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# Report To The Congress

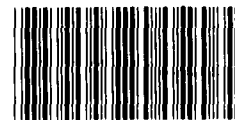
OF THE UNITED STATES

## Effects And Administration Of The 1984 Milk Diversion Program

The Department of Agriculture's purchases of surplus dairy products increased from about \$247 million in fiscal year 1979 to about \$2.7 billion in fiscal year 1983. To help reduce the dairy surplus and government costs, the Congress in November 1983 authorized a temporary (January 1984 through March 1985) milk diversion program that was funded primarily from an assessment on milk producers' sales. Some 38,000 milk producers were paid about \$955 million to reduce their milk sales from a base period by 7.5 billion pounds in 1984 and 1.9 billion pounds in the first quarter of 1985.

GAO estimates that the program reduced 1984 milk production by about 3.74 billion to 4.11 billion pounds below the level that could otherwise have been expected. Because this milk would likely have been added to the Department's surplus purchases, an estimated \$614 million to \$664 million in costs were avoided. However, evidence suggests that milk production and Agriculture's surplus dairy product purchases will increase now that the program has ended. GAO's survey of milk producers indicates that participants were more likely than nonparticipants to have already reduced their sales before the program's inception, and this was an important factor in their decisions to participate.

GAO presents matters for consideration by the Congress in the event that the program is used in the future.



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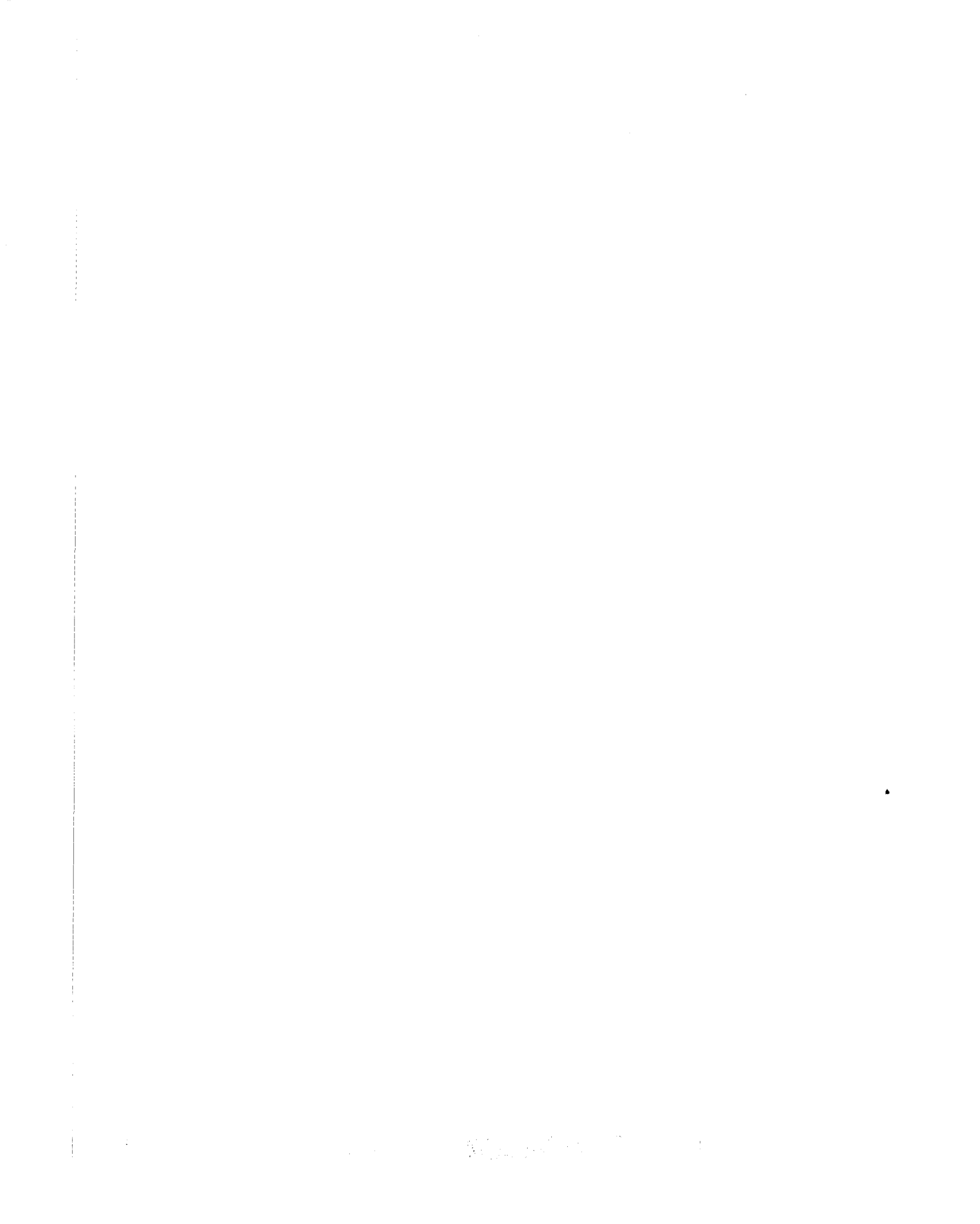
To the President of the Senate and the  
Speaker of the House of Representatives

This report estimates the effects and discusses the administrative difficulties of the temporary Milk Diversion Program established by the Dairy and Tobacco Adjustment Act of 1983. In addition, it presents the results of our survey of dairy farmers' opinions of the program and other dairy policy options. We made this review because of the program's potential to help reduce the cost of the dairy price-support program.

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

A handwritten signature in black ink that reads "Charles A. Bowsher".

Charles A. Bowsher  
Comptroller General  
of the United States



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**EXECUTIVE SUMMARY**

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The U.S. Department of Agriculture's (USDA's) purchases of surplus dairy products increased from about \$247 million in fiscal year 1979 to about \$2.7 billion in fiscal year 1983. To help reduce the dairy surplus and government costs, the Congress in November 1983 authorized a temporary Milk Diversion Program that was funded primarily from an assessment on milk sales. Participating dairy farmers (producers) received about \$955 million to reduce their milk sales.

Because of its potential importance in reducing government costs, GAO

- surveyed producers about their decisions on program participation,
- estimated the program's effect on milk production and USDA's dairy purchases, and
- reviewed program administration.

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**BACKGROUND**

Under 1949 dairy price-support legislation, USDA purchases all quantities of cheese, butter, and nonfat dry milk that are offered it at designated support prices. These purchases support milk prices by removing surplus dairy products from the commercial market. (See pp. 1-3.)

Established to help stabilize the supply and demand for milk, the Milk Diversion Program ran from January 1984 through March 1985. About 38,000 of the nation's 200,000 commercial milk producers agreed to reduce their milk sales by 5 to 30 percent of their sales during a congressionally established base period (1982 or an average of 1981-82). Participants received \$10 for each 100-pound sales reduction, funded primarily from a 50-cent-per-hundred-pound assessment on all milk sales. (See pp. 3-4.) In administering the program, USDA required participants to (1) document their reduced sales and (2) certify that any cows removed from their dairy herds were either slaughtered, exported, or transferred to other program participants. (See pp. 22-33.)

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**RESULTS IN BRIEF**

GAO's producer survey indicates that decisions about whether to participate depended largely on how the producers' milk sales at the program's inception compared with their sales during the selected base period. Because of the way the program was designed, many producers were paid for reductions that occurred between the base period and the beginning of the program. (See pp. 35-39.)

Based on an analysis of various factors affecting milk production in 1984, GAO estimates that the program was responsible for reducing 1984 milk production by about 3.74 to 4.11 billion pounds below the level that could otherwise have been expected. In addition, about 705 million pounds of the milk produced was used on the farm and not marketed because of the program. Because this milk would have added to the surplus and would likely have been purchased by USDA, GAO estimates that 1984 purchase costs avoided by the program could be from \$614 million to \$664 million. However, evidence suggests that milk production, and therefore USDA's price-support purchases, will increase after the program's end. (See pp. 7-19.)

Administering the program was difficult because opportunities existed for circumventing program requirements with little risk of detection. (See pp. 22-33.)

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**PRINCIPAL FINDINGS****Participation**

By selecting the base period as 1982 or an average of 1981 and 1982, the program tended to attract producers who had decreased production in 1983 and not to attract producers who had increased production in 1983. Participants agreed to reduce their milk sales by a total of 9.4 billion pounds during 1984 and the first quarter of 1985, but 2.2 billion pounds of this reduction occurred in 1983, prior to the program. As a result, of the \$955 million paid to participants, \$220 million was attributable to these 1983 reductions. (See pp. 35-39.)

**Program Effects**

To estimate the program's effect on milk production, GAO's analysis considered factors outside of the program, such as the long-run milk production trend and the prices producers received for their milk. (See pp. 7-17.) Purchase savings were calculated by multiplying the reduced milk production and reduced milk sales attributable to the program by the 1984

milk support price (\$12.60 per hundred pounds) and a manufacturing allowance of \$1.22 per hundred pounds. GAO's survey and USDA's estimates of 1985 milk production, herd size, and number of replacement heifers suggest that milk sales could rebound to preprogram levels after the program's expiration. For example, in March 1985 USDA estimated that 1985 milk production would be from 1 to 3 percent higher than in 1984. (See pp. 17-19).

**Program Administration**

Discussions with USDA and dairy industry officials in eight states revealed several difficulties with program administration. Participants could circumvent their agreed-to milk sales reductions by selling some of their milk outside normal marketing channels or crediting another individual with the sales. For example, one participant, found to be crediting another producer with milk sales, would have been paid about \$69,000 for sales reductions that had not occurred. (See pp. 23-29.) In addition, program cows certified for slaughter or export could be resold to nonparticipants because dairy cows usually bear no permanent means of identification and tracking them through marketing channels is impractical. (See pp. 29-32.)

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**MATTERS FOR CONGRESSIONAL CONSIDERATION**

If the Congress reestablishes this program, the base period should be selected to avoid paying participants for sales reductions made prior to the program. Using an average of several years' milk sales prior to the program could help reduce such payments. However, producers who reduced their sales through participation in the 1984/85 program and resumed preprogram milk sales levels could be less inclined to participate if the base period includes 1984. (See p. 45.)

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**RECOMMENDATIONS**

GAO is making no recommendations.

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**AGENCY COMMENTS**

USDA provided oral rather than written comments on the report. USDA agreed with the facts, conclusions, and matters for consideration raised in the report, and made several suggestions to improve the technical accuracy of the report. GAO made changes based on these suggestions where appropriate. (See pp. 45-46.)





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#### ABBREVIATIONS

AMS	Agricultural Marketing Service
ASCS	Agricultural Stabilization and Conservation Service
CCC	Commodity Credit Corporation
CED	County Executive Director
FAPSIM	Food and Agricultural Policy Simulator
GAO	General Accounting Office
MDP	Milk Diversion Program
OIG	Office of Inspector General
SRS	Statistical Reporting Service
USDA	U.S. Department of Agriculture

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## CHAPTER 1

### INTRODUCTION

From 1979 through 1983 the federal government, under its dairy price-support program, purchased an increasing share of the nation's milk marketed by producers, or milk marketings--from about 1.8 percent in 1979 to about 12.2 percent in 1983. The cost of purchasing this milk increased from about \$247 million in fiscal year 1979 to about \$2.7 billion in fiscal year 1983. The government's price-support purchases are in the form of cheese, butter, and nonfat dry milk; the government disposes of these products through sales and various donation programs. The costs to store and transport dairy commodities rose from about \$23 million in fiscal year 1979 to about \$149 million in fiscal year 1983. At the end of fiscal year 1983, the government's inventory of surplus cheese, butter, and nonfat dry milk was valued at about \$4.2 billion.

To help reduce the dairy surplus and government costs, the Congress in November 1983 authorized the Milk Diversion Program (MDP) under which dairy farmers who volunteered for the program were paid to reduce the quantity of milk they marketed. About 38,000 of the nation's commercial milk producers<sup>1</sup> enrolled. The program was temporary, covering the period January 1984 to March 1985, and was funded partially through a government assessment on all producers' milk marketings.

### FEDERAL DAIRY PROGRAMS

The U.S. Department of Agriculture (USDA) administers several federal dairy programs, including price supports, marketing orders, and import quotas. Price supports, created by the Agricultural Act of 1949 (7 U.S.C. 1421 *et seq.*), help assure dairy farmers a minimum average price for the milk they produce by reducing supplies of dairy products on the commercial market. Marketing orders, based on the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 608 C(18)), establish minimum prices in specified marketing areas that milk processors are required to pay dairy farmers for milk. Import quotas are designed to prevent import interference with the price-support program and are authorized under section 22 of the Agricultural Adjustment Act of 1933, as amended (7 U.S.C. 624).

The milk price-support level is based on the concept of parity, a standard used to measure the degree to which farm prices are in line with what the Congress has defined as a fair goal. The 1949 act requires the Secretary of Agriculture to establish the milk support price at between 75 and 90 percent of the parity

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<sup>1</sup>According to the U.S. Department of Agriculture, as of 1983 the United States had an estimated 300,000 operations with dairy cows, about 200,000 of which are considered commercial dairy farms.

price; however, since September 1982 the support price has been legislated as a specific dollar amount.

Under the dairy price-support program, USDA's Commodity Credit Corporation (CCC) purchases any quantity of nonfat dry milk, cheese, and butter that is offered and meets USDA specifications. CCC is a wholly owned government corporation created 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).

CCC's purchases of surplus dairy products, which are made at a price based on the support price plus an allowance for processing costs, help ensure that the average farm-level price for milk does not fall below the support level. For several years prior to 1984, CCC purchased an increasing share of the nation's milk marketings. The following table shows how milk production, marketings, and CCC purchases increased from 1979 through 1983.

Table 1

Milk Production, Marketings, and  
CCC Purchases, 1979 Through 1983

<u>Year</u>	<u>Milk production</u>	<u>Milk marketings</u>	<u>CCC Purchases<sup>a</sup></u>	
			<u>Quantity</u>	<u>Percent of marketings</u>
----- (million lbs) -----				
1979	123,411	120,943	2,119	1.8
1980	128,525	126,187	8,800	7.0
1981	133,013	130,709	12,861	9.8
1982	135,802	133,452	14,281	10.7
1983	139,672	137,658	16,815	12.2

<sup>a</sup>Net purchases on a milk-equivalent basis. Net purchases are gross purchases less sales of CCC-owned dairy products for unrestricted use. Milk equivalent refers to the amount of fluid milk required to produce the butter, cheese, and nonfat dry milk products CCC purchases.

Source: Chase Econometrics, U.S. Food and Agriculture Data Base.

As the dairy-surplus inventories began to mount, the Congress took steps directed at reducing surpluses and government costs. The Omnibus Budget Reconciliation Act of 1982 (Public Law 97-253, Sept. 8, 1982) established the price-support level at \$13.10 per hundred pounds of milk for the period ending September 30, 1985, and authorized the Secretary of Agriculture to collect from producers two 50-cent assessments, to be remitted to CCC, for each

hundred pounds of milk producers marketed if estimated CCC purchases exceeded specified levels. The first 50-cent assessment, to be used to offset part of the price-support program's cost, was nonrefundable while the second 50-cent assessment was refundable to producers who voluntarily reduced their milk marketings. The Secretary acted to impose the assessments, but court rulings delayed implementation of the first assessment until April 16, 1983, and the second until September 1, 1983.

#### MILK DIVERSION PROGRAM

The Dairy Production Stabilization Act of 1983 (Title I, Public Law 98-180) was enacted November 29, 1983, with the objective of stabilizing the supply and demand for dairy products. The act (1) established a 15-month Milk Diversion Program (MDP) beginning January 1, 1984, (2) eliminated the earlier assessments and authorized the Secretary to establish a new 50-cent assessment for each hundred pounds of milk marketed for commercial use in the 48 contiguous states between December 1, 1983, and March 31, 1985, (3) established a program to promote the sale of dairy products, funded by an assessment of 15 cents per hundredweight of milk marketed from each producer, (4) reduced the price-support level from \$13.10 to \$12.60 per hundredweight, and (5) authorized the Secretary of Agriculture to further reduce the price-support level by 50 cents per hundredweight in April 1985 and again in July 1985 if estimated CCC purchases exceed specified levels.

Under the act's terms, milk producers in the 48 contiguous states could voluntarily enter into contracts with CCC to reduce their milk marketings during the 15 months beginning January 1, 1984, by 5 to 30 percent of their milk marketings during a base period (1982 or, at the producer's option, an average of 1981-82 marketings). In return, producers would receive \$10.00 for each hundredweight of milk marketing reduction. The payments were to be funded by the new 50-cent-per-hundredweight assessment established by the act and if necessary from CCC funds. The program's enrollment period was from January 1 to February 1, 1984. Each producer seeking to enter into an MDP contract was to submit a plan describing how the producer intended to achieve the reduction, including the approximate number of dairy cows that would be sold for slaughter during each month of the contract period.

About 38,000 milk producers enrolled in the program. In 1983, the participants milked about 19 percent of all U.S. dairy cows and marketed about 22 percent of the milk sold. The total contracted milk marketing reduction was 23 percent of the participant's milk marketings during the 1982 (or 1981-82) base period. Collectively, this is equivalent to a contracted reduction in milk marketings of about 9.4 billion pounds--7.5 billion pounds in 1984 and 1.9 billion pounds in the first 3 months of 1985.

USDA reported that as of May 31, 1985, MDP payments totaled about \$955 million and that collections from the 50-cent assessment totaled about \$875 million. If more producers had participated in the MDP, it is likely that total MDP payments would have exceeded the funds available from the assessment by a wider

margin; in that case, CCC funds would have been used for the difference. However, higher participation would also likely have further reduced CCC's dairy price-support purchase costs.

#### OBJECTIVES, SCOPE, AND METHODOLOGY

We initiated a review of the MDP because of its potential importance in reducing surplus milk production and government costs. Our objectives were to answer the following questions:

- How did the MDP affect 1984 milk production and CCC purchases of dairy products?
- Were there regional differences in MDP effects on milk production?
- Could the program be administered in a way that assured compliance with program requirements?
- What were the reasons for producers' participation or non-participation?
- What policies for resolving the dairy surplus situation do milk producers favor?

In response to a subsequent request to review the program from then Senator Roger Jepsen, we agreed to review the program's effect on beef prices. We briefed Senator Jepsen's office on the status of the review and provided information on the distribution of MDP payments.

In analyzing MDP effects, we focused on milk production rather than milk marketings because (1) as part of its administration of MDP contracts, which are based on marketings, USDA monitored the extent to which marketings were reduced by MDP participants, (2) milk production data were available on a monthly basis from USDA, while milk marketing data were not, and (3) as table 1 indicates, milk marketings from 1979 to 1983 accounted for over 98 percent of milk production. Also, we limited the scope of our review to the program's impact on milk production during 1984 rather than the entire 15 months of the program.

To estimate MDP effects on milk production and to identify possible regional differences in MDP effects, we were assisted by Dr. Ronald D. Knutson, professor and extension economist at Texas A&M University. We analyzed USDA quarterly milk production data for calendar years 1976 through 1984 to determine if there were significant trends in milk production prior to the program. We identified factors other than the MDP that might have caused changes in milk production, such as long-run milk production trends, changes in the prices that milk producers received for their milk, and changes in the cost of dairy cow feeds, and used



regression analysis<sup>2</sup> to estimate the effects of each on the change in milk production during those years. Appendix I details our regression analysis. We supplemented our analysis with discussions with USDA officials responsible for administering and evaluating the program.

In estimating MDP effects on beef prices, we used USDA data showing how many dairy cows MDP participants planned to slaughter during each of the program's five quarters. We used these data because USDA did not aggregate data on actual cow slaughter by MDP participants. We used the planned cow slaughter data in conjunction with USDA's automated Quarterly Livestock Model and its Food and Agricultural Policy Simulator (FAPSIM) model. Each model uses a set of estimated relationships between livestock quantities, slaughter rates, and prices. We used both models to increase the level of confidence in our estimates. We supplemented this analysis with discussions with USDA officials responsible for administering and evaluating the MDP, a USDA official knowledgeable about livestock grading standards, and with an agricultural economist at the University of Minnesota who has experience with livestock issues.

In estimating MDP effects on CCC purchases of surplus dairy products, we used USDA's reported dairy price-support purchases for 1980 through 1984, and reported demand<sup>3</sup> for milk and dairy products over the same period. In estimating the portion of the decreased purchases attributable to the MDP, we assumed that because 1984 milk production exceeded demand, CCC would have purchased the milk estimated to have been produced by program participants in 1984 in the absence of the MDP.

In evaluating program administration, we reviewed MDP requirements and interviewed USDA officials in Washington, D.C., responsible for administering the program. We visited eight states selected on the bases of volume of milk produced and geographic location. We first selected the top five milk-producing states in 1983--Wisconsin, California, New York, Pennsylvania, and Minnesota. We initiated our review in Minnesota and New York, where we visited two of the top 10 milk-producing counties in each state. Based on the information obtained, we expanded the review by visiting the top milk-producing county in each of the other three states--Wisconsin, California, and Pennsylvania--and in each of three additional states--Florida, Texas, and Washington--that

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<sup>2</sup>A statistical technique used to describe the relationship between two or more variables.

<sup>3</sup>USDA does not estimate "demand" for milk and dairy products but rather "commercial milk disappearance." This includes milk marketed for fluid consumption and for the manufacture of dairy products sold through commercial channels, but excludes net CCC purchases. Since demand is not estimated, we use commercial milk disappearance statistics in this report and refer to them as demand.

we selected for geographic balance. These eight states accounted for about 57 percent of the milk produced in the United States in 1983.

In visiting the counties, we interviewed (1) the local ASCS county executive director (CED), (2) local dairy cow industry officials (auction-barn officials, cow dealers, and slaughterhouse personnel) to obtain information about the local marketing systems and channels for dairy cows, and (3) local dairy industry officials (milk handlers and processors, including producer cooperatives, and milk haulers) to obtain information about the local marketing system and channels for milk. If the producers in the county we selected in each state marketed their milk or dairy cows in surrounding counties, we also contacted the CEDs and/or industry officials located in the surrounding counties. We contacted a total of 17 auction barns (and observed cow auctions at 3 others), 24 independent cow dealers, 9 slaughterhouses/meatpacking companies, 29 milk processors, and 17 milk haulers. We used the information obtained in these discussions and observations to help assess whether MDP requirements regarding the sale of milk and dairy cows could be circumvented.

We also interviewed the ASCS director and/or a program specialist in each of the eight states; representatives of the Agricultural Marketing Service (AMS), which is responsible for auditing MDP payments; and officials of USDA's Office of Inspector General (OIG). We did not try to determine the extent of compliance or noncompliance with program requirements.

We used a mail-in questionnaire to survey a random sample of 1,723 MDP participants and 1,740 milk producers identified as non-participants to determine, among other things, what policies for dealing with the dairy surplus situation milk producers favor. We automated the response data for analysis. The sampling approach and techniques used are detailed in appendix II. The questionnaires used, summary data on the responses we received, and sampling errors for key variables are included in appendices III and IV.

To expedite issuance of the report, we did not ask for written comments on this report from USDA. Instead, we met with USDA officials responsible for administering and evaluating the program to obtain official oral comments. The comments, and our response, are described on pages 45-46.

Our review, which we made between January 1984 and March 1985, was made in accordance with generally accepted government auditing standards.

## CHAPTER 2

### MILK DIVERSION PROGRAM REDUCED 1984 MILK PRODUCTION AND DAIRY SURPLUS COSTS, BUT THE EFFECTS MAY BE SHORT-LIVED

Our analysis of the changes in milk production between 1982 and 1984 suggests that the MDP reduced 1984 milk production by about 3.74 to 4.11 billion pounds below the level that could have been expected without the program. This estimate is based on a regression analysis developed to estimate the relative effect of factors that contributed to the change in milk production between 1982 and 1984. Those factors found to have a significant effect include the long-run milk production trend, the MDP, and prices producers received for milk. Appendix I details this analysis.

Changes in milk production between 1982 and 1984 varied among regions<sup>1</sup> and states; for example, 1984 milk production declined about 4.2 percent from base-year levels in the south and increased in the west by about 3.2 percent. Further, there were differences among states and regions when the percentage changes in 1982-84 milk production were compared with the percentage of milk marketing reductions contracted by MDP participants in each state and region. For example, the percentage decreases in milk production in the south and central regions were smaller than the percentage of milk marketing reductions contracted by MDP participants in those regions. These data suggest that in some areas during 1984 if all MDP participants reduced milk production to achieve their contracted level of marketings, milk producers not participating in the MDP increased their milk production over base-year levels and partially offset the participants' reductions.

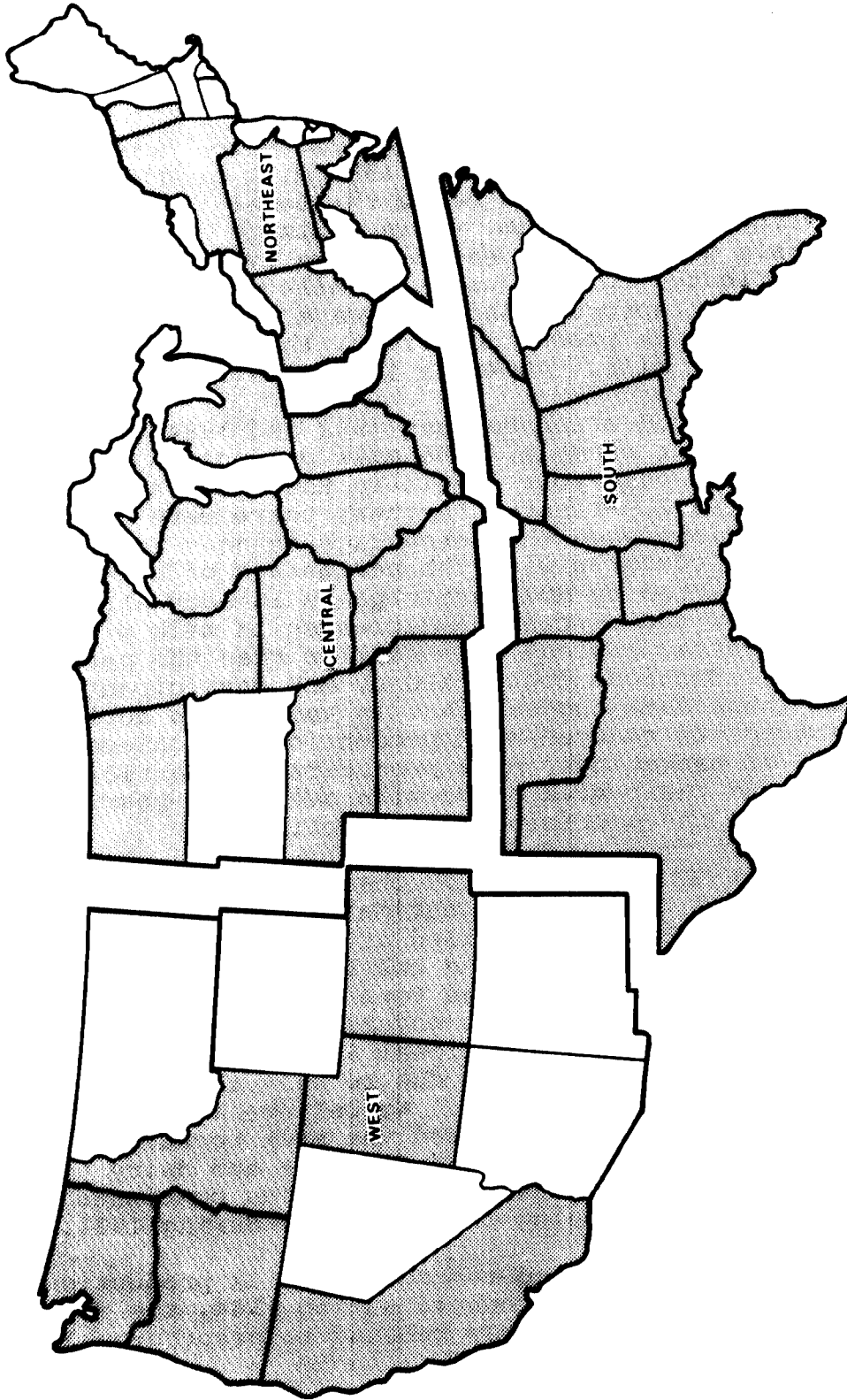
We believe that CCC would have purchased the 3.74 to 4.11 billion pounds of milk that we estimate would have been produced without the MDP. If purchased at the support price plus a minimum allowance for manufacturing costs, or a total of \$13.82 per hundred pounds, this milk (in the form of butter, cheese, and nonfat dry milk) would have cost the government about \$516.9 million to \$566.6 million. An additional \$97.4 million in purchase costs may have been avoided due to milk that was produced by MDP participants but not marketed. We believe it is reasonable to assume that CCC would have purchased the milk because, although milk production was reduced and demand for milk and dairy products increased about 2 percent in 1984, a milk surplus continued to exist, as evidenced by continuing CCC purchases during 1984.

Although the MDP contributed to reducing milk production and CCC purchases of surplus dairy products during 1984, the following factors indicate that production may rebound to preprogram levels after the program's expiration:

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<sup>1</sup>The regions we used are shown in the map on the following page.

**REGIONS USED FOR OUR ANALYSIS**



**Legend**  
■ 33 Largest Milk-producing States

Source: USDA's Milk Production, 1983.

--MDP participants' responses to our questionnaire indicate that about 72 percent planned to increase marketings after the program expired.

--In their program plans, MDP participants indicated that they would achieve some portion of their contracted marketing reduction through herd management practices, such as reducing the quantity and frequency of feeding, rather than through herd reduction.

--USDA estimated that the number of dairy replacement heifers<sup>2</sup> increased during 1984, leading to a record high 44 heifers per 100 cows as of January 1, 1985.

--USDA estimated that on-farm milk use (milk produced but not marketed) increased from 2.37 billion pounds in 1983 to 3.07 billion pounds in 1984, suggesting a maintenance of milk production capacity.

Consequently, we believe that the MDP's effects on milk production and CCC dairy price-support purchases may be short-lived. In March 1985, USDA estimated that 1985 milk production would increase by 1 to 3 percent over the 1984 level.

MDP participants indicated that to help reduce milk production they would cull<sup>3</sup> and send to slaughter about 339,000 dairy cows in addition to those dairy cows that would normally be slaughtered during the 15-month program. The additional slaughter could affect beef prices by increasing the quantity of beef available to the commercial market. USDA did not determine the number of dairy cows actually slaughtered as a result of the program. We estimate that if the planned additional slaughter occurred, the effect on beef prices was small.

#### MDP REDUCED 1984 MILK PRODUCTION AND CCC PURCHASES OF SURPLUS DAIRY PRODUCTS

MDP participants contracted to reduce their milk marketings by 7.5 billion pounds during 1984 and by 1.9 billion pounds during the first 3 months of 1985, for a total reduction of 9.4 billion pounds from their base levels (1982 or 1981-82 average). However, the participants as a group had already reduced their marketings during 1983, prior to the contract period, by an estimated 2.2 billion pounds (for which they received 1984 MDP payments of about \$220 million). Therefore, the maximum reduction from the

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<sup>2</sup>Cows, generally less than 2 years old, that have not given birth and therefore have not started to produce milk.

<sup>3</sup>The practice of removing particular cows from the dairy herd, generally to replace them with cows that produce more milk. Dairy producers periodically cull a portion of their dairy cow herds for various reasons, including injuries, advanced age, breeding difficulties, and low milk production.

1983 production level that could have been bought by the program during 1984 was about 5.3 billion pounds.

Our analysis suggests that the MDP reduced 1984 milk production by about 3.74 to 4.11 billion pounds below the level that could have been expected without the program. This amount was about one-half (50 to 55 percent) of MDP participants' contracted milk marketing reduction. This estimate does not mean that MDP participants did not achieve their contracted reduction, but rather that participants could have been expected to continue their downward milk production trend without the program. We believe that CCC would have purchased (in the form of butter, cheese, and/or nonfat dry milk) the estimated 3.74 to 4.11 billion additional pounds of milk that would have been produced in the absence of the MDP.

#### U.S. milk production declined in 1984

U.S. milk production during 1984--about 135.4 billion pounds--declined about 4.2 billion pounds from the 1983 peak and about 358 million pounds from the 1982 base-year level. A decline from 1983 levels occurred during each of the four quarterly milk production periods. Chart 1 (following page) shows that after increasing annually from 1980 to 1983, milk production declined in 1984.

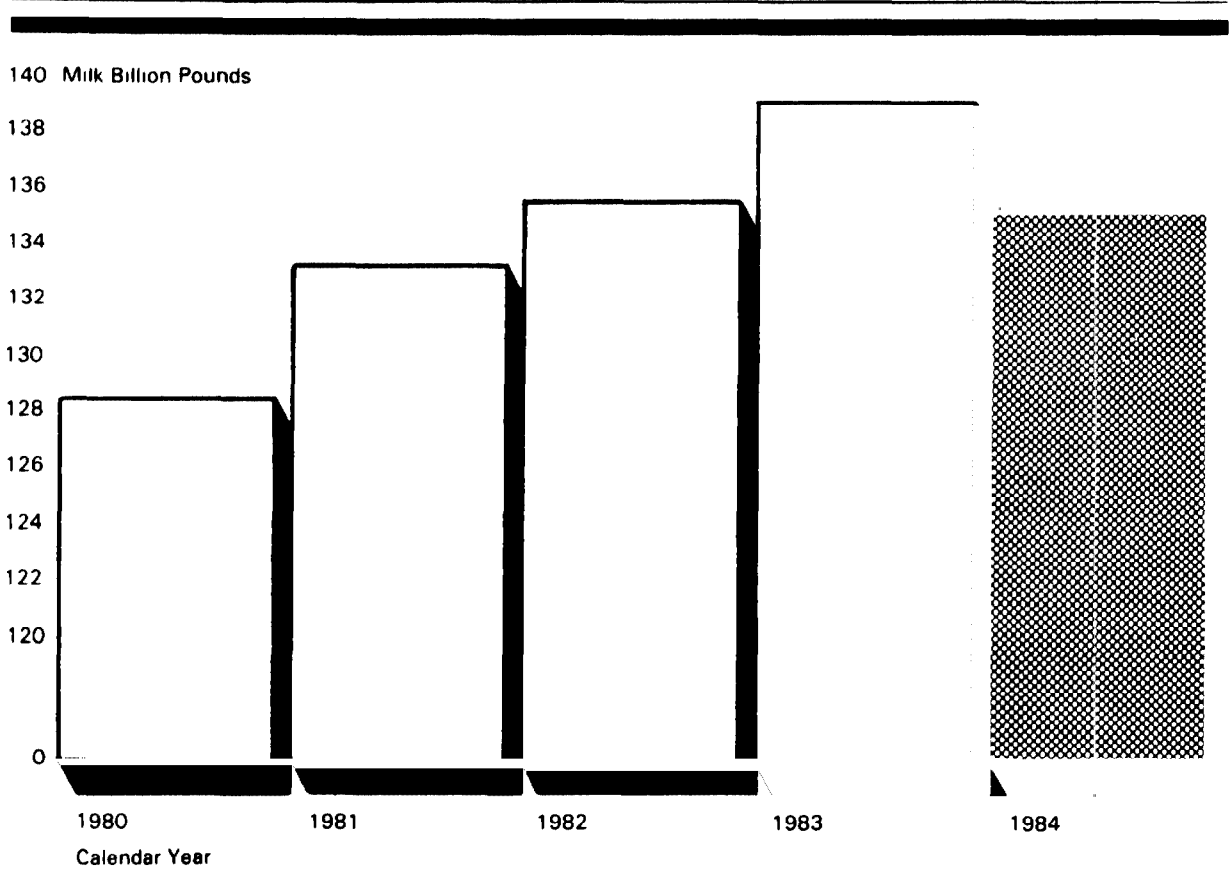
#### Factors that contributed to 1982-84 milk production changes

The MDP's effect on milk production cannot be determined simply by comparing production during 1984 (when the program was in effect) with production in 1983 and earlier years (when the program was not in effect) because other factors may have been partially responsible for changes in milk production. We used regression techniques to estimate the relative impact of the MDP and other factors on the changes in milk production between 1982 and 1984. The analysis is summarized below and detailed in appendix I.

Our analysis suggests that the long-run milk production trend in each state was an important explanatory factor in milk production changes between 1982 and 1984. After accounting for the effects of this trend and other explanatory factors such as changes in milk and dairy feed prices, our analysis suggests that the MDP reduced 1984 milk production by about 3.74 to 4.11 billion pounds below the level that could have been expected without the program, or about 50 to 55 percent of MDP participants' contracted 7.5 billion pound 1984 milk marketing reduction.

Historical milk production trends result from factors that influence milk production during a span of several years or more. Generally, the factors deal with the long-term profitability of producing milk compared with the profitability of other activities. The influence of these factors is expected to be manifested

Chart 1  
Annual Milk Production,  
1980 Through 1984



**Legend**

 Milk Diversion Program effective January 1, 1984.

Source: Chase Econometrics, U.S. Food and Agriculture Data Base.

in long-term milk production trends in each geographic area. For example, if it has become relatively more financially attractive in the midwest to grow corn or soybeans rather than produce milk, then all other factors being equal the area would probably show a downward trend in milk production and an increase in corn and soybean production over time. Thus, our analysis first estimated the level of 1984 milk production that could have been expected as a result of historical trends. We then computed the difference between this estimated level of 1984 milk production and actual 1984 milk production, and analyzed other factors to explain this difference.

It is important to note that historical trend factors apply to both MDP participants and nonparticipating milk producers; in other words, both MDP participants and nonparticipants may have been increasing, maintaining, or decreasing their milk production over the period of time prior to the program's January 1984 inception. According to USDA, MDP participants as a group had decreased their milk marketings in 1983 by an estimated 2.2 billion pounds from the 1982 base level. Further, a February 1985 AMS report<sup>4</sup> shows that during 1984 about 45 percent of the nonparticipating milk producers included in AMS' analysis reduced their milk marketings in the first 9 months of 1984 from the same period in 1983. According to the AMS report, the total reduction by these nonparticipants was about equal to the milk marketing reduction made by the MDP participants included in the analysis.

Milk production changes  
varied among regions and states

Changes in milk production between 1982 (the base year) and 1984 varied among regions of the country and among states. The changes, when compared with the quantity of milk marketing reduction contracted by MDP participants, also varied among regions and states. The following table shows how the contracted reduction in milk marketings, compared with actual changes in 1984 production, varied among regions.

Table 2  
Changes in Regional Milk Production, 1982-84

<u>Region</u>	<u>Percent of 1984 U.S. production<sup>a</sup></u>	<u>Percent of contracted marketing reduction<sup>b</sup></u>	<u>Percent change in milk production between 1984 and:</u>	
			<u>1982</u>	<u>1983</u>
South	11.9	10.0	(4.2) <sup>c</sup>	(5.2)
Central	44.6	5.6	(0.9)	(4.2)
West	19.0	5.2	3.2	0.8
Northeast	24.7	2.9	3.9	(1.7)

<sup>a</sup>Does not add to 100 due to rounding.

<sup>b</sup>The total amount of milk marketing reduction contracted by the regions' MDP participants, expressed as the percentage of each region's total 1982 (base year) milk production.

<sup>c</sup>Parentheses indicate negative numbers.

Source: Our calculation based on USDA's Milk Production data and MDP records.

<sup>4</sup>The report covered about 60 percent of the milk marketed in the United States in the first 9 months of 1984.



The table shows that despite the MDP, in both the west and northeast regions 1984 milk production increased when compared with 1982; in the western region, milk production even increased over the 1983 level. Further, the decreases in milk production in the south and central regions were smaller than the percentage of milk marketing reductions contracted by MDP participants.

Changes in milk production between 1982 and 1984, and between 1983 and 1984, also varied among states. Table 3 shows that of the 10 largest milk-producing states, which account for about two-thirds of U.S. milk production, only Minnesota and Iowa reduced milk production in 1984 when compared with the 1982 base year. Further, the table shows that the changes in 1984 milk production did not match the milk marketing reductions contracted by MDP participants.

These figures suggest that during 1984 if all MDP participants reduced milk production to achieve their contracted marketing levels, other milk producers increased their milk production over base-year levels, partially offsetting the participants' reductions.

Table 3  
Changes in Milk Production in the  
10 Largest Milk-producing States, 1982-84

<u>State</u>	<u>Percent of</u> <u>1984 U.S.</u> <u>production</u>	<u>Percent of</u> <u>contracted</u> <u>marketing</u> <u>reduction</u>	<u>Percent change</u> <u>in 1984 milk</u> <u>production from:</u>	
			<u>1982</u>	<u>1983</u>
Wisconsin	17.3	3.5	2.0	(1.2) <sup>a</sup>
California	10.9	3.6	4.5	3.3
New York	8.6	2.6	4.3	(0.8)
Minnesota	7.9	6.0	(0.9)	(6.1)
Pennsylvania	6.9	2.2	1.7	(0.9)
Michigan	3.9	4.3	1.7	(3.3)
Ohio	3.4	4.7	1.1	(3.8)
Iowa	3.0	7.4	(5.7)	(6.5)
Texas	2.9	10.1	2.7	(2.8)
Washington	<u>2.5</u>	4.0	7.2	(1.5)
Total	<u>67.3</u>			

<sup>a</sup>Parentheses indicate negative numbers.

Source: Our calculations of USDA's Milk Production data and MDP records.

CCC purchases of surplus dairy products declined in 1984

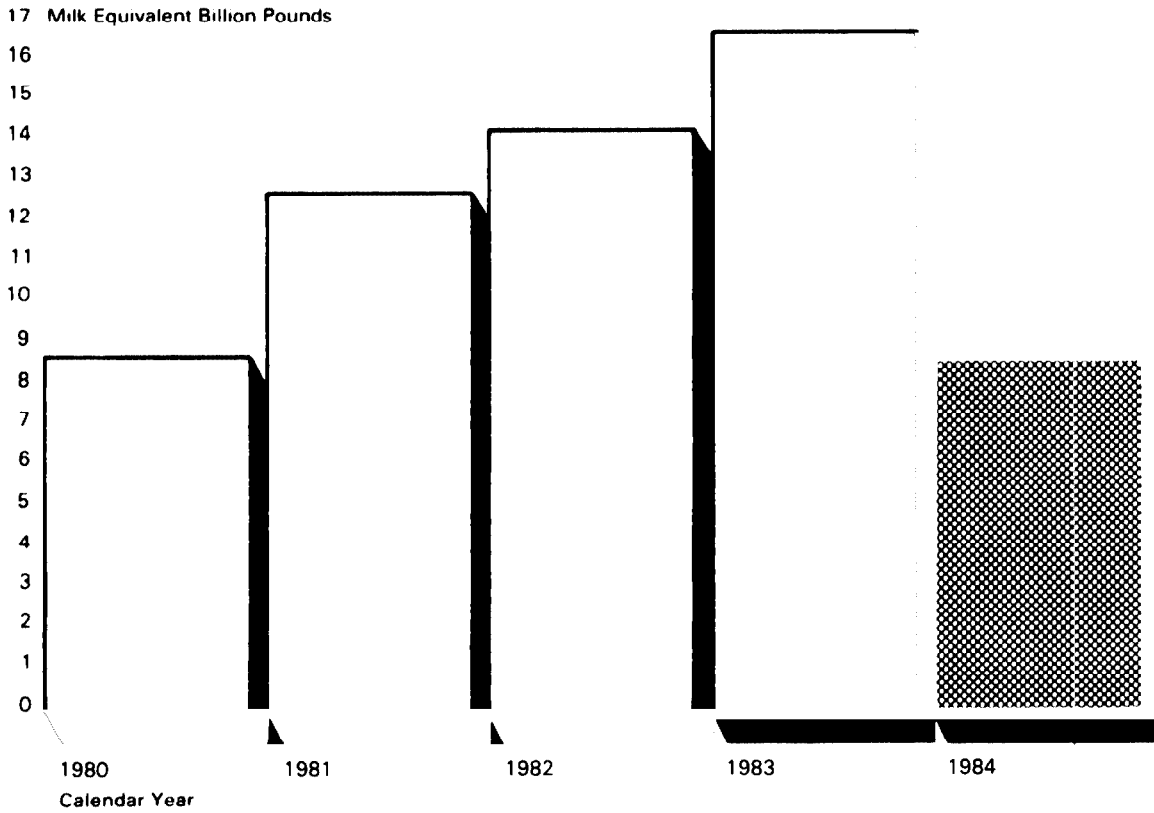
During 1984 CCC purchased about 50 percent less butter, 44 percent less cheese, and 36 percent less nonfat dry milk than it did in 1983. On a milk-equivalent basis, this is about a 49 percent total reduction. As chart 2 on page 15 shows, this followed a period, between 1980 and 1983, when CCC purchases of surplus dairy products increased annually on a milk-equivalent basis.

According to USDA officials responsible for managing and evaluating the MDP, the decline in CCC purchases during 1984 was attributable to both lower milk marketings as well as increased demand for milk and dairy products. Milk marketings were lower because (1) milk production was lower (as discussed in the preceding section) and (2) according to USDA, on-farm use of milk increased.

Chart 3 on page 16 shows that demand for milk and dairy products, after being at about the same level in 1982 and 1983, increased by about 3 billion pounds during 1984 when compared with the year-earlier level. USDA attributed the increased demand for milk and dairy products during 1984 to a generally stronger economy and to stable dairy prices resulting from the December 1983 reduction in the milk support price.

Chart 2

CCC Purchases of Surplus Dairy  
Products, 1980 Through 1984



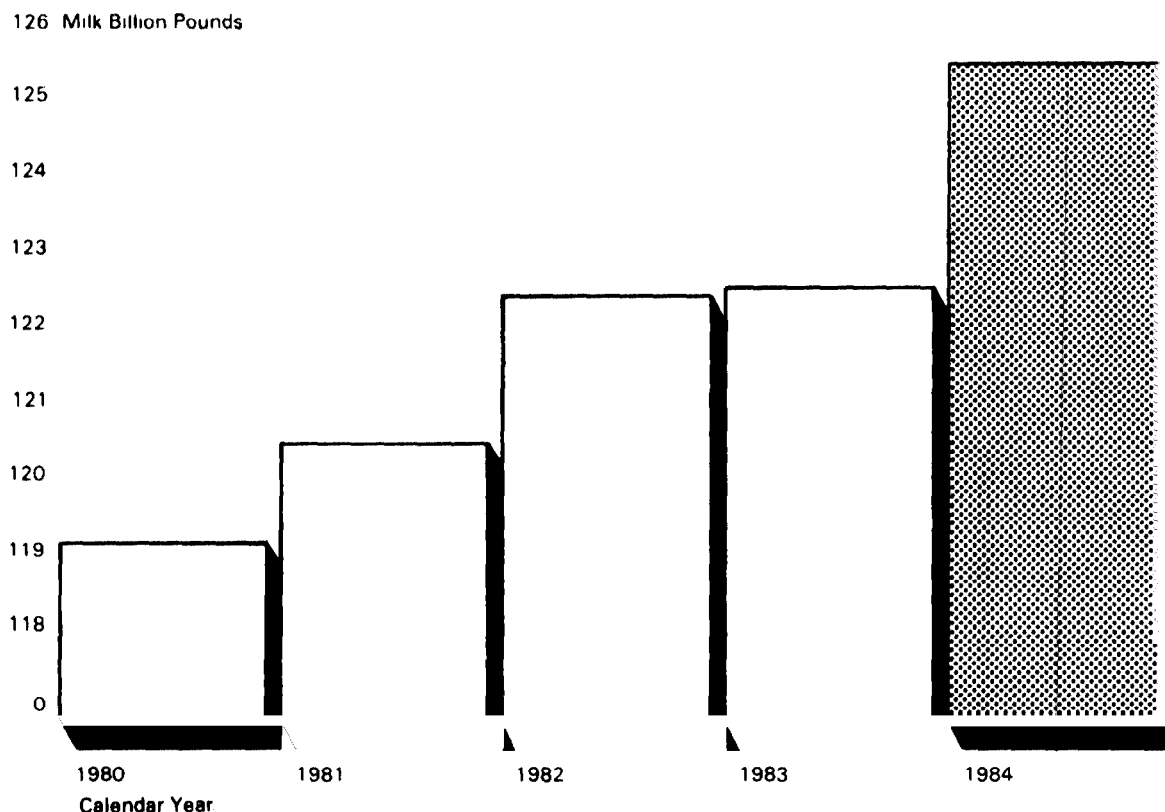
**Legend**

 Milk Diversion Program effective January 1, 1984.

Source: Chase Econometrics, U.S. Food and Agriculture Data Base.

Chart 3

Annual Demand for Milk and Dairy  
Products, 1980 Through 1984



**Legend**

 Milk Diversion Program effective January 1, 1984.

Source: Chase Econometrics, U.S. Food and Agriculture Data Base.

The fact that CCC continued to purchase dairy products under the price-support program during 1984 indicates that surplus milk production continued to exist, even though milk marketings were lower and milk demand was higher during this period compared with year-earlier levels. This suggests that any additional milk that would have been produced during the period would have increased the amount of surplus dairy products purchased by CCC.

CCC purchases of butter, nonfat dry milk, and cheese are made at prices equivalent to the support price for milk plus an allowance for manufacturing these products. During 1984, the milk support price was \$12.60 per hundred pounds. The manufacturing

allowance for converting 100 pounds of milk into cheese was \$1.37, and for butter and nonfat dry milk it was \$1.22. Because we could not determine the proportion of each product CCC would have purchased, we could not estimate precisely the manufacturing cost savings. Using the minimum manufacturing allowance of \$1.22 per hundred pounds, we estimated a total milk purchase price of \$13.82 (\$12.60 plus \$1.22) per hundred pounds.

As explained in the preceding section, we estimate that the MDP reduced 1984 milk production by about 3.74 to 4.11 billion pounds. This milk, if purchased by CCC (in the form of butter, cheese, and/or nonfat dry milk) would have cost about \$516.9 million to \$566.6 million, valued at the estimated purchase price of \$13.82.

In addition, USDA estimated that milk used "on-farm" (milk produced but not marketed) increased from an annual level of about 2.37 billion pounds in 1983 to about 3.07 billion pounds in 1984, a difference of about 705 million pounds. According to USDA officials responsible for administering and evaluating the program, it is reasonable to attribute this increased on-farm use to MDP participants. Participants had a financial incentive--their MDP contracts--to limit the quantity of milk they marketed, even if their milk production exceeded the marketing quantity by more than usual. If attributed to MDP participants, the 705 million pound increase in on-farm milk use represents an additional amount of milk that CCC would likely have purchased in 1984 without the MDP. If purchased, this milk would have cost CCC about \$97.4 million, valued at the purchase price of \$13.82. Therefore, we estimate that total purchase costs avoided by the program could be from \$614.3 million to \$664 million.

#### MDP EFFECTS ON MILK PRODUCTION MAY BE SHORT-LIVED

The objective of the Dairy Production Stabilization Act of 1983 was to encourage the adjustment of milk production to levels consistent with the national demand for milk and milk products. By contributing to the decline in milk production, the MDP was successful in meeting this objective in 1984. However, the MDP's longer term effects are not certain. In March 1985 USDA estimated that 1985 milk production would be from 1 to 3 percent higher than the 1984 level. Evidence presented in the following sections also suggests that milk production and/or marketings will increase after the MDP's March 31, 1985, expiration date.

#### MDP participants surveyed planned to increase marketings

According to our survey of MDP participants (see ch. 4), about 72 percent planned to increase their milk marketings after the program's scheduled March 31, 1985, expiration. About 52 percent said that they planned to resume their preprogram level of marketings, while another 20 percent said that they would increase their milk marketings by an average of 22 percent. Since the total contracted marketing reduction for all MDP participants

was 23 percent of their base, the latter respondents also indicated a return to approximately preprogram levels.

Milk marketings may be reduced through methods besides herd reduction

When enrolling in the MDP, milk producers were asked to indicate one or more methods by which they planned to achieve their contracted milk marketing reductions. Increased culling was cited by 83 percent of the participants. Participants also indicated that they would use methods in addition to, or instead of, reducing their herds through increased culling: 45 percent said they would change the amount or frequency of feed rations, 3 percent said they would reduce the number of daily milkings, and 40 percent said they would use undefined other methods. The other methods could include, for example, using the milk on the farm instead of marketing it.

The participants were not required to abide by their planned methods to achieve their contracted marketing levels. USDA has not obtained and does not plan to obtain information on the methods actually adopted and on the percentage of the milk marketing reduction attributable to each. However, reducing milk marketings through methods other than herd reduction suggests that MDP participants may have planned to resume their normal (pre-program) marketing levels after the MDP's scheduled March 31, 1985, expiration.

Number of dairy herd replacement heifers increased in 1984

According to USDA officials, the number of replacement heifers (heifers that are not part of the dairy herd currently being milked) is an important indicator of potential future milk production. USDA estimated that the number of dairy herd replacement heifers increased from 4.54 million in January 1984 to 4.95 million in July 1984. USDA estimated that during the same period the nation's dairy herd decreased from 11.1 million to 10.8 million cows; however, USDA estimated no additional decline in the last 6 months of 1984 and little or no change in 1985. The increase in replacement heifers and the decrease in the overall herd led to a record high 44 heifers per 100 cows as of January 1, 1985.

Estimated on-farm milk use increased

As mentioned previously, USDA estimated that on-farm milk use increased from an annual level of about 2.37 billion pounds, or about 1.7 percent of 1983 milk production, to about 3.07 billion pounds, or about 3.2 percent of the milk produced during 1984. Increased on-farm milk use by MDP participants is significant because it suggests that the participants did not reduce their milk production as much as they reduced milk marketings, and

therefore did not reduce their milk production capacity. Participants who achieved their contracted marketing levels by increased on-farm use would have been in a position to increase their milk marketings after the program expired.

MDP's EFFECT ON BEEF PRICES  
IS ESTIMATED TO BE SMALL

In their program plans, MDP participants indicated that to help achieve their contracted milk marketing levels they planned to cull and send to slaughter about 339,000 dairy cows, in addition to those dairy cows that would normally be slaughtered during the 15-month program. This additional number of cows slaughtered could affect beef prices by increasing the supply of beef on the commercial market. USDA has not obtained information on the actual number of dairy cows slaughtered as a result of the MDP, and does not plan to obtain this information. Using participants' planned slaughter data in conjunction with two USDA automated models of the livestock industry, we estimate that if the planned additional slaughter occurred, the effect on beef prices was small.

Table 4 shows that MDP participants planned to cull and send to slaughter most of these cows during the first quarter of 1984, and additional amounts in each of the program's remaining quarters.

Table 4

Cow Slaughter Planned  
by MDP Participants

<u>Year/quarter</u>	<u>Number of additional cows to be slaughtered</u>
1984 first	162,578
second	59,366
third	46,525
fourth	43,475
1985 first	<u>27,288</u>
Total	<u>339,232</u>

Source: USDA's MDP records.

We estimated the effect of these slaughter rates on prices using a version of USDA's automated Quarterly Livestock Model and its FAPSIM model. These models are designed to take into account many factors that affect the livestock industry and prices. The following tables show the models' predicted price effects. For example, the largest single-quarter effect estimated by either model is a 3.95 percent decline in cow prices in the first quarter of 1984, when most of the planned additional slaughter was to occur.

Table 5

Price Changes Estimated by USDA's  
Quarterly Livestock Model

<u>Year/quarter</u>	<u>Percentage changes in prices</u>		
	<u>Cows</u>	<u>Steers</u>	<u>Retail beef</u>
1984 first	-3.95	-2.21	-1.65
second	-1.49	-0.78	-0.58
third	-1.10	-0.59	-0.44
fourth	-0.73	-0.40	-0.30
1985 first	1.56	1.05	0.78
second	0.92	0.49	0.37
third	0.94	0.52	0.39
fourth	0.86	0.44	0.33
Cumulative	-2.99	-1.48	-1.10

Source: USDA's Quarterly Livestock Model.

Table 6

Price Changes Estimated by  
USDA's FAPSIM Model

<u>Price variable</u>	<u>Unit</u>	<u>Predicted price</u>		<u>Percent change</u>
		<u>Without MDP</u>	<u>With MDP</u>	
1984:				
Utility cows, Omaha <sup>a</sup>	100 lbs	\$43.307	\$42.549	-1.75
Steers, Omaha	100 lbs	63.801	62.855	-1.48
Retail beef	1b	2.646	2.618	-1.06
1985:				
Utility cows, Omaha	100 lbs	\$42.982	\$42.999	b
Steers, Omaha	100 lbs	63.121	63.162	b
Retail beef	1b	2.668	2.669	b

<sup>a</sup>"Utility" refers to the specific grade of cow; grades of slaughter cows are determined by standards based on age and/or physical characteristics such as the amount of fat. The highest standards are for the commercial grade, followed by the utility, cutter, and canner grades. Omaha prices are frequently used to indicate changes in cow and steer prices.

<sup>b</sup>Less than 1 percent.

Source: USDA's FAPSIM model.

After estimating price effects attributable to the MDP, we obtained information on actual beef prices during 1984. According



to USDA reports, some prices for cows and beef decreased in 1984 when compared with year-earlier prices, while steer prices increased, as table 7 shows.

Table 7

Selected Average Prices for Cows,  
Steers, and Beef, 1983 and 1984

<u>Price variable</u>	<u>Prices<sup>a</sup></u>			
	<u>1983</u>		<u>1984</u>	
	<u>First quarter</u>	<u>Annual</u>	<u>First quarter</u>	<u>Annual</u>
	------(per hundred pounds)-----			
Cows: commercial	\$40.07	\$39.41	\$39.83	\$40.75
utility	40.07	39.35	38.99	39.81
cutter	38.87	37.74	36.83	37.76
canner	36.09	34.95	33.07	33.84
Choice steers <sup>b</sup>	61.52	62.52	67.58	65.34
Wholesale beef	80.92	78.48	77.90	74.70
	------(per pound)-----			
Retail beef, choice	2.38	2.38	2.43	2.40

<sup>a</sup>Prices for cows and steers are Omaha prices. Prices for wholesale beef are average prices for cutter and canner cow beef at central U.S. markets.

<sup>b</sup>Choice slaughter steers, 900-1100 pounds, at Omaha. "Choice" refers to the particular grade of beef, based on U.S. grading standards.

Source: USDA, Livestock and Poultry Situation and Outlook, various issues.

According to an official of USDA's Livestock and Grain Market News Branch and USDA officials responsible for administering and evaluating the MDP, most culled dairy cows sent to slaughter are graded as commercial or lower grades; thus, the greatest price impact of the additional MDP slaughter would be expected on these classes of cows. As table 7 shows, the average first quarter price for each cow category was lower in 1984 than in 1983; however, the average annual price in 1984 was higher for each cow category except for "canner" cows.

These changes in prices cannot be attributed solely to the additional MDP dairy cow slaughter, because other factors could affect price changes. However, the fact that the automated models predict a small price effect attributable to the MDP suggests that if the planned MDP cow slaughter occurred, the effect on beef prices was small.

## CHAPTER 3

### MILK DIVERSION PROGRAM REQUIREMENTS

#### WERE DIFFICULT TO ADMINISTER

MDP requirements were established to help assure the program's effectiveness in reducing milk supplies. To help assure that participants reduced their milk marketings during the program period to contracted levels, participants were required to document the quantity of milk they marketed. In addition, participants were required to certify that any cows culled from their herds were slaughtered, exported, or transferred to another participant. This requirement was to prevent participants from transferring culled cows to nonparticipants, who could then use the cows to increase their milk marketings.

Despite USDA's efforts, the requirements were difficult to administer because of the ways that milk and dairy cows are marketed. Through discussions with USDA and dairy industry officials in the eight states<sup>1</sup> we visited, we identified several ways in which participants or others could have circumvented program requirements. We believe that local dairy practices existing prior to the program or established in response to the MDP may have deterred circumvention of requirements. A USDA official in charge of administering the program stated his opinion that circumvention was not widespread. However, because it was not our objective, we did not determine the extent of compliance or non-compliance with program requirements in any state.

Program requirements to help assure that participants actually reduced their milk marketings from the base level were critical to the program's effectiveness in reducing 1984 milk supplies. However, these requirements could be circumvented by, for example, (1) marketing milk, actually produced by a milk production unit<sup>2</sup> enrolled in the MDP, from a unit not enrolled and (2) marketing milk outside of participants' usual marketing channels without reporting such marketings to ASCS. MDP participants who circumvented program requirements, although subject to penalties, could have been paid for milk marketing reductions that were not actually achieved.

Requirements for dairy cow transfers were important for reducing both milk marketings during the program period as well as

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<sup>1</sup>Wisconsin, California, New York, Minnesota, and Pennsylvania were selected because they were the top five milk-producing states in 1983. Texas, Florida, and Washington were selected for geographic balance.

<sup>2</sup>For the MDP, a milk production unit consisted of a dairy cow herd, milking facilities, and the land used to produce milk, identified on the farm used to establish the base level of milk marketings.

future milk production capacity--and therefore future milk marketings. These requirements could have been circumvented if, for example, the purchasers of dairy cows culled from MDP participants' herds substituted cows of lesser economic value as milk producers and kept the culled dairy cow in milk production. Such circumventions were subject to penalties; however, substitutions are very difficult to detect because individual dairy cows do not usually bear permanent means of identification, and following the cows to their ultimate destination is impractical.

#### MDP MILK MARKETING REQUIREMENTS COULD BE CIRCUMVENTED

To understand the ways MDP requirements could be circumvented and the difficulty ASCS faced in assuring compliance with the requirements, it is helpful to understand how milk is marketed. The following background information is intended for this purpose.

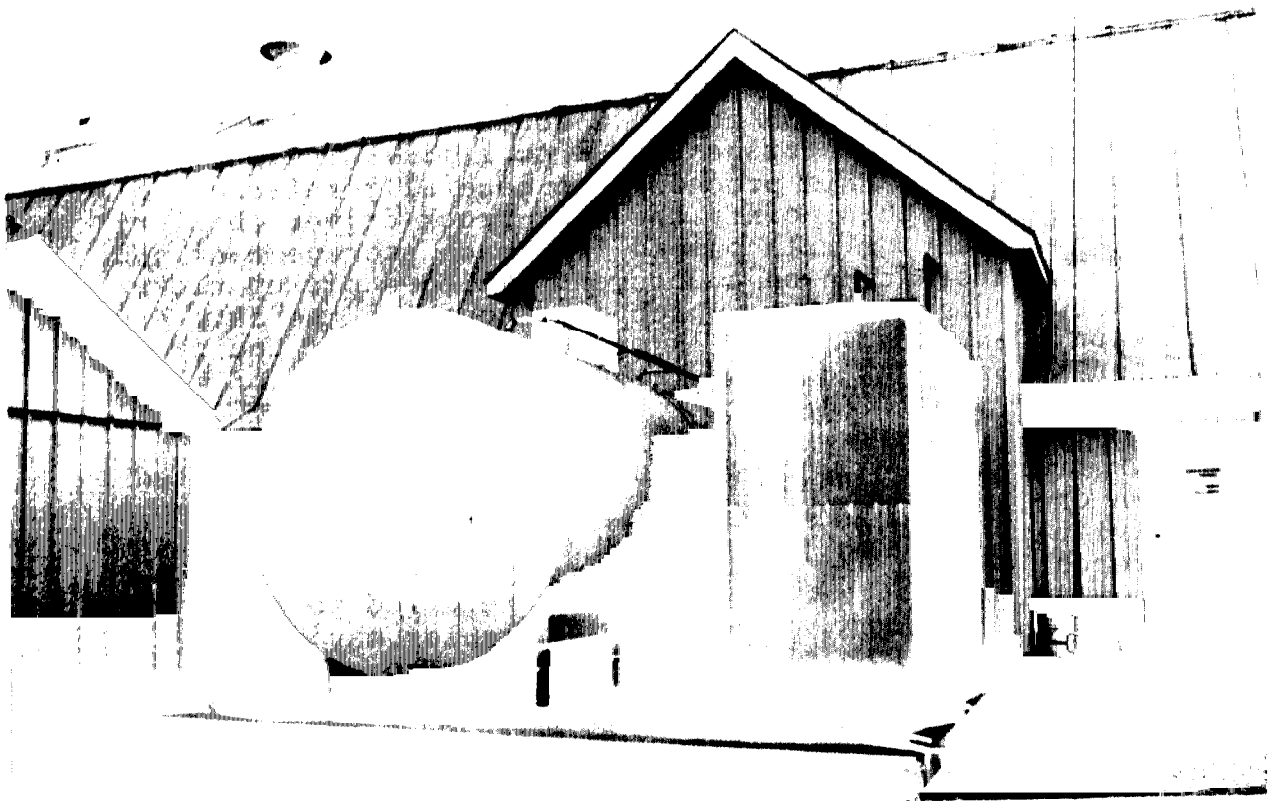
#### Milk marketing channels

Because milk is highly perishable, it must be marketed quickly, for either consumption in fluid form or transformation into storable manufactured dairy products such as cheese, butter, and nonfat dry milk. Once transferred from a producer's milk production unit, milk is mixed with other milk entering the marketing stream and cannot be traced to its source; therefore, records created at the point of transfer from the milk production unit are used to establish the unit's milk marketings.

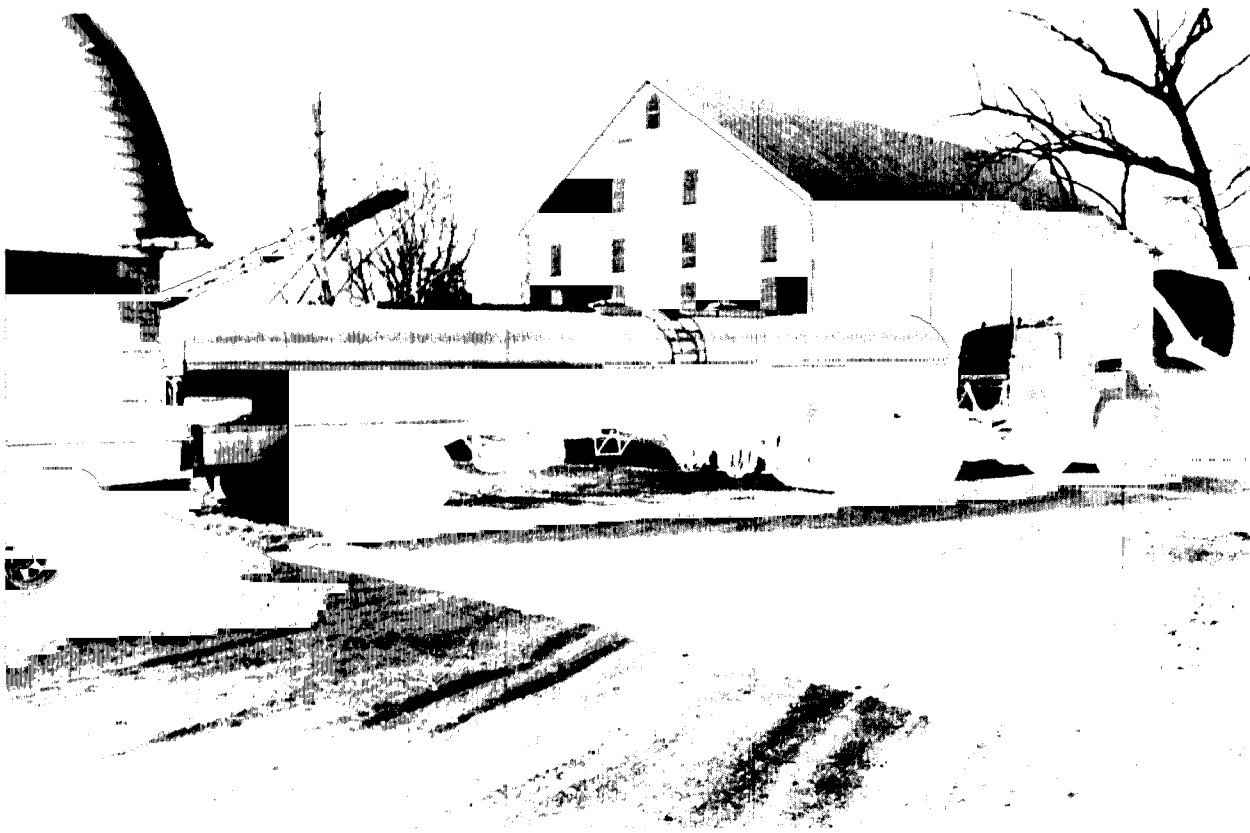
Although variations exist, the milk marketing process generally conforms to the following steps. Dairy cows are milked daily, and the milk is stored in chilled bulk storage tanks on the producer's farm (photograph no. 1). Usually every 2 days, milk is pumped out of the bulk storage tank into a milk-hauling tank truck (photograph no. 2). This procedure is generally referred to as a milk "pickup." At this point, the milk truck driver (hauler) measures the amount of milk pumped from each storage tank and records this information on a document called a pickup ticket or barn ticket. This document, which also contains the date and information identifying the milk production unit or the producer, is the basis for future records regarding the amount of milk marketed.

Milk from a single milk production unit may be marketed by more than one individual. To record milk marketings for more than one individual, processors may use a single milk pickup ticket showing each individual's share, or a separate ticket for each individual. This practice is generally referred to as "splitting" milk marketings. For example, the milk hauler may be instructed to allocate half the milk picked up each day to each of two individuals on a single ticket; the ticket would reflect two quantities of milk marketed from the same milk production unit. The processor may have a unique account number to identify each individual's marketings, and/or may maintain records of the total milk production unit's marketings.

Milk tank trucks generally follow established schedules and routes each day, usually with the same individual driver. Each route involves a number of stops, or milk pickups. Milk obtained at each pickup is combined with milk from previous pickups in the tank truck, and thereafter cannot be identified with a specific milk production unit. After completing the route, the tank truck hauls the milk to a processing facility to be processed into fluid milk or other dairy products such as butter, cheese, or ice cream.



Photograph 1. Farm milk storage tank.



Photograph 2. Milk-hauling bulk tank truck.

Milk may be marketed directly by a producer to a milk processor, or through a dairy marketing cooperative. In 1980, the last year for which data were available at the time of our inquiry,<sup>3</sup> 76 percent of all milk, and 79 percent of the grade A milk,<sup>3</sup> marketed in the United States was marketed through cooperatives, with the remaining milk marketed by independent milk producers. Cooperatives may market their members' raw fluid milk to processors, or process it themselves and market manufactured dairy products. In 1980, cooperatives marketed 47 percent of the cheese, 64 percent of the butter, and 87 percent of the nonfat dry milk marketed in the United States.

Cooperatives usually provide member services such as negotiating supply contracts with milk processors, arranging for transporting milk from farm to processor, and keeping records of member milk marketings. Some cooperatives operate fleets of milk tank trucks for hauling members' milk, while others contract with private milk-hauling companies. Milk producers generally receive payment for their milk from the cooperative or independent milk processor to which they market their milk.

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<sup>3</sup>To be classified as grade A, milk must be produced under conditions meeting established sanitary specifications. Milk must be classified grade A to be sold for fluid consumption. About 85 percent of the nation's milk supply is classified as grade A; the rest is classified as grade B and can be used only for manufacturing purposes.

## Program milk marketing requirements

To help assure that participants reduced their milk marketings during the program period to the level specified in their contracts, ASCS required that

- MDP participants report all milk production units in which the participants had a financial interest as of January 1, 1984;
- if a participant had interests in more than one unit but entered into an MDP contract to reduce marketings on only one unit, the participant limit the marketings from uncontracted units to the level of marketings during the period December 1, 1982, to November 30, 1983;
- each producer enroll as an MDP participant if there were more than one producer with a financial interest in a single milk production unit (except for owners who leased their milk production units for cash);
- when applying for program payments, participants furnish sales receipts or check stubs showing the quantity of milk marketed during the payment period from the contracted milk production unit and, at the end of the contract period, from any uncontracted units as specified above; and
- local county committees<sup>4</sup> review payment applications to determine that all the milk marketed from the participant's milk production unit during the period was reported to ASCS and was reasonable for the producer's operation.

ASCS provided for the Agricultural Marketing Service to audit a sample of program payments. Under this provision, AMS compared the quarterly milk marketings reported by a sample of MDP participants with the marketing records provided by milk processors under AMS' milk marketing order program.<sup>5</sup> In addition, participants

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<sup>4</sup>County committees are composed of (1) three farmers elected by the county's agricultural producers and (2) the county's agricultural extension agent who serves as an ex officio member. County committees meet periodically to, among other things, review issues arising from administration of ASCS programs.

<sup>5</sup>Milk marketing orders establish minimum prices for grade A milk used in making dairy products in specified geographic areas. About 70 percent of the fluid milk marketed commercially in the United States was covered by the 45 federal milk marketing orders operating on January 1, 1984. In addition, about another 15-18 percent was covered by state milk marketing orders, which serve the same purpose as federal orders. In California, which is covered by a state marketing order, AMS arranged for the California Department of Food and Agriculture to audit the sample of the state's MDP participants.

who did not fulfill their contract obligations were ineligible to receive MDP payments and could be assessed a substantial marketing penalty and/or a civil penalty of up to \$1,000.

#### How requirements could be circumvented

The ways in which MDP milk marketing requirements could be circumvented may be categorized as follows: (1) marketing milk, actually produced by a milk production unit enrolled in the program, from a unit not enrolled in the program, (2) splitting marketings from an enrolled milk production unit with an individual not enrolled in the MDP, and (3) not reporting milk marketings outside the participants' usual marketing channels. We also identified or were made aware of some instances in which participants had actually circumvented requirements, and noted that USDA's OIG had several cases of alleged violations in its investigative case files. However, because these violations are difficult to detect, ASCS procedures for verifying participant milk marketings and AMS' audit of program payments may not identify their extent.

#### Improperly marketing milk from a unit enrolled in the MDP

Milk actually produced by an enrolled milk production unit could have been improperly marketed by an unenrolled unit in either of two ways: (1) using milk pickup tickets (that is, showing on a participant's pickup ticket less milk than was actually picked up from the participant's unit and showing on a nonparticipant's pickup ticket correspondingly more milk than was actually picked up from the nonparticipant's unit) and (2) physically hauling milk produced by an enrolled milk production unit to an unenrolled unit.

Using milk pickup tickets to improperly allocate milk marketings to an unenrolled unit or physically hauling milk to a nonparticipating milk production unit are violations that, by their nature, would have been difficult to detect. However, we noted that USDA OIG had received allegations of these practices. As of March 13, 1985, OIG case files showed five cases of allegations that MDP participants physically hauled milk to a nonparticipant's milk production unit.

#### Splitting milk marketings

If a participant split milk marketings from a single enrolled milk production unit, the participant's milk marketing receipts could show a reduction when compared with the base period, even though a reduction may not have occurred. Because splitting marketings is a normal industry practice in some areas and processors may maintain records of individuals' marketings rather than total production unit marketings, instances of MDP participants improperly splitting their marketings are difficult to detect. However, through discussions with local USDA and/or dairy industry officials we identified or were made aware of several cases, including the following examples.

In one case, which the local CED investigated after receiving an allegation that a participant was violating program requirements, an MDP participant began splitting milk marketings with another individual in December 1983, before the program began but after the participant had established a base level of marketings. Thus, the participant's milk marketings during the first quarter of 1984 showed a decline not because milk production had actually been reduced but because a portion of the marketings was credited to the second individual. The participant would have received about \$69,000 in MDP payments if the violation had not been discovered.

In another case, the local CED discovered that a participant's milk production unit included about 20 more cows than the participant had reported. The CED found that the participant split milk marketings with another individual whose cows were part of the same unit. To expedite the participants' quarterly MDP payment, the processor receiving the producer's milk had voluntarily reported the participant's marketings during a specified period directly to the local ASCS office. By contacting the milk processor, we found that the processor had reported only the participant's marketings, not the entire production unit's marketings, because ASCS had asked for the participant's marketings. Although the local county committee found that the participant's violation was unintentional, the case illustrates the difficulty of assuring accurately reported milk marketings in accordance with MDP requirements when a unit's marketings are split.

In addition, as of March 13, 1985, USDA OIG case files showed six allegations of split milk marketings in violation of MDP requirements between MDP participants and nonparticipants.

#### Unreported marketings outside usual channels

In areas with a number of outlets for milk, opportunities may have existed for participants to market extra milk (milk in excess of their MDP-contracted quantities) outside their usual channels. Such marketings offered opportunities to circumvent MDP requirements because they would have allowed participants to document their contracted level of milk marketings through usual channels. Outlets may include cheese plants or other dairy manufacturing facilities that use grade B milk, which is not subject to AMS reporting requirements under the milk marketing order program. If the outlets are located in a different geographic or marketing region from the producer, the chances of detection could be lessened.

As of March 13, 1985, OIG case files showed three cases in which MDP participants were alleged to have marketed unreported milk to a processor outside of usual marketing channels.

#### Improper milk marketings may not be detected

MDP procedures for verifying participants' milk marketings may not necessarily identify (1) improper split marketings,



because processors may maintain records only by individual and not by milk production unit, or (2) marketings outside normal channels, because the milk could be marketed under a different name, to a processor in a different geographic area, or to a processor of grade B milk. For the same reasons, AMS' audit of program payments may not detect such marketings. According to AMS officials, AMS verified marketings to grade B processors only if a participant reported the marketings and the participant's marketings were part of the sample payments AMS audited.

#### MDP COW TRANSFER REQUIREMENTS COULD BE CIRCUMVENTED

ASCS designed MDP requirements for dairy cow transfers so that cows culled from MDP participants' herds would either be transferred to another participant or removed from U.S. milk production. These requirements were important to the program's effectiveness in reducing milk supplies. However, because dairy cows are not permanently identified throughout the marketing channel and following the cows to their ultimate destination is impractical, opportunities existed to substitute a less valuable cow for a program cow designated for slaughter or export and to market the program cow for further milk production by a nonparticipant. Through discussions with USDA and dairy industry officials, we identified several ways in which program participants or others involved in dairy cow marketing channels could have circumvented program requirements by selling culled cows to nonparticipants rather than for export or for slaughter.

#### Dairy cow marketing practices

Milk producers periodically cull a portion of their dairy cow herds for various reasons, including injuries, advanced age, breeding difficulties, and low milk production. Because milk production varies among individual cows and among herds, a below-average-production cow in one herd may be above average in another. These variations in milk production contribute to value differences among dairy cows. Normal marketing channels are expected to direct the culled cows to the use that maximizes their economic value, either milk production or slaughter purposes.

To market culled cows, producers may use a variety of channels including local livestock auction barns, independent cattle dealers, and direct sales to slaughterhouses or other milk producers. Cows marketed through auction barns or independent cattle dealers may be resold a number of times and may be transported long distances from the original owner, making it impractical to track the cows to their final destination.

Although dairy cows are often tagged with identification numbers, the tags are not necessarily permanently affixed. Officials we contacted said that even tags that are designed to be permanently affixed can be removed from one animal and placed on another. Without permanent identification, it is impossible to track specific cows to their final destination.

According to industry officials, the most common means of identifying dairy cows is through plastic or metal tags affixed to the animal's ear or stickers attached to the animal's back. (See photographs 3 and 4.)

--Under its market cattle vaccination and testing program, USDA issues two types of identification tags: (1) metal or plastic tags affixed to the ears of vaccinated cattle and (2) stickers affixed to the backs of cattle prior to marketing them for slaughter or dairying. A USDA official estimated that at least 50 percent of U.S. dairy cows are tagged with one or both of the tags.

--Two states we visited issue identification tags in connection with state disease control programs. For example, the New York state Department of Agriculture and Markets issues three official eartags for dairy cows--one for disease-tested animals, one for animals not identified by other means, and one for out-of-state animals without health certificates.

--Some milk producers use eartags to identify individual cows.

--Some auction barns use their own tagging systems to record the animals that pass through their facilities.



Photograph 3. Cow identification backtag.



Photograph 4. Cow eartag.

Opportunities existed for unauthorized  
MDP dairy cow transfers

Because dairy cows are not permanently identified throughout the marketing channel, opportunities existed to substitute one cow for another. Further, according to the industry officials we contacted, differences in the value of cows for milk production versus slaughter purposes in some areas created incentives to substitute a less valuable cow for a dairy cow designated for slaughter or export and to market the dairy cow for milk production.

In their program plans, about 83 percent of MDP participants indicated that they would reduce their dairy cow herds as one way of achieving their contracted milk marketing reduction. ASCS required participants to report any reductions in their herds and to certify that any transferred cows were transferred only for slaughter, export, or use by another participant. ASCS also required MDP participants to report their herd sizes as of April 1, 1984, and provided for ASCS personnel to verify a sample of herd sizes by visiting participants' farms to physically count their cows. Producers who knowingly violated MDP provisions, including restrictions on dairy cows, were subject to a penalty of \$1,000 for each violation.

Based on our discussions with USDA and industry officials, we identified several ways in which dairy cows culled from participants' herds could have remained in milk production in nonparticipants' herds.

- Cows from a participant's herd could have been transferred directly to a nonparticipant's herd without reporting the transfer to ASCS.
- Cows from a participant's herd could have been sold, either directly by the participant or through an auction barn, to a cow dealer who, instead of exporting or selling them to a slaughterhouse, could have substituted less valuable cows from another source and sold the participant's cows to a nonparticipant for milk production.
- Cows from a participant's herd could have been transferred directly to a nonparticipant's herd and reported to ASCS as having died or been destroyed.

Circumvention of MDP dairy cow transfer requirements are difficult to identify, and it was not our objective to identify the extent of such circumvention. However, during our review we noted that USDA OIG had received allegations of improper dairy cow transfers. As of March 13, 1985, OIG case files showed seven cases of alleged improper dairy cow transfers in violation of MDP requirements.

LOCAL DAIRY PRACTICES MAY HAVE  
DETERRED CIRCUMVENTION OF  
PROGRAM REQUIREMENTS

Local dairy industry practices--either existing prior to the MDP or voluntarily established in response to the program--may have deterred circumvention of program requirements. For example, local variations in the processes of marketing milk and transferring dairy cows exist that may have helped deter possible MDP violations.

- Of the 29 milk processors (including cooperatives) we contacted, 23 had agreements with milk producers that gave the processors exclusive rights to market the producer's milk. By requiring that producers not ship milk to another cooperative or processor, such agreements may have deterred participants from independently marketing milk to another customer.
- According to the CED we contacted in Florida, most of the area's dairy herds were quarantined for brucellosis,<sup>6</sup> and other producers were reluctant to purchase cows at the auction barn because of the danger of getting a cow that might infect their own herds. According to an auction barn

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<sup>6</sup>Brucellosis is a contagious disease that affects dairy cow breeding.

official, only buyers representing slaughterhouses came to the barn to bid on cows. Thus, the opportunities for improper dairy cow transfers may have been reduced.

In some instances, local USDA and/or dairy industry officials had voluntarily established practices to help assure that MDP requirements were followed.

- The ASCS state executive director in Washington encouraged branding cows from participants' herds sold through auction barns; the brand indicated that the cows must be slaughtered. This practice could deter improper cow transfers after the animal was branded.
- In five of the counties we visited, the CED had provided lists of MDP participants to local dairy processors, cooperatives, and/or livestock auction barns, to help industry officials assure that participants' milk marketings and dairy cow transfers complied with program requirements.
- Fifteen of the 17 auction barns we contacted segregated cows from MDP participants' herds from other cows brought to auction, had the auctioneer announce that the cows were from participants' herds and could be bought only for slaughter, or limited bidding to known buyers for slaughterhouses or other MDP participants. However, the auction barns officials said they generally relied on participants to identify program cows. Of the remaining two auction barns, one sells all dairy cows for slaughter.
- In Florida and Wisconsin, the two CEDs we contacted had arranged to have the processors that handled the counties' MDP participants' milk marketings report directly to ASCS the amount of milk marketed by the participants. However, as the example on page 28 shows, direct reporting by processors may not identify improper milk marketings.

## CHAPTER 4

### VIEWS OF MDP PARTICIPANTS AND NONPARTICIPATING MILK PRODUCERS

We surveyed through mailed questionnaires a sample of MDP participants and a sample of nonparticipating milk producers to determine what factors influenced their decisions and to obtain their views about alternative policies we identified for dealing with the dairy surplus. We estimate that our responses are representative of about 28,000 MDP participants and about 72,000 nonparticipants, respectively. The percentages used in this chapter to discuss the survey results refer to 28,000 participants and 72,000 nonparticipants.

The survey results are highlighted below and shown in detail on pages 35 to 42. Appendices II through IV detail our sampling plan and show the questionnaires with response data. In addition to summarizing the total response data, we sorted the responses by region,<sup>1</sup> by size of operation, and by the number of years the producers had operated a dairy farm. The differences in the response data that were statistically significant at the 95 percent level of confidence, and were judged to represent substantial differences, are detailed in appendix V.

#### HIGHLIGHTS OF SURVEY RESULTS

For about half the 28,000 program participants represented by our results, a major reason for participating was that they had already reduced milk marketings (30 percent) or that they had marketing increases from the base level that were low enough to make participation financially beneficial (19 percent). An estimated 10 percent participated because they were planning to reduce their marketings or get out of the dairy business anyway. Conversely, we estimate that one of the major reasons why half of the 72,000 nonparticipants that our survey results represent did not participate was that participation would have required too much of a cutback in milk production.

About 58 percent of the participants and 28 percent of the nonparticipants supported extending the MDP. Although about 55 percent of the participants either "definitely" or "probably" would have participated in an extended program, only about 6 percent of the nonparticipants would have participated. However, about 25 percent of both participants and nonparticipants were uncertain about whether they would have participated in an extended program.

None of the policy alternatives we identified were supported by a majority of the producers; however, a substantial proportion--at least 25 percent in each case--were uncertain about

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<sup>1</sup>The regions are defined on the map on p. 8.

whether they would support each alternative and/or did not respond to the question. The responses of those that expressed a preference (either support or opposition) are summarized below.

--Mandatory production quotas. Thirty-three percent of the participants and 29 percent of the nonparticipants strongly or generally supported this alternative, whereas 37 percent of the participants and nonparticipants alike generally or strongly opposed it.

--Reduced price-support level. Twenty-three percent of the participants and 19 percent of the nonparticipants strongly or generally supported this alternative, whereas 49 and 43 percent of participants and nonparticipants, respectively, generally or strongly opposed it.

--Elimination of price-support program. Fifteen percent of the participants and 10 percent of the nonparticipants strongly or generally supported this alternative, whereas 53 percent of the participants and 46 percent of the nonparticipants generally or strongly opposed it.

--Elimination of all government dairy programs. Twelve percent of the participants and 20 percent of the nonparticipants strongly or generally supported this alternative, whereas 50 percent of the participants and 39 percent of the nonparticipants generally or strongly opposed it.

#### REASONS FOR MDP PARTICIPATION AND NONPARTICIPATION

The objective of the MDP's authorizing legislation was to encourage the adjustment of milk production to levels consistent with the national demand for milk and milk products. Although USDA's MDP impact analysis estimated that a 10-percent reduction in milk production would result in roughly balancing milk supply and demand, neither the act nor USDA established a specific MDP goal, or a targeted level of milk production that the program was to achieve. The 38,000 dairy producers that enrolled, representing about 20 percent of the nation's commercial dairy producers, contracted to reduce their 1984 milk marketings by about 7.5 billion pounds, or about a 5.5 percent reduction from total 1983 milk marketings.

For about half the MDP participants represented by our survey, a major reason for participating was that their milk marketings were reduced (when compared with the MDP base period of 1981 or 1982) prior to the program, or that their increases from the base levels were small enough to make participation in the program financially beneficial. According to our survey, the main reasons for not participating were associated with temporarily reducing herd size and milk production and restrictive and/or complicated program regulations.

According to our survey, about 42 percent of the participants had lower milk marketings in 1983 than they did in 1982.

Conversely, about 37 percent of the nonparticipants had 1983 milk marketings that were on average 19 percent higher than their 1982 marketings. Participants who had already reduced milk marketings in 1983, compared with 1982 levels, received MDP payments for that reduction as well as any further reductions in 1984. On the other hand, producers who had increased milk marketings in 1983 compared with 1982 levels would have received MDP payments only for the reduction from the 1982 level, not from their (higher) 1983 level.

### Reasons for participation

We asked MDP participants to indicate which of the reasons below were factors in their decisions to enroll in the MDP. Following is a list of the factors and the estimated percentage of MDP participants to whom the factor was a "major reason" for deciding to participate.

- Producer wanted to help solve the surplus problem (49 percent).
- Producer's milk marketings were already reduced from base-period levels (30 percent).
- Producer's milk marketing increases from base-period levels were low enough to make MDP participation financially beneficial (19 percent).
- Producer had planned to cut back or get out of dairy production anyway (10 percent).
- Producer's dairy cooperative encouraged participation (9 percent).
- Producer's banker encouraged participation (3 percent).
- Other reasons (9 percent).

About 42 percent of the participants had reduced their 1983 milk marketings compared with their 1982 levels; the average reduction was 15 percent. Reduced 1983 milk marketings were more frequent among producers who had operated a dairy farm for less than 5 years (62 percent had reduced) than among producers who had operated a dairy farm for a longer time.

We asked the participants about the program information available to them prior to enrolling. About 30 percent of the participants said that they "definitely" had enough information about the program in time to make a good decision about whether to participate; another 40 percent said that they "probably" had enough information. About 10 percent said that they did not have enough information.

The information that participants used in their decisions came from several sources. About 94 percent obtained at least some of their information from their ASCS offices, more than any other source. About 70 percent of the participants were satisfied



with the clarity and accuracy of the information they received from USDA, while about 17 percent were dissatisfied. Other information sources used by participants in making their decisions included the county extension agent (37 percent); the news media (70 percent); and friends, family, and/or neighbors (48 percent).

#### Reasons for not participating

We asked nonparticipating dairy producers about their reasons for deciding not to enroll in the MDP. Following are the factors listed on our questionnaire and the estimated percentage of non-participants to whom the factor was a "major reason" for deciding not to participate.

- Participation would have required too much of a cutback in milk production (50 percent).
- Producer did not want to reduce his/her dairy herd for the program and then have to rebuild it after the program ended (48 percent).
- Program regulations were too complicated (28 percent).
- Program regulations were too restrictive (25 percent).
- Producer felt that 15 months was too short a period for the program (22 percent).
- USDA could lower the contracted reduction without giving producer the option to drop out of the program (20 percent).
- Quarterly MDP payments would cause cash-flow problems (20 percent).
- Producer did not want to receive government payments (14 percent).
- The enrollment period was too short, and there was not enough time to decide (11 percent).
- Producer did not get enough information about the program (7 percent).
- Other reasons (14 percent).

We asked the nonparticipants about the quantity and quality of the information available to them. About 29 percent said that they definitely had enough information about the program in time to make a good decision about whether to participate; another 30 percent said that they probably had enough information. About 28 percent said that they did not have enough information.

The information that nonparticipants used in their decisions came from several sources. About 75 percent received at least some of their information from their ASCS offices, more than any

other source. About 43 percent of the nonparticipants were satisfied with the clarity and accuracy of the information they received from ASCS, while about 25 percent were dissatisfied. Other information sources used by nonparticipants in making their decisions included the USDA county extension agent (40 percent); the news media (67 percent); and friends, family, and/or neighbors (58 percent).

Future participation

To gauge the MDP as a policy tool for future use, we asked both MDP participants and nonparticipants if they would (1) support an extension of the MDP and (2) participate in the program if it were extended by the Congress with the same rules. The following tables show that about 25 percent<sup>2</sup> were uncertain about whether they would support and/or participate in an extended MDP.

Table 8

Support for Extended MDP

<u>Response</u>	<u>Participants</u>	<u>Nonparticipants</u>
	----- (percent) -----	
Strongly support	31	9
Generally support	27	19
Uncertain	22	25
Generally oppose	8	8
Strongly oppose	6	18
No response	6	22

Table 9

Participation in MDP  
If Extended

<u>Response</u>	<u>Participants</u>	<u>Nonparticipants</u>
	----- (percent) -----	
Definitely yes	25	1
Probably yes	29	5
Uncertain	25	25
Probably no	11	22
Definitely no	8	41
No response	2	5

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<sup>2</sup>The percentages in each column of tables 8 through 14 may not add to 100 due to rounding.

While about 28 percent of the nonparticipants strongly or generally favored extending the program, only about 6 percent said that they would probably or definitely participate. Further, about 19 percent of the participants said that they would either probably or definitely not participate in the program if it were extended. There was little regional difference in support for extending the MDP. However, fewer producers in the northeast (10 percent) said that they would definitely or probably participate in an extended MDP than in the other regions, where from 22 to 26 percent of the producers said that they would definitely or probably participate.

RESPONSE TO POLICY ALTERNATIVES

We asked both MDP participants and nonparticipants about their support for policy alternatives for dealing with the dairy surplus. The following sections briefly discuss each policy alternative and the survey results.

Mandatory production quotas

Mandatory production quotas would establish a maximum limit of milk marketings for each milk producer. Under USDA programs such as those for tobacco and peanuts, quotas are usually based on the relationship between the historical production of a farm unit and the estimated demand for the applicable product. Although the difference is not great, table 10 shows that there was generally more opposition than support for production quotas.

Table 10

Response to Mandatory Production Quotas

<u>Response</u>	<u>Participants</u>	<u>Nonparticipants</u>
	----- (percent) -----	
Strongly support	16	13
Generally support	17	16
Uncertain	22	16
Generally oppose	14	13
Strongly oppose	23	24
No response	8	17

There was more support for production quotas among producers in the central region (39 percent) and west (43 percent) than in the northeast (29 percent) and south (28 percent).

Reduce price-support level

In our 1980 report, Alternatives to Reduce Dairy Surpluses (CED-80-88, July 21, 1980), we stated that the dairy price-support program had promoted more than adequate milk supplies to meet needs. The Dairy Production Stabilization Act of 1983 (1) established the milk support price at \$12.60 per hundred pounds

effective December 1, 1983, and (2) authorized the Secretary of Agriculture to reduce the support price for milk by 50 cents per hundred pounds in April 1985 and again in July 1985 if estimated CCC dairy purchases exceeded specified levels. The Secretary announced 50-cent-per-hundred-pound reductions in the milk price-support level effective April 1, 1985, and July 1, 1985.

Table 11 shows that over twice as many participants and non-participants were opposed to reducing the price-support level as were supportive.

Table 11

Response to Reduced Price-support Level

<u>Response</u>	<u>Participants</u>	<u>Nonparticipants</u>
	----- (percent) -----	
Strongly support	7	9
Generally support	16	10
Uncertain	17	14
Generally oppose	14	21
Strongly oppose	35	22
No response	11	23

There was less support for reducing the price-support level among producers in the central region (15 percent) than in the other regions, where from 34 to 45 percent of producers supported this alternative.

Eliminate price-support program

Eliminating the dairy price-support program would allow the market to play a greater role in establishing the prices that milk producers receive for the milk they produce. Eliminating the program would not result in a completely free-market pricing system because federal and state marketing orders would remain. Table 12 shows that over three times as many participants and over four times as many nonparticipants were opposed to eliminating the price-support program as were supportive.

Table 12

Response to Eliminating Price-support Program

<u>Response</u>	<u>Participants</u>	<u>Nonparticipants</u>
	-----(percent)-----	
Strongly support	7	6
Generally support	8	4
Uncertain	20	20
Generally oppose	18	15
Strongly oppose	35	31
No response	12	24

There was less support for eliminating price supports among producers in the central region (12 percent) than in the northeast (16 percent), the south (20 percent), or the west (30 percent).

Eliminate all government dairy programs

Eliminating all government dairy programs, including marketing orders, would allow a free-market pricing system for milk. Table 13 summarizes the responses on this alternative.

Table 13

Response to Eliminating All Government Dairy Programs

<u>Response</u>	<u>Participants</u>	<u>Nonparticipants</u>
	-----(percent)-----	
Strongly support	7	14
Generally support	5	6
Uncertain	27	27
Generally oppose	17	14
Strongly oppose	33	25
No response	12	15

There was less support for eliminating all government dairy programs among producers in the central region (14 percent) than in the south (26 percent), west (29 percent), and northeast (30 percent).

Dairy promotion program

The Dairy Production Stabilization Act of 1983 established a 15-cents-per-hundredweight assessment on milk marketings to fund a dairy product promotion program. We asked participants and non-participants whether they supported or opposed this program. Table 14 summarizes the responses we received.

Table 14

Response to Dairy Product Promotion Program

<u>Response</u>	<u>Participants</u>	<u>Nonparticipants</u>
	----- (percent) -----	
Strongly support	33	30
Generally support	27	22
Uncertain	14	12
Generally oppose	9	13
Strongly oppose	16	18
No response	1	5

## CHAPTER 5

### CONCLUSIONS, MATTERS FOR CONSIDERATION, AND

#### AGENCY COMMENTS AND OUR EVALUATION

##### CONCLUSIONS

The objective of the Dairy Production Stabilization Act of 1983 was to stabilize the supply and demand for dairy products. The act, among other things, established the Milk Diversion Program to help encourage the supply of milk to levels consistent with the national demand for milk and milk products.

Although USDA's December 1983 MDP impact analysis estimated that a 10-percent reduction in milk production would result in roughly balancing milk supply and demand, neither the act nor USDA established a specific MDP goal, or a targeted level of milk production that the program was to achieve. Because a specific goal was not established, it is difficult to determine whether the program was effective, or whether a reduction in milk supplies could have been more effectively achieved by other means.

However, it is possible to estimate what the program actually achieved during the program period (January 1, 1984, to March 31, 1985), as well as its effect after the program's expiration. In reviewing the MDP's effect during the program period, it is important to consider (1) the extent to which participants actually achieved their contracted level of marketings, (2) how much of this contracted reduction had already occurred prior to the program's inception and how much could have been expected to occur without the program, and (3) the actions of nonparticipating milk producers.

In administering the program, ASCS required participants to document their quarterly milk marketings, and AMS audited a sample of MDP payments to verify participants' documented marketings by comparing them with milk processor records. Through these procedures, ASCS monitored the extent to which participants achieved their contracted marketing levels; this monitoring will not be completed until AMS has finished its audits of MDP payments.

Although MDP participants contracted to reduce their 1984 milk marketings by 7.5 billion pounds from their base levels, the participants as a group had already reduced their marketings during 1983 by an estimated 2.2 billion pounds (for which they received 1984 MDP payments of about \$220 million). Therefore, the maximum reduction from the 1983 production level that could have been bought by the program during 1984 was about 5.3 billion pounds. Our analysis, which took into account factors outside the program that affected milk production changes between 1982 and 1984, suggests that the MDP reduced 1984 milk production by about 3.74 to 4.11 billion pounds below the level that could have been expected without the program. This estimated reduction is equivalent to about one-half (50 to 55 percent) of MDP participants'

contracted 1984 milk marketing reduction. This estimate does not mean that MDP participants did not achieve their contracted marketing levels, but rather that participants could have been expected to continue their downward milk production trend without the program.

In addition, because MDP participants represented only about 20 percent of U.S. commercial milk producers, the actions of non-participating milk producers are important when assessing changes in milk production between 1982 and 1984. According to AMS' February 1985 report, which covered about 60 percent of the milk marketed in the United States during the first 9 months of 1984, about 45 percent of the nonparticipating milk producers included in AMS analysis reduced their milk production during the period while about 55 percent either maintained or increased production. Our analysis of regional milk production changes shows that in 8 of the 10 largest milk-producing states, milk production increased in 1984 when compared with the 1982 base year and in one state it increased when compared with 1983. This suggests that if those states' MDP participants achieved their contracted reductions, nonparticipating milk producers increased their production and partially offset the participants' reductions.

About half the MDP participants we surveyed said that they participated because they (1) had already reduced their milk marketings from their base levels, (2) planned to cut back or get out of dairy production anyway, and/or (3) had milk marketing increases from their base levels that were low enough to make MDP participation financially beneficial. Conversely, the major reasons that the nonparticipating milk producers surveyed did not participate were that participating would have required too much cutback in milk production and/or the producers did not want to reduce dairy herds for the program and rebuild them at the program's end.

These responses suggest that the MDP provided payments to a number of milk producers who, in addition to having already reduced their milk marketings, would have reduced them even without the program, and was less successful at inducing producers who had increased marketings to voluntarily reduce their milk marketings.

USDA estimates that 1985 milk production will increase by 1 to 3 percent above the 1984 level. Also, the evidence discussed on pages 17-19 suggests that milk supplies can be expected to increase after the program's expiration. Therefore, unless demand significantly increases, surplus milk production and the government's dairy surplus costs can be expected to increase after the MDP's expiration.

Compliance with program requirements was essential for the MDP to be effective in reducing milk marketings, and therefore the government's dairy surplus costs, during the program period. The opportunities for circumventing MDP requirements illustrate the difficulty of administering a voluntary control program for milk. Our discussions with USDA and dairy industry officials suggest that it was very difficult to administer the program in a way that



assured compliance with program requirements. AMS' audits of program payments and OIG's investigations, while revealing instances of noncompliance, may not necessarily detect improper milk marketings and/or improper dairy cow transfers.

#### MATTERS FOR CONSIDERATION BY THE CONGRESS

Because a major factor influencing milk producers' decisions about whether to participate in the MDP appeared to be how the producers' marketings at the time the program was initiated compared with their marketings during the base period selected, we suggest that in the event the Congress reestablishes the program the base period be selected to avoid paying participants for marketing reductions made prior to the program.

By establishing the MDP with a base marketing period of 1982 (or average of 1981-82) instead of 1983, the year immediately prior to the program, MDP participants received about \$220 million for marketing reductions that they had already made. Establishing the base period as an average of 2 or more years immediately prior to the program could help reduce such payments, but will not totally avoid them if producers' marketings have consistently declined during the base years selected.

Producers who reduced their marketings through participation in the 1984/85 program and resumed preprogram milk marketing levels could be less inclined to participate in a future program if the base period includes 1984. This is because participants in the 1984/85 program marketed less milk than they otherwise would have, and could view their 1984 marketings as being abnormally low. Also, those 1984/85 program participants who prepared to increase their marketings during 1985 in anticipation of the MDP's expiration could find participation in a subsequent program less attractive because participation would require too much of a cutback.

#### AGENCY COMMENTS AND OUR EVALUATION

USDA expressed general agreement with the facts, conclusions, and matters for congressional consideration raised in our draft report; however, several suggestions were made. The suggestions and our responses are summarized below.

Our draft report stated that USDA's estimate of total payments to MDP participants was \$937 million. USDA commented that the estimate had been raised. We changed our report to show the latest available USDA estimate (released June 6, 1985, using data through May 31, 1985) of \$955 million in MDP payments and \$875 million in collections from the marketing assessment.

Our draft report contained a statement in the background section of the draft Executive Summary that dairy products are purchased at legislatively designated prices. USDA suggested that this statement may incorrectly connote that the Congress determines the actual prices. We revised the statement to say that dairy products are purchased at designated support prices.

Our draft report estimated the purchase costs avoided by the MDP by multiplying our estimated quantity of milk reduction the program achieved by the milk support price of \$12.60 per hundred pounds. USDA commented that this estimate could be understated because it did not include an allowance for manufacturing costs. Although USDA agreed that there is no way of determining the proportion of each product--butter, cheese, and nonfat dry milk--that CCC would have purchased, a reasonable way of estimating the avoided manufacturing costs would be to use the minimum allowance of \$1.22 per hundred pounds. We revised our report to include an estimate of the manufacturing costs avoided.

Our draft report stated that in the event of a future milk diversion program, the base period should be selected to among other things avoid paying participants for reductions made prior to the program. USDA commented that paying for reductions made prior to the program could occur despite the base period selected unless only the period immediately preceding the program was used; therefore, a future program should be designed with sufficient discretion to avoid such payments regardless of the base period selected. We revised our report to point out that, if producer's milk production had declined over a period of time, then using an average of several years' milk production to determine the base level would not prevent paying participants for reductions achieved prior to the program.

USDA commented that, while the department does not know the extent of noncompliance with program requirements, the willingness of milk producers to police each other suggests that noncompliance was not widespread. We revised our report to reflect this opinion.

METHODOLOGY FOR ESTIMATING MDPEFFECT ON 1984 MILK PRODUCTION

Milk production during 1984 declined slightly from the 1982 base-year level and by about 3.0 percent from the 1983 level; however, not all of this decline can be attributed to the MDP because other factors contributed to the change in milk production. To estimate the impact of the MDP on milk production during calendar year 1984, we were assisted by Dr. Ronald Knutson, professor and agricultural extension economist at Texas A&M University, who has extensive experience with dairy policy issues. Several economic factors were identified that affect milk production, and regression analysis was used to estimate their relative impacts.

The long-term trend factors  
and technological change

Some factors influence milk production during a span of several years or more. Generally, the factors deal with the long-term profitability of producing milk compared with the profitability of other activities; thus, the relative financial attractiveness of alternative activities is relevant. In addition, technological change affecting the productivity of dairying can be usefully interpreted as a long-term factor.

Technological change has been important. Output per cow more than doubled from 5,842 pounds in 1955 to 12,587 pounds in 1983. The major contributing factors to increased productivity have been genetic improvement (largely through artificial insemination), improved feedstuffs, and disease control. Further technological innovations are either in the early stage of adoption (computer-controlled feeding, embryo transplants) or are in final stages of development (bovine growth hormone, embryo splitting) that promise to raise output per cow even higher. To the extent that such technological change reduces the costs of producing milk, the impact on national milk production would be expected to be positive.

The financial attractiveness of alternative activities affects milk production by channeling assets once devoted to dairying into other enterprises. For example, in the midwestern corn-growing areas, financial returns from producing corn and soybeans have attracted dairy producers to these crops rather than dairying. To the extent that alternative activities become more attractive, milk production can be expected to decline. Further, the MDP may have provided the extra returns necessary to induce some producers to exit dairying in favor of the alternative activity sooner than otherwise.

The influence of these factors is expected to be manifested in long-term milk production trends in each geographic area. For example, if it has become more financially attractive to grow corn or soybeans in the midwest, then all other factors being equal the area would probably show a downward trend in milk production and an increase in corn and soybean production over time. To account for long-term trends, the first stage of our analysis entailed

predicting the change in milk production during the program period (that is, the change in milk production between 1982 and 1984) based on a regression analysis of milk production against time, 1976 to 1982. In this way, we estimated the effect of a long-term trend in milk production for each of the 33 states analyzed.

### Milk prices and feed costs

Other factors influence milk production. They include prices that producers receive for their milk and the costs of producing milk, such as the cost of dairy cow feedstuffs.

The effect that milk prices exert on milk production is both short- and long-term. Increases in the price that producers receive for their milk would be expected to increase milk production, and decreases in milk prices would be expected to decrease milk production. Dairy industry studies indicate that the response to milk price changes is lagged (that is, distributed over a period of time). Milk production is a long-term process; it takes over 3 years from conception of a calf until the resulting heifer begins to produce milk. As a result, milk producers are not always able to respond quickly to a milk price increase. Further, milk producers advocate that a decrease in prices may lead to a short-term increase in production, as some producers try to maintain their existing gross income; and to a long-term decrease in production as the profits from milk production begin to diminish compared with alternative activities.

To account for this delayed effect, we tested the relationship between changes in milk production during the program period and a number of price variables, including price changes during the period and lagged price changes. We found that prices during the period and milk prices as far back as 4 years before the MDP affected milk production during the period 1982 to 1984.

Feed costs, which represent nearly half the cost of producing milk, have two major components: (1) the cost of hay (roughage) and (2) the cost of grains (concentrates). Because grain prices are more readily accessible and reliable, we used the cost of a standard 16 percent protein dairy feed as an indicator of grain costs. Generally, milk production would be expected to decrease as feed costs increase. However, increases in the cost of dairy feed grains may not immediately affect milk production because many dairy producers grow their own feed grains.

### Method of analysis and results

We used milk production data for the 33 major milk-producing states for which USDA makes monthly production estimates. (These 33 states accounted for about 94 percent of U.S. milk production in 1983.) We used 1982 as the base year for milk production even though some participants used the average of their 1981 and 1982 marketings to establish their marketing base. We did this because the number of MDP participants who used the average of their 1981 and 1982 marketings was not known. Using 1982 as the base level

may have resulted in a slightly smaller estimated MDP effect because 1982 U.S. milk production was higher than 1981; that is, the change from 1982 to 1984 was somewhat smaller than the change from 1981 to 1984.

Structurally, the analysis consisted of two stages. In the first stage, we predicted the change in milk production from 1982 to 1984 based on an estimated trend in milk production. Historical evidence on long-term trends in milk production by state suggested that such trends were a potentially important factor in explaining changes in milk output during the period 1982 to 1984. MDP participants had reduced their milk marketings in 1983 by an estimated 2.2 billion pounds from the base level. Therefore, we believed it necessary to account for any trend effect so as not to attribute more effects to the MDP than warranted.

To estimate the long-term production trend, we used several equations of the following form for each of the 33 states and for each quarterly production period:

$$S_i = a + \beta(\text{trend})_i$$

where

$S$  = milk production;

$i$  = time in years, 1976 to 1982;

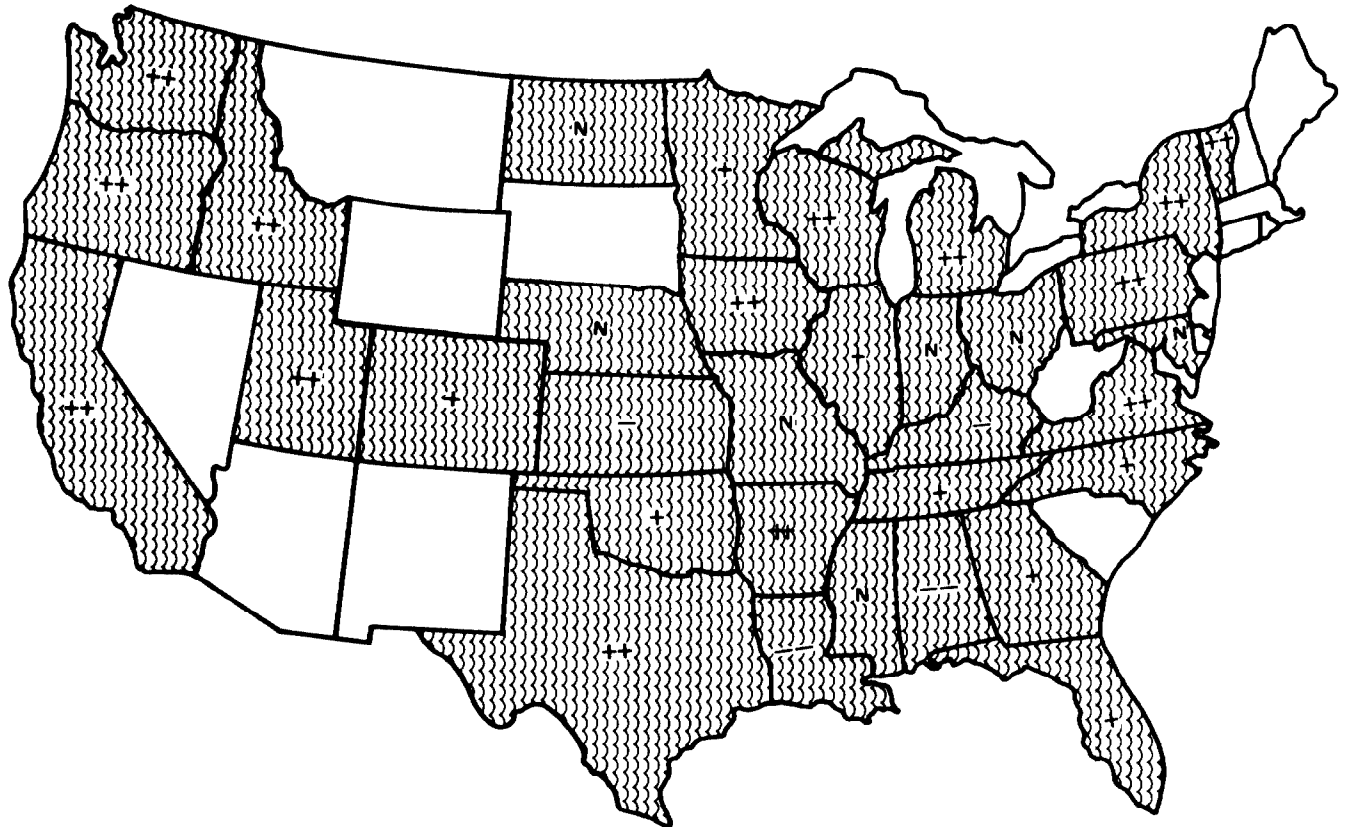
$\beta$  = a coefficient indicating changes in the value of the dependent variable ( $S$ ) per unit change in the independent variable (trend); and

trend = 1 in 1976, 2 in 1977, . . . and 7 in 1982.

Using the above equation, we predicted milk production for each of the 33 states in each quarter of 1984; that is, we estimated what 1984 milk production would have been based on the milk production trend estimated between 1976 and 1982. In most states, the trend was found to be statistically significant. Next we determined the difference between actual 1982 milk production and our predicted 1984 milk production to arrive at an estimated percentage change in milk production between 1982 and 1984 based on the trend. Then we determined the actual percentage change in milk production between 1982 and 1984, and calculated the difference between our estimated percentage change and the actual percentage change. This difference--the portion of the actual change in milk production between 1982 and 1984 not predicted by the long-run trend--became the dependent variable used in the second stage of our analysis. The map on the following page summarizes significant historical trends in milk production for the 33 states analyzed.

In the second stage, we estimated the relationship between (1) that portion of the change in 1982-84 milk production not

MILK PRODUCTION TRENDS IN THE 33  
LARGEST MILK-PRODUCING STATES, 1976-82



**Legend**

- + or - Statistically significant increase (+) or decrease (-) in 1 or 2 quarters.
- ++ or --- Statistically significant increase (++) or decrease (---) in 3 or 4 quarters.
- N Conflicting signs or no statistical significance.
- States not among the 33 largest milk-producing states.
- ▨ 33 largest milk-producing states.

Source: Calculations based on milk production taken from USDA's Milk Production, 1976-1982.

accounted for by the long-term production trend (estimated in the first stage) and (2) several factors identified as possibly affecting milk supply during the period--current and lagged prices that producers received for their milk, the cost of dairy cow feed grains, and a measure of participation in the MDP.<sup>1</sup> We included lagged prices because available evidence indicated that milk production responds with a long lag to changes in price. A number of alternative equations with different independent variables were tested using quarterly milk production data for the 33 top milk-producing states. The final equations used to develop our estimates are shown in the following table.

Table 15

Regression Equations

1.  $(ds/s)_t = a + \beta_1(D) + \beta_2(dP/P)_t + \beta_3(dP/P)_{t-4} + \beta_4(dP/P)_{t-8} + \beta_5(dP/P)_{t-12} + \beta_6(dP/P)_{t-16} + \beta_7(dF/F)_t$
2.  $(ds/s)_t = a + \beta_1(D) + \beta_3(dP/P)_{t-4} + \beta_4(dP/P)_{t-8} + \beta_5(dP/P)_{t-12} + \beta_6(dP/P)_{t-16} + \beta_7(dF/F)_t$
3.  $(ds/s)_t = a + \beta_1(D) + \beta_4(dP/P)_{t-8} + \beta_5(dP/P)_{t-12} + \beta_6(dP/P)_{t-16} + \beta_7(dF/F)_t$
4.  $(ds/s)_t = a + \beta_1(D) + \beta_4(dP/P)_{t-8} + \beta_6(dP/P)_{t-16} + \beta_7(dF/F)_t$

where

$(ds/s)_t$  = the percentage change in milk production between 1982 and 1984 not explained by the long-term production trend.

$a$  = the value of  $(ds/s)_t$  that would be expected if the identified independent variables had values of zero, or no effect on milk production during the period.

$\beta_1 \dots \beta_7$  = coefficients indicating estimated changes in the value of the dependent variable per unit change in the respective independent variables.

$(D)$  = the percentage of milk marketing reduction contracted by MDP participants for 1984.

<sup>1</sup>In all of the final four equations tested, the intercept terms (variable "a") were significant at the 10-percent level. It is probably the case that these intercept terms have captured some variation in milk prices and dairy feed prices systemic to all 33 states analyzed.

$(dP/P)_t$  = the percentage change in the price producers received for their milk (minus the special assessments) during the analysis period (between 1982 and 1984).

$(dP/P)_{t-4}$  = the percentage change in the price producers received for their milk lagged four quarters (that is, between 1981 and 1982).

$(dP/P)_{t-8}$  = the percentage change in the price producers received for their milk lagged eight quarters.

$(dP/P)_{t-12}$  = the percentage change in the price producers received for their milk lagged 12 quarters.

$(dP/P)_{t-16}$  = the percentage change in the price producers received for their milk lagged 16 quarters.

$(dF/P)_t$  = the percentage change in the cost of 16 percent protein dairy feed between the base period of 1982 and 1984.

t = time (in quarters).

As table 16 shows, the coefficient ( $\beta_1$ ) for the MDP (contracted reduction) took on values ranging from about -0.50 to about -0.55.

Table 16

Coefficient Values in Regression Equations.

Equation	Coefficient values				
	$\alpha$	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$
1	-10.27	-0.499	-0.378 <sup>a</sup>	+0.856 <sup>a</sup>	+0.267 <sup>a</sup>
2	-11.68	- .552	--	- .051 <sup>a</sup>	+ .497
3	-11.31	- .554	--	--	+ .463
4	-11.36	- .533	--	--	+ .384
	$\beta_5$	$\beta_6$	$\beta_7$	$R^2$ <sup>b</sup>	
1	-0.178 <sup>a</sup>	+0.440	+0.004 <sup>a</sup>	0.220	
2	- .140 <sup>a</sup>	+ .500	+ .008 <sup>a</sup>	.210	
3	- .138 <sup>a</sup>	+ .496	+ .009 <sup>a</sup>	.210	
4	--	+ .425	+ .003 <sup>a</sup>	.210	

<sup>a</sup>Not significant at the 10-percent level.

<sup>b</sup>These figures, the coefficients of determination, represent the proportion of the variation in the dependent variable explained by variations in the independent variables.



The first equation includes variables for prices lagged up to 4 years prior to the analysis period (1982 to 1984). Equations 2 through 4 include fewer price variables. Equation 2 did not include a variable representing price changes during the analysis period because in equation number 1 we found that the variable was statistically insignificant at the 10-percent level. In equation 3 we also did not include a variable representing changes in milk prices lagged 1 year because that variable was also found to be statistically insignificant at the 10-percent level. Finally, in equation 4, we did not include a variable representing changes in milk prices lagged 3 years because the variable was found to be statistically insignificant at the 10-percent level. In addition, none of the results for the dairy feed variable were significant at the 10-percent level.

METHODOLOGY FOR SURVEYOF MILK PRODUCERS

We used a mail-in questionnaire to survey random samples of MDP participants and milk producers identified as nonparticipants. These surveys were conducted between August and September 1984. Individuals not responding to the original mailing were sent follow-up questionnaires to encourage response.

Participant survey

We obtained from ASCS an automated file of MDP participants as of June 1984. This file included the participants' names and mailing addresses, their 1983 milk marketings, and their farm identification numbers.<sup>1</sup> In order to stratify our sample by farm size in terms of the number of cows milked, we used the participants' 1983 milk marketings and USDA's reported 1983 average milk output-per-cow of 12,587 pounds to estimate the number of cows milked by each participant. We then categorized each participant into one of seven farm size categories: 1-49 cows, 50-99 cows, 100-149 cows, 150-249 cows, 250-499 cows, 500-999 cows, and 1000 or more cows. This stratification in terms of number of cows was done to make it possible to compare the results of this survey with the results of the nonparticipant survey described below.

We randomly selected participants from each of the seven farm size categories from each state. In our analysis of the survey results, we weighted the responses to take into account both farm size and geographic region, using the regions defined on the map on page 11. Our weighting was done to make our sample, which was disproportionate, conform with the population of all participants. Our sample size was 1,723.

All sample surveys are subject to sampling error, that is, the extent to which the sample results can differ from results that would have been obtained if the entire population had responded to the same questionnaire. Our sample was designed to have sampling errors of no more than 6 percentage points at the 95-percent level of confidence (sampling errors for subsets of the sample could be higher). We calculated the actual sampling errors for selected key variables; these appear in parentheses below the responses for those variables in appendix III.

Based on our response rates, our survey results are representative of the approximately 28,000 participants that would have responded if questionnaires had been sent to all 38,000 participants.

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<sup>1</sup>Farm identification numbers are assigned by USDA to farms participating in USDA programs. For those farms that have not participated in USDA programs, the producer's Social Security number was used as the farm identification number.

Nonparticipant survey

To obtain a sample of nonparticipating milk producers, we used a list of U.S. milk producers obtained from state-by-state lists maintained by USDA's Statistical Reporting Service (SRS). The list contained each milk producer's name and mailing address, the number of cows milked, and the producer's farm identification number. Knowing that the list included participants as well as nonparticipants who were ineligible to participate, we oversampled to ensure that an adequate number of eligible nonparticipants would be included in the sample. SRS selected the sample of producers from the file in accordance with our sampling plan; that is, from each farm size category and each state as in the participant survey. The sample size was 1,740 producers.

We took two steps to identify MDP participants in the sample. First, we used a computer-matching process to compare the SRS sample with the sample of MDP participants (using the farm identification number). This step eliminated 74 MDP participants from the SRS list, leaving 1,666 milk producers identified as nonparticipants. Our second step was to include a screening question in the questionnaire to determine if the respondent was a participant not detected by the computer-matching procedure. Of the producers responding to our survey, 210 identified themselves as MDP participants.

We used two additional screening questions dealing with program eligibility criteria to identify producers ineligible for MDP participation. Based on their responses to these questions, we determined that 218 respondents were ineligible to participate.

Table 17 on the following page shows the characteristics of our original sample obtained from SRS in terms of MDP participation, eligibility, and nonresponse. The table also shows our estimates of the portion of the universe represented by each portion of the sample.

As the table shows, our survey responses are representative of approximately 72,000 eligible nonparticipating milk producers. Generalizing our survey results to this subset of the universe represented by the original sample is subject to a sampling error of no more than 11.5 percent at the 95-percent confidence level. As with the participant survey, we calculated sampling errors for selected key variables, these appear in parentheses below the responses for those variables in appendix IV.

Table 17Nonparticipant Sample Characteristics and  
Estimated Nonparticipants Represented

<u>Sample characteristic</u>	<u>Sample size</u>	<u>Estimated number of non- participants represented<sup>a</sup></u>
Original total	1,740	260,000
Participants identified through computer match	74	5,000
Participants identified through screening question	210	17,000
Ineligible producers identified through screening question	218	55,000
Nonrespondents, unde- liverable questionnaires, and responses not usable	631	111,000
Eligible nonparticipants that responded	607	72,000

<sup>a</sup>Estimated by applying appropriate farm size and geographic weights to each sample characteristic.



RESPONSES TO SURVEY OF MDP PARTICIPANTS

Introduction

The Dairy Production Stabilization Act of 1983 included a paid milk diversion program to pay dairy farmers under contract for reducing milk marketings.

The U.S. General Accounting Office is reviewing this program for the Congress. Getting information about the opinions and experiences of dairy producers is an important part of our review. We are sending this questionnaire to a random sample of dairy producers who are participating in the diversion program. We are also surveying dairy producers who do not participate in the program.

Your views about the program and what should be done in the future are very important to our study. We will tabulate the information we receive from this survey and report the results to the Congress.

Individual responses are confidential. Our report will contain only summary data. This questionnaire is numbered only to aid us in our follow-up efforts and will not be used to identify you with your response.

Please help us by completing this questionnaire and returning it in the self addressed envelope within 5 days, if possible. If you have any questions please call Dave Wood, collect, on (202) 475-4513.

1. According to USDA's Agricultural Stabilization and Conservation Service (ASCS) records you are a participant in the paid milk diversion program. Is this correct? (Check one.)

- 1.  Yes (28,172)
- 2.  No - STOP HERE. (82)  
PLEASE RETURN QUESTIONNAIRE.
- [ 1 ] - Did not respond (215)

[Note: Totals may not equal 100 percent due to rounding and/or minor response errors.]

2. What percentage reduction did you contract for? (Enter percent.)

Reduction 23 % (mean)

3. In making up your mind about whether or not to participate in the paid diversion program how much information, if any, did you get from each of the following sources? (Check one for each.)

	1. Great Deal	2. Some	3. None	Did not respond
1. ASCS Office	60 (5.4)	34 (5.3)	3 (2.0)	3
2. County extension agent	10	27	40	22
3. News media - paper, radio, television	13	57	16	15
4. Friends, family and/or neighbors	4	44	30	23
5. Other (Specify.)	10	16	14	70

4. In general, how satisfied or dissatisfied were you with the quality of the information (clarity and accuracy) you received from USDA about the program before you made your decision to participate? (Check one.)

- 1.  Very satisfied
- 2.  Generally satisfied
- 3.  Neither satisfied nor dissatisfied
- 4.  Generally dissatisfied
- 5.  Very dissatisfied
- [ - ] Did not respond

5. Overall, do you feel you had enough information about the paid diversion program in time to make a good decision about whether or not to participate in the program? (Check one.)

- 1. [30] Definitely yes  
(5.1)
  - 2. [40] Probably yes  
(4.9)
  - 3. [9] Uncertain  
(3.3)
  - 4. [13] Probably not  
(4.0)
  - 5. [7] Definitely not  
(2.7)
- Did not respond



6. Before the Dairy Production Stabilization Act was passed in November 1983, to which of the following organizations or groups, if any, did you have the chance to express your views about what should be done to deal with the dairy surplus situation? (Check all that apply.)

- 1. [40] Your cooperative
- 2. [13] County extension agent
- 3. [7] USDA
- 4. [23] Your representative in the Congress
- 5. [4] Other (Specify.)
- 6. [42] None

7. How much of a reason, if any, was each of the following factors in your decision to participate in the program? (Check one box for each.)

	<div style="display: flex; justify-content: space-around; text-align: center;"> <div style="border: 1px dashed black; padding: 2px; transform: rotate(-45deg); font-size: small;">1. Major reason</div> <div style="border: 1px dashed black; padding: 2px; transform: rotate(-45deg); font-size: small;">2. Somewhat of a reason</div> <div style="border: 1px dashed black; padding: 2px; transform: rotate(-45deg); font-size: small;">3. Not a reason</div> </div>			
1. My milk marketings were already down from base period levels	30 (5.0)	26 (5.0)	32 (4.2)	12
2. My milk marketing increases from base levels were low enough to make participation in the program financially beneficial	19 (4.3)	31 (4.9)	33 (5.1)	17
3. I wanted to help solve the surplus problem	49 (5.5)	34 (4.6)	8 (3.2)	9
4. My banker encouraged my participation	3	5	72	20
5. My dairy cooperative encouraged my participation	8	22	53	17
6. I had planned to cut back or get out of dairy production anyway	10 (3.6)	11 (3.4)	62 (5.4)	17
7. Other (Please specify.)	9	3	7	80

8. The paid diversion program ends in March 1985. If the program were extended by the Congress with the same rules would you continue to participate? (Check one.)

- 1. [25] Definitely yes (4.7)
- 2. [29] Probably yes (5.1)
- 3. [25] Uncertain (4.3)
- 3. [11] Probably no (3.8)
- 4. [8] Definitely no [ 2 ] Did not respond (3.0)

9. Would you support or oppose the following policies to help deal with the dairy surplus situation? (Check one for each.)

	<div style="display: flex; justify-content: space-around; text-align: center;"> <div style="border-top: 1px dashed black; width: 15%; transform: rotate(-45deg);">1. Strongly support</div> <div style="border-top: 1px dashed black; width: 15%; transform: rotate(-45deg);">2. Generally support</div> <div style="border-top: 1px dashed black; width: 15%; transform: rotate(-45deg);">3. Uncertain</div> <div style="border-top: 1px dashed black; width: 15%; transform: rotate(-45deg);">4. Generally oppose</div> <div style="border-top: 1px dashed black; width: 15%; transform: rotate(-45deg);">5. Strongly oppose</div> <div style="border-top: 1px dashed black; width: 15%; transform: rotate(-45deg);">Did not respond</div> </div>					
1. Establish a mandatory production quota for each producer	16 (3.8)	17 (3.9)	22 (4.9)	14 (3.3)	23 (4.6)	8
2. Reduce the price level at which dairy products are supported	7 (2.6)	16 (3.9)	17 (4.0)	14 (3.8)	35 (5.3)	11
3. Eliminate the price support program	7 (3.3)	8 (3.0)	20 (4.3)	18 (4.2)	35 (5.0)	12
4. Extend the present voluntary paid diversion program	31 (5.0)	27 (5.1)	22 (4.4)	8 (3.0)	6 (2.7)	6
5. Eliminate all government dairy programs	7 (3.0)	5 (1.7)	27 (5.1)	17 (4.1)	33 (4.8)	12
6. Other (Specify.)	7	-	1	-	1	90

10. Do you support or oppose the 15 cent per hundredweight nonrefundable deduction for dairy product promotion? (Check one.)

- 1. [33] Strongly support
- 2. [27] Generally support
- 3. [14] Neither support nor oppose
- 4. [9] Generally oppose
- 5. [16] Strongly oppose
- [ 1 ] Did not respond

11. How did your 1983 calendar year milk sales (pounds) compare with your 1982 calendar year sales? (Check one. Enter approximate percentage increase or decrease.)

- 1. [19] 1983 were  $\frac{11}{(3.9)}$  % higher than 1982 (mean)
- 2. [42] 1983 were  $\frac{15}{(5.5)}$  % lower than 1982 (mean)
- 3. [31] 1983 were about the same as 1982 (4.9)
- [ 9 ] Did not respond

12. Which of the following best describes your sales (in pounds) plans once the paid diversion program ends in March 1985? (Check one; enter approximate percent if appropriate.)

- 1. [18] I plan to maintain (3.2) current level of sales
- 2. [52] I plan to return to sales (5.3) level I had before program
- 3. [ 4] I plan to reduce my (mean) (1.7) current sales by  $\rightarrow \frac{15}{22}$  %
- 4. [20] I plan to increase my (mean) (3.9) current sales by  $\rightarrow \frac{22}{22}$  %
- [ 6 ] Did not respond

BACKGROUND QUESTIONS

The remaining questions about your dairy operation are for classification purposes.

13. About how many years have you operated a dairy farm? (Check one.)

- 1. [ 6] Less than 5 years
- 2. [13] 5 to 9 years
- 3. [24] 10 to 19 years
- 4. [54] 20 years or more
- [ 3 ] Did not respond

14. About what percentage of the hay, silage, and feed grain you use for dairy feed is produced on your farm? (Check one.)

- 1. [ 4] None
- 2. [ 6] Less than 25%
- 3. [ 7] 25 to 49%
- 4. [17] 50 to 74%
- 5. [63] 75% or more
- [ 3 ] Did not respond

15. Approximately how many milking cows (dry and lactating) and replacement heifers (1 year and older) did you have as of July 1, 1984? (Check one for each.)

MILKING COWS                      REPLACEMENT HEIFERS

- |                    |                    |
|--------------------|--------------------|
| 1. [ 3] None       | 1. [ 5] None       |
| 2. [55] 1 to 49    | 2. [75] 1 to 49    |
| 3. [29] 50 to 99   | 3. [10] 50 to 99   |
| 4. [ 6] 100 to 149 | 4. [ 2] 100 to 149 |
| 5. [ 3] 150 to 249 | 5. [ 1] 150 to 249 |
| 6. [ 1] 250 to 499 | 6. [ -] 250 to 499 |
| 7. [ -] 500 to 999 | 7. [ -] 500 to 999 |
| 8. [ -] Over 999   | 8. [ -] Over 999   |
- [ 3 ] Did not respond                      [ 7 ] Did not respond



16. Are you classified as a Grade A milk producer? (Check one.)

1. [66] Yes

2. [3] No

[ 3] Did not respond

17. Before the paid diversion program ASCS administered a dairy refund program. Did you ever participate in the 50 cent dairy refund program? (Check one.)

1. [40] Yes

2. [54] No

[ 6] Did not respond

COMMENTS

18. If you have any comments about the paid diversion program or related issues please write them below. Thank you.



RESPONSES TO SURVEY OF  
NONPARTICIPATING MILK PRODUCERS

Introduction

The Dairy Production Stabilization Act of 1983 included a paid milk diversion program to pay dairy farmers under contract for reducing milk marketings.

The U.S. General Accounting Office is reviewing this program for the Congress. Getting information about the opinions and experiences of dairy producers is an important part of our review. We are sending this questionnaire to a random sample of dairy producers who are not participating in the diversion program. We are also surveying dairy producers who are participating in the program.

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Individual responses are confidential. Our report will contain only summary data. This questionnaire is numbered only to aid us in our follow-up efforts and will not be used to identify you with your response.

Please help us by completing this questionnaire and returning it in the self addressed envelope within 5 days, if possible. If you have any questions please call Dave Wood, collect, on (202) 475-4513.

1. According to USDA's Agricultural Stabilization and Conservation Service (ASCS) records you are not a participant in the paid milk diversion program. Is this correct? (Check one.)

1. [84] Correct - I am not.

2. [11] Incorrect - I am a participant. -> STOP HERE. PLEASE RETURN THE QUESTIONNAIRE.

[ 5 ] Did not respond

[ Note: Totals may not equal 100 percent due to rounding and/or minor response errors.]

We would like to know if you were eligible to participate in the program. To be eligible, a producer had to be producing milk for sale in 1982 and had to be producing milk for sale as of November 29, 1983 (or prevented from carrying out normal operations on November 29, 1983 due to conditions beyond the producers control). Questions 2 and 3 will be used to make certain you were eligible to participate.

2. Were you producing milk for sale in calendar year 1982? ( Check one.)

1. [57] Yes

2. [41] No-> STOP HERE. DO NOT ANSWER ANY OTHER QUESTIONS. PLEASE RETURN THE QUESTIONNAIRE.

[ 2 ] Did not respond

3. Which of the following describes your production status as of November 29, 1983? (Check one.)

1. [97] I was producing milk for sale on November 29, 1983

2. [1] I was prevented from normal operations due to conditions beyond my control as of November 29, 1983

3. [2] I was not producing milk or prevented from carrying out milk production as of November 29, 1983

[ - ] Did not respond

► IF YOU CHECKED 3 FOR QUESTION 3, STOP HERE AND RETURN THE QUESTIONNAIRE.

4. In making up your mind about whether or not to participate in the paid diversion program how much information, if any, did you get from each of the following sources? (Check one for each.)

	1. Great Deal	2. Some	3. None	Did not respond
1. ASCS Office	26 (9.3)	49 (10.7)	11 (0.5)	14
2. County extension agent	10	31	36	24
3. News media - paper, radio, television	17	51	16	16
4. Friends, family and/or neighbors	7	51	21	21
5. Other (Specify.)				
	14	2	10	74

5. Did you establish a base with ASCS in anticipation of participating in the paid diversion program? (Check one.)

- 1. [18] Yes
- 2. [76] No [ 6 ] Did not respond

6. In general, how satisfied or dissatisfied were you with the quality of the information (clarity and accuracy) you received from USDA about the program before you made your decision not to participate? (Check one.)

- 1. [12] Very satisfied (7.4)
- 2. [31] Generally satisfied (9.6)
- 3. [27] Neither satisfied (10.9) nor dissatisfied
- 4. [15] Generally dissatisfied (8.2)
- 5. [10] Very dissatisfied (4.2)
- [ 5 ] Did not respond

7. Overall, do you feel you had enough information about the paid diversion program in time to make a good decision about whether or not to participate in the program? (Check one.)

- 1. [29] Definitely yes (8.7)
- 2. [30] Probably yes (10.8)
- 3. [10] Uncertain (6.8)
- 4. [17] Probably not (8.9)
- 5. [11] Definitely not (6.8)
- [ 3 ] Did not respond

8. Before the Dairy Production Stabilization Act was passed in November 1983, to which of the following organizations or groups, if any, did you have the chance to express your views about what should be done to deal with the dairy surplus situation? (Check all that apply.)

- 1. [38] Your cooperative
- 2. [13] County extension agent
- 3. [ 8 ] USDA
- 4. [17] Your representative in the Congress
- 5. [ 2 ] Other (Specify.)
- 6. [42] None

9. How much of a reason, if any, was each of the following factors in your decision not to participate in the program? (Check one box for each.)

	1. Major reason	2. Somewhat of a reason	3. Not a reason	Did not respond
1. Participation would have required me to cut back too much	50 (10.7)	25 (10.1)	14 (6.6)	11
2. I felt the program regulations were too restrictive	25 (9.1)	33 (9.8)	27 (7.1)	16
3. I felt the program regulations were too complicated	28 (10.3)	28 (10.0)	29 (7.0)	15
4. I did not want to get government payments	14 (5.4)	13 (8.4)	51 (10.4)	22
5. Quarterly payments would cause cash flow problems for me	20 (8.5)	18 (8.5)	43 (10)	20
6. There was not enough time for me to make up my mind, the enrollment period was too short	11 (7.5)	16 (8.8)	56 (11.4)	17
7. I did not get enough information about the program	7 (6.3)	17 (8.9)	53 (10.0)	23
8. I did not want to reduce my herd for the program and have to rebuild it after the program ended	48 (10.9)	17 (7.9)	20 (8.1)	15
9. I felt 15 months was too short a period for the program	22	15	45	18
10. The government could lower contracted reductions of participants without giving them the option to drop out of the program	20 (8.0)	15 (7.5)	44 (11.5)	21
11. Other (Specify.)	14	5	3	78

10. The paid diversion program ends in March 1985. If the program were extended by the Congress with the same rules would you participate if you were given the opportunity? (Check one.)

- 1. [1] Definitely yes
- 2. [3] Probably yes
- 3. [25] Uncertain
- 3. [22] Probably no
- 4. [41] Definitely no
- [ 5 ] Did not respond

11. Would you support or oppose the following policies to help deal with the dairy surplus situation? (Check one for each.)

	1. Strongly support	2. Generally support	3. Uncertain	4. Generally oppose	5. Strongly oppose	Did not respond
1. Establish a mandatory production quota for each producer	13	16	16	13	24	17
2. Reduce the price level at which dairy products are supported	9	10	14	21	22	23
3. Eliminate the price support program	6	4	20	15	31	24
4. Extend the present voluntary paid diversion program	9	19	25	8	18	22
5. Eliminate all government dairy programs	14	6	27	14	25	15
6. Other (Specify.)	8	-	-	-	-	91

12. Do you support or oppose the 15 cent per hundredweight nonrefundable deduction for dairy product promotion? (Check one.)

- 1. [30] Strongly support
- 2. [22] Generally support
- 3. [12] Neither support nor oppose
- 4. [13] Generally oppose
- 5. [18] Strongly oppose
- [ 5 ] Did not respond

13. How did your 1983 calendar year milk sales (pounds) compare with your 1982 calendar year sales? (Check one. Enter approximate percentage increase or decrease.)

- 1. [37] 1983 was <sup>(mean)</sup>19 % higher than 1982 (10.7)
- 2. [12] 1983 was <sup>(mean)</sup>15 % lower than 1982 (6.4)
- 3. [45] 1983 was about the same as 1982 (11.5)
- [ 6 ] Did not respond

14. How will your 1984 calendar year milk sales (pounds) compare to your 1983 calendar year sales? Will they increase, decrease, or remain at about the same level? (Check one; if increase or decrease specify approximate percentage.)

- 1. [26] Increase by <sup>(mean)</sup>12 % (10.2)
- 2. [51] Maintain current level (11.3)
- 3. [14] Decrease by <sup>(mean)</sup>23 % (7.3)
- [ 9 ] Did not respond

BACKGROUND QUESTIONS

The remaining questions about your dairy operation are for classification purposes.

15. About how many years have you operated a dairy farm? (Check one.)

- 1. [14] Less than 5 years
- 2. [11] 5 to 9 years
- 3. [18] 10 to 19 years
- 4. [53] 20 years or more

[ 4 ] Did not respond

16. About what percentage of the hay, silage, and feed grain you use for dairy feed is produced on your farm? (Check one.)

- 1. [3] None
- 2. [7] Less than 25%
- 3. [6] 25 to 49%
- 4. [11] 50 to 74%
- 5. [68] 75% or more

[ 6 ] Did not respond

17. Approximately how many milking cows (dry and lactating) and replacement heifers (1 year and older) did you have as of July 1, 1984? (Check one for each.)

MILKING COWS

REPLACEMENT HEIFERS

- |                            |                            |
|----------------------------|----------------------------|
| 1. [ <u>4</u> ] None       | 1. [ <u>6</u> ] None       |
| 2. [ <u>50</u> ] 1 to 49   | 2. [ <u>70</u> ] 1 to 49   |
| 3. [ <u>31</u> ] 50 to 99  | 3. [ <u>12</u> ] 50 to 99  |
| 4. [ <u>7</u> ] 100 to 149 | 4. [ <u>1</u> ] 100 to 149 |
| 5. [ <u>4</u> ] 150 to 249 | 5. [ <u>1</u> ] 150 to 249 |
| 6. [ <u>1</u> ] 250 to 499 | 6. [ <u>1</u> ] 250 to 499 |
| 7. [ <u>-</u> ] 500 to 999 | 7. [ <u>-</u> ] 500 to 999 |
| 8. [ <u>-</u> ] Over 999   | 8. [ <u>-</u> ] Over 999   |

[ 4 ] Did not respond

[ 10 ] Did not respond

18. Are you classified as a Grade A milk producer? (Check one.)

1. [69] Yes

2. [22] No

[ 9 ] Did not respond

19. Before the paid diversion program ASCS administered a dairy refund program. Did you ever participate in the 50 cent dairy refund program? (Check one.)

1. [18] Yes

2. [74] No

[ 8 ] Did not respond

20. If you have any comments about the paid diversion program or related issues write them below. Thank you.

RESULTS OF SORTING RESPONSE DATA BY SIZE OF OPERATION  
AND NUMBER OF YEARS PRODUCER HAD OPERATED A DAIRY FARM

We sorted the responses received from both MDP participants and nonparticipating milk producers by their size of operation (as determined by the number of cows in their dairy herd) and by the number of years the producers indicated that they had operated a dairy farm. Following are the results that were significant at the 95-percent level of confidence and were judged to represent substantial differences among the subgroups.

- About 84 percent of the nonparticipants who had operated a dairy farm for less than 5 years had increased their 1983 milk marketings compared with their 1982 level, almost twice the percentage of the other groups. About 27 percent of the nonparticipants who had operated a dairy farm for 20 or more years had increased their 1983 milk marketings.
- Among nonparticipants who had operated a dairy farm for less than 5 years, 99 percent cited as a major reason for not participating that participation would have required too big a cutback in milk production, about twice the percentage of the other groups (which ranged from 40 to 53 percent).
- Nonparticipants who had operated a dairy farm for fewer than 5 years (75 percent) or more than 20 years (65 percent) were more likely than other groups to cite as a major reason for not participating the difficulty in temporarily reducing the size of their dairy herd and then having to rebuild it when the program ended.
- There was more support for extending the MDP among nonparticipants who had operated a dairy farm from 5 to 9 years (67 percent) than among nonparticipants who had operated a dairy farm fewer than 5 years (25 percent), from 10 to 19 years (22 percent), or 20 or more years (36 percent). However, a smaller percentage of the nonparticipants who had operated a dairy farm from 5 to 9 years said they would participate in an extended MDP than the other groups.
- There was more support for production quotas among participating producers who had operated a dairy farm for fewer than 5 years and for 20 or more years (41 percent each) than among producers who had operated a dairy farm from 5 to 9 years (24 percent) or 10 to 19 years (33 percent).
- About twice the percentage of MDP participants with 250 or more cows (58 percent) supported reducing the price-support level than participants with 149 or less cows (25 percent) or 150 to 249 cows (29 percent).
- There was less support for reducing the price-support level among nonparticipants who had operated a dairy farm for fewer than 5 years (10 percent) than among groups who had

operated a dairy farm for longer periods of time (from 21 to 30 percent).

--There was more support eliminating all government dairy programs among nonparticipants who had operated a dairy farm for fewer than 5 and 20 or more years (about 30 percent each) than among nonparticipants who had operated a dairy farm from 5 to 9 years (7 percent) or from 10 to 19 years (10 percent).

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