

119157

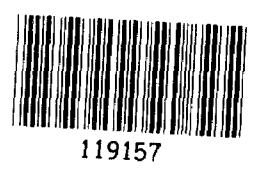
BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

Congressional Decision Needed On Necessity Of Federal Wool Program

The Department of Agriculture's wool incentive payment program has not been effective in accomplishing its stated objectives--to encourage wool production and to increase wool quality. Also, wool is no longer as important to the military and the U.S. textile industry because of the increased use of synthetic fibers. Therefore, GAO recommends that the Congress consider whether Federal financial assistance should (1) continue to be provided to encourage wool production and/or (2) be provided to generally assist the sheep industry.



GAO/CED-82-86
AUGUST 2, 1982

023051/119157

Request for copies of GAO reports should be sent to:

**U.S. General Accounting Office
Document Handling and Information
Services Facility
P.O. Box 6015
Gaithersburg, Md. 20760**

Telephone (202) 275-6241

The first five copies of individual reports are free of charge. Additional copies of bound audit reports are \$3.25 each. Additional copies of unbound report (i.e., letter reports) and most other publications are \$1.00 each. There will be a 25% discount on all orders for 100 or more copies mailed to a single address. Sales orders must be prepaid on a cash, check, or money order basis. Check should be made out to the "Superintendent of Documents".



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

B-203829

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

This report points out problems in the Department of Agriculture's wool incentive payment program and discusses the need for the Congress to consider whether the program is still necessary. We made this review to determine whether the wool program is accomplishing its objectives and whether these objectives are still valid.

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

Charles A. Bowsher
Comptroller General
of the United States

D I G E S T

The Federal wool incentive program has had little effect on encouraging wool production and improving wool quality because decisions to raise sheep--which ultimately affect wool production levels--are based primarily on the profitability of the lamb market. Producers receive about 75 percent of their sheep income from selling lambs for meat. Also, the need to encourage wool production has declined because the increased use of synthetic fibers has reduced the military's and the textile industry's need for wool.

Since the inception of this Department of Agriculture program in 1954, payments to producers have totaled \$1.1 billion; yet wool production declined from 283 million pounds in 1955 to 106 million pounds in 1980 due to such factors as lamb marketing problems, loss of sheep to predators, and labor shortages.

Although the Department has not developed standards to measure wool quality and no data is available to determine whether wool quality has improved, studies and industry representatives indicate that it has not.

GAO made this review to determine whether the wool program's objectives correspond to current needs and because of the program's unique method of computing payments--producers who receive higher market prices for their commodity receive higher Government subsidies.

PROGRAM'S IMPACT ON PRODUCTION

Because producers receive most of their sheep income from lambs sold for meat, their decisions to raise sheep are affected primarily by the profitability of the lamb market, not the wool payment program. However, program payments, while not the primary incentive for raising sheep, have kept some producers in business and have slowed the decline of the sheep industry.

GAO/CED-82-86

AUGUST 2, 1982

Although the magnitude of the program's effect on production cannot be precisely measured, the program has kept wool production levels somewhat higher than they would have been without the program. GAO's consultant estimated that from 1956 through 1979 the program's average annual effect on U.S. wool production was to increase output between 11 million pounds and 24 million pounds--about 6 to 13 percent above what it would have been without the program. Program costs in 1980, \$42.1 million, increased output between 7 million and 16 million pounds. In effect, this additional output cost the Federal Government \$2.63 to \$6.01 a pound. The average market value of wool produced in 1980 was 88 cents a pound. (See pp. 8 to 14.)

PROGRAM'S IMPACT ON QUALITY

The program's effect on improving wool quality is difficult to determine because the Department has not developed standards to measure variations in quality attributes, such as fiber length, color, strength, and elasticity. However, the Department's reports on the domestic wool market and GAO's discussions with industry representatives indicate that wool quality has not improved. Contamination problems--such as off-colored fibers and vegetable matter--which downgrade wool quality, result from the emphasis on lamb production, sheep-grazing habitat, and producers' feeding practices and wool-handling methods. (See pp. 16 to 18.)

NEED FOR WOOL HAS DECLINED

The National Wool Act of 1954 (7 U.S.C. 1781 et seq.) defined wool as an essential and strategic commodity not produced in sufficient quantities and grades in the United States to meet domestic needs. However, the increased use of synthetic fibers in military items, once made entirely of wool, and in commercial products, such as carpets, sweaters, and suits, has reduced the need for wool. It is no longer on the list of strategic commodities. Therefore, in GAO's opinion, the major reasons for establishing a program to encourage wool production are no longer as important as they were when the Wool Act was enacted. (See pp. 18 to 20.)

Increased imports of wool and woolen products and the slow economy are contributing to the low demand for domestic wool. Reductions in tariffs on imported wool, which began in January 1980 and will continue over the next several years, should tend to reduce costs of imported wool and woolen products for U.S. consumers. (See pp. 20 and 21.)

PAYMENTS FOR UNSHORN LAMBS AND TO NONCOMMERCIAL PRODUCERS HAVE LITTLE EFFECT

The program's payments for unshorn lambs (\$5.5 million for marketing year 1980) are provided to prevent the shearing of lambs just to obtain a wool program payment. According to industry representatives and producers GAO interviewed, however, other factors influence decisions on whether to shear lambs. For example, if lambs are fattened in feedlots, they will generally be shorn because shorn lambs gain weight faster. Other factors which can influence these decisions include the cost and availability of shearers and the comparative prices of shorn and unshorn lamb pelts. The unshorn lamb payment provision is difficult to monitor and costly to administer. (See pp. 14 and 15.)

Program payments are made to producers regardless of the amount of wool produced or the number of unshorn lambs sold. For marketing year 1980 producers receiving less than \$100 from the program accounted for about 63 percent of the number of payments (55,716 of 89,259) but only 6 percent of the total dollar value (\$2.1 million of \$34.7 million). These are generally noncommercial producers who receive very little income from raising sheep and would raise sheep without the payments. Therefore, program payments to these producers are not necessary to encourage wool production. (See pp. 10 to 13.)

PROBLEMS AFFECTING SHEEP PRODUCTION

A number of problems are currently affecting the profitability of sheep production and thus wool production:

--Lamb marketing problems, such as the inconsistent supply of lambs, lack of competition among buyers, and intense competition from imports, contribute to low lamb prices. (See pp. 25 to 27.)

--Loss of sheep to predators is a serious problem. Estimates of annual financial losses range up to \$103 million. (See pp. 26 to 29.)

--Domestic sheepherders are in short supply. Using foreign labor requires compliance with various Federal regulations which can add to a producer's costs. (See pp. 29 and 30.)

RECOMMENDATIONS TO THE CONGRESS

GAO recommends that the Congress consider whether Federal financial assistance should (1) continue to be provided to encourage wool production and/or (2) be provided to generally assist the sheep industry. If the program is retained, the Congress should eliminate payments to non-commercial producers and payments for unshorn lambs because these payments are not accomplishing their intended objectives. (See p. 22.)

AGENCY COMMENTS AND GAO EVALUATION

The Department of Agriculture agreed with most of GAO's findings and stated that, in its opinion, the report reflects a fair appraisal of the program's strengths and weaknesses. (See app. V.) The Department disagreed that payments to noncommercial producers should be discontinued. It said that eliminating non-commercial producers from the program would discriminate against the small producer and that it believed the program should be available to all wool producers. As GAO points out, program payments have little effect on non-commercial producers' sheep production decisions and, in GAO's opinion, are not necessary to encourage wool production. Therefore, GAO believes the recommendation is appropriate. (See pp. 11 to 13 and 23.)

The Department agreed with the recommendation to eliminate the unshorn lamb payment provisions, but it concluded that there would be an increase in shorn wool payments which would offset most of the savings resulting from eliminating the unshorn lamb payments. According to industry representatives and producers GAO talked with, however, producers would not shear lambs to get a wool payment. Therefore, GAO believes significant savings would occur. (See pp. 14 to 16 and 23.)

The Department's comments on other program aspects have been incorporated where appropriate. (See pp. 3, 4, and 21.)

ABBREVIATIONS

ASCS	Agricultural Stabilization and Conservation Service
ASPC	American Sheep Producers Council
CCC	Commodity Credit Corporation
EPA	Environmental Protection Agency
ERS	Economic Research Service
GAO	General Accounting Office
USDA	U.S. Department of Agriculture

C o n t e n t s

		<u>Page</u>
DIGEST		i
CHAPTER		
1	INTRODUCTION	1
	Wool incentive payment program history and description	1
	Objectives, scope, and methodology	4
2	WOOL INCENTIVE PROGRAM HAS HAD A LIMITED IMPACT ON ITS OBJECTIVES	7
	Wool incentive payments have not had a major impact on production	8
	Unshorn lamb payment has little effect on shearing practices	14
	Program has not measurably improved wool quality	16
	Importance of wool to the military and U.S. textile industry is declining	18
	Demand for domestic wool is low	20
	Conclusions	21
	Recommendations to the Congress	22
	Agency comments and our evaluation	23
3	SERIOUS PROBLEMS ADVERSELY AFFECT PROFITABILITY OF SHEEP PRODUCTION	25
	Lamb marketing problems contribute to low lamb prices	25
	Predation has impaired sheep production in some areas	27
	Labor shortages may contribute to production decline	30
APPENDIX		
I	Prices and wool payment statistics for 1955-81	32
II	Description of consultant's work	33
III	Sheep production regions	36
IV	Estimated percentages of producers' sheep in- come derived from various sources in 1979	37
V	Letter dated June 11, 1982, from the Administrator, Agricultural Stabilization and Conservation Service, Department of Agriculture	38

CHAPTER 1

INTRODUCTION

While world wool production has generally been increasing, U.S. wool production and sheep numbers have declined dramatically. From 1955 to 1980 world wool production increased from 4.7 billion pounds to 6.3 billion pounds while U.S. wool production decreased from 283 million pounds to 106 million pounds. During the same period, the U.S. portion of world wool production declined from 6 percent to 2 percent.

The domestic sheep and lamb population has experienced a similar decline, dropping from about 31.6 million in 1955 to 12.5 million in 1980. Factors influencing the decline in U.S. sheep numbers include low lamb and wool prices, an inadequate labor supply, and difficulty in controlling predators.

The U.S. textile industry's use of wool (mill consumption) is down significantly from the 1950's due to the increased use of synthetic fibers. U.S. per capita mill consumption of wool in 1955 was about 2.5 pounds. After dropping to a low of about 0.44 pounds in 1974, mill consumption rose to 0.6 pounds in 1980.

WOOL INCENTIVE PAYMENT PROGRAM HISTORY AND DESCRIPTION

The National Wool Act of 1954, as amended (7 U.S.C. 1781 et seq.), authorizes the Secretary of Agriculture, through the Commodity Credit Corporation (CCC), to support the price of wool and mohair 1/ through loans, purchases, payments, or other operations. The act described wool as "an essential and strategic commodity which is not produced in quantities and grades in the United States to meet the domestic needs * * *." The act also stated that the desired domestic production of wool is impaired by wide fluctuations in the price of wool in the world markets. The act declared congressional policy to be to encourage domestic wool production as a measure of national security and in promotion of the general economic welfare.

In 1977 the act was amended to say that wool is not only an essential and strategic commodity, but that it also is energy-efficient and is not produced in "sufficient" quantities and grades to meet domestic needs. This amendment stated that the desired domestic production of wool is impaired not only by the depressing effects of wide fluctuations in the price of wool but also by predatory animals. Also, the congressional policy statement was amended to add "a positive balance of trade" and "the efficient use of the Nation's resources" as reasons to encourage domestic wool production.

1/Mohair is long silky hair of the Angora goat.

Before 1954 the price of wool was supported through various CCC loan and/or purchase programs. The Agricultural Acts of 1948 and 1949 had provided for mandatory price support for wool. The latter act had also provided mandatory support for mohair.

The loan support program had resulted in large stocks of wool in CCC's inventory. Because market prices were low, farmers did not redeem wool that was pledged as collateral for loans from CCC. Nearly one-third of 1952's wool production came into the CCC inventory. At about the time the wool incentive program became effective, CCC wool stocks totaled 154 million pounds.

The U.S. Department of Agriculture (USDA) became concerned about the operation of the loan support program because of the accumulating CCC wool stocks. After a preliminary investigation, the Secretary of Agriculture concluded that wool was being imported in quantities and at prices that interfered with the support program. The President, responding to the Secretary's concern, asked the U.S. Tariff Commission (now the U.S. International Trade Commission) to investigate. The President also asked the Secretary of Agriculture to report on the factors leading to the decline in sheep numbers and to propose methods for developing a sound domestic wool industry which would be consistent with international trade.

The Secretary's December 1953 report, entitled "Achieving a Sound Domestic Wool Industry," recommended that Government assistance be provided to wool growers under an incentive payment plan during periods when wool prices fell below the desired support level. Based on this report, the President determined that domestic wool growers required continued price or income assistance to compete with imported wools and forwarded to the Congress the Secretary's recommendation.

In February 1954 the Tariff Commission issued its report. The Commission concluded that wool was being imported under such conditions and in such quantities as to render USDA's price-support program for wool ineffective and recommended that the President impose import fees in addition to the existing tariff. The President took no action on the Commission's recommendation because he believed that the Secretary's proposed wool program would remedy the conditions which prompted the Commission's recommendation.

The President approved the National Wool Act of 1954 on August 28, 1954. Although the Wool Act authorizes the Secretary of Agriculture to support the price of wool and mohair through loans, purchases, payments, or other operations, Secretaries have opted for a payment program. The program, which became effective April 1, 1955, has been designed so that payments are based on the percentage needed to bring the national average price received by producers up to the support level established according to the formula in the act. According to USDA, using this percentage method to set the payment rate, rather than making a uniform

flat payment per pound of wool sold, encourages producers to improve the quality and marketing of their wool. Under this method, a producer's payment is determined by applying this percentage to the producer's net proceeds from the sale of wool. Therefore, the higher the market price a producer receives, the higher the incentive payment. Payments for wool marketed during one calendar year are made after March 31 of the following year.

The program provides payments for both shorn wool and unshorn lambs. Shorn wool is wool that is actually sheared from sheep and lambs. Payments for unshorn lambs are made to maintain the normal practice of marketing lambs unshorn and are computed to give producers the same net returns they would have received if they had sheared the lambs and obtained shorn wool payments.

Costs incurred for this program include producer payments and operating and interest expenses. From 1955 through 1980, Government payments to producers totaled about \$1.1 billion, including 89,259 payments totaling \$34.7 million in 1980. Payments in 1981 totaled \$44.8 million. (App. I shows the support price, average market price, shorn payment rate, and amount of Government payments for each of the years 1955 through 1981.) Wool payments for marketing year 1982 ^{1/} are estimated at \$53.5 million. The program's operating and interest expenses have cost USDA over \$3.3 million annually in recent years. The Congressional Budget Office estimates that total outlays for the program for the 5-year period 1983-87 will be \$325 million.

Program expenditures are made initially from CCC funds. Then each year funds are appropriated from the Treasury to reimburse CCC. The Wool Act provides, however, that the amount which can be appropriated for any fiscal year is not to exceed 70 percent of the duties collected on certain imported wool and woolen manufactures during the calendar year preceding the beginning of the fiscal year in which the expenditures were made.

CCC is a wholly owned, Government corporation created in 1933 to stabilize, support, and protect farm income and prices; to assist in maintaining balanced and adequate supplies of agricultural commodities; and to facilitate the orderly distribution of these commodities. CCC has no operating personnel; its programs are carried out primarily through the personnel and facilities of USDA's Agricultural Stabilization and Conservation Service (ASCS). ASCS has offices in every State and in Puerto Rico. There are 2,745 county offices which administer programs in 3,052 counties. Each State and county has a committee which directs the activities of the respective office. County office operations are supervised by a county executive director hired by the county committee.

^{1/}Since 1964 the marketing year for wool has corresponded to the calendar year.

OBJECTIVES, SCOPE, AND METHODOLOGY

We made this review because the program has not been substantially revised since it was established in 1954 and because of the recent congressional emphasis on reevaluating the need for certain Federal programs. In addition, after examining the support methods for various agricultural commodities, we noted that the wool incentive program was the only program where producers who sell their commodity at higher market prices get higher Government payments than the producers who sell their commodity at lower prices.

Our objectives were to determine whether the wool incentive payment program has encouraged wool production and improved wool quality, whether regional differences exist that affect sheep producers' wool production decisions, and whether the program's objectives are still valid.

Although the Wool Act, as amended, authorizes the Secretary to support the price of mohair, we did not review this aspect of the program because the average market price for mohair has been above the support level since the 1972 marketing year. (For marketing year 1980, for example, the support price was \$2.90 a pound while the average market price was \$3.50 a pound.) Between 1955 and 1980, mohair producers only received payments for 8 years. These payments totaled about \$51 million.

We made the review in accordance with generally accepted Government auditing standards. We did our work primarily at ASCS headquarters in Washington, D.C., and seven of its county offices in five States. Most of our fieldwork was done between July and November 1981. Our review covered program payments for the 1980 marketing year--the latest year for which such data was available at the time of our fieldwork.

The States, counties, and individual producers reviewed were selected on a judgmental basis. Because 80 percent of the sheep in the United States are raised in 17 Western States, we selected 3 States--Texas, Utah, and Colorado--from that region. (These States ranked first, fifth, and sixth, respectively, in payments for the 1979 marketing year.) We also selected Ohio and Virginia to provide coverage of the larger sheep-producing States in the Midwest and East and to help determine whether regional differences affect producers' wool production decisions. Proximity to producer groups and industry representatives was also a factor considered in selecting Utah, Colorado, and Ohio. For further information on regional differences among sheep producers, we obtained regional sheep production income and expense data from USDA's Economic Research Service (ERS).

For those States selected, we analyzed ASCS' listing of payments made in fiscal year 1980 (for wool marketed in calendar year 1979) and scheduled the data for all counties on the basis of the following factors: size of payments, number of payments,

average payment, and number of payments less than \$100. We selected counties on these criteria because we believed that the payment amount would be an indicator of operation size. We selected counties which had a cross section of payment amounts so we could obtain a cross section of operation sizes. Also, we contacted each State's extension animal scientist to verify that the counties chosen for our review fairly represented the State's sheep operations. The counties reviewed included:

- Colorado: Mesa, Weld
- Ohio: Knox
- Texas: Crockett, Tom Green
- Utah: Utah
- Virginia: Augusta

In each county we visited, we interviewed at least three producers to obtain their views on the wool program and the sheep industry's problems. The producers were chosen on the basis of the size of the payments in the county--at least one producer each from those receiving payments in the upper, middle, and lower third of the payments range.

Before starting our audit work at the county offices, we contacted ERS' representative to USDA's Interagency Wool Estimates Committee who provided us with lists of publications on the sheep industry, producer organizations, and extension sheep specialists. We also contacted USDA's Office of Inspector General to determine what audit work it had completed or was planning on the wool incentive payment program. We obtained and reviewed publications from producer organizations and State extension service offices, USDA reports on the sheep industry, and Inspector General investigation reports on the wool program.

In the seven counties reviewed, we analyzed the 1,225 wool payment files for marketing year 1980 payments and interviewed the ASCS county personnel who administer the program. We also interviewed a total of 25 sheep producers, county extension agents in four counties, and several sheep/wool specialists and industry groups. Sheep and wool specialists interviewed included an ERS agricultural economist at Colorado State University, who has authored several studies on the sheep industry; the Colorado State University extension sheep specialist; the Director of Research and Extension at Texas A&M University; the wool marketing specialist at USDA's National Wool Laboratory in Denver; and the Program Leader-Animal Science with USDA's Extension Service. We met with industry officials from the American Sheep Producers Council (ASPC), two regional wool growers' cooperatives, the National Wool Growers Association, and the Texas Sheep and Goat Raisers Association.

The predominant trend in the sheep industry has been the rapid decline in sheep production in all regions of the United States. In 1979 cash receipts from sales of sheep, lambs, and wool accounted for less than 1 percent of the cash receipts from

marketings of livestock and products. Because sheep and lambs comprise such a minor portion of the U.S. livestock industry and sheep and lamb numbers have been declining, recent documented evidence on the factors that affect sheep production and thus wool production is quite limited. Also, the number of sheep/wool specialists has declined with the decline in the industry.

We believe that the information we obtained from available reports, the sheep/wool specialists, producers, and producer organizations is the best available evidence on the sheep industry's characteristics and the wool program's accomplishments.

We obtained information on the military's need for wool from the Defense Logistics Agency, the U.S. Army Natick Research and Development Laboratories, and the Federal Emergency Management Agency. We also contacted personnel at the Department of Commerce and U.S. International Trade Commission to obtain information concerning tariffs on imported wool.

The scope of our review did not include determining the extent to which predation is occurring and whether available predator control techniques are effective. Much controversy exists on these issues. We obtained producers' views on predation because we believed their perceptions about their losses could affect their production decisions.

To obtain information on the animal damage control program, we contacted the Chief, Program Analysis Division, of USDA's Animal and Plant Health Inspection Service and the Chief, Division of Wildlife Management, of the Department of the Interior's Fish and Wildlife Service. We also attended the Environmental Protection Agency's (EPA's) information-gathering hearings on whether canceled pesticide products containing compound 1080 should be reregistered.

We employed a consultant, Dr. Bruce Gardner, Professor of Agricultural Economics, University of Maryland, to develop an econometric model to analyze the effect of the wool incentive payment program on historical and current wool production and the effects on wool production if the wool incentive payment program were modified or eliminated. The scope of our consultant's econometric model, his conclusions, and a discussion of the model's limitations are discussed in appendix II. (A copy of Dr. Gardner's study, "Effects of U.S. Wool Policy," is available by request to Keith Fultz, Community and Economic Development Division, U.S. General Accounting Office, Washington, D.C., 20548.)

CHAPTER 2

WOOL INCENTIVE PROGRAM HAS HAD A LIMITED IMPACT ON ITS OBJECTIVES

The wool incentive payment program is intended to encourage wool production and improve wool quality. The program has had a limited impact on these objectives because producers receive 75 percent of their sheep income from lambs sold for meat; therefore, production decisions are primarily based on the profitability of the lamb market. By serving as an income supplement, program payments have enabled some producers to continue raising sheep, thus causing wool production levels to be somewhat higher than they would have been without the program. However, wool production has declined dramatically since program inception, from 283 million pounds in 1955 to 106 million pounds in 1980. Factors contributing to the decline in wool production include predation losses, labor shortages, and lamb marketing problems.

The program also provides for payments to producers who sell unshorn lambs so as to prevent shearing lambs solely to obtain a program payment. According to industry representatives and the producers we interviewed, these unshorn lamb payments (\$5.5 million for marketing year 1980) do not influence producers' shearing practices as was intended. Other factors, such as whether the lambs are put in feedlots before they are marketed, the cost of shearing, and the value of lamb pelts, have a greater impact on producers' decisions to shear lambs. Furthermore, the unshorn lamb payment provision is difficult to monitor and costly to administer.

The program currently provides payments to producers regardless of the amount of wool produced. Because noncommercial producers (those with less than 50 sheep) generally receive payments of less than \$100 and raise sheep for reasons other than the income, wool incentive payments to noncommercial producers have little effect on wool production levels.

Standards to measure wool quality do not exist; therefore, determining the program's effect on wool quality is difficult. According to reports on the domestic wool market and industry representatives and sheep specialists, however, the quality of domestic wool has improved very little, if any. Contamination problems caused by certain feeding, shearing, and marketing practices and producers' emphasis on lamb production have affected wool quality.

According to the Wool Act, congressional policy is to encourage domestic wool production, among other reasons, as a measure of national security and to promote the general economic welfare. However, wool's importance both to the military and the U.S. economy has decreased due to the increased use of synthetic fibers.

WOOL INCENTIVE PAYMENTS HAVE NOT HAD A MAJOR IMPACT ON PRODUCTION

Program payments, \$1.1 billion through marketing year 1980, have caused U.S. wool production levels to be somewhat higher than the levels would have been without the program. (See graph on p. 9.) However, producers' emphasis on raising lambs for meat and factors such as loss of sheep to predators, labor shortages, and lamb marketing problems have prevented this program from having a major effect on encouraging wool production. (Details on these factors are discussed in ch. 3.)

The Wool Act stated that it was congressional policy to encourage an annual domestic production of about 300 million pounds of shorn wool. This goal, however, has never been attained. In fact, between the time when the act was passed in 1954 and the time when the policy was changed in 1977, U.S. shorn wool production declined from 236 million pounds to 107 million pounds. Title III of the Food and Agriculture Act of 1977 deleted the reference to the annual production of about 300 million pounds and replaced it with "continued" domestic production of wool.

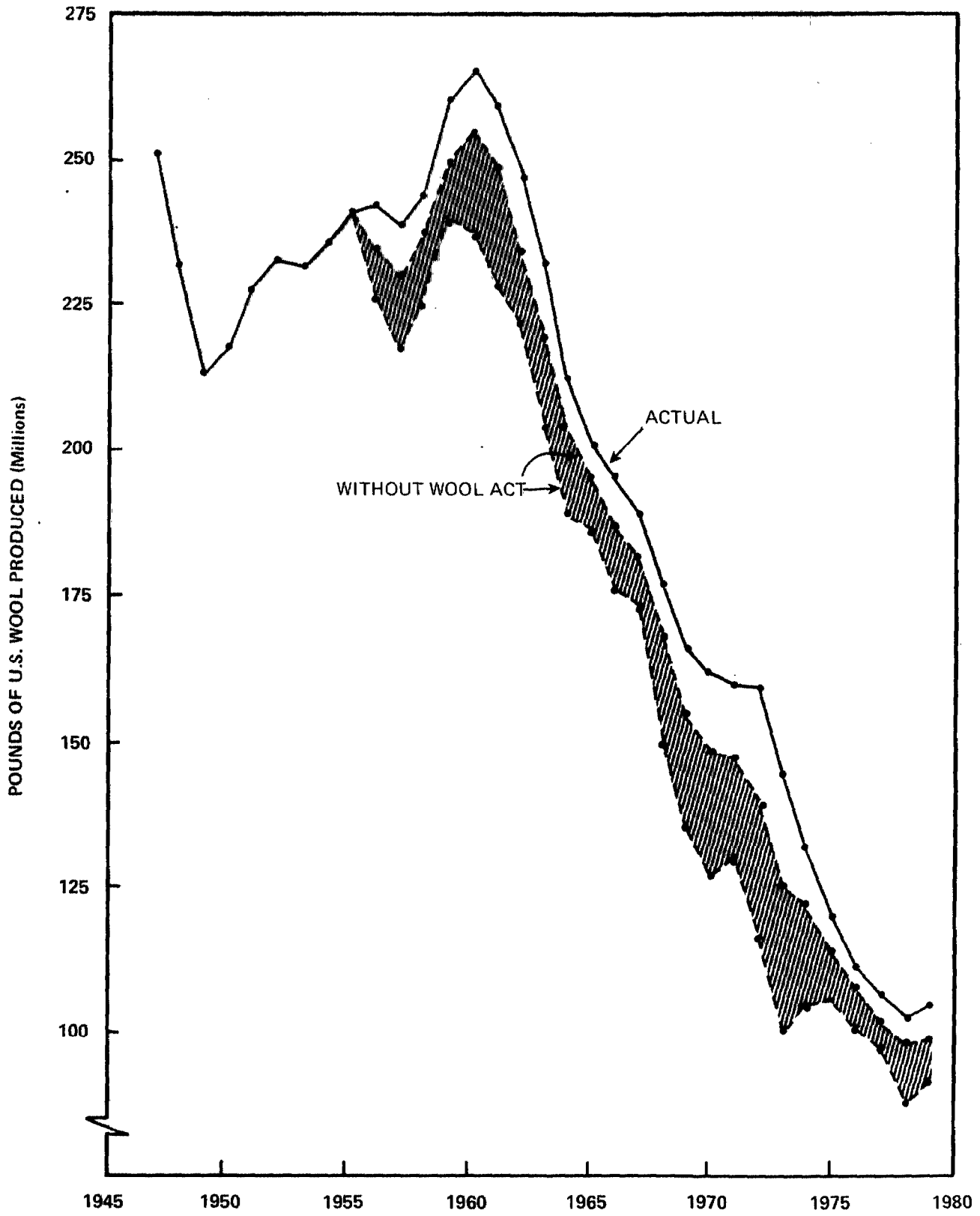
The number of sheep shorn has increased modestly in recent years. Increases in 1979 and 1980 were 4 percent and 1 percent, respectively, and the number of sheep and lambs shorn in 1981 is estimated to be 1 percent more than in 1980. According to an ERS economist at Colorado State University, the recent increase in sheep numbers was probably due to the profitability of sheep and lamb production during 1975-79 and ASPC's blueprint program for expanding the sheep industry. ^{1/}

Payments have had a small effect on wool production

Our consultant developed an econometric model to estimate the wool incentive program's effect on wool production and what the program's effect would be if it were modified or eliminated. The model estimated the effects of the following factors on the quantity of wool produced: the expected prices of wool, lamb, substitutes (such as cattle) that might be produced instead of raising sheep, and production inputs; the Government payment per pound; the state of technology; and random events such as predator loss or disease. The scope of our consultant's work, his major conclusions, and the limitations of his model are discussed in appendix II.

^{1/}In 1975 representatives of the major sheep organizations met to develop a program to revitalize the sheep industry. The group's objective was to reverse the downward trend in sheep production. The resulting program, called "Blueprint for Expansion of the American Sheep Industry," established goals relating to production, marketing, land use, predators, labor, research and education, and organizational structure.

ESTIMATED EFFECT OF THE WOOL ACT



Based on this model, our consultant concluded that the incentive payments have had a "relatively small but positive effect on U.S. wool output," although the magnitude of the effect cannot be precisely measured. He concluded that from 1956 through 1979, the program's average annual effect on U.S. wool production was to increase output between 10.5 million pounds and 24.2 million pounds--or about 6 to 13 percent--above the level it would have been in the program's absence. (See graph on p. 9.) However, he concluded that the program has not had any apparent effect in reducing the rate of decline.

Our consultant estimated that in 1980 the payments increased output between 7 million and 16 million pounds. Program costs for the marketing year 1980 (this includes payments to producers and operating and interest expenses) totaled \$42.1 million. Thus, in effect, the additional output for 1980 cost the Federal Government between \$2.63 and \$6.01 a pound. The average market value of wool produced in 1980 was 88 cents a pound.

Joint product nature of sheep reduces the payment's effect

Because producers receive income from lamb and wool (joint products of sheep), the degree to which the wool payments affect wool production will depend on how much of the producers' total sheep income comes from wool. At one time income from wool accounted for more than half the producers' sheep income, but today sheep producers on the average receive about 75 percent of their sheep income from lambs sold for meat. Therefore, changes in sheep numbers tend to be related more to changes in the profitability of the lamb market rather than the wool market.

Our consultant concluded that maintaining U.S. wool production at the 1950-60 average level would have been impossible even with shorn wool payment rates of 100 percent. (The actual rates are shown in app. I.) He also concluded that wool simply has not been an important enough share of the producers' total sheep revenues to have had such a significant effect on production. Thus, the emphasis on lamb production makes it difficult for a wool subsidy program to have a large effect on wool production.

Program's impact on producer decisions varies by region and size of operation

Although producers on the average receive about 75 percent of their sheep income from lambs sold for meat, 20 percent from wool (including wool payments), and 5 percent from ewes, the percentages of income from lamb and wool vary according to region and flock size. Therefore, the payment program's greatest effect on production will be in those regions and on those producers that receive more income from wool than the national average.

Sheep budgets, in which ERS summarizes information on costs and returns for sheep production, show regional differences in the percent of income earned from wool and lamb. Sheep budget statistics for 1979 are presented in appendix IV for the eight major sheep production regions (Texas-New Mexico, Mountain, Great Basin, California-Arizona, Pacific Coast, Northern Plains, Plains Wheat-Corn, and Northcentral States). The statistics show that producers in Texas-New Mexico on the average receive a larger percent (23 to 27) of sheep income from wool and wool payments than producers in other regions. Producers in the Northcentral States region on the average receive the smallest amount (15 percent) of sheep income from wool and wool payments.

Regional differences in the percent of sheep income earned from wool and lamb can be explained in part by differences in the breeds of sheep producers raise. Sheep producers use different breeds to meet variations in climate, geography, elevations, and personal preferences. Fine wool breeds, such as the Rambouillet, generally do better under range conditions found in arid climates. They are not as good from the standpoint of lamb production as many other breeds. However, they produce a uniform, desirable fine grade fleece that is worth more on the market. For areas with extremely large amounts of rain, such as northern California and Oregon, "long wool" breeds, such as Lincoln and Romney, have many advantages. These breeds produce long, very coarse wool. The coarseness of the wool makes it less desirable than that of certain other breeds, but the nature of the wool allows the sheep to survive better in such climates.

Even within the same region, the percent of sheep income obtained from wool may vary depending on the size of the sheep operation. According to a May 1978 ERS report entitled "Characteristics of Sheep Production in the Western United States," sheep operations can be divided into three general size categories: (1) noncommercial operations of fewer than 50 head, (2) commercial farm flock operations of 50 to 999 head, and (3) large-scale commercial operations of 1,000 head or more.

The report states that noncommercial operators include farmers that maintain sheep to use available forage, to use in 4-H projects, and to provide a small income supplement. Commercial farm flock operators maintain sheep as a secondary source of income. Large-scale commercial operators raise sheep as a major source of agricultural income. The report states that within the 17 Western States, commercial farm flock and large-scale operators accounted for only 41 percent of producers. However, these operations accounted for 93 percent of the domestic sheep production in 1974.

According to a February 1978 New Mexico State University Cooperative Extension Service report entitled "Sheep Production and Management,"

"Small flocks, from 10 to 50 ewes, are often not profitable because they tend to be poorly managed.

Mechanization is also not feasible, so return per hour of labor is not maximized. All too often, small farm flocks are used simply to control weeds on irrigation ditches. These sheep never return their maximum to labor."

The noncommercial producers we talked with said they consider the sheep business to be a hobby or a sideline to another major enterprise or occupation.

Because producers receive payments regardless of the amount of wool or number of unshorn lambs sold, many payments are for small amounts. Until 1977 ASCS' Management Field Office did not issue wool payments if they were less than \$3. According to the chief accountant of ASCS' Fiscal Division, State ASCS offices received complaints from producers about this limitation. For example, due to this limitation, a number of children were not receiving payments for 4-H projects. The county offices could and did make payments of less than \$3 at the producers' request, but because of the complaints, the Management Field Office now issues checks to all producers.

For marketing year 1980 about 63 percent of the number of payments (55,716 of 89,259) but less than 6 percent of the amount of the payments (\$2.1 million of \$34.7 million) were made to producers who received less than \$100. The following chart shows the number and amount of payments made in each payment size category.

<u>Size of payment</u>	<u>Number of payments</u>	<u>Percent of total number of payments</u>	<u>Amount of payments</u>
\$0 - 24.99	21,407	24	\$ 284,239
25.00 - 49.99	16,900	19	617,695
50.00 - 74.99	10,454	12	644,570
75.00 - 99.99	6,955	8	602,803
100.00 or more	<u>33,543</u>	<u>37</u>	<u>32,578,591</u>
Total	<u>89,259</u>	<u>100</u>	<u>\$34,727,898</u>

According to USDA wool production statistics, the average fleece weighs about 8 pounds. Therefore, 400 pounds of wool would be obtained from shearing about 50 sheep, the upper limit of the category "noncommercial operation." In our review of 909 ASCS county office wool payment files, we found only two shorn wool payments of less than \$100 that were made on 400 pounds or more of wool. Because noncommercial sheep producers receive payments of \$100 or less and raise sheep for reasons other than income from sheep, we believe that wool incentive payments to non-commercial producers have little impact on encouraging wool production.

Program has served as
an income supplement

Although the program has not had a major effect on wool production levels, it has served as an income supplement to sheep producers. A January 1977 ERS report entitled "The National Wool Act of 1954--Past Effectiveness and Potential Changes," states that the Wool Act has not accomplished the purposes for which it was intended--maintaining wool production or improving wool quality. According to the report, however, payments under the Wool Act have helped slow the decline of the sheep industry by contributing to producer income.

The report states that some producers are probably still in business because of the income supplement. According to the ERS economist who authored the report, it would be extremely difficult to quantify how many producers are in business as a result of the wool payments because, to do so, data would be needed on how the payment affects each producer's total income.

Several industry representatives and sheep/wool specialists told us that the wool program's major accomplishment has been to supplement incomes, thereby keeping some producers in business. For example:

- The President and the Chairman of the Board of the National Wool Growers Association told us that the wool program has kept a lot of producers in the business and has helped reduce the effect of all the adverse factors affecting the sheep industry. According to these officials, the incentive program has allowed some producers to make a profit and stay in business.
- The wool marketing specialist at USDA's National Wool Laboratory told us that the program has served as an income supplement and probably kept some producers in business. Due to the lack of data, he could not quantify how many producers the program has kept in business but he told us that payments have most likely helped producers with range flocks of 500 to 1,000 head. He said that producers with less than 50 head raise sheep for reasons other than income and would probably continue to do so without the payment.
- A Colorado State University extension sheep specialist also told us that assessing the impact of the wool program is difficult because there have been a lot of negative pressures on the sheep industry. These negative factors include high labor costs, environmental pressures on the use of rangeland for grazing, and restrictions on predator control methods. He said, however, that in the final analysis, the program has served as an income supplement and probably kept some producers in business.

Congressional Budget Office comments
on the wool and mohair payment program

In a February 1982 report entitled "Reducing the Federal Deficit: Strategies and Options," the Congressional Budget Office concluded that the wool and mohair payment program has not achieved its objective of encouraging wool production. The report stated that the program conflicts with the reality of declining lamb and mutton consumption and the rising use of synthetic fibers. The report stated that payments are made to just 80,000 farmers and average only \$400 per farmer. According to the report, eliminating payments would be of small economic significance to most farmers and would be unlikely to affect the industry's long-term economic viability. The Budget Office estimated that eliminating the program would reduce Government outlays by \$325 million over the 5-year period 1983-87.

UNSHORN LAMB PAYMENT HAS LITTLE
EFFECT ON SHEARING PRACTICES

The wool program's unshorn lamb payment provision does not influence producers' decisions to shear their lambs. Other factors such as whether the lambs are put in feedlots before they are marketed, the value of lamb pelts, shearing costs, and availability of shearers determine whether lambs are shorn before slaughter. Therefore, the unshorn lamb payments, which totaled \$5.5 million in marketing year 1980, are not accomplishing their intended purpose. Furthermore, checking the accuracy of the data used to compute unshorn lamb payments is difficult and time consuming.

The Wool Act provides that the support price for unshorn lambs be set at such a level, in relation to the support price for shorn wool, that will maintain normal marketing practices for lambs. According to an ASCS handbook, this provision was designed to avoid unusual shearing of lambs before marketing to obtain the payments on shorn wool.

Industry representatives and the producers we talked with told us that the unshorn lamb payment does not affect a producer's decision to shear lambs. The President of the National Lamb Feeders Association, the President and the Chairman of the Board of the National Wool Growers Association, an ASPC marketing specialist, and the producers we talked with said that, as a general practice, lambs put on feed (placed in feedlots) are shorn because they gain weight better if shorn, but lambs that attain slaughter weight on milk and grass are sent to slaughter unshorn. Other factors mentioned which can affect the decision to shear or not shear lambs were the relative prices of shorn and unshorn pelts, the cost of shearing, and the availability of shearers.

The industry representatives and producers agreed that the unshorn lamb payment does not influence whether or not lambs are

shorn. Some commented, however, that the payments do give the producers credit (income) for the wool they produced that they would not receive otherwise.

The unshorn lamb payments also are more difficult and time consuming, and therefore more costly, for ASCS to administer than are the shorn wool payments. At the county offices we visited, procedures for assuring that unshorn lamb payments are proper differed considerably, often were not documented, and were time consuming. Moreover, the monitoring effort still did not assure the accuracy of certain data used to compute the payments.

Because the unshorn lamb payment provision gives the producer credit for the wool on the lamb, any producer/feeder who purchases lambs must report them so that their payments can be adjusted downward by the amounts paid to the previous owners. Therefore, ASCS procedures instruct the county offices to strive to assure that applicants report purchases of unshorn lambs accurately. This includes reviewing payment applications to verify accurate applicant reporting of unshorn lambs purchased and later shorn or resold unshorn. However, absolute verification of this data for certain unshorn lamb sales (such as through auction houses and order buyers) can be very difficult and time consuming.

ASCS county office personnel in five of the counties we visited said that sales through auction houses and order buyers account for a large portion of the unshorn lambs sold in their counties. One county executive director estimated that these sales represented 90 percent of the unshorn lambs sold in that county. The invoices on these sales, submitted by the sellers with the applications for unshorn lamb payments, do not identify the purchasers and/or their addresses. Therefore, the county office would have to obtain this information from the auction house or order buyer so that the county office could determine whether the purchaser applied for a payment for the same lambs. One of the county offices we visited was obtaining information on lamb sales made at an auction house in the county, but this data was of limited value because many of the purchases were made either by order buyers or for the auction house's own account.

Officials of the National Wool Growers Association said that they were aware of the problems with verifying the accuracy of data submitted by the applicants for unshorn lamb payments and the amount of time needed to administer this part of the wool program. They suggested that alternatives would be either to provide a different type of payment (for example, for unshorn pelts) or, if other parts of the program remained intact, to eliminate the unshorn lamb payment entirely.

PROGRAM HAS NOT MEASURABLY
IMPROVED WOOL QUALITY

Determining the program's effect on wool quality is difficult because standards to measure variations in wool quality do not exist. Available USDA studies state and most industry representatives and sheep specialists we talked with believed, however, that the program has not helped to improve wool quality. The emphasis on lamb production and wool contamination resulting from certain feeding, shearing, and wool marketing practices continue to impair domestic wool quality.

No apparent improvement in wool quality

One of the incentive program's major objectives is to improve wool quality. (According to USDA, quality refers to attributes such as fiber length, crimp (curl and wave), strength, elasticity, luster, and color.) USDA has not developed standards to measure variations in wool quality attributes. Therefore, the only way for us to assess trends in wool quality was through studies and interviews with knowledgeable individuals.

The President of the National Wool Growers Association told us that wool quality--referring to uniformity in grades, length of staple, and cleanliness of the wool--has been improving in those regions where sheep are raised for wool; for example, Texas, New Mexico, and parts of Wyoming and Montana. The Director of Texas A&M's Research and Extension Center said that wool quality, as measured by fineness, has improved in west Texas but that there are no statistics available on the changes in wool quality produced in the area. Other sources generally believed that the program has not resulted in improved wool quality.

The January 1977 ERS report on the wool program's effectiveness concluded that:

"Quality of wool produced in the U.S. does not seem to have improved since the program began. There are no published sources to illustrate trends in wool quality. However, it is the opinion of USDA and extension personnel working with the industry that quality has become lower as greater emphasis has been placed on lamb production."

In a presentation made at the Eastern Lamb and Wool Marketing Conference in November 1981, the General Manager of the 17,000-member Mid-State Wool Growers Cooperative (who also served as Chairman of the ASPC's Wool Advisory Council) said that after 32 years of wool marketing experience and in spite of educational work done in promoting better quality wool, the quality of domestic wool, especially in the Midwest, is not nearly as good as it was 25 years ago. He also said that when the sheep operation is not an important part of the total farm

operation (producers with less than 50 sheep), the producer generally is not very concerned about wool quality.

A wool marketing specialist at USDA's National Wool Laboratory, the Manager of the Utah Wool Marketing Association, and a Colorado State University extension sheep specialist also told us that they believed domestic wool quality has not improved. The wool marketing specialist said that no statistics on wool quality exist, but he does not believe that wool quality has improved. The association manager said that the quantity of wool per sheep has increased but that overall quality has not. The sheep specialist, who has worked with sheep producers since before the incentive program was implemented, said that wool quality in the intermountain area has not improved.

Producers' management and marketing practices affect wool quality

Certain feeding, shearing, and marketing practices cause domestic wool contamination problems, thereby lowering domestic wool quality. The major sources of wool contamination are off-colored fibers, vegetable matter, and plastic twine. These problems result in wool prices being discounted by wool buyers.

Two ERS reports--one in 1969 and the other in 1977--concluded that certain management and marketing practices have caused U.S. wool to be of lower quality than imported wool. The 1969 report--the most recent USDA study on domestic wool marketing--concluded that:

"Although wool produced in the United States compares favorably in basic quality with that of the major wool producing countries, it lacks the general uniformity and mill desirability of the foreign product because of producer emphasis on lamb production, improper shearing, inferior preparation in the marketing system, and insufficient incentives to improve the quality of the clip under existing marketing practices and costs."

The 1977 ERS report on the wool program's effectiveness also mentioned domestic wool quality problems. The report states that wool produced in the United States is of a lower quality than imported wool. According to the report, this results primarily from the nature of the country in which sheep graze, feeding practices, and wool handling methods after shearing.

According to one regional wool growers' cooperative official, the principal problem with domestic wool quality is black fibers in the fleece. This results from the emphasis on lamb production. Black-faced sheep are mutton or meat-type breeds. When these sheep are crossbred with white-faced ewes, the resulting crossbreeds' fleece may contain black fibers. Wool buyers offer lower prices for fleeces that contain black fibers because the black fibers cannot be dyed. A fleece heavily contaminated with black fiber can only be used in black fabrics and yarns.

Contamination of wool with synthetic fibers has also become a serious problem. The polyester fibers come from plastic twine used to bale feed. If the feed is chopped with the twine intact, the fibers may get into the fleece while sheep are feeding. These fibers do not take to a dye, and therefore, wool buyers may reject wool if it contains synthetic fibers. Often these fibers go undetected until the cloth is finished. According to a 1976 ASPC report entitled "Blueprint--Clearing Hurdles to Profit with Sheep," manufacturers, such as Pendleton and Burlington, claim it costs them \$1.00 or more a yard to clean the fibers out of the wool. Vegetable matter, such as burrs and seeds picked up while grazing, can also contaminate wool as does vegetable matter left on shearing floors.

According to an ASPC marketing specialist, providing more information to producers on better wool marketing techniques may help reduce some problems affecting wool quality. According to the 1976 ASPC report, producers could avoid some contamination by

- using paper, instead of plastic, bale twine;
- avoiding feeding chopped hay in deep racks where hay can work into neck wool;
- clearing burrs from pastures;
- keeping shearing pens clean of straw and foreign matter;
- shearing sheep only when they are dry;
- bagging wool immediately after shearing; and
- separating black and inferior wool from rest of fleece.

Using these techniques would cause producers to spend more time preparing their wool for market. Since the producers' major source of sheep income comes from lambs sold for meat and not wool, it may be difficult to convince them to spend more time preparing their wool for market.

IMPORTANCE OF WOOL TO THE MILITARY AND U.S. TEXTILE INDUSTRY IS DECLINING

The increased use of synthetic fibers has caused the importance of wool to the military and the U.S. textile industry to decline since the 1950's. The Wool Act describes wool as an essential, strategic, and energy-efficient commodity not produced in the United States in sufficient quantities and grades to meet domestic needs. However, wool is no longer classified as strategic, the military now uses items made of wool blends that once were made entirely of wool, and U.S. per capita mill consumption of wool has declined.

Military's need for wool for mobilization purposes

The Strategic and Critical Materials Stock Piling Act, as amended (50 U.S.C. 98 et seq.), provides that strategic materials be stockpiled in the interest of national defense to preclude costly and dangerous dependence on foreign sources of supply in times of national emergency. A representative from the Federal Emergency Management Agency's stockpiling division told us that wool (in the form of apparel) was placed on the list of stockpile materials on December 14, 1950, with a goal of 350 million pounds. However, due to questions on whether the Department of Defense should stockpile wool and what the best way to stockpile would be, the goal was eliminated on June 30, 1952, and has never been reestablished.

The Defense Logistics Agency supplies certain items to the military services that contain wool or wool blend fabrics. Wool is used in the manufacture of nine different mobilization items, such as blankets, socks, and watch caps. According to a mobilization official from the Defense Logistics Agency, wool was removed from the list of strategic commodities when dress uniforms were dropped from the mobilization requirement because they were not essential for combat. The military's basic combat uniform--a nylon-cotton blend--uses no wool.

According to the Defense Logistics Agency, about 47 million pounds of wool would be necessary to support the initial mobilization requirement. Currently, mobilization reserve stocks of finished products equate to about 7 million pounds of wool. Although statistics on mobilization requirements during the 1950's are not now available, the official told us that the figure would have been somewhat higher because the military now uses wool blends in mobilization items that were made entirely of wool in the 1950's. Furthermore, he said that the current requirement could be lower if the military used commercial blankets that are made entirely from synthetics.

Textile industry's use of wool has declined

Although the U.S. textile industry's use of wool (mill consumption) has increased slightly in recent years, it still is down significantly from the 1950's. The decline is due to the increased use of synthetic fibers. Changing fashion trends (for example, a return to the use of natural fibers) may explain the recent increases in mill consumption.

Since 1955 market shares for synthetic fibers have increased and those for wool have decreased in such markets as carpets, sweaters, and suits. U.S. per capita mill consumption of non-cellulosic, synthetic fibers rose from 2.61 pounds in 1955 to 35.7 pounds in 1980. Per capita mill consumption of wool dropped from 2.5 pounds in 1955 to 0.44 pounds in 1974 and then increased slightly to 0.6 pounds in 1980. In the 1976 ASPC report, an

industry representative from a major textile manufacturer stated that a return to the natural fiber or "soft look" is responsible for the increased demand for wool.

According to a report entitled "Wool Statistics, 1980-81" by the Commonwealth Secretariat International Wool Textile Organization and International Wool Study Group, the current surplus of oil and oil by-products in world markets may cause the competition from synthetic fibers to intensify as petroleum is used in synthetic fibers. However, fashions and the price and availability of alternative fibers are other factors that affect the demand for wool.

DEMAND FOR DOMESTIC WOOL IS LOW

Low demand for medium grade domestic wool, the primary type produced in the United States, has adversely affected U.S. producers. Competition from imported medium grade wool and wool products and the slow economy are contributing to the low demand. Reductions in the tariff rates on imported wool may exacerbate the problem.

In November 1981 ERS reported that raw wool imports for 1981 were expected to be about 73 million pounds, or about 29 percent above those for 1980. The increase was attributed to dutiable wool imports which totaled 37.6 million pounds, or 65 percent of the total raw wool imports during the first 9 months of 1981. This compared with imports of 23.3 million pounds, or 52 percent of the total wool imports during the same period in 1980. The raw wool content of imported textile products from January through September 1981 was 89.2 million pounds, about 9 percent more than a year earlier.

In December 1981 USDA's Agricultural Marketing Service reported that mills were controlling inventories very closely and were continuing to buy only against orders. The Service attributed the lack of mill demand in the fall of 1981 to the slow economy, high interest rates, and imports.

An official from one of the regional wool growers' cooperatives told us that as of February 1982 the cooperative was carrying higher-than-average stocks of medium grade wool, due to the lack of mill demand for medium grade U.S. wool. According to this official, imports of wool from South America and woollen products from China were the primary cause of the lack of mill demand for domestic wool.

The price of imported wool is higher than the price of domestic wool of the same grade, partly because of the duties

placed on imports of apparel wool, 1/ the principal kind produced in the United States. Tariff reductions, therefore, could hurt the competitiveness of and demand for domestic wool.

As a result of multilateral trade negotiations, import duties on wool and finished wool products are being reduced. The first rate reductions took effect in January 1980 and additional reductions will be made over the next several years. Personnel from the U.S. International Trade Commission and the Department of Commerce were unable to characterize the impact these reductions will have on the competitiveness of and demand for domestic wool.

In its comments (see app. V), USDA said that it is difficult to assess the impact the reduced import duties will have on the domestic wool industry. It believes that these reductions will make imported wool cheaper in the United States and depress domestic wool prices accordingly. Any increase in imports would also negatively affect the balance of trade.

CONCLUSIONS

The wool incentive payment program, established by USDA to implement the Wool Act, has had a limited effect on its objectives of encouraging wool production and improving wool quality. By serving as an income supplement, payments have slowed the decline of the sheep industry and kept wool production levels somewhat higher than they would have been without the program. However, wool production levels have declined sharply. The program has had little, if any, effect on wool quality.

The program has had only a limited effect because factors other than income from wool affect sheep production decisions and thus wool production. On the average, producers receive about 75 percent of their sheep income from lamb sales; therefore, providing an incentive payment on wool is not an effective or efficient way to encourage wool production. Each pound of additional wool production attributable to the wool program in 1980 cost the Federal Government from \$2.63 to \$6.01. This is for wool that brought the producer 88 cents a pound.

Moreover, the major reasons for establishing a program to encourage wool production are no longer as important as they were when the Wool Act was enacted. Wool is no longer classified as a strategic commodity, and its importance both to the U.S. textile industry and for defense mobilization requirements has declined.

1/Apparel wool is wool suitable for manufacture into fabrics for clothing. The term is used in contrast to carpet wool which is wool that is too heavy or coarse to be made into clothing.

However, factors such as lamb marketing problems, predation losses, and labor shortages (see ch. 3) have adversely affected the profitability of sheep production. In light of these factors, the Congress may decide that sheep producers should receive financial assistance. If the program is continued on that basis, however, it would be the only income supplement program for livestock producers. The wool incentive program was not designed as an income supplement program, and therefore, it is not an effective means to solve the industry's current problems.

Payments made to noncommercial producers and payments for unshorn lambs do not effectively accomplish their intended objectives. Payments to noncommercial producers have little effect on encouraging wool production since noncommercial producers do not rely on the income received from sheep. Payments for unshorn lambs--intended to maintain the normal practice of marketing lambs unshorn--do not influence whether lambs are shorn. Furthermore, the unshorn lamb payment provision is extremely difficult to monitor and is costly to administer.

RECOMMENDATIONS TO THE CONGRESS

We recommend that the Congress consider whether Federal financial assistance should (1) continue to be provided to encourage wool production and/or (2) be provided to generally assist the sheep industry. We also recommend that, if the program is retained, the Congress eliminate payments to noncommercial producers and payments for unshorn lambs because these payments are not accomplishing their intended objectives.

Budgetary impact of our recommendations

If the Congress continues the wool payment program and eliminates the unshorn lamb payments and payments to noncommercial producers, savings would amount to about \$7.5 million annually. USDA has estimated that unshorn lamb payments will total \$5.4 million for fiscal year 1983, but no estimate is available for future years. The amount of savings that could be achieved by eliminating payments to noncommercial producers would depend on the eligibility criteria established. If the criteria selected eliminates payments of less than \$100, annual savings could amount to about \$2.1 million in producer payments plus the cost of processing about 55,700 payments.

<u>Agency, bureau, and program</u>	<u>Appropriation account</u>	<u>Budget function/ subfunction</u>	<u>Savings</u>	<u>Authorizing committees</u>
			(millions)	
Department of Agriculture				
Commodity Credit Corporation				
National Wool Act:				
Terminate payments for unshorn lambs	12(05-66) 5210	351	\$5.4	House and Senate Com- mittees on Agriculture
Terminate pay- ments to non- commercial producers	12(05-66) 5210	351	2.1	

AGENCY COMMENTS AND OUR EVALUATION

USDA said that it agreed with most of the findings in the report and believed that the report presents a fair appraisal of the wool program's strengths and weaknesses. USDA said that a major area of agreement is the elimination of the program's unshorn lamb payment provisions. It said that factors favoring elimination are:

"Unshorn lamb payments account for only 10-15 percent of the total incentive payments, but require 50-60 percent of the time required to administer the program.

"Lamb feedlot operators report that this provision is detrimental to their operation. They prefer shorn lambs in their feedlots because the lambs are cooler, gain faster, and their pelts are more desirable to the slaughterer. If the feedlot operator buys woolled lambs, he must pay for shearing, bagging, transportation, and marketing the wool, but the incentive payment goes [primarily] to the grower of the lambs.

"The extra administrative time required is due to the difficulty in tracing the previous owner, particularly on lamb sales through country auctions and traders. It is also difficult to prove the 30-day ownership requirement. Where lambs are commingled and identity is lost, the 'first-in, first-out' method requires additional bookkeeping."

USDA said that most lambs that are now sold unshorn would be shorn if the unshorn lamb payments were discontinued and that the shorn wool payments would offset most of the savings resulting from the elimination of the unshorn lamb payments. It added that because very few full-wooled lambs would be slaughtered, pullers (people employed to pull wool from sheep pelts) would be out of a job. As noted on pages 14 and 15, however, the industry representatives and producers we talked with said that producers would not shear lambs to get a wool payment; therefore, in our opinion, significant savings would occur. Furthermore, in 1980 only about 1 million pounds of pulled wool were produced in the United States and only five companies in the United States still pull wool. The largest and only full-time pulling company employed 58 persons and produced (pulled) about 750,000 pounds of wool in 1981.

USDA said that eliminating noncommercial producers from the program would discriminate against the small producer. It said it believed that the wool program should be available to all producers, including noncommercial producers. It added that college researchers have concluded that the sheep and wool industry could best be expanded in farm flocks or by noncommercial producers as these farms or producers tend to have unused roughage. ASCS program personnel were unable to provide us with documentation on such research, although they said they had been told this by the researchers.

As we pointed out on pages 11 to 13, noncommercial producers generally do not rely on the income from sheep (including wool program payments) and maintain the sheep for other reasons. Therefore, the program payments have little effect on their sheep production decisions; consequently, we believe the recommendation is appropriate.

ERS initially believed that the social cost of the wool program, as measured by our consultant, was significantly deficient in several technical aspects and that this raised questions about the report's economic conclusions. After ERS was provided additional information on the consultant's work, however, ERS' Chief, Food and Agricultural Policy Branch, National Economics Division, agreed that

- any technical deficiencies that exist should not be considered significant and are inherent in the use of econometric models;
- improving the model would have required much more work with little assurance of measurably better results; and
- because the report does not rely on the consultant's projections of social costs, any deficiencies would not materially affect the report's economic conclusions.
(See app. V.)

CHAPTER 3

SERIOUS PROBLEMS ADVERSELY AFFECT PROFITABILITY OF SHEEP PRODUCTION

Lamb marketing problems, predation losses, and labor shortages seriously affect the profitability of sheep production. Advances in lamb marketing techniques have increased the prices received by a few producers, but because producers receive a larger share of their sheep income from lambs (sold for meat) than wool, low lamb prices continue to be the primary concern to sheep producers and industry representatives. Recent Department of the Interior policy changes on predator control techniques may alleviate some of the producers' concerns about previous restrictions on such techniques. However, before sheep producers can use what they believe to be the most effective control technique--toxicants with compound 1080--EPA would need to reverse its 1972 decision canceling the registration of compound 1080. Labor shortages may be one of the more difficult problems to solve because more attractive employment alternatives exist for those who would otherwise become sheepherders.

LAMB MARKETING PROBLEMS CONTRIBUTE TO LOW LAMB PRICES

The inconsistent supply of lamb, lack of competition among buyers, and intense competition from lamb imports are problems that contribute to low lamb prices. Because producers receive most of their sheep income from lamb, low lamb prices are of the utmost concern to sheep producers and industry representatives.

The American Sheep Producers Council, the industry's self-help organization, conducts national advertising and promotion programs for sheep products. ^{1/} ASPC officials told us that in recent years ASPC has increased its efforts on lamb marketing because 75 percent of producers' sheep income is from lamb sales. Before 1977 promotion funds were divided equally between lamb and wool. In 1977, however, about 56 percent of the ASPC funds was budgeted for lamb advertising and promotion. In 1981 ASPC requested that USDA approve a supplemental budget of \$500,000 to help "strengthen the demand for lamb." This request brought the total amount of funds budgeted for lamb promotion to about \$2.5 million, or about 63 percent of the ASPC budget.

ASPC officials believe that more lamb could be sold at higher prices if the supply of lamb was consistent throughout the marketing year. Recent ERS statistics show that in 1980

^{1/}ASPC advertising and promotion funds come from deductions from wool incentive payments, as authorized by section 708 of the National Wool Act of 1954.

almost 40 percent of the lambs marketed were sold in September and October. The inconsistent supply of lamb results primarily from the breeding cycle of sheep. In any one region, most lambs are born within a period of 2 months.

From a production standpoint it may be more efficient to schedule lamb births to come before the spring grass grows so that ewes and lambs can obtain most of their feed from pasture. From a marketing-processing-distribution perspective, however, seasonal surges in production require extra capacity for processing plants. For example, the packing system could easily accommodate all the U.S.-produced lamb if it were evenly distributed over a 12-month period. However, due to the seasonal variation in production, there are times when packing plants cannot slaughter all the lambs that are available and other times when they cannot get enough to slaughter. According to the Program Leader-Animal Science with USDA's Extension Service, packers are unable to continually adjust their labor force to meet the changing conditions. As a result, whenever supply exceeds processing capacity, farm prices are vulnerable to depressed prices. For example, choice slaughter lambs at San Angelo, Texas, were selling at about \$62 per hundredweight in August 1981. However, prices dropped sharply into the low \$50's as slaughter seasonally increased in September.

ASPC officials told us that the inconsistent supply of lamb hinders the stimulation of consumer and retail demand for lamb. The officials said that restaurants are reluctant to put lamb on the menu due to the inconsistent supply. Results of a survey conducted for ASPC also show that one of the reasons consumers are basically unknowledgeable about lamb is the lack of its widespread availability.

Another lamb marketing problem relating to demand is the lack of packer and consumer willingness to accept larger cuts of lamb. According to an article published in the proceedings of the National Lamb Marketing Symposium, which took place in March 1981, the market does not want extremely big cuts of lamb. As a result, buyers discount lambs over a certain weight. In a paper presented at the symposium, the Director of Meat Merchandising for the Kroger Company said that weight range is very important because carcasses smaller than the desirable 45 to 60 pound dressed weight yield loin and rib chops too small to appeal to the customer and larger carcasses carry too large a leg weight and price tag for the average customer.

Educating producers to sort and sell their lambs in several lots instead of dumping their total lamb crop on the market at one time could alleviate some of the problems with market gluts. Using sheep with other than traditional breeding cycles also could help prevent gluts in the lamb market.

The lack of competition among buyers is another problem contributing to low prices. According to an economist with

USDA's Extension Service, in 1980 only 15 firms bought about 92 percent of all sheep and lambs slaughtered in the United States. The lack of competition is partially the result of declining sheep numbers. The declining sheep population has resulted in the closing of many slaughtering plants. The net result is fewer buyers bidding on lambs, thereby reducing the prices farmers receive for their lambs.

In some areas of the country, telephone and computerized auction systems have been somewhat successful in raising prices paid to producers. Under these systems the auctioneer and buyers are connected by a telephone conference call or time-sharing computers. The animals remain on the farm and are sold on the basis of their sex, weight, grade, and location. Although these marketing systems have raised the prices paid to producers anywhere from \$2.50 to \$4 per hundredweight, 1980 statistics show that only 1 percent of lambs are marketed through telephone auctions. Therefore, these advances have had only a minor impact on the lamb industry as a whole.

Many producers and ASPC officials told us that domestic lamb cannot compete in price with the cheaper lamb imports from such countries as New Zealand. ASPC officials also expressed concern that New Zealand is spending 10 times more than ASPC on lamb promotion activities in the northeast U.S. market. ASPC's Director of Lamb and Wool Advertising (in a paper presented at the March 1981 National Lamb Marketing Symposium) said that New Zealand's promotional allowances in addition to its advertising "almost make it impossible for a retailer to turn them down since he can sell New Zealand leg at \$1.49 lb. vs. \$1.89 lb. to \$2.09 lb. for [domestic] fresh legs."

According to a November 1981 U.S. International Trade Commission report entitled "Lamb Meat from New Zealand," from January 1979 through September 1981 domestic lamb prices generally declined. The report states that lower priced imported carcasses and legs of lamb may have contributed to these price declines. According to the report, domestic producers contend that imported lamb prices act to limit domestic price increases commensurate with increased production costs. They believe if they raise prices too far above the imported price, they will lose a further share of the market.

PREDATION HAS IMPAIRED SHEEP PRODUCTION IN SOME AREAS

Many producers believe sheep losses caused by predators are severe. For some producers predation affected their decisions to leave the sheep business. The severity of the problem is difficult to determine because precise data on losses is not available and the incidence of predation varies among producers and by region. Estimates of annual financial losses resulting from predation range from \$27 million for the Western States in 1974 to \$103 million for the entire country in 1979.

According to a 1978 Department of the Interior report entitled "Predator Damage in the West: A Study of Coyote Management Alternatives," limitations and possible sources of bias with the methods used in assessing losses make it difficult to precisely estimate sheep losses to predators. The report states that available evidence, from several studies completed since 1972, indicates that between 1972 and 1978 an average of 4 to 8 percent of lambs were lost annually to coyotes. The report also states, however, that average loss rates do not adequately reflect the nature of coyote predation on sheep because losses are not equally distributed by region or among producers.

One of the studies cited in the Interior report was a 1977 USDA study entitled "Sheep and Lamb Losses to Predators and Other Causes in the Western United States." Using special sample surveys of sheep producers in the Western United States, the study estimated that in 1974 coyote predation reduced gross U.S. sales of sheep and lamb for slaughter by about \$27 million.

The legislative representative for the National Wool Growers Association told us that economic losses from predators totaled over \$100 million in 1979. This estimate was contained in a paper entitled "Trends of Predator Losses of Sheep and Lambs From USDA Mortality Statistics" prepared by a staff scientist from the USDA Agricultural Research Service's National Program Staff, Livestock and Veterinary Sciences, for presentation at a March 1980 symposium. According to the paper, the value of losses increased fairly steadily from a low of \$25 million in 1961 to a high of \$103 million in 1979.

Many western producers told us that sheep losses from predators is a serious problem. Two producers in western Colorado said they had converted from sheep to cattle production largely because of increased predator losses. These producers said that in 1980 they lost 14 percent and 33 percent, respectively, of their lambs to predators. A large producer in Utah said that during 1980 predators killed 15 percent of the lambs and 1 percent of the ewes in his range operation. In addition, he said predators killed 8 percent of the lambs and 3 percent of the ewes in his purebred operation, even though these lambs were fenced and better protected. Based on sheep values provided by the producer, his total sheep loss to predators for the year was about \$108,000. His wool incentive payment for 1980 was about \$38,000. Therefore, predation had a much larger impact on the profitability of this producer's sheep operation than the wool program did.

Some producers in Texas told us that the sheep-growing regions in Texas have decreased in size due to predator problems in the outlying areas. One producer said that sheep losses from coyotes were so high on a ranch he owned in an outlying area that it forced him to sell the ranch.

Nearly all the producers we interviewed, who were experiencing or threatened by predator problems, said that sheep losses are increasing and have increased dramatically since 1972 when the Federal Government banned the use of certain predator control techniques, particularly compound 1080. Many producers believe 1080 is one of the most effective and least costly control techniques.

In our August 24, 1981, report entitled "National Direction Required for Effective Management of America's Fish and Wildlife" (CED-81-107), we concluded that Interior's program to control predators, the animal damage control program, is unsatisfactory to livestock producers and wildlife interests. As stated in our report, the Conference Report on the fiscal year 1981 appropriations for agriculture, rural development, and related agencies directed the Secretaries of Agriculture and the Interior to cooperatively analyze the animal damage control program and determine which agency might best perform all or part of these activities. Up to \$500,000 was provided to USDA's Animal and Plant Health Inspection Service to accomplish this directive.

On May 12, 1981, USDA's Assistant Secretary for Marketing and Transportation Services (now called Marketing and Inspection Services) recommended that the Secretaries of Agriculture and the Interior meet informally to resolve the animal damage control situation. According to an Animal and Plant Health Inspection Service memorandum, informal discussions between USDA and Interior were taking place as of September 25, 1981. However, the Branch Chief of the Service's Program Analysis Branch and the Chief of the Division of Wildlife Management of Interior's Fish and Wildlife Service subsequently told us negotiations at the secretarial level had been suspended as of November 1981.

On November 19, 1981, Interior's Fish and Wildlife Service issued a news release announcing several policy changes on predator control techniques which it believed would make predator control more effective. The Service announced that it

- had asked EPA to license the toxic chemical compound 1080 for use in sheep collars,
- planned to apply to EPA for an experimental use permit to conduct limited field trials in Texas and Montana of several other compound 1080 delivery systems, and
- was revising its restriction on denning--the practice of killing coyotes in their dens--so it could be used in restricted circumstances.

The Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.) requires that pesticide products, such as compound 1080, be registered with EPA. In March 1972 EPA canceled registration of pesticide products containing 1080, which are intended for use as predicides, because EPA found

1080 to be highly toxic to all species. EPA published a notice in the December 7, 1981, Federal Register announcing its intent to hold hearings to reconsider its 1972 decision to cancel the registration of 1080 products. According to EPA's Office of Pesticide Programs, this hearing began March 30, 1982, and is scheduled to continue through the first week of August 1982.

LABOR SHORTAGES MAY CONTRIBUTE
TO PRODUCTION DECLINE

In some cases, the difficulty in finding and retaining enough shepherders may affect production decisions. Reports on the sheep industry and comments by producers indicate that domestic shepherders are difficult to find because potential shepherders are attracted to other more desirable occupations. Some producers have used foreign workers to meet much of their labor needs. Using foreign labor, however, requires producers to comply with various Federal immigration regulations designed to protect the shepherders but adds to producers' costs.

The Western Range Association, a nonprofit organization representing western sheepranchers, assists producers in finding shepherders. An association representative told us that no documented statistics are available on the shortage of domestic shepherders. The only data the association had to demonstrate the shortage was the 1,000 applications it received from producers who requested domestic shepherders in 1981. Less than 15 domestic workers who were referred were found to be qualified and later hired. According to a labor certification representative from the U.S. Department of Labor, these statistics are probably the best aggregate data available because only local employment offices would have statistics on the number of requests for shepherders.

According to Interior's 1978 report on predator damage in the West, problems in obtaining adequate numbers of herders may have the following results.

- Size of the sheep operation may be reduced to a level which can be handled by available herders.
- Size of herd under care by individual herders may be increased.
- Sheep may be taken off the range and placed in fenced areas.
- Producers may go out of the sheep business. This usually occurs if producers are also experiencing other problems, such as predation.

The report also states that regulations to protect the health and safety of herders have added to labor costs and that these additional costs may affect the profitability and economic viability of some sheep producers.

In an August 1977 ERS report entitled "Factors in the Decline of the Western Sheep Industry," labor shortage was cited as a contributing factor to the decline in sheep production in the four States where producers were surveyed (Colorado, Texas, Utah, and Wyoming). The report points out that it is hard to separate problems with labor availability from the increased attractiveness of other occupations. Although sheepherders are now provided better facilities and more fringe benefits than previously, sheepherding is still a lonely and time-demanding occupation. The problem was generally more serious for large-scale than small-scale producers, probably due to the greater dependence on hired labor.

Many of the western producers we talked with told us that they had difficulty finding laborers, including sheepherders, because they are attracted to better paying jobs or jobs requiring less work. One producer said that he converted from sheep to cattle largely because of increased predator losses and the unavailability of skilled sheepherders. He said more labor was necessary due to the increased predator problem. Another producer told us that due to regulations to protect the health and safety of herders, the producer must pay for their shelter, food, and transportation in addition to salaries.

PRICES AND WOOL PAYMENT STATISTICS FOR 1955-81

<u>Year</u>	<u>Support price</u> (note a)	<u>Average market price received by producers</u> (note b)	<u>Shorn wool payment rate</u> (note c)	<u>Government payments</u> (notes a and d)
	(cents per lb.)			(millions)
1955	62	42.8	44.9%	\$57.6
1956	62	44.3	40.0	51.9
1957	62	53.7	15.5	16.1
1958	62	36.4	70.3	85.1
1959	62	43.3	43.2	53.9
1960	62	42.0	47.6	59.5
1961	62	42.9	44.5	56.9
1962	62	47.7	30.0	39.2
1963	62	48.5	27.8	27.2
1964	62	53.2	16.5	20.3
1965	62	47.1	31.6	34.2
1966	65	52.1	24.8	26.2
1967	66	39.8	65.8	57.7
1968	67	40.5	65.4	54.4
1969	69	41.8	65.1	50.6
1970	72	35.5	102.8	64.0
1971	72	19.4	271.1	102.3
1972	72	35.0	105.7	68.0
1973	72	82.7	(e)	(e)
1974	72	59.1	21.8	14.5
1975	72	44.7	61.1	40.9
1976	72	65.7	9.6	7.0
1977	99	72.0	37.5	28.9
1978	108	74.5	45.0	34.8
1979	115	86.3	33.3	30.8
1980	123	88.1	39.6	37.5
1981	135	94.5	42.9	44.8

a/Support price and payments are for the marketing years beginning April 1 for the 1955-62 period, the 9 months April 1 through December 31 for 1963, and calendar years beginning January 1, 1964.

b/Prices for 1955-56 and 1964-80 are calendar year prices; prices for 1957-62 are for April-March marketing years; price for 1963 is for the period April-December.

c/Payment rate for shorn wool is expressed as a percentage and is applied to each producer's dollar return from the sale of wool. For example, under the 1978 program, producers received \$45 for each \$100 received from marketing wool.

d/Includes unshorn lamb payments.

e/No payments were required on 1973 marketings as the average price received exceeded the support level.

DESCRIPTION OF CONSULTANT'S WORKOBJECTIVES AND METHODOLOGY

The objectives of our consultant's work were to estimate the wool program's effect on historical and current wool production and the effects on wool production if the wool program were to be eliminated or modified. Specifically, his work addressed the following questions:

- How would wool production have been changed if the wool program had not been established and governmental intervention to support the price of wool had been halted?
- How different would 1980 wool production have been if the wool program had not been established?
- What difference would it make for future wool production if the wool program were eliminated or substantially modified at the present time?

To determine the wool program's effect on U.S. wool production, our consultant estimated the subsidy's effect on the market supply curve. The extent to which a given subsidy program increases the market supply depends on the elasticities of the demand for and supply of the product, meaning how much the quantity supplied by producers changes in response to a unit change in the price of the product. In the case of wool, however, this analysis is complicated by the fact that wool is jointly produced with an unsubsidized product, lamb. The elasticity of supply for wool, therefore, depends not only on the usual cost and resource-supply factors, but also on the share of revenue arising from the jointly produced output and how much the quantity demanded by consumers changes in response to a unit change in price.

Our consultant, through the use of multiple regression estimation of an econometric model, analyzed the effects of various independent variables (the expected price of wool, lamb, substitutes that might be produced instead of raising sheep, and inputs used in wool production; the Government payment; the technology; and random events, such as predator loss or disease) on the dependent variable, wool production.

The econometric model used time series data to measure the relative impact of each of the independent variables mentioned above on wool production, while holding all the other variables constant. For example, the regression coefficient for the wool payment variable indicates that each 1-cent increase in payments leads to an increase in U.S. wool production ranging from 0.52 million pounds to 1.37 million pounds.

PROGRAM'S IMPACT ON PRODUCTION

Based on the model he developed, our consultant determined that the wool program increased U.S. wool production between 11 million pounds and 24 million pounds per year during the years 1956-79. By the late 1970's the estimated effects are smaller because the real value of expected payments per pound is smaller. The 3-year average of payments per pound prior to 1980 is 15.2 cents, in 1967 dollars. This implies a projected output effect of 7 million to 16 million pounds in 1980. Therefore, eliminating the wool program at the present time would cause a 7 million- to 16 million-pound reduction in wool output, or about 7 to 15 percent of current U.S. production.

However, it should be pointed out that the trend variable (the variable used to account for those variables that affect wool production for which no time series data was available), given the wool prices, accounts for a decrease of 5 million pounds a year in wool production.

CONCLUSIONS

Based on his model, our consultant concluded that the wool program has had a relatively small but positive effect on U.S. wool output. The downward trend in wool production was delayed by the program, and production since 1955 has been maintained at a slightly higher level than it would have been without the program. However, the trend toward a smaller U.S. sheep industry has not been halted, nor has the rate of decline slowed.

LIMITATIONS OF THE ECONOMETRIC MODEL

The types of limitations discussed below are universal to econometric models. The limitations open up possibilities of errors in interpretation. However, economists have found the models are useful and are reasonable representations for explaining U.S. agricultural commodity markets.

The limitations of the model include the following:

(1) the use of a trend variable to account for factors affecting the U.S. wool industry for which no time series data was available, (2) difficulty in identifying the appropriate relationship between prices and quantities, and (3) the estimates being subject to the model's economic and statistical assumptions.

1. No time series data was available for factors affecting the U.S. wool industry, such as problems of recruitment of appropriately skilled labor for sheepherding, the problem of predators, technical change in the sheepraising and feeding industry, shifts in the supply of foreign wool to the United States, changes in preferences for wool compared with other products, and developments in the market for competing fibers (cotton

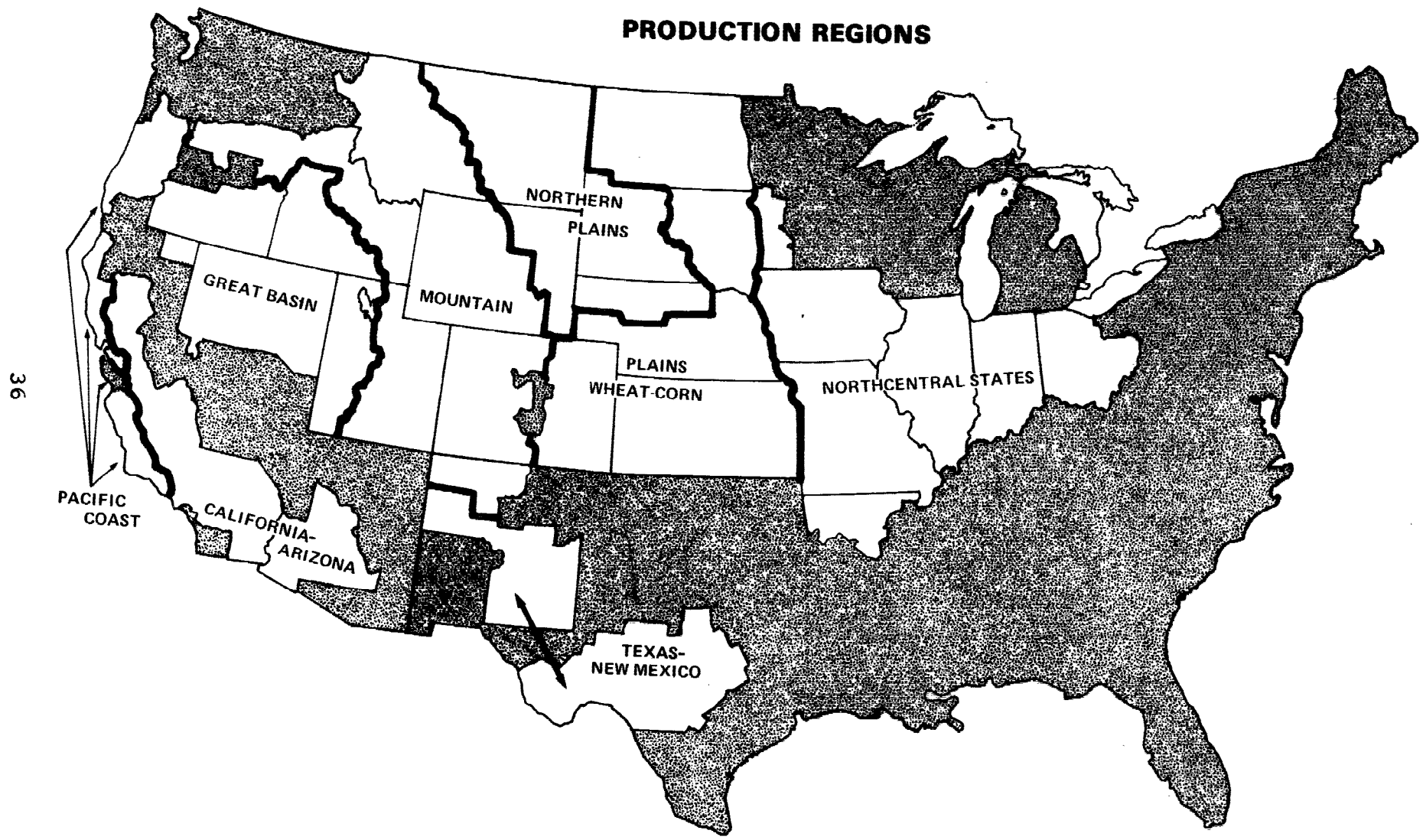
and synthetics). Since no data was available for these factors, the assumption in the consultant's model is that all the left-out variables taken together have effects that can be captured by means of a linear trend. If the trend variable had varied systematically with the wool payment variable, its use would have biased the results of the model. However, the effect of the trend variable did not vary with the wool payment variable. Therefore, the use of the trend variable is unlikely to have biased the results of the model, and the use of the trend variable is a reasonable statistical procedure.

2. The identification problem arises because price and quantity are functions of one another through both supply and demand relationships, creating problems in obtaining an estimate of either. This problem was avoided by assuming that supply depends on past prices while demand depends on current prices. However, it could be that wool production responds to some extent to current-year changes in price.

Another problem in estimating supply response is the arbitrariness of the assumption that producers' expectations of wool, lamb, and cattle prices are based on 3 or 4 years of past data with fixed weights. The possibility of problems here was explored by considering several alternative weighting schemes and noting the sensitivity of wool program effects to these changes.

3. Errors in the estimated model were serially correlated; that is, if the model overestimated wool production in any one year, it was more likely than not also to overestimate wool production in the following years. Econometric procedures to correct for this problem, however, did not lead to changes in the estimated effects of the wool program on wool production.

SHEEP PRODUCTION REGIONS



ESTIMATED PERCENTAGES OF PRODUCERS' SHEEP INCOMEDERIVED FROM VARIOUS SOURCES IN 1979 (note a)

<u>Producing region and number of head (note b)</u>	<u>Feeder lambs (note c)</u>	<u>Slaughter lambs</u>	<u>Ewes</u>	<u>Wool (note d)</u>
Texas-New Mexico				
50 to 299	35	28	9	28
Over 2,000	67	-	10	23
Mountain				
50 to 299 (notes e, f)	18	57	6	19
Over 2,500 (notes g, h)	17	58	6	18
Over 2,500 (notes e, g)	28	48	3	21
Great Basin				
Over 1,000 (notes g, h)	32	40	3	24
Over 1,000 (notes e, g)	16	62	4	18
Pacific Coast				
Over 1,000 (notes f, h)	12	61	5	22
Over 1,000 (notes e, f)	19	59	4	19
California-Arizona				
Over 1,000 (notes g, h)	-	80	3	16
Over 1,000 (notes f, h)	3	75	4	17
Northern Plains				
50 to 299 (notes e, f)	40	32	5	22
100 to 2,499 (notes e, g)	72	7	5	16
Over 2,500 (notes g, h)	63	8	11	18
Northcentral States				
Less than 100	-	79	6	15
Over 100	-	81	4	15
Plains Wheat-Corn				
50 to 99	18	63	2	17

a/Percentages may not add to 100 because of rounding.

b/Data for other flock sizes was not available.

c/Lambs that average 50 to 80 pounds and will be placed on succulent pasture or supplemental feed before going to slaughter.

d/Wool income includes shorn wool and unshorn lamb payments.

e/Shed lambing operation: Lambing in confined areas such as sheds or barns.

f/Public rangeland (i.e., land controlled by Federal or State governments) was not used.

g/Public rangeland was used.

h/Range lambing operation: Lambing in open areas such as ranges or pastures with little or no shelter provided.



United States
Department of
Agriculture

Agricultural
Stabilization and
Conservation Service

P.O. Box 2415
Washington, D.C.
20013

JUN 11 1982

SUBJECT: GAO Audit of Wool Program

TO : Henry Eschwege
Director, Community & Economic Development Division, GAO

THROUGH: Under Secretary for International Affairs and
Commodity Programs

We have reviewed the GAO draft report entitled, "The Congress Needs to Decide Whether the Federal Wool Program is Still Necessary". We agree with most of the findings in the report and feel that it is well prepared and adequately recognizes the strengths and weaknesses of the program.

Our Economic Research Service, however, feels that the "social cost" of the wool program as measured by the GAO consultant, is significantly deficient in several technical aspects to raise questions concerning the report's economic conclusions. A copy of their specific comments has been provided to USDA's Office of Inspector General.

[GAO COMMENT: We subsequently met with ERS to discuss the consultant's work. After being provided a further explanation of tests the consultant performed, including some that were not discussed in his paper, and how the consultant's data was used in our report, ERS agreed that (1) any technical deficiencies which exist in the consultant's work should not be considered major and are inherent to this type of economic study--i.e., use of econometric models, (2) to have significantly improved the model would have required much more work with little assurance that the results would have been measurably better, and (3) since our report did not rely on the consultant's projections of social costs, any deficiencies which do exist in the consultant's work would not materially affect the report's economic conclusions.]

One of the objectives of the audit, as stated in the audit (page 4), was "to determine whether the wool incentive program, as designed, has encouraged producers to increase wool production - - -, and whether the program's objectives are still valid". We would like to point out that the primary objective of the National Wool Act of 1954, as amended by Section 301 of the Food and Agriculture Act of 1977 (P.L. 95-113, 91 Stat. 921, 9/29/77), is to "encourage the continued domestic production of wool . . ." and not necessarily to increase it. As stated in the GAO report (page 11), it is estimated that between 1956 and 1979 wool production was increased by 6 to 13 percent beyond what it would have been in the absence of the program. That the program did not prevent a continued downward trend in production is not in dispute. Such a trend was due to a variety of factors, however, many of which were apparently not economic. More importantly, the trend was definitely softened by the

Henry Eschwege
 Director, Community & Economic Development Division, GAO

existence of the program. We did note that in other parts of the audit that the objective of the program to encourage wool production is correctly stated.

[GAO COMMENT: This was a statement of GAO's audit objective, not the wool program's objective. Wording was revised, however, to avoid possible misunderstanding. See p. 4.]

A major area of agreement with the audit is the elimination of the unshorn lamb provisions of the program. It is pointed out in the audit that the unshorn lamb payment does not influence when lambs are shorn. Generally this is true, however, if there were no unshorn lamb payments, the lambs that attain slaughter weight on milk and grass and are now sent to slaughter unshorn, would likely be shorn before being sold for slaughter. Also, without the unshorn lamb provisions, there would be very few full woolled lambs slaughtered and "pullers" (people employed to pull wool from sheep pelts) would be out of a job. Factors favoring elimination of payments on unshorn lambs are:

- (1) Unshorn lamb payments account for only 10-15 percent of the total incentive payments, but require 50-60 percent of the time required to administer the program.
- (2) Lamb feedlot operators report that this provision is detrimental to their operation. They prefer shorn lambs in their feedlots because the lambs are cooler, gain faster, and their pelts are more desirable to the slaughterer. If the feedlot operator buys woolled lambs, he must pay for shearing, bagging, transportation, and marketing the wool, but the incentive payment goes to the grower of the lambs.
- (3) The extra administrative time required is due to the difficulty in tracing the previous owner, particularly on lamb sales through country auctions and traders. It is also difficult to prove the 30-day ownership requirement. Where lambs are commingled and identity is lost, the "first-in, first-out" method requires additional bookkeeping.

Unshorn lamb payments amount to \$5-6 million annually, however, eliminating the unshorn lamb payment would not mean a savings of that amount. Most of the lambs that are now sold unshorn would be shorn and the shorn wool payments would offset most of the unshorn lamb payments.

[GAO COMMENT: Agency comments and our evaluation thereof inserted on p. 23 of report.]

The impact on the wool industry of reduced import duties on the finer wool over the next several years is difficult to assess. However, this reduction in duties will make imported wool cheaper in the United States, and depress domestic wool prices accordingly. This could also have a negative effect on the balance of payments.

[GAO COMMENT: Agency comment inserted on p. 21 of report.]

Henry Eschwege
Director, Community & Economic Development Division, GAO

We disagree with the recommendation that payments to noncommercial producers be discontinued because these producers keep sheep for meat production, not wool and therefore, a payment to encourage production of wool is wasted. Elimination of "noncommercial" producers from the program would discriminate against the smaller producer. We believe the program should be available to all wool producers.

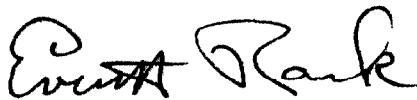
College researchers have concluded that the sheep and wool industry could best be expanded in farm flocks or "noncommercial" producers. These farms or producers tend to have unused roughage, while the western States have limited water and forage and their ranges are already stocked to capacity with either cattle or sheep.

[GAO COMMENT: Agency comments and our evaluation thereof inserted on p. 24 of report.]

We would like to correct a general misunderstanding, repeated in the audit, that the Wool Act is funded from duties collected on imported wool and wool manufacturers. These payments, like other price support payments, are made from CCC funds. Each year, funds are appropriated from the Treasury to reimburse CCC for expenditures made in connection with wool price support payments. Section 705 of the National Wool Act of 1954, provided that the amount of such appropriation for any fiscal year may not exceed 70 percent of the gross receipts from duties collected during the preceding calendar year on certain imported wool articles. It is the language of this limitation which has led to the general misunderstanding that wool price support payments are made from custom receipts.

[GAO COMMENT: Report revised accordingly, see p. 3.]

We would like to again express our appreciation to you and your staff for the excellent manner in which this audit was prepared. Obviously, a great deal of thought and work went into its preparation and it reflects, in our opinion, a fair appraisal of the strengths and weaknesses of the program.



Administrator

GAO note: Page references in this letter refer to the draft report and do not necessarily agree with the page numbers in final report.

22728

AN EQUAL OPPORTUNITY EMPLOYER

**UNITED STATES
GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548**

**OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300**

**POSTAGE AND FEES PAID
U. S. GENERAL ACCOUNTING OFFICE**



THIRD CLASS