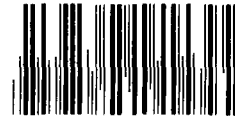


August 1986

# FARM PROGRAMS

## An Analysis of Two Production Control Options



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**Resources, Community, and  
Economic Development Division****B-213707**

August 11, 1986

The Honorable Richard E. Lyng  
The Secretary of Agriculture

Dear Mr. Secretary:

In late 1982 the U.S. Department of Agriculture (USDA) was faced with a large buildup of commodity surpluses, reduced commodity prices, decreased farm incomes, and prospects of dramatically increased federal farm program expenditures. In response to these conditions, USDA decided to supplement its production control programs designed for the 1983-86 crop years by adding a Payment-In-Kind (PIK) program for 1983 and 1984. Under the PIK program, farmers of wheat, corn, grain sorghum, cotton, and rice were paid in commodities instead of cash for taking land out of production that was normally planted to these commodities. The objectives of the production control programs, including PIK, were to (1) reduce the large amount of government- and farmer-owned commodity surpluses that were accumulating, (2) reduce the number of acres planted to surplus commodities, and (3) increase farmers' net cash income. In addition, USDA wanted to minimize budget outlays in 1983 and 1984 and believed that paying farmers in commodities instead of cash would enable it to do so.

USDA made its decision on the PIK program without making a detailed analysis of the potential costs and effectiveness of adding the PIK program versus a program using additional cash payments to achieve production control goals. We have completed a comparative analysis of the PIK program and an alternative program design and are providing the results to you for use in future farm policy and program decisions. We believe the analysis is timely since conditions similar to those in late 1982 exist in 1986 and because the problem of large crop surpluses and depressed commodity prices continues to be part of the nation's farm agenda.

The analysis was done for us by Missouri Valley Research Associates (MVRA) using a policy simulation model. According to agricultural economists we contacted, MVRA's model is state-of-the-art in agricultural simulation modeling. Essentially, MVRA looked at USDA's production control program designed in January 1983—involving a combination of cash and commodity payments—for 1983 through 1986 and compared that program's anticipated effects with the estimated effects for the same

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period of an alternative production control program that MVRA developed.

Specifically, the report discusses the results of an analysis of the 1983-86 production control program designed by USDA and included in the President's budget submission in January 1983 versus an alternative production control program design. The alternative production control program would have involved increased cash payments instead of payments in commodities. The criteria used in the analysis for measuring the effectiveness and cost of both programs were the same criteria USDA used in designing its 4-year program. Specifically, these were (1) minimizing farm program payments, (2) reducing acreage planted, (3) reducing total ending commodity stock levels, and (4) increasing net cash farm incomes.

A major criterion throughout the analysis was the programs' cost to the government; that is, what each program could have cost the government for each of the 1983-86 crop years (the calendar years in which the crops are harvested) and the cumulative cost at the end of crop year 1986. We did not want to present an analysis in which the alternative program may have been effective when measured against the other three criteria mentioned above but whose cost would have been prohibitive.

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## Results of Analysis

The analysis shows that for the 1983-86 period, the alternative program, as compared with USDA's program, would have been expected to result in about

- \$3.7 billion less in government farm program costs over the 4-year period,
- 47.4 million fewer acres planted to program crops over the 4-year period,
- a 23-percent reduction in commodity inventory levels at the end of the 4-year period, and
- a \$6.2-billion increase in farmers' net cash income over the 4-year period.<sup>1</sup>

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<sup>1</sup>Under the alternative program, farmers' net cash incomes would have increased, especially in 1985-86, because decreased planted acreage and decreased stock levels would have resulted in higher commodity prices, which would have increased farmers' cash receipts when they sold the commodities

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Accordingly, the analysis shows that, judged against the four criteria used in the analysis for measuring the effectiveness and cost of both programs—the same criteria used by USDA—the alternative program could have been more effective in production control and less costly to the government. Overall, we believe the results of the analysis underscore the need for USDA decision makers to analyze and review program alternatives before committing to major program changes like the 1983 PIK program.

The analysis was based on conditions that existed or were being forecasted at the time USDA selected the PIK program and assumed that any legislative changes needed to allow additional cash payments would have been enacted. Conceivably, other program options could have been devised that would also have shown favorable results. Like the USDA-designed program, the alternative program covers the basic commodities—wheat, corn, grain sorghum, cotton, and rice. However, unlike the USDA-designed program, the alternative program would have included only cash payments and would have limited each participating farmer to total payments of \$50,000 each year.<sup>2</sup>

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## Some Important Caveats

Three points must be kept in mind when using the information MVRA developed. First, the analysis discussed in this report compares one type of production control program—the one MVRA developed—with the program USDA designed for 1983 through 1986. There could be other programs that would also compare favorably with the USDA-designed program. The particular program MVRA analyzed was selected because, in MVRA's opinion, it would have been a reasonable program for both farmers and USDA and would have limited each farmer joining the production control programs to no more than \$50,000 each year in farm payments.

Second, to have USDA use MVRA's program, the Omnibus Budget Reconciliation Act of 1982, which mandated specific production control programs for 1983, would have had to be amended and legislative authority would have been needed to enable USDA to pay farmers more cash in each of the 4 years for taking additional amounts of land out of production.

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<sup>2</sup>The \$50,000 payment limitation was placed on farm program payments by the Congress. However, USDA asserted that PIK commodity payments did not apply against the payment limitation and, as a result, many farmers received payments and commodities valued in excess of \$50,000 in 1983. We believe USDA incorrectly determined that commodity payments did not apply toward the \$50,000 limitation. Our position is stated in Questions Regarding the Legality of the Payment-In-Kind Program, B-211462-O M, Oct. 31, 1983.

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Third, a comparison was not made of the possible overall societal impacts of the two program options on consumers, U.S. export sales, and rural economies. For example, the MVRA-designed program, while reducing government costs, could boost commodity prices more than the USDA-designed program would have, contributing to higher consumer costs and a dampening of commodity exports. On the other hand, higher cash incomes could have a positive impact on rural economies. Neither USDA nor MVRA estimated these or other societal impacts to determine the overall societal costs or benefits of the two production control programs.

The results of this analysis are based on the model's comparison of the USDA and MVRA programs' effects that could have been anticipated at the time USDA selected the PIK program. The comparison does not incorporate subsequent events (such as the 1983 drought or the enactment of the Food Security Act of 1985) or the actual results of the production control programs that USDA eventually implemented for crop years 1983-86.

MVRA's model estimates the impact of policy alternatives on a range of variables, including the effectiveness of production control efforts, the cost of these efforts, and farmers' net cash income. The MVRA model utilizes USDA data going back to 1961 to establish historical behavioral patterns of commodity supply, demand, utilization, and program participation by farmers. To the extent that these patterns change over time, the estimates are subject to error.

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## Agency Comments and Our Evaluation

The Assistant Secretary for Economics disagreed with several aspects of the report. He said that the report provided no new information on the cost-effectiveness of the 1983 PIK program and did not provide useful information on which to formulate future farm program policy decisions. In addition, the Assistant Secretary questioned parts of MVRA's model and whether MVRA's analysis was properly reviewed.

Our objective was not to provide new information on the cost-effectiveness of the 1983 PIK program but to provide an analysis of an alternative production control program to show decision makers that there are other programs that could be considered in future deliberations on how to deal with the difficult and complex issue of crop surpluses. To accomplish this objective, we compared the 4-year production control program design that USDA prepared in January 1983 with an alternative 4-year program design to determine whether an alternative program design could be more effective in production control and less costly to the government. We believe the report accomplishes this objective, since we

present an alternative program that could have been more effective in production control and less costly to the government. On the basis of discussions with various agricultural economists and farm analysts from both inside and outside USDA, we also believe that MVRA's model does have the necessary capabilities to adequately make this type of analysis and that the model was properly reviewed. As a result of the Assistant Secretary's comments and to help avoid any misinterpretation of the report's objectives and limitations, we made several minor revisions to the report to clarify the language concerning the report's objective and the model's limitations.

Appendix I contains a more detailed discussion of MVRA's analysis and a description of the methodology. Additional information on the technical aspects of the model and the assumptions used in the model can be obtained from MVRA, 911 Cherry Street, Columbia, Missouri 65203.

We are providing copies of this report to the Chairmen, Senate and House Committees on Agriculture, Appropriations, and Budget; the Director, Office of Management and Budget; the Administrators of the Agricultural Stabilization and Conservation Service and the Economic Research Service; and your Inspector General. In addition, we will send copies to other interested parties and furnish copies to others upon request.

Sincerely yours,



Brian P. Crowley  
Senior Associate Director

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**Abbreviations**

ARP	acreage reduction program
CCC	Commodity Credit Corporation
GAO	General Accounting Office
MVRA	Missouri Valley Research Associates
PIK	Payment-In-Kind
PLD	paid land diversion program
RCED	Resources, Community, and Economic Development Division (GAO)
USDA	U.S. Department of Agriculture

# Farm Programs: An Analysis of Two Production Control Options

Large 1984 and 1985 harvests coupled with a declining demand for U.S. crop exports have increased surplus stock levels for wheat, corn, grain sorghum, cotton, and rice. These surpluses have depressed commodity prices and are projected to increase U.S. agricultural price and income support subsidies in 1986 substantially. These conditions parallel those that existed in late 1982 and early 1983, which prompted the U.S. Department of Agriculture (USDA) to announce a 2-year Payment-In-Kind (PIK) program as part of its 1983-86 production control program design. Production control programs are used by USDA to help balance commodity supply and demand by offering price and income subsidies to farmers agreeing to take portions of their land out of production. The PIK program, which supplemented other production control programs, paid farmers in commodities instead of cash for taking prescribed additional amounts of acreage out of production.

During deliberations on the recently enacted Food Security Act of 1985 (Public Law 99-198, Dec. 23, 1985), a great deal of the debate focused on the crop surplus problem. To help deal with the problem, the 1985 act included several provisions aimed at alleviating and helping to better manage the crop surplus situation. The provisions, among other things, authorize the Secretary of Agriculture to use certain commodities to make some farm payments. However, whether and to what extent the 1985 act's PIK and other provisions will help the crop surplus situation is not yet clear.

Because the crop surplus issue could continue to be a part of this nation's farm agenda, this report presents the results of an analysis of two policy options that could be considered in dealing with crop surpluses. One option is the use of a PIK program similar to the one designed for 1983 and 1984 and the other is a program using no PIK payments but increased direct cash payments for taking additional land out of production. This appendix presents an analysis of how a program using direct cash payments instead of a program using a combination of commodity and cash payments—which was designed for the 1983-86 period and included in the President's budget submission in January 1983—might have affected program costs, planted acreage, stock inventories, and farmers' net cash income during the period covered by the analysis. This analysis is intended to provide information for future policy deliberations. There may be other options.

## USDA Production Control Programs

USDA uses production control programs to try to (1) stabilize farm commodity supplies and (2) stabilize and enhance prices and incomes by inducing farmers to remove cropland from production. As farm legislation authorizes, USDA generally requires farmers to take land out of production as a prerequisite for receiving farm price and income benefits.

Since 1982 the most frequently used production control programs have been acreage reduction programs (ARP). Under ARP programs, farmers take a certain percentage of their acreage out of production to be eligible for such farm program benefits as price-support loans<sup>3</sup> and deficiency payments.<sup>4</sup> The Secretary of Agriculture may also implement paid land diversion (PLD) programs. PLD programs require farmers to remove a certain percent of their acreage from production in return for cash diversion payments to replace the income that farmers would otherwise have earned from commodities grown on that acreage. PLD programs may be implemented in addition to rather than instead of ARP programs.

The Agriculture and Food Act of 1981 authorized and the Omnibus Budget Reconciliation Act of 1982 required both ARP and PLD programs for 1983. However, in late 1982, it became apparent to USDA that the programs planned for 1983 would not meet their objectives and that government payments would reach record levels. USDA responded to this situation in January 1983 by announcing a 2-year PIK program for 1983 and 1984 wheat, corn, grain sorghum, cotton, and rice crops. The PIK program, which was to supplement the ARP and PLD programs for these commodities, was part of a 4-year program USDA designed to run from 1983 through 1986. The program's broad objectives included (1) reducing production by reducing crop acreage planted, (2) reducing stock surpluses, and (3) increasing farmers' net cash income while at the same time minimizing farm program payments.

USDA's 4-year plan which was used for inclusion in the President's budget submission in January 1983 included the use of ARP, PLD, and PIK programs for 1983; ARP and PIK programs for 1984; and ARP programs alone for 1985 and 1986. USDA believed that the 1983 ARP, PLD, and PIK programs and the 1984 ARP and PIK programs, under normal weather conditions, would reduce production and stock surpluses and, in turn,

<sup>3</sup>Loans made to farmers by USDA for commodities at established minimum loan rates, which are in essence floor prices. These farmers, in return for the loans, agree to store the commodities, thereby keeping them off the market during periods of excess supply to help keep prices from falling.

<sup>4</sup>Cash payments made by USDA directly to farmers to supplement their incomes when a commodity's market price is lower than a set or target price established by law.

would increase commodity prices to a point where only ARP programs would be needed for 1985 and 1986. USDA cited several reasons for augmenting its 1983 ARP and PLD programs and 1984 ARP programs with a PIK program rather than using some other production control alternative to meet its objectives. First, paying farmers in commodities that were government assets,<sup>5</sup> rather than in cash, would minimize budget outlays. Second, paying farmers in commodities would reduce existing surplus stocks. Third, USDA believed that payments in commodities would not be subject to a statutory \$50,000 per person annual payment limitation and that more large farmers might participate.

According to data prepared by USDA in January 1983 for inclusion in the President's fiscal year 1984 budget, USDA analyzed the potential program costs and effectiveness of its 4-year program design with PIK versus one without PIK. However, USDA did not analyze its 4-year program design with PIK versus a program offering cash payments instead of commodity payments. Consequently, without further analysis of an alternative 4-year program using additional cash payments instead of PIK payments, USDA could not weigh the relative potential effectiveness or merits of the 1983-86 production control program—including PIK—versus alternative programs.

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## Objective, Scope, and Methodology

The objective of this analysis was to determine whether, at the time USDA designed its 4-year production control program in January 1983, an alternative 4-year program design could have been more effective and less costly to the government than the program design that USDA chose. We believe this analysis of an alternative production control program will show decision makers that there are other programs that could be considered in future deliberations on how best to deal with the difficult and complex issue of crop surpluses.

Because the methodology for this kind of analysis involves the use of technical econometric modeling techniques, we contracted with Missouri Valley Research Associates (MVRA) to do the analysis. MVRA is a consulting firm that specializes in agricultural economic analysis and econometric farm modeling. The firm, founded in 1980, is jointly owned by Abner W. Womack and Stanley R. Johnson, professors in the Agricultural Economics Department at the University of Missouri, Columbia,

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<sup>5</sup>Government assets refer to commodities owned and held in inventory by the government as well as commodities owned by farmers but provided to the government as loan collateral

and in the Economics Department at Iowa State University, Ames, respectively.

Before hiring MVRA, we held discussions with various agricultural economists, including several at USDA; officials of the Congressional Budget Office and Congressional Research Service; and various farm analysts from academia to identify the firms that had expertise in econometric farm modeling. The consensus of these discussions was that MVRA had one of the most up-to-date, flexible, state-of-the-art econometric models for analyzing farm program data. We reviewed MVRA's model to assure that the assumptions used in the model were reasonable and that the programming was valid.

Essentially, MVRA's model is designed to forecast the impact of a wide range of policy and program variables, including crop production and supply data, on the agricultural sector of the economy. To do this, the model reflects the relationships of the major agricultural commodities in a national and international trade environment. The model is programmed to react to economic, policy, and program variables, such as changes in price-support rates, as well as to changes that may affect commodity exports, such as changes in the value of the dollar. Further, to forecast the impact of policy changes on such specific farm program data as crop production, year-end stock levels, and prices for the five commodities examined, the model incorporates USDA estimates, wherever possible. However, USDA's 4-year program design and estimates were based on the use of constant rather than accelerated target prices.<sup>6</sup> Because accelerated target prices were mandated by law at the time USDA decided on its 4-year program design, MVRA modified USDA's program design and estimates to reflect the use of accelerated target prices. The estimates obtained from USDA were from USDA's supply and utilization tables,<sup>7</sup> which are compiled each year and which project each crop's total supply and demand for a certain year based on the particular production control program or mix of programs in effect for each year. In addition, MVRA's model estimates the total crop supply by estimating production control program participation, the amount of planted and harvested acres, the crop yield per acre, total crop production, stock levels at the beginning of each year, and imports. Crop demand is determined by estimating domestic use, as well as what the United States will

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<sup>6</sup>Commodity price levels established by law for wheat, feed grains, rice, and cotton and used to determine each year's deficiency payments to farmers

<sup>7</sup>The basic tables agricultural analysts use for determining farm program data such as crop production, total supply of a commodity, total demand for the crop, and total ending stock inventories

export. The data base used for the model is USDA historical data since 1961.

The analysis focused on comparing the effectiveness and estimated cost to the government of USDA's 1983-86 program design with an alternative program for the same 4-year period. All data used in the analysis were available at the time USDA announced its 1983 PIK program. At that time—January 1983—USDA's 4-year program design included ARP, PLD, and PIK programs for 1983; ARP and PIK programs for 1984; and ARP programs for 1985 and 1986. The alternative program used in the analysis includes ARP and PLD programs for each of the 4 years and excludes any PIK program. The main differences between the 4-year programs that USDA and MVRA designed are that MVRA's alternative design would (1) require farmers to take more land out of production (except for cotton, where the amount would be the same) for joining the ARP programs than would USDA's for each of the 4 years and (2) replace USDA's 1983 PLD and 1983-84 PIK programs with a strong PLD program for each of the 4 years. Regarding the latter point, the characterization of MVRA's program design as having a "strong" PLD program simply means that MVRA's design provided for larger cash payments to farmers under the PLD component of the program.

In essence, the MVRA alternative was designed to make larger cash payments to farmers over the entire 4-year period to take additional acreage out of production. A comparison of specific provisions of USDA's program design versus MVRA's program design for corn and grain sorghum is contained in table I.1. Similar details for the wheat, cotton, and rice programs are included in appendix II.

**Appendix I  
Farm Programs: An Analysis of Two  
Production Control Options**

**Table I.1: Comparison of USDA's and MVRA's 4-Year Program Designs for Corn and Grain Sorghum**

<b>Years</b>	<b>Program</b>	<b>Percent of base acres to be taken out of production<sup>a</sup></b>	<b>Forms of payment</b>
<b>USDA's 4-Year Program Design<sup>b</sup></b>			
1983-84	ARP	10	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
1983	PLD	10	Cash payment of \$1.50 per bushel taken out of production. To participate in the PLD program, farmers must also participate in the ARP program
1983-84	PIK	10-30 <sup>c</sup>	Commodity payments (with an estimated value per bushel of \$2.56 for corn and \$2.55 for grain sorghum) for each bushel taken out of production. To participate in the PIK program, farmers must also participate in the ARP and PLD programs
1985-86	ARP	10	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
<b>MVRA's 4-Year Program Design</b>			
1983-86	ARP	20	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
1983-86	PLD	20	Cash payment of \$1.50 per bushel for the first 10 percent of PLD acres taken out of production and \$3.00 per bushel for the second 10 percent of PLD acres taken out of production. To participate, farmers must also participate in the ARP program

<sup>a</sup>The base acres for a particular commodity and for a particular farm are those acres USDA recognizes for program payment purposes

<sup>b</sup>Modified by MVRA to reflect accelerated rather than constant target prices

<sup>c</sup>This percentage varied depending on the desires of the farmers participating in the program. Farmers could choose to take as little as 10 percent or as much as 30 percent of their base acreage out of production in order to receive PIK commodity payments. Further, in some cases, farmers were permitted to take their entire base acreage (whole base) out of production in 1983

The criteria used in the analysis for measuring the effectiveness of both programs were the same criteria USDA used in designing its 4-year program. Specifically, these were (1) minimizing long-term farm program payments, (2) reducing acreage planted, (3) reducing total ending commodity stock levels, and (4) increasing net cash farm income. Also, a major criterion throughout the analysis was the programs' cost to the government; that is, what each program could cost the government for each of the 1983-86 crop years (the calendar years in which the crops are harvested) and the cumulative cost at the end of crop year 1986. We did not want to present an analysis in which the alternative program

may have been effective when measured against the other three criteria but whose cost would have been prohibitive.

In determining whether a viable alternative to USDA's program was available, MVRA initially considered an ARP program coupled with a strong PLD program sufficient to reduce total ending stock levels to targeted levels specified by USDA in February 1983. The total ending stock levels cited by USDA were between 1.25 and 1.5 billion bushels of corn, about 1 billion bushels of wheat, 1.9 billion pounds of cotton, and 2.5 to 3.5 billion pounds of rice. Although USDA cited these targeted stock levels as reasonable total ending stock level numbers, USDA's 4-year program design was not directed at achieving these ending stock level numbers. MVRA ran a preliminary analysis that would have reduced the ending stock levels to USDA targeted levels. However, because the total ending stock levels at the end of 1982 (3.5 billion bushels of corn, 1.5 billion bushels of wheat, 3.8 billion pounds of cotton, and 6.2 billion pounds of rice) were much higher than the USDA targeted numbers stated above, costs for a strong PLD program to achieve these targeted levels would have been prohibitive (about \$36 billion over the 4-year period). Therefore, MVRA then ran a second version of the PLD program at a level stronger than USDA's, but not strong enough to achieve the targeted ending stock levels, to see whether this second alternative might prove more efficient and effective than USDA's program that included PIK.

In doing the analysis, MVRA replicated, as nearly as possible, the state of knowledge and conditions that prevailed at the time USDA was making its decisions on the PIK program. Further, MVRA's program design limited program payments to \$50,000 annually per person in accordance with the existing statutory limits. In designing its program, USDA's interpretation was that the payment limitation did not apply to commodity payments. Accordingly, USDA's program design counted cash payments but not commodity payments against the \$50,000 limitation.<sup>8</sup>

In using the results of our analysis, certain caveats should be kept in mind. First, the analysis compares only two policy options—the one MVRA developed and the one USDA designed in January 1983 for 1983 through 1986. There could be other programs that would also compare favorably with the USDA-designed program. The particular program MVRA analyzed was selected because, in MVRA's opinion, it would have

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<sup>8</sup>We believe USDA incorrectly determined that commodity payments did not apply toward the \$50,000 limitation. Our position is stated in Questions Regarding the Legality of the Payment-In-Kind Program, B-211462-O M, Oct 31, 1983



been a reasonable program for both farmers and USDA and would have limited each farmer joining the production control programs to no more than \$50,000 each year in farm payments.

Second, for USDA to have used the alternative MVRA developed, changes in legislation would have been needed. Specifically, the Omnibus Budget Reconciliation Act of 1982, which mandated specific production control programs for 1983, would have had to be amended and legislative authority would have been needed to enable USDA to pay farmers more cash in each of the 4 years for taking additional amounts of land out of production under the PLD components.

Further, the model used in this analysis, like any model of this type, relies on data obtained from historical records—in this particular case going back to 1961. These data are used in the model equations. In turn, the model equations are selected on the basis of how accurately they describe the relationships among key variables. In using historical data as a basis for projecting events, the equations rely on several assumptions about behavior patterns regarding commodity supply, demand, utilization, and program participation rates. To the extent that these patterns change over time, the estimates are subject to error. Further information about the model used for this analysis, its limitations, assumptions, and other pertinent material and supporting documentation are available from MVRA on request.

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## **Results of MVRA's Analysis Indicate There Was a Cost- Effective Alternative to a PIK Program**

The results of MVRA's analysis indicate that for the commodities covered by the PIK program—wheat, corn, grain sorghum, cotton, and rice—a strong PLD program could have been expected to accomplish USDA's 4-year program objectives in a more cost-effective manner than the program USDA designed. According to MVRA's estimates, compared with USDA's 4-year program design, the strong PLD program MVRA designed would have been expected to result in about

- \$3.7 billion less in government farm program costs over the 4-year period,
- 47.4 million fewer acres planted to program crops over the 4-year period,
- a 23-percent reduction in total ending stock levels at the end of the 4-year period, and
- a \$6.2-billion increase in farmers' net cash income over the 4-year period.

Moreover, MVRA's alternative program design would also have met applicable statutory requirements by limiting farm program payments to individual farmers to \$50,000 per year. In contrast, USDA's program did not count commodity payments against the \$50,000 statutory payment limitation because USDA believed that the payment limitation applied only to cash payments.

A comparison was not made of the possible overall societal impacts of the two program options on consumers, U.S. export sales, and rural economies. For example, the MVRA-designed program, while reducing government costs, could boost commodity prices more than the USDA-designed program would have, contributing to higher consumer costs and a dampening of commodity exports. On the other hand, higher cash incomes could have a positive impact on rural economies. Neither USDA nor MVRA estimated these or other societal impacts to determine the overall societal costs or benefits of the two production control programs.

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## **Government Costs**

Under MVRA's strong PLD program, government costs for the wheat, corn and grain sorghum, cotton, and rice programs were estimated to total \$29 billion for the 4-year period ending in 1986. This compares with estimated total costs of \$32.7 billion for the USDA-designed 4-year program that included PIK for 1983 and 1984. As a result, MVRA's alternative program would have been expected to cost about \$3.7 billion less than USDA's over the 4-year period.

The elements used to estimate costs under both USDA's and MVRA's programs were the same. These cost elements included the (1) amount of net price-support loan activity (the amount of loans made to farmers minus the amount of loans paid back to USDA by farmers), (2) storage costs for the commodities USDA acquired and held, (3) amount of interest forgone (interest due USDA that is forgiven when commodities used as collateral for a price-support loan are forfeited in full payment of the loan), and (4) amount of deficiency payments and diversion payments (PIK commodity and cash).

When USDA announced the PIK program in January 1983, USDA said that the payment of commodities to farmers would have only a minimal impact on budget outlays because the commodities were government assets rather than cash. However, the giving up of these assets eventually results in increased budget outlays. This is because these assets are

**Appendix I  
Farm Programs: An Analysis of Two  
Production Control Options**

financed by the Commodity Credit Corporation (CCC)<sup>9</sup> through borrowings from the U.S. Treasury. To continue its operations, CCC repays its borrowings partly from receipts, such as repayments of outstanding loans. Almost all of the PIK program cost represents the value of government assets, including commodities under government loans and government-owned commodities, that USDA gave up to meet its PIK payment obligations to farmers. Because the assets given up for the PIK program were not repaid, CCC did not receive any receipts for these assets. As a result, these assets were accounted for as CCC losses and subsequent appropriations were needed to replenish CCC's funding and cover the PIK program's costs. Therefore, the assets given up are considered to be program costs in MVRA's analysis of the cost of USDA's 4-year program.

Table I.2 shows the estimated government cost by crop for each year under USDA's and MVRA's 4-year programs.

**Table I.2: Comparison of Estimated Government Costs by Crop and Year**

Dollars in billions

	Crop year				Total <sup>a</sup>
	1983	1984	1985	1986	
<b>USDA's 4-year program design:</b>					
Wheat	\$3.12	\$3.17	\$2.34	\$2.97	\$11.60
Corn	4.08	2.83	2.35	3.03	12.29
Grain sorghum	.58	.61	.47	.67	2.33
Cotton	.85	1.24	1.37	1.71	5.17
Rice	.54	.59	.07	.09	1.29
<b>Total costs</b>	<b>\$9.17</b>	<b>\$8.44</b>	<b>\$6.60</b>	<b>\$8.47</b>	<b>\$32.68</b>
<b>MVRA's 4-year program design:</b>					
Wheat	\$2.44	\$2.82	\$2.80	\$3.04	\$11.10
Corn	2.79	3.01	2.94	2.49	11.23
Grain sorghum	.48	.53	.55	.52	2.08
Cotton	.96	.70	.94	1.30	3.90
Rice	.33	.17	.07	.10	.67
<b>Total costs<sup>a</sup></b>	<b>\$7.00</b>	<b>\$7.23</b>	<b>\$7.30</b>	<b>\$7.44</b>	<b>\$28.98</b>
<b>Decrease (increase) in government costs under MVRA's 4-year program design</b>	<b>\$2.17</b>	<b>\$1.21</b>	<b>(0.70)</b>	<b>\$1.03</b>	<b>\$3.70</b>

<sup>a</sup>Totals may not add due to rounding

<sup>9</sup>CCC is a government-owned and -operated corporation created in 1933 to stabilize, support, and protect farm income and prices, to assist in maintaining balanced and adequate supplies of agricultural commodities, and to facilitate the orderly distribution of these commodities

Two major reasons why USDA's program design is estimated to be more costly than MVRA's program design are as follows. First, USDA's program design would have resulted in higher estimated deficiency payments in 1983 and 1984 and higher estimated deficiency payments and government commodity storage costs in 1986. Under USDA's program design, as the PIK payments became available to farmers in 1983 and 1984, the farmers would likely sell their PIK commodities on the open market. This, in turn, would increase the supply of those commodities and keep the commodities' prices at a level that would increase deficiency payments to farmers. Second, because USDA's program design included only ARP programs for 1985 and 1986, farmers would have less incentive to participate in USDA's 1985 and 1986 programs. This lack of program participation would, in turn, increase the production of the commodities. This increase in production would decrease the commodities' prices and increase the amount of surplus commodities. The decreased prices would increase the deficiency payments, and the increase in surplus commodities acquired by the government would increase storage costs.

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**Acreage Planted to Program  
Crops**

Under MVRA's program, the total number of acres planted to wheat, corn, grain sorghum, cotton, and rice was estimated to be 690.2 million acres for the 4-year period ending in 1986. This compares with estimated planted acres of 737.6 million acres, or 47.4 million more acres, for the same 4-year period under USDA's program.

Table I.3 shows the planted acres by crop for each year under USDA's and MVRA's 4-year programs.

Appendix I  
 Farm Programs: An Analysis of Two  
 Production Control Options

**Table I.3: Comparison of Estimated Number of Acres Planted to Program Crops by Crop and Year**

Millions in acres

	Crop year				Total <sup>a</sup>
	1983	1984	1985	1986	
<b>USDA's 4-year program design:</b>					
Wheat	77.5	72.6	84.1	80.6	314.8
Corn	70.0	73.3	84.4	83.5	311.2
Grain sorghum	13.1	13.8	15.4	15.4	57.5
Cotton	9.2	8.8	11.8	11.8	41.6
Rice	2.7	2.7	3.5	3.4	12.3
<b>Total planted acres<sup>a</sup></b>	<b>172.5</b>	<b>171.2</b>	<b>199.2</b>	<b>194.7</b>	<b>737.6</b>
<b>MVRA's 4-year program design:</b>					
Wheat	73.1	73.1	74.3	75.1	295.6
Corn	73.8	72.1	72.0	70.8	288.7
Grain sorghum	13.3	13.3	13.5	13.5	53.6
Cotton	9.8	10.1	10.1	10.1	40.1
Rice	2.6	2.6	3.6	3.4	12.2
<b>Total planted acres</b>	<b>172.6</b>	<b>171.2</b>	<b>173.5</b>	<b>172.9</b>	<b>690.2</b>
<b>Decrease (increase) in acres planted under MVRA's 4-year program design</b>	<b>(0.1)</b>	<b>0</b>	<b>25.7</b>	<b>21.8</b>	<b>47.42</b>

<sup>a</sup>Totals may not add due to rounding

The reason for the lower estimate of acres planted under MVRA's program design is that farmers would have had more incentive to participate in production control programs in 1985 and 1986 as compared with USDA's program design. Specifically, under MVRA's program design, farmers would be eligible for price-support loans and deficiency payments for joining the ARP programs and would receive cash diversion payments for taking additional acres out of production. Under USDA's 4-year program design, there would be only ARP programs in effect in 1985 and 1986. Thus, participating farmers would be eligible for price-support and deficiency payments but would get no direct cash payments (diversion payments) for any acreage taken out of production in those years. MVRA estimates that because of the PLD payments under MVRA's program in 1985 and 1986, program participation would have been higher and, as a result, 47.5 million fewer acres would have been planted to the five commodities in those 2 years than under USDA's program design. The amount of planted acres under both MVRA's and USDA's 4-year program designs would have been about the same for 1983 and 1984.

**Total Ending Stock Levels**

Under MVRA's program, the total ending stock level<sup>10</sup> for the five commodities would have been about 23 percent lower at the end of the fourth year (1986) than under USDA's program design.

Table I.4 shows the total ending stock levels by crop for each year under USDA's and MVRA's 4-year program designs.

**Table I.4: Comparison of Estimated Total Ending Stock Levels by Crop and Year**

000,000 omitted				
	Crop year			
	1983	1984	1985	1986
<b>USDA's 4-year program design:</b>				
Wheat (bu)	1,502	1,451	1,712	1,850
Corn (bu)	2,889	2,516	2,873	3,060
Grain sorghum (bu)	498	538	642	728
Cotton (lb)	2,995	2,222	2,492	2,520
Rice (lb)	4,704	2,747	3,474	3,455
<b>MVRA's 4-year program design:</b>				
Wheat (bu)	1,491	1,476	1,485	1,505
Corn (bu)	3,419	3,263	2,878	2,274
Grain sorghum (bu)	480	495	515	535
Cotton (lb)	3,250	2,755	2,242	1,762
Rice (lb)	4,627	2,432	3,569	3,354
Percent of stock level reduction under MVRA's 4-year program design <sup>a</sup>	•	•	•	23 <sup>a</sup>

<sup>a</sup>To determine the percent of total ending stock level reductions for all five commodities, all units for each commodity were converted to pounds. The conversion factor used for corn and grain sorghum was 56 pounds per bushel and for wheat 60 pounds per bushel.

The reduced total ending stock levels after the fourth year under MVRA's design are due to increased participation in the third and fourth years of MVRA's alternative program which would have reduced production, thereby reducing the total supply of commodities. This, in turn, would have reduced the total ending stock levels for these commodities.

**Net Cash Income**

Under MVRA's program, net cash income to farmers of the five commodities covered by the analysis would have been about \$6.2 billion higher for the 4-year period than under USDA's program. On an individual crop basis, net cash incomes under MVRA's program would have been higher

<sup>10</sup>Inventories of commodities from (1) stocks owned by farmers but under government loan, (2) stocks owned by the government, and (3) free stocks—stocks that are privately owned and available to trade freely in the marketplace

**Appendix I  
Farm Programs: An Analysis of Two  
Production Control Options**

for wheat and corn, lower for grain sorghum and cotton, and the same for rice.

Table I.5 shows the estimated net cash incomes of farmers by crop for each year under USDA's and MVRA's 4-year programs.

**Table I.5: Comparison of Estimated Net Cash Income by Crop and Year**

Dollars in billions

	Crop year				Total <sup>a</sup>
	1983	1984	1985	1986	
<b>USDA's 4-year program design:</b>					
Wheat	\$ 5.9	\$ 6.0	\$ 5.5	\$ 5.8	\$23.2
Corn	11.7	10.5	9.2	9.6	41.0
Grain sorghum	1.1	1.1	1.0	1.2	4.4
Cotton	1.9	2.0	1.7	1.8	7.4
Rice	8	1.0	1.0	1.1	3.9
<b>Total<sup>a</sup></b>	<b>\$21.4</b>	<b>\$20.6</b>	<b>\$18.4</b>	<b>\$19.5</b>	<b>\$79.9</b>
<b>MVRA's 4-year program design:</b>					
Wheat	\$ 5.6	\$ 6.2	\$ 6.4	\$ 6.6	\$24.8
Corn	10.8	11.3	11.8	12.4	46.3
Grain sorghum	1.0	1.0	1.1	1.1	4.2
Cotton	1.5	1.7	1.8	1.9	6.9
Rice	8	9	1.0	1.2	3.9
<b>Total</b>	<b>\$19.7</b>	<b>\$21.1</b>	<b>\$22.1</b>	<b>\$23.2</b>	<b>\$86.1</b>
<b>Increase (decrease) in net cash income under MVRA's 4-year program design</b>	<b>(\$ 1.7)</b>	<b>\$ 0.5</b>	<b>\$ 3.7</b>	<b>\$ 3.7</b>	<b>\$ 6.2</b>

<sup>a</sup>Totals may not add due to rounding

As table I.5 shows, the total net cash income of farmers for the five commodities would have been higher under USDA's program design in 1983, about the same in 1984, and much higher under MVRA's program design for 1985 and 1986. Just about all of the increases in the net cash incomes in 1985 and 1986 under MVRA's program design would be from wheat and corn (the two most heavily produced commodities). Generally, this is because commodity prices would have been higher because of decreased planted acreage during the 1985-86 period and decreased total ending stock levels under MVRA's program design. As a result of the higher commodity prices, cash receipts to farmers would have been higher, thus resulting in increased net cash income to farmers. It should be pointed out that the anticipated increase in commodity prices during the 1985-86 period might have resulted in increased consumer costs for

products made from these commodities; however, MVRA did not measure these impacts.

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### MVRA's Alternative Would Have Limited Annual Payments to \$50,000 Per Person

Under MVRA's strong PLD program, it was assumed that no farmer would have received more than \$50,000 a year in farm program payments. As a result, a strong PLD program would have met applicable statutory requirements. This is in contrast to the USDA program for which we believe that USDA incorrectly determined that commodity payments were not subject to the \$50,000 payment limitation. This matter is discussed in more detail in a previous GAO report.<sup>11</sup>

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### Observations

Conditions in the agricultural sector of the economy in 1986 are similar to those that prevailed in late 1982, just before USDA announced its PIK program. These conditions include rising program costs, near record U.S. harvests, rising stock surpluses, and reduced net cash farm income. The Food Security Act of 1985 includes several production control provisions, such as ARP, PLD, and to a lesser extent PIK programs, as well as several price support and export promotion provisions, which are aimed at trying to alleviate such conditions. Whether and to what extent the provisions will meet their objectives is not yet clear. If the 1985 farm legislation does not help solve the problem of large crop surpluses and depressed commodity prices, USDA and the Congress may be faced with considering another major farm program like the 1983 PIK program.

The results of this study suggest that an ARP program coupled with a strong PLD program, over several years, could have been expected to cost the government less and be more effective in production control than the 4-year program that USDA designed when it implemented PIK, while at the same time being consistent with statutory payment limitation requirements. Further, on a broader note, we believe the results of this study underscore the need for USDA decision makers to make sure that all reasonable alternatives are analyzed and reviewed before committing to major program changes like the 1983 PIK program.

A comparison was not made of the possible overall societal impacts of the two program options on consumers, U.S. export sales, and rural economies. For example, the MVRA-designed program, while reducing government costs, could boost commodity prices more than the USDA-

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<sup>11</sup>1983 Payment-In-Kind Program Overview. Its Design, Impact, and Cost (GAO/RCED-85-89, Sept 25, 1985)



designed program could have, contributing to higher consumer costs and a dampening of commodity exports. On the other hand, higher cash incomes could have a positive impact on rural economies. Neither USDA nor MVRA estimates these or other societal impacts to determine the overall societal costs or benefits of the two production control programs.

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## Agency Comments and Our Evaluation

The Assistant Secretary for Economics disagreed with several aspects of the proposed report. He said that the report provided no new information on the cost-effectiveness of the 1983 PIK program and did not provide useful information on which to formulate future farm program policy decisions. In addition, he questioned parts of MVRA's model and whether MVRA's analysis was properly reviewed. (See app. III.) For the reasons stated below, we believe that the analysis conducted by MVRA provides useful information on which to formulate future farm program policy decisions. The Assistant Secretary's reasons for his comments and our evaluation of them are presented below.

The Assistant Secretary for Economics said that the report provided no new information on the cost-effectiveness of the 1983 PIK program because the report failed in its objective of analyzing and isolating the impact of the 1983 PIK program, including the cost-effectiveness of PIK vs. no PIK. We disagree. He did state, however, that the 1983 PIK program cost more than what was initially envisioned and that maybe an expanded PLD program might have been less costly to the government than PIK.

This report does not (nor was it our intent to) analyze or isolate the impacts of the 1983 PIK program, including its cost-effectiveness. This had been done in a previous GAO report issued in September 1985. In that report entitled 1983 Payment-In-Kind Program Overview: Its Design, Impact, and Cost (GAO/RCED-85-89, Sept. 25, 1985), we isolated the impact of the 1983 PIK program, including its cost and its impact on (1) reducing production, (2) reducing total ending stock levels, (3) easing storage problems, (4) ensuring adequate supplies of commodities, and (5) increasing net cash farm income.

The objective of the present report is to provide an analysis of an alternative production control program to show decision makers that there are other programs that could be considered on how to deal with the difficult and complex issue of crop surpluses. To accomplish this objective, MVRA replicated, as nearly as possible, the state of knowledge and conditions that prevailed in January 1983 and compared the estimated

cost and effectiveness of USDA's projected 1983-86 program design—that included a 2-year PIK program—with an alternative program for the same 4-year period to determine whether an alternative program design could have been more effective and less costly than the program designed and initially implemented by USDA. We believe that the report's objective is accomplished in that the report does provide a detailed analysis of a possible alternative production control design that was potentially more effective and less costly than USDA's program design. However, as a result of the Assistant Secretary's concern, we made several minor revisions to the report to clarify the language to more clearly state this objective.

The Assistant Secretary said that the report reveals GAO's misunderstanding of farm program decisions and does not provide useful information on which to formulate future farm program policy decisions because the two program alternatives analyzed in the proposed report were irrelevant since neither option would have been implemented over a 4-year period. He gave three reasons for this. First, the vagaries of weather necessitate that any long-term plan be extremely flexible and the 1983 drought would have made both USDA's and MVRA's 1984 program design unrealistic. Second, since 1986 crop program decisions would be determined by the 1985 farm legislation, it would not have been possible to reasonably predict a 1986 crop program in 1983. Third, USDA's 4-year program option analyzed would not have been broadly supported within USDA because it would have led to wild fluctuations in farm prices and farm income. He also stated that the Secretary of Agriculture clearly indicated that the 1983 PIK program was a temporary, emergency measure and there never was any intent to extend the 1983 PIK program into 1984.

We do not agree with the Assistant Secretary's characterization concerning our understanding of farm program decisions. We are fully aware that the 4-year program planned by USDA in January 1983 was never intended to be implemented each and every year without modification. We realize that a number of factors, such as weather conditions, the U.S. economic situation, world commodity production and markets, and legislative changes, all influence the makeup of any particular year's production control programs, and revisions to these programs are made each and every year.

However, USDA is required by the Congressional Budget and Impoundment Control Act of 1974 (Public Law 93-344) to project budget outlays for the current year's programs and 4 additional years. These projected

outlays are to be included in the President's annual budget submission to the Congress. To project these outlays, USDA plans a farm program design that includes the current year's program and 4 subsequent years. The particular program design for each of the 4 subsequent years is based on what USDA thinks are the most realistic programs at the time the plan is being prepared. What we did was to compare the 4-year design, which included a PIK program for 1983 and 1984, that USDA prepared in January 1983 for inclusion in the President's budget with an alternative 4-year program design. Our objective was to determine, at that point in time, whether some alternative program design could have been potentially more effective and less costly than USDA's 4-year program design. We believe that this report accomplishes our objective as it presents an alternative program that was potentially more effective in production control and less costly to the government. We believe the report underscores the need for USDA to identify and do a detailed analysis of alternative programs before making multibillion dollar program decisions. As the report points out, such an analysis was not done at the time USDA prepared its 4-year program design.

The Assistant Secretary also said that (1) the report indicates that the MVRA model cannot reasonably predict historical data and thus its predictions on the two policy options probably are not reasonable, (2) the relative differences on cash receipt and federal budget outlays are questionable since MVRA did not accurately predict the effect of the 1983 PIK program on acreage and stocks, and (3) MVRA's analysis should have been more carefully reviewed by GAO and USDA commodity analysts.

We do not agree with the Assistant Secretary's comment that the MVRA model cannot reasonably predict historical data and thus its predictions for the two policy options probably are not reasonable as well. In describing the model, we note that MVRA utilized USDA data going back to 1961 to establish historical behavioral patterns of commodity supply, demand, utilization, and program participation by farmers. We also point out that, to the extent that these patterns change over time, the estimates are subject to error. Further, before hiring MVRA, we held discussions with various agricultural economists, including several at USDA; officials of the Congressional Budget Office and Congressional Research Service; and various farm analysts from academia to identify firms that had expertise in econometric farm modeling. The consensus of those discussions was that MVRA had one of the most up-to-date, flexible, state-of-the-art econometric models for analyzing farm program data. Also, we carefully reviewed MVRA's model and worked very closely with MVRA while the analysis was being developed. For these reasons, we believe

the analysis is reliable and reasonable and provides useful information relative to the cost-effectiveness of the two 4-year program options analyzed.

The Assistant Secretary said that MVRA did not accurately predict the effect of the 1983 PIK program on acreage and stocks. As we point out above, model results are subject to error if behavioral patterns change. The results of this analysis are based on the model's comparison of the USDA and MVRA programs' effects that could have been anticipated at the time USDA selected the PIK program in January 1983. The comparison does not incorporate subsequent events (such as the higher than expected participation in the 1983 PIK program which was not known until April 1983, the 1983 drought that occurred in the summer of 1983 and that strongly affected production, or the enactment of the 1985 farm legislation in December 1985) or the actual results of the production control programs that USDA eventually implemented for crop years 1983-86.

USDA's commodity analysts did have an opportunity to comment on the draft report when we sent it to USDA for comment. However, we did not receive comments from them.

# Comparison of USDA's and MVRA's 4-Year Program Designs for Wheat, Cotton, and Rice

**Table II.1: Comparison of USDA's and MVRA's 4-Year Program Designs for Wheat**

Years	Program	Percent of base acres to be taken out of production <sup>a</sup>	Form of payment
<b>USDA's 4-Year Program Design<sup>b</sup></b>			
1983-84	ARP	15	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
1983	PLD	5	Cash payment of \$2.70 per bushel taken out of production. To participate in the PLD program, farmers must also participate in the ARP program
1983-84	PIK	10-30 <sup>c</sup>	Commodity payments (with an estimated value per bushel of \$3.72) for each bushel taken out of production. To participate in the PIK program, farmers must participate in the ARP and PLD programs
1985-86	ARP	20	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
<b>MVRA's 4-Year Program Design</b>			
1983-86	ARP	20	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
1983-86	PLD	20	Cash payment of \$2.70 per bushel for the first 10 percent of PLD acres taken out of production and \$4.50 per bushel for the second 10 percent of PLD acres taken out of production. To participate, farmers must also participate in the ARP program

<sup>a</sup>The base acres for a particular commodity and for a particular farm are those acres USDA recognizes for program payment purposes

<sup>b</sup>Modified by MVRA to reflect accelerated rather than constant target prices

<sup>c</sup>This percentage varied depending on the desires of the farmers participating in the program. Farmers could choose to take as little as 10 percent or as much as 30 percent of their base acreage out of production in order to receive PIK commodity payments. Further, in some cases, farmers were permitted to take their entire base acreage (whole base) out of production in 1983

**Appendix II  
Comparison of USDA's and MVRA's 4-Year  
Program Designs for Wheat, Cotton, and Rice**

**Table II.2: Comparison of USDA's and MVRA's 4-Year Program Designs for Cotton**

<b>Years</b>	<b>Program</b>	<b>Percent of base acres to be taken out of production<sup>a</sup></b>	<b>Form of payment</b>
<b>USDA's 4-Year Program Design<sup>b</sup></b>			
1983-84	ARP	20	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
1983-84	PIK	10-30 <sup>c</sup>	Commodity payments (with an estimated value per pound of 56 cents) for each pound taken out of production. To participate in PIK, farmers must also participate in the ARP program
1985-86	ARP	20	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
<b>MVRA's 4-Year Program Design</b>			
1983-86	ARP	20	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
1983-86	PLD	15	Cash payment of \$0.25 per pound on the first 5 percent of PLD acres taken out of production and \$0.50 per pound on the remaining 10 percent of PLD acres taken out of production. To participate, farmers must also participate in the ARP program

<sup>a</sup>The base acres for a particular commodity and for a particular farm are those acres USDA recognizes for program payment purposes

<sup>b</sup>Modified by MVRA to reflect accelerated rather than constant target prices

<sup>c</sup>This percentage varied depending on the desires of the farmers participating in the program. Farmers could choose to take as little as 10 percent or as much as 30 percent of their base acreage out of production in order to receive PIK commodity payments. Further, in some cases, farmers were permitted to take their entire base acreage (whole base) out of production in 1983

**Appendix II  
Comparison of USDA's and MVRA's 4-Year  
Program Designs for Wheat, Cotton, and Rice**

**Table II.3: Comparison of USDA's and  
MVRA's 4-Year Program Designs for  
Rice**

<b>Years</b>	<b>Program</b>	<b>Percent of base acres to be taken out of production<sup>a</sup></b>	<b>Form of payment</b>
<b>USDA's 4-Year Program Design<sup>b</sup></b>			
1983-84	ARP	15	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
1983	PLD	5	Cash payment of \$2.70 per cwt <sup>c</sup> taken out of production. To participate in the PLD program, farmers must also participate in the ARP program
1983-84	PIK	10-30 <sup>d</sup>	Commodity payments (with an estimated value per cwt of \$8.10) for each cwt taken out of production. To participate in PIK, farmers must also participate in the ARP and PLD programs
1985-86	ARP	10	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
<b>MVRA's 4-Year Program Design</b>			
1983-86	ARP	20	No direct payments. Farmers choosing to participate are eligible for price-support loans and deficiency payments
1983-86	PLD	20	Cash payment of \$2.70 per cwt for the first 10 percent of PLD acres taken out of production and \$5.40 per cwt for the second 10 percent of PLD acres taken out of production. To participate, farmers must also participate in the ARP program

<sup>a</sup>The base acres for a particular commodity and for a particular farm are those acres USDA recognizes for program payment purposes

<sup>b</sup>Modified by MVRA to reflect accelerated rather than constant target prices

<sup>c</sup>cwt = 100 pounds

<sup>d</sup>This percentage varied depending on the desires of the farmers participating in the program. Farmers could choose to take as little as 10 percent or as much as 30 percent of their base acreage out of production in order to receive PIK commodity payments

# Advance Comments From the Assistant Secretary for Economics, Department of Agriculture



DEPARTMENT OF AGRICULTURE  
OFFICE OF THE SECRETARY  
WASHINGTON, D. C. 20250

May 5, 1986

Mr. Brian P. Crowley  
Senior Associate Director  
Resources, Commodity and Economic  
Development Division  
U.S. General Accounting Office  
441 G Street, N.W.  
Washington, DC 20548

Dear Mr. Crowley:

The U.S. General Accounting Office's (GAO) proposed report, "Analysis of Two Production Control Policy Options: Payment-in-Kind vs. No Payment-in-Kind," fails in its objective of analyzing the impacts of the 1983 PIK program. First, GAO appears to fail to recognize that the 1983 PIK program was announced only after Congress failed to pass legislation to deal with excessive surpluses. The Secretary of Agriculture clearly indicated that the 1983 PIK program was a temporary, emergency measure necessitated by Congressional inaction. There never was any intent of extending the 1983 PIK program into 1984 as the GAO report indicates.

GAO's misunderstanding of farm program decisions is clearly revealed in this report. GAO assumes that USDA had a "4-year program" that combined ARP and PIK programs for the 1983-86 period. This program supposedly was developed prior to announcement of the 1983 PIK program. USDA's so-called "4-year program" allegedly included 2 years of PIK combined with ARP and PLD programs followed by 2 years of minimal ARP programs. The Secretary never had such a program nor would it have been broadly supported within USDA. He insisted on numerous occasions that PIK was a temporary program.

For a variety of reasons, there would have been no broad support within USDA for the "4-year program" as prescribed by GAO. First, the vagaries of weather necessitate that any long-term plan be extremely flexible. USDA's "4-year program" as set forth by GAO would have required that USDA announce a massive acreage reduction program immediately following one of the most severe droughts this century. USDA's so-called "4-year program" could not accommodate the effects of weather or changing macroeconomic forces. Second, following 2 years of massive acreage retirement programs with 2 years of minimal acreage programs is nonsensical as this would lead to wild fluctuations in farm prices and farm income. Lastly, since 1986 crop program decisions would be determined by the 1985 Farm Bill, it would not have been possible to reasonably predict in 1983 a program for the 1986 crop.

For the same reasons as above, GAO's alternative "4-year program" would have been equally unacceptable. Following the 1983 drought, GAO's alternative "4-year program" would have called for a program consisting of a 20-percent ARP and 20-percent PLD for corn. This program would have been about equivalent to the 1983 PIK program in terms of acreage idled from production. However, the 1983 drought had already forced the farm



Appendix III  
Advance Comments From the Assistant  
Secretary for Economics, Department  
of Agriculture

Mr. Brian P. Crowley

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price of corn to \$3.25 per bushel with ending stocks below 10 billion bushels. A massive acreage reduction program for 1984 would have been ludicrous.

The objective of GAO's proposed report is to demonstrate that PIK programs are costly programs. USDA will not argue the point that the 1983 PIK program cost more than was initially envisioned. And, maybe an expanded paid diversion program might have been less costly. However, the analysis presented by GAO fails to address the cost effectiveness of PIK vs. no-PIK programs directly since the two program alternatives considered fail to isolate the effects of PIK. The effects of PIK are not isolated because the program alternatives analyzed assume different levels of acreage reduction. Instead, GAO analyzes two program alternatives which are irrelevant for the reasons presented above. In addition, Congressional inaction in late 1982 made the 1983 PIK program the only feasible program alternative.

GAO contracted with MVRA (Missouri Valley Research Associates) to quantify the effects of two policy alternatives for the period 1983-86. The estimates of the relative differences on cash receipts and federal budget outlays are extremely questionable since MVRA fails to accurately predict the effects of the 1983 PIK program on acreage and stocks. The report clearly indicates the MVRA model cannot reasonably predict historical data and thus its predictions for the two policy options probably are not reasonable as well. The results presented by MVRA should have been more carefully reviewed by GAO and commodity analysts. It is clear such a review would have led to serious questions regarding the MVRA model.

In summary, the proposed GAO report provides no new information regarding the cost effectiveness of the 1983 PIK program. It also fails to provide useful information on which to formulate future policy decisions.

Sincerely,



ROBERT L. THOMPSON  
Assistant Secretary  
for Economics



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United States  
General Accounting Office  
Washington, D.C. 20548

Official Business  
Penalty for Private Use \$300

Address Correction Requested

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First-Class Mail  
Postage & Fees Paid  
GAO  
Permit No. G100