limited program funds and to make known the competitive bidding feature of the program.

Participation in Soil Bank Programs

Total acreage in the Soil Bank increased from a little less than 14 million in 1956 to nearly 28.7 million in 1960 (table 28). These acreages are equivalent to 3.0 and 6.2 percent, respectively, of the total area of cropland reported by the 1954 Census of Agriculture. The acreage reserve accounted for 60 percent or more of the total acreage in the Soil Bank through 1958. Acreage in the conservation reserve increased from a little less than 10 million acres in 1958 to more than 28 million in 1960.

Many more farmers participated in the acreage reserve than in the conservation reserve. In 1958, for example, there were more than a million agreements in the acreage reserve as compared with 125,000 in the conservation reserve (table 29). In 1960, there were 306,000 farms with land in the conservation reserve, or only about 30 percent as many as were in the acreage reserve in 1958. Some farms with land in the acreage reserve had more than one agreement. For example, there could be separate agreements for acreage reductions in wheat, corn, cotton, or other allotment crops on the same farm. Usually, however, there was only one conservation reserve contract for each farm. If a farmer who had land in the conservation reserve placed additional land in the program, the old contract was discontinued and a new contract written. For the country as a whole, about 20 percent of the farms had land in the Soil Bank in 1958 as compared with 6 percent in 1960.

Participants in the acreage reserve usually placed all of their allotment acres in

TABLE 28.-- Cropland in conservation reserve and acreage reserve of the Soil Bank, United States, 1956-60

Program	1956	1957	1958	1959	1960
	1,000 acres	1,000 acres	1,000 acres	1,000 acres	1,000 acres
Conservation reserve:[1]					
Diversion	1,392	6,095	9,003	22,106	28,305
Nondiversion	37	332	884	316	355
Total	1,429	6,427	9,887	22,422	28,660
Estimated normal use of cropland in conservation reserve:[2]					
Corn	---	891	1,458	3,518	4,628
Wheat	---	497	776	2,330	3,183
Cotton	---	114	180	517	683
Peanuts	---	39	61	113	132
Oats	---	1,149	1,842	3,237	3,956
Barley	---	371	589	1,245	1,614
Soybeans	---	190	341	860	1,078
Grain sorghum	---	1,937	2,560	3,458	3,873
Hay and pasture	---	447	868	3,659	4,959
Other crops	---	733	1,114	2,081	2,649
Summer fallow	---	168	265	1,034	1,331
Idle and failure	---	96	157	925	1,265
Acreage reserve:					
Wheat	5,670	12,783	5,289	---	---
Corn	5,316	5,233	6,658	---	---
Upland cotton[3]	1,121	3,016	4,926	---	---
Rice	28	242	174	---	---
Tobacco	33	80	111	---	---
Peanuts	44	---	---	---	---
Total	12,212	21,354	17,158	---	---
Soil Bank: Total	13,641	27,781	27,045	22,422	28,660

[1] Cumulative totals.

[2] Estimates from Conservation Reserve Program of the Soil Bank (8). The sum of the estimates exceeds reserve acres because of double cropping and other multiple land uses.

[3] Includes a small quantity of extra long staple cotton in 1956 in Puerto Rico and the mainland.

TABLE 29.-- Number of contracts and agreements in Soil Bank programs, United States, 1956-60[1]

Program	1956	1957	1958	1959	1960
	Number	Number	Number	Number	Number
Conservation reserve contracts, total	16,327	79,791	125,502	246,220	306,182
Acreage reserve agreements:					
Wheat	110,974	233,004	174,451	---	---
Corn	314,761	323,686	355,789	---	---
Cotton[2]	95,669	301,053	444,618	---	---
Rice	1,117	4,825	5,580	---	---
Peanuts	5,310	---	---	---	---
Tobacco	20,093	51,828	68,832	---	---
Total	547,924	914,396	1,049,270	---	---
Soil Bank, total[3]	564,251	994,187	1,174,772	246,220	306,182

[1] Number of farms earning annual payments in conservation reserve and number of agreements in acreage reserve.
[2] Includes agreements for a small amount of extra long staple cotton in 1956 in Puerto Rico and the mainland.
[3] Total number of farms participating in the Soil Bank is somewhat less than the numbers indicated since some farms participated in both the acreage and conservation reserves and some farms had more than one acreage reserve agreement.

the program. Most of them did not participate in the conservation reserve. However, many participants in the conservation reserve put all eligible land on their farms in the Soil Bank. Acres per contract or agreement averaged larger for the conservation reserve than for the acreage reserve:

	Acres per agreement or contract in -	
Year	Acreage reserve	Conservation reserve
1956	22	88
1957	23	81
1958	16	79
1959	--	91
1960	--	94

With discontinuation of the acreage reserve after 1958 and the establishment of additional incentives to participate with whole-farm units beginning in 1959, an increasing proportion of the participants put whole-farm units in the conservation reserve. Whole-farm units accounted for an increasing proportion of all land in the Soil Bank, as shown by the following:

	1958	1959	1960
Percentage of participants who placed whole-farm units in the program	30	63	70
Percentage of cropland in Soil Bank accounted for by whole-farm units	37	66	71

Some farms with all eligible land in the Soil Bank in 1956, 1957, and 1958 participated in both the acreage and conservation reserves.

Government expenditures under the program also provide a measure of its magnitude. Payments for annual rental and conservation measures on cropland placed in the Soil Bank totaled $814 million in 1958, but they were less than half this amount in 1959 and 1960 (table 30). Annual rental payments were equivalent to 4.2 percent of the total value of crops produced in 1958 and 2 percent in 1960.

Annual payment rates per acre in the acreage reserve in 1958 averaged close to the rates indicated earlier as national average basic rates for 1957 (table 31).

TABLE 30.-- Payments approved for rental and conservation measures on cropland placed in Soil Bank Program, United States, 1956-60

Program	1956	1957	1958	1959	1960
	1,000 dol.	1,000 dol.	1,000 dol.	1,000 dol.	1,000 dol.
Conservation reserve:					
Annual payments	12,401	56,827	87,672	258,470	339,546
Conservation measures[1]	750	33,284	30,044	66,063	27,642
Total	13,151	90,111	117,716	324,533	367,188
Acreage Reserve:					
Wheat	44,740	230,852	105,111	---	---
Corn	179,664	196,418	285,255	---	---
Cotton	27,336	153,296	270,208	---	---
Rice	1,394	15,467	11,942	---	---
Peanuts	596	---	---	---	---
Tobacco	6,633	17,806	26,516	---	---
Total	260,363	613,839	696,032	---	---
Soil Bank, total	273,514	703,950	813,748	324,533	367,188

[1] Conservation measures carried out during the calendar year.

TABLE 31.--Annual payments per acre of cropland placed in Soil Bank, United States, 1956-60

Program	1956	1957	1958	1959	1960
	Dollars	Dollars	Dollars	Dollars	Dollars
Conservation reserve:					
Diversion	8.84	9.22	9.30	11.62	11.93
Nondiversion	2.72	2.79	4.42	4.89	5.14
All contracts	8.68	8.84	8.87	11.53	11.85
Acreage reserve:					
Wheat	7.89	18.06	19.87	--	--
Corn	33.80	37.53	42.39	--	--
Cotton	24.38	50.83	54.85	--	--
Rice	49.51	63.91	68.55	--	--
Peanuts	13.54	--	--	--	--
Tobacco	204.08	223.42	239.71	--	--
All agreements	21.32	28.75	40.57	--	--
Soil Bank, all contracts and agreements	20.00	24.14	28.98	11.53	11.85

They were higher for each allotment crop in 1958 than in 1957 or 1956. Apparently, cropland placed in the acreage reserve in 1958 averaged about equal in quality to other land normally used to grow these crops.

In the case of the conservation reserve, annual payment rates averaged a little below the nationally announced basic rate of $10 per acre for 1956, 1957, and 1958 and substantially under the nationally announced basic rate of $13.50 per acre for 1959 and 1960. The procedure in 1959 and 1960 of establishing maximum per acre payment rates based on productivity ratings for individual farms and permitting farmers to offer land at less than these maximum rates in order to increase their chances of obtaining contracts apparently resulted in getting much cropland into the conservation reserve at considerably less than $13.50 per acre. For example, more than 20 percent of the 1960 applicants filed bids that were 15 percent or more below the maximum rental established for their farms.

Participation in the Soil Bank was relatively large in the Great Plains and Mountain Regions beginning in 1956. It has continued large in these regions, but substantial percentages of the cropland in the Southeast, Delta States, and Lake States also were in the program in 1960 (table 32).

The conservation reserve accounted for a fourth and the acreage reserve for three-fourths of the 28 million acres in the Soil Bank in 1957. Land in the conservation reserve was distributed widely throughout the country, although more than half was in the Great Plains and Mountain Regions.

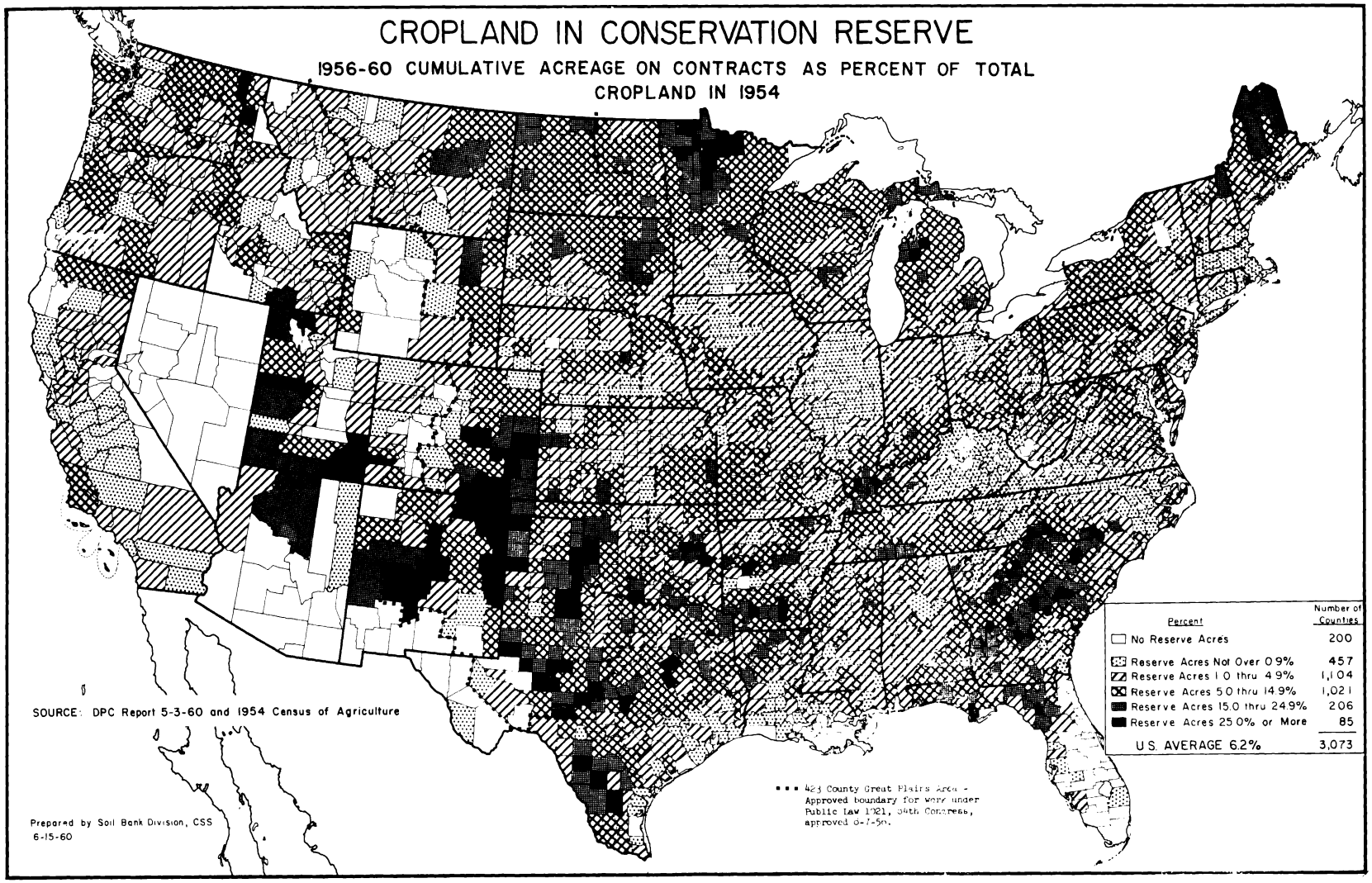
With discontinuation of the acreage reserve after 1958, much land formerly in this program was shifted to the conservation reserve. This was especially true in the Great Plains and Mountain Regions. In other sections of the country, however, acreages in the conservation reserve in 1960 exceeded the totals in the acreage and conservation reserves in both 1957 or 1958. From 1957 to 1960, percentage increases were especially large in the Southeast, Delta States, and Lake States.

Land in the conservation reserve in 1960 was distributed throughout the country, but some sections showed much heavier concentrations than others. For example, counties with 15 percent or more cropland in the program were most numerous in the Southeast, Southern Plains, and Northern Plains (fig. 15).

TABLE 32.-- Percentage of cropland in Soil Bank, by regions, United States, 1957 and 1960[1]

Region[2]	1957			1960 conservation reserve[3]
	Acreage Reserve	Conservation Reserve	Total	
	Percent	Percent	Percent	Percent
Northeast	1.3	0.7	2.0	5.3
Corn Belt	2.9	.2	3.1	3.1
Lake States	1.8	1.7	3.5	7.5
Appalachian	2.4	.3	2.7	3.9
Southeast	3.9	1.8	5.7	9.3
Delta States	3.1	.6	3.7	10.5
Southern Plains	6.9	3.8	10.7	9.8
Northern Plains	8.4	1.1	9.5	6.7
Mountain	5.7	3.3	9.0	8.2
Pacific	2.3	.3	2.6	3.0
United States	4.6	1.4	6.0	6.2

[1] Total cropland reported by 1954 Census of Agriculture (6).
[2] See footnote 1, table 11,
[3] The acreage reserve was discontinued after 1958.



U.S. DEPARTMENT OF AGRICULTURE

Figure 15