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**ARM
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Background Facts

May 1990



United States Department of Agriculture

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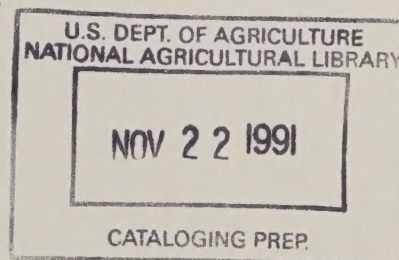
New farm programs are built on old ones. The experience we gain from the successes and problems of previous programs helps us improve and develop new farm programs and new directions in farm policy.

When designing new farm policy and programs, as we are in 1990, it helps for all of us to know as much as we can about how present farm programs work.

This set of "Background Facts" on farm programs looks at various programs . . . how they function . . . and the results.

What we do about these programs as we try to improve them become issues in Farm Bill discussions. These "Background Facts" are not an advocacy part of that debate, because they are not proposals. The Administration proposals for farm program changes are in the "Green Book" of approximately 70 specific suggestions issued by the U.S. Department of Agriculture in February 1990.

We hope that this set of "Background Facts" will be a handy reference for you as background for 1990 Farm Bill discussions. The subjects for the "Background Facts" were not selected for being controversial, nor to interject a viewpoint, but rather to provide a broad understanding of farm policy generally, with specific details on these particularly interesting programs.



The first part of the report is a general introduction to the project and its objectives. It discusses the importance of the research and the need for a systematic approach to the study.

The second part of the report is a detailed description of the methodology used in the study. It includes a discussion of the data sources, the sampling procedure, and the statistical methods employed.

The third part of the report is a presentation of the results of the study. It includes a discussion of the findings and their implications for the field of research.

The fourth part of the report is a conclusion and a list of references. The conclusion summarizes the main findings of the study and provides recommendations for further research. The references list the sources of information used in the study.

The fifth part of the report is an appendix containing supplementary information. This includes a list of abbreviations, a glossary of terms, and a list of figures and tables. The appendix provides additional details that are not included in the main text of the report.

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TARGET PRICES, LOAN RATES, AND DEFICIENCY PAYMENTS

The USDA has supported crop prices for half a century by lending farmers money at varying loan rates, with the crop used as collateral. USDA has used target prices (guaranteed minimum prices set by law) to compute deficiency payments as a farm income support since 1973. The "deficiency payment" paid to farmers by the Government is the difference between the target price and the higher of the loan rate or average market price.

Nonrecourse loans are available on feed grains (corn, sorghum, barley, and oats), food grains (wheat, rice, and rye), soybeans, and on cotton and other commodities. Farmers can take out a loan, as at price-depressed harvest time, and hold their crops for later sale at a hopefully higher price. The intent is to stabilize prices.

Loans usually run for 9 months. At the end of that time, the farmer may pay back the loan with interest, take back his crop that has been held as loan collateral (redeem it), or turn the crop over (forfeit it) to the Government. The Government has no recourse but to take the crop in full settlement of the loan if the farmer wishes (thus a nonrecourse loan).

Occasionally the Government extends the loan beyond the 9 months, or allows the grower to put the crop under the Farmer Owned Reserve, which is a Government-funded storage program that pays farmers to store grain and hold it off the market for a minimum of 3 years or until market prices reach specified levels.

To participate in a crop price support program, farmers must have an acreage base (average of their 5-year plantings of that crop, except for ELS cotton). They agree to devote a percentage of that base to a conserving crop when required, and plant within their permitted acres, which is their base acres for that commodity on the farm minus the annual Acreage Reduction Program (ARP) required. Over the last 5 years, about 8 out of 10 producers of program crops have participated in farm programs.

Loan Rates: The amount the Government will lend a farmer on a crop is the loan rate. The statutory basic loan rate is stated by law. Loans may not be reduced more than 5% below the previous year, except an announced lower loan rate (up to 20% lower, called the Findley rate) is authorized to make wheat and feed grains more competitive.

Marketing Loans: Under earlier legislation, U.S. commodities were often too high priced (as a result of loan rate levels) to compete effectively in foreign trade. The 1985 Act provides that when world prices are below loan levels, producers may redeem their commodities at less than the loan rate. Marketing loans are mandatory for cotton and rice and discretionary for other program crops and soybeans. Marketing loans have been used for cotton and rice.

Target Prices: Target prices are guaranteed minimum prices set by law for certain commodities and theoretically ensure farmers a desirable return for those products.

Deficiency Payments: When average market prices are below target price levels, farmers who participate in the feed grains, wheat, rice, or upland cotton programs become eligible for deficiency payments. A deficiency payment is a direct Government payment for the difference between the target price level and the higher of the loan level or the average national market price. This payment rate is paid on the farm's program yield (an average of previous yields) times the acres planted within the farm's permitted acres for planting.

Generally, the larger the farm's base acreage, the larger the deficiency payment. Recently more than 9 out of 10 eligible farms that had farm product sales of more than \$100,000 per year participated in the farm program. Fewer than 1 out of 3 farms participated that sold less than \$10,000 of farm products annually. Farms that sold more than \$500,000 of farm products received about 14% of total deficiency payments; farms selling between \$100,000 and \$500,000 received 57% of total deficiency payments. Farms in the \$40,000-\$100,000 sales category received 19% of total deficiency payments, and farms selling between \$1,000 and \$40,000 annually received 10% of total deficiency payments.

LOAN RATES AND TARGET LEVELS FOR THE LAST 5 YEARS								
Commodity		Unit	1986	1987	1988	1989	1990	
Corn	Target	\$/bu.	3.03	3.03	2.93	2.84	2.75	
	Loan	\$/bu.	1.92	1.82	1.77	1.65	1.57	
Sorghum	Target	\$/bu.	2.88	2.88	2.78	2.70	2.61	
	Loan	\$/bu.	1.82	1.74	1.68	1.57	1.49	
Barley	Target	\$/bu.	2.60	2.60	2.51	2.43	2.36	
	Loan	\$/bu.	1.56	1.49	1.44	1.34	1.28	
Oats	Target	\$/bu.	1.60	1.60	1.55	1.50	1.45	
	Loan	\$/bu.	0.99	0.94	0.90	0.85	0.81	
Wheat	Target	\$/bu.	4.38	4.38	4.23	4.10	4.00	
	Loan	\$/bu.	2.40	2.28	2.21	2.06	1.95	
Rice	Target	\$/cwt.	11.90	11.66	11.15	10.80	10.71	
	Loan	\$/cwt.	7.20	6.84	6.63	6.50	6.50	
Upland Cotton	Target	C/lb.	81.00	79.40	75.90	73.40	72.90	
	Loan	C/lb.	55.00	52.25	51.80	50.00	50.27	
ELS Cotton	Target	\$/lb.	1.0248	0.9770	0.9570	0.7340	0.7290	
	Loan	\$/lb.	0.8540	0.8140	0.8092	0.8177	0.8177	
Soybeans	Target	Target prices not provided by law						
	Loan	\$/bu.	4.77	4.77	4.77	4.53	Later	
Rye	Target	Target prices not provided by law						
	Loan	\$/bu.	1.63	1.55	1.50	1.40	1.33	

HOW ACREAGE BASES AND PROGRAM YIELDS ARE FIGURED

CROP ACREAGE BASES (CAB's) were defined in the Food Security Act of 1985. Bases for wheat and feed grains (corn, sorghum, oats, and barley) are calculated on the most recent 5 years of planting history. This is a 5-year moving average of acres planted or "considered planted" (idled by farm programs or prevented from being planted due to natural disasters). Upland cotton and rice bases are generally calculated by the same formula, but with provisions that allow a producer to build a full base in only 2 years. Extra long staple cotton bases are calculated on a previous 3-year average of planted acres.

THE 1990 CAB is the average of acreage planted and "considered planted" in the 5-year period 1985-89. For upland cotton and rice, years with zero planted and "considered planted" acres are excluded from the calculation—but in such cases the base cannot exceed the 1988-89 average, including zero years.

UNDER CURRENT FARM PROGRAMS, rules on what a producer can and cannot plant on his or her CAB's are quite rigid. In order to get price support loans or deficiency payments, the producer cannot substitute one crop for another unless exceptions are announced.

YOU MAY LOSE A PART of your base if you do not plant a regular program crop in any particular year or years of the 5-year period (unless you are in a 0-50/92 program).

SINCE TARGET PRICES have been set well above market prices, a producer is not likely to jeopardize his crop base by producing a non-program crop—even if the non-program crop could be produced at a profit. Soybeans are an example: market returns in some years have been above those for grains and cotton, but program provisions discouraged planting soybeans on a CAB. To plant soybeans on a CAB would mean losing deficiency payments, plus losing planting history for the program crop for that year.

SINCE PLANTING REQUIREMENTS are quite rigid, producers are inclined to plant for farm program benefits and to protect their bases, rather than to plant for market opportunities.

THERE IS SLIGHTLY MORE FLEXIBILITY in CAB rules for 1990. Participating producers may utilize the 0/25 provisions for soybeans, sunflowers, or safflowers. This permits growers to plant soybeans on as much as 25% of any program crop's permitted acres. Such plantings will not reduce the CAB in future years; it is considered to be planted to the crop for which it was substituted. All the soybeans grown are eligible for price support loans and purchases. But none of the permitted acres on which these oilseed crops are planted are eligible for deficiency payments, which greatly discourages producers from using this limited flexibility option.

WHEAT AND FEED GRAIN producers may utilize 0/92 provisions for 1990. All or part of their permitted acreage may be put into conservation use (CU), and they will receive 0/92 deficiency payments on the acreage. The maximum acreage for such support payments is the difference between acreage actually planted to the program crop and 92 percent of the permitted acreage base. The payment rate will not be less than the projected deficiency rate for the crop (the projected deficiency rate is estimated before the crop is planted).

UPLAND COTTON AND RICE producers have a 50/92 provision that allows them to underplant their permitted acres and receive deficiency payments on part of it. At least 50 percent of the permitted acreage must be planted to the program crop and at least 8 percent of the permitted acreage must go into CU. No deficiency payments are made on that 8 percent, but any added CU acres designated will receive deficiency payments. Maximum acreage for 50/92 payments is the difference between acreage planted to the program crop (at least 50 percent) and 92 percent of the permitted acreage.

FARM PROGRAM YIELDS are determined by procedures laid down in the law. Those yields are multiplied by the permitted acres planted or "considered planted" to determine the amount of production eligible for direct payments to the producer. The Secretary has options here: He may base the program yields on the average of the previous 5 years, excluding the highest and lowest annual yields. If no program yield was established on the farm during any of those years, the yield is based on average yields for similar farms in the area.

YIELDS FOR CROP YEARS 1986-89 were all based on average program yields for the years 1981-85—they were frozen, in effect.

THERE IS AN ADJUSTMENT FOR 1990: If yield calculations result in the yield being below 90% of the 1985 program payment yield, producers will be compensated to ensure that they receive the same return as if the yield had not been reduced by more than 10 percent.

IF PROGRAM YIELDS were adjusted from their frozen levels to higher levels, this would increase Federal payments. It would also break with the market-oriented policies laid down by Congress in the Food Security Act of 1985. Presently, actual production beyond a producer's "frozen" program yield returns the market price (or the loan rate) to the producer, rather than the target price. A farmer who is deciding whether to increase fertilization or use of chemicals to increase output makes the decision after weighing the added costs against likely market prices (or the loan rate) for the production above the "frozen" program yield for the farm.

HOW ACREAGE REDUCTION PROGRAMS WORK

The annual Acreage Reduction Program (ARP) has historically been used to help keep production of major crops in line with domestic and export use. ARPs are used to reduce surpluses of wheat, feed grains, cotton, and rice. ARPs partially offset the production incentives of target prices, which have generally exceeded market prices for program crops. Under an ARP, producers of target price program crops—wheat, feed grains, cotton, and rice—must reduce plantings from their crop acreage base by a specified percent to be eligible for commodity program benefits, including target price protection and price support loans. ARP acreage that is withdrawn from production must be maintained in a soil conserving use to reduce erosion and weed infestations.

ARPs also limit the amount of Federal expenditures for commodity programs. This restraint may be necessary because target prices exceed market prices, which results in Government-paid deficiency payments. Target prices also encourage more production than the market would otherwise call for, thus building up surplus carryover, which adds costs and depresses prices.

ARPs reduce Government outlays in two ways: First, the amount of production eligible for income support through deficiency payments is reduced by the number of acres a farmer must withdraw from planting. As ARPs increase, the permitted acreage eligible for planting and for deficiency payments declines. Second, the reduced plantings tend to strengthen market prices of the commodity, and this reduces the deficiency payments per acre and total Government payments.

One side effect from using ARPs to reduce production and restrict Government costs is that it telegraphs our likely acreage reduction actions to our foreign competitors. Our experience shows that when the U.S. idles land through ARPs and other land retirement programs, our foreign competitors often expand their acreage.

High ARPs—used to reduce plantings and supplies, strengthen prices, and limit Government deficiency payments—make U.S. farm products less competitive in overseas markets. The high ARPs reduce export levels and our market share. ARPs also increase farmers' per unit costs of production on land that can be planted. Farmers are left to cover their fixed costs from less production.

Reduced target price levels and loan rates, as called for in the Food Security Act of 1985, have reduced planting incentives, decreased deficiency payment rates, and cut Government costs, thereby relieving the pressure to cut acreage through ARPs. Reduced target price levels and loan rates have made our acreage controls less predictable to competitors, and have increased our exports at price levels that are more competitive.

ARP Ranges Set by Law. The 1985 Act set projected carryover stock levels at which ARPs for wheat are triggered. If wheat carryover stocks are estimated to be 1 billion bushels or less, the ARP must be set between 0-20 percent of each farm's wheat acreage base. A 20-30 percent ARP is required if stocks are projected to exceed 1 billion bushels. The Omnibus Budget Reconciliation Act of 1989 set new levels for feed grains (excluding oats): 0-10% if projected corn stocks are 1.8 billion bushels or less; 10% to 12.5% if stocks are between 1.8 and 2 billion bushels; and 12.5% to 20% if stocks exceed 2 billion bushels.

Using fixed stock levels to trigger ARPs does not take into account changes in domestic and export use over time. Stocks of a commodity have more meaning when they are expressed as a percentage of total use. Thus, it is more appropriate to express ARPs on the basis of stocks-to-use ratios than on a fixed stocks level.

The total acreage withdrawn from production under ARPs was very high during the 1980's, reaching more than 53 million acres in 1987. ARP acreage has been declining recently as a result of drought-reduced grain stocks, higher use, growth in exports, and base acres entered into the long-range Conservation Reserve Program.

ACRES SET ASIDE UNDER ARP				
<u>1986</u> Mil.	<u>1987</u> Mil.	<u>1988</u> Mil.	<u>1989</u> Mil.	<u>1990</u> (est.) Mil.
42.6	53.3	44.4	18.5	11.5

Economic Effects of ARPs. While ARPs restrain farm program costs and production, they also create adverse economic consequences. Large ARPs reduce the economic activity generated by U.S. agriculture by withholding productive resources from use. ARPs also prevent farmers from earning income from crops that could otherwise be produced on the idle acres. And, ARPs artificially raise crop prices and farmers' costs of production, impairing international competitiveness.

The effects of lower farm production are felt in farm input manufacturing, grain marketing, and in transportation industries as well as in other areas of rural economies. Economic studies suggest that for each 10 million acres of cropland withdrawn from production, farm input purchases are reduced by slightly more than \$1 billion and that as many as 100,000 jobs are eliminated. This reduction in economic activity costs Federal and State treasuries as much as \$200 million in lost revenues.

ARPs must be kept low if agriculture is to be competitive and provide a stimulus for growth in rural areas and the U.S. economy.

High ARPs cause farmers to farm their permitted acreage more intensively, using more fertilizer and chemicals to overcome reduced production from smaller plantings.

One way to offset the disruptive effects of ARPs is to allow producers to plant the program crop or other designated crops on the acres that would otherwise be idled. In exchange for this action, producers give up an acre of deficiency payments for each acre of set-aside planted to crops. The 1990 wheat program is an example of this type of program.

HOW THE FARMER-OWNED GRAIN RESERVE OPERATES

THE FARMER OWNED RESERVE (FOR) was created to offer farmers a way to keep price-depressing grain supplies off the market. The intent was that as prices strengthened later, the grain in FOR could be released. Thus the reserve was designed to help stabilize grain prices and to provide assurance of a dependable supply.

TO BE ELIGIBLE for entry into the reserve, the grain must be under price support loan to the Commodity Credit Corporation (CCC) and entry must be authorized by the Secretary of Agriculture. FOR grain may be stored either on the farm or in a commercial warehouse.

PRODUCERS PLACE GRAIN in the reserve through county offices of the USDA's Agricultural Stabilization and Conservation Service (ASCS). The grain remains in the reserve for a minimum of 3 years—unless market prices reach a level that triggers the release of the grain from the FOR. Trigger release levels, set by law, are based on the target price and the current loan rate, regardless of the loan rate in effect at the time the reserve loan was made. These are the current trigger release levels: wheat, \$4.10/bu.; corn, \$2.84; oats, \$1.50; barley, \$2.43; and sorghum, \$2.70/bu.

GRAIN MAY BE REMOVED from the reserve without penalty only when the commodity reaches the established trigger release price level. When prices reach this trigger, a farmer may (1) repay the reserve loan and sell the grain, (2) leave it in the reserve, but not earn storage payments, or (3) repay the loan and hold the grain.

STORAGE PAYMENTS ARE MADE to farmers at annual rates of 26.5 cents per bushel for wheat, corn, barley, and sorghum (47.32 cents/cwt.) and 20 cents per bushel for oats. Storage payments stop when the market prices for a commodity reach its trigger release price level. When the commodity is no longer in release status, the storage payments resume.

WHILE THE INTENT WAS CLEAR—to keep price depressing supplies off the market until prices strengthen and ensure adequate supplies—FOR results are mixed. Market prices have seldom reached the unreasonably high trigger release levels. Further, the minimum loan period is 3 years. The result is that much grain has gone into the FOR, but little has come out in an orderly manner. For instance, the worst drought in 50 years pushed wheat prices to \$4.07 per bushel in March 1989; but that still didn't reach the trigger release level of \$4.10 per bushel for wheat. The FOR, as structured, did not fulfill its intent.

EXCESSIVE LEVELS OF GRAIN in the FOR or other Government storage programs, which aren't market responsive, encourage competitors to supply world markets while the U.S. holds its stocks in a frustrated attempt to force higher market prices. Thus they reduce our competitiveness in a manner similar to excessive supply controls (see "How Acreage Reduction Programs Work," Background Facts, No. 3).

AS THE FARMER OWNED RESERVE evolved into a plethora of high trigger release prices, minimum entry requirements, storage payment rates, and interest charges, grain levels in the FOR rose, reaching 1.5 billion bushels in 1986. Since that time, FOR stocks have been reduced gradually as loans have matured, declining to 625 million bushels in early 1990.

FARMER-OWNED RESERVE STOCKS			
As of Jan. 8, 1986:		As of Jan. 2, 1990:	
<u>Commodity</u>	<u>Mil. Bu.</u>	<u>Commodity</u>	<u>Mil. Bu.</u>
Wheat	651.8	Wheat	163.9
Corn	638.9	Corn	441.4
Sorghum	113.2	Sorghum	15.4
Barley	102.5	Barley	4.4
Oats	3.0	Oats	0
Totals	1,509.4	Totals	625.1

ALTHOUGH FOR LEVELS are greatly reduced from 1986 levels, high trigger release levels and 3-year minimum entry requirements remain. The FOR could again, in certain circumstances, burgeon upward.

FARM PROGRAM SPENDING 1970-89

Government spending for farm commodity price and income support programs averaged \$3 billion per year during the Seventies. However, farm program spending reached unprecedented levels during the decade of the 1980's. Net outlays by the Department of Agriculture's Commodity Credit Corporation (CCC) for the price and income support programs peaked at nearly \$26 billion in FY-86. For the past decade, annual CCC net outlays averaged more than \$13 billion, in sharp contrast to the \$3 billion of the Seventies.

Farm Program Outlays as a Share of USDA Outlays. The commodity price and income support programs and associated export programs funded by the CCC are the primary farm programs. However, those programs constitute only a portion of the total responsibilities of the Department of Agriculture. In addition to nonfarm programs, USDA conducts some important programs serving farmers that are funded independently of the CCC. These include programs such as the Farmers Home Administration and the Extension Service.

CCC net outlays for farm programs constituted only 18 percent of total outlays (i.e., spending) by USDA during the Seventies. During the Eighties, the CCC farm programs accounted for 28 percent of total USDA outlays. Food and nutrition programs (including food stamps, school lunch and other food assistance) accounted for nearly 38 percent of the Department's total outlays over the past decade. The remaining 34 percent of USDA outlays were for rural development, natural resources, research, marketing and inspection, and other activities. Since farm program costs are the most unstable major component of USDA spending, CCC's share of total USDA outlays fluctuates widely. For example, in FY-86, record-high CCC net outlays accounted for 44 percent of the USDA's total outlays and exceeded food and nutrition program outlays by nearly \$8 billion. In FY-75, CCC net outlays were minimal and accounted for less than 4 percent of the USDA total.

Farm Price and Income Support Programs and the CCC. Farm commodity price and income support programs are funded by, and are conducted under, the auspices of the CCC. The Agricultural Stabilization and Conservation Service (ASCS) administers the programs. The CCC is a wholly-owned Government corporation created to stabilize, support, and protect farm prices and farmers' income. CCC's most important source of funding for day-to-day operations is its statutory authority which allows CCC to borrow up to \$30 billion at any one time from the Treasury. It also receives funds from commodity sales and loan repayments. In turn, CCC makes payments for various support programs. This unique borrowing mechanism generally removes the need for prior annual appropriations and was created because the costs of the farm programs are not fully controllable and predictable, due to the effects of weather, and other factors, on production and prices of CCC program commodities.

CCC programs, in effect, serve to absorb a portion of farmers' "price risk." Thus, program expenditures are highly dependent on market conditions. CCC program outlays tend to be small when market prices for program crops are high, and, conversely, outlays rise when farm prices and economic conditions become less favorable. The CCC programs, by absorbing some of the price risk for supported commodities, can provide a limited income-stabilizing effect in the aggregate. However, the programs do not necessarily stabilize individual producer's incomes since the scope of the programs is limited and production risks—such as crop losses due to hail, insect pests, and other causes—are generally not covered by the programs.

Current programs are applicable to only a limited number of commodities. Under current law, wheat, feed grains, cotton, rice, soybeans, milk, sugar, honey, peanuts, tobacco, wool and mohair are included in the programs. Basic program mechanisms include price support loans, purchases and deficiency payments, as well as acreage reduction programs and other actions. Through price support loans (and purchase programs), the CCC supports market prices. Crops placed under loan at the support price may be forfeited to CCC in full satisfaction of the loan. Deficiency payments on eligible quantities make up the difference between target prices set by law and the support loan rates or market prices, whichever are higher. Annual acreage reduction programs (ARPs) are used to encourage producers to limit total production to help bolster market prices. ARPs can limit acreage eligible for deficiency payments. CCC-supported export programs encourage expanded export demand and revenue.

The Government attempts to achieve program objectives by setting support prices, acreage reduction program levels, and other program provisions at levels appropriate for anticipated economic conditions. The economic effects of the programs on producers, consumers, and Government spending are influenced both by the specific program provisions implemented and by weather and other factors effecting supply/demand conditions in commodity markets. The timing of price support program transactions is largely dictated by the seasonal patterns for production and marketing of the individual program commodities. Program expenditures for a given year's crop are often incurred over more than one fiscal year, with a large portion of the net outlays for a given crop year commonly occurring in the fiscal year following harvest.

CCC Outlays 1970-79. The decade of the 1970's featured relatively low Government spending for farm programs, with annual CCC net outlays averaging \$3 billion, while real net farm income hit record levels. U.S. agricultural exports increased from less than \$7 billion in 1970 to \$32 billion in 1979. These outcomes were the result of world crop shortages, devaluation of the dollar, and other economic conditions highly favorable to growth in demand for U.S. agricultural export—coupled with farm program policy designed to facilitate increased production and exports.

The Agriculture and Consumer Act of 1973, in particular, was designed to respond to growing opportunities for export expansion. Price support loan rates were set below market prices to encourage market expansion. And the target price-deficiency payment mechanism was instituted to provide income protection. During the FY 1974-77 period, CCC net outlays averaged only \$1.7 billion per year. The Food and Agriculture Act of 1977 continued the same basic pattern set in the 1973 Act; but support levels were raised somewhat, partly in response to rising inflation.

CCC Outlays 1980-86. At the beginning of the 1980's, farm prices were generally favorable due to strong export demand, CCC net outlays were modest, and expectations of continued favorable prices were widely held. The Agriculture and Food Act of 1981 provided for relatively high and rigid price supports for the 1982-85 crops, based on these expectations. However, economic conditions shifted dramatically in the early 1980's. A significant worldwide recession in 1981-82 and increases in the foreign exchange value of the dollar reduced foreign demand for U.S. agricultural exports. At the same time, favorable weather coupled with incentives for expanded production provided by high Government price supports led to record-high crop production.

The rigid high price supports set by the 1981 Act prevented farm prices from adjusting to the new economic circumstances. As U.S. agricultural commodities began to be priced out of the world market, the CCC price support programs became the market for a sizeable portion of U.S. production. In effect, farmers produced for the Government rather than for the market. U.S. export prospects further weakened as high U.S. support prices provided a strong incentive for expanded production overseas—since the U.S. price support served as a price “umbrella” allowing competitors to increase production and underprice the U.S. As a consequence, farm program expenditures climbed rapidly while U.S. export market share plummeted. CCC net outlays in FY-82 were nearly triple the preceding year's level and then rose another 50 percent to nearly \$19 billion in FY-83.

The rapid buildup of surplus stocks and accompanying upward surge in program costs were temporarily reversed by the Payment-in-Kind (PIK) Program implemented in 1983 which paid farmers to hold large acreages out of production. The program paid farmers with PIK certificates which could be exchanged for surplus commodities owned by CCC. This program, along with drought-reduced yields, resulted in a reduction of CCC net outlays in FY-84 by nearly \$12 billion from the preceding year. However, the basic economic forces which had precipitated the crisis earlier in the decade again escalated program expenditures, eventually pushing CCC net outlays to their \$25.8 billion peak in FY-86.

CCC NET OUTLAYS



CCC Outlays 1987-89. The Food Security Act of 1985 authorized lower price support loan rates to make U.S. agricultural commodities more price competitive. It also provided for expanded export programs and acreage reduction programs to eliminate excessive surplus stocks. In addition, high, but gradually declining, target prices were retained to provide income support while farm price supports were lowered. By substantially widening the gap between price support loan rates and target prices, the 1985 Act increased deficiency payments relative to previous years.

High deficiency payment rates also increased incentives for producer participation in commodity programs requiring annual acreage reduction in order to be eligible for payments. Deficiency payments for the 1986 and 1987 crops under the 1985 Act were twice the 1985 crop level, while acreage idled by the programs, including the long-range Conservation Reserve Program, jumped from 31 million in 1985 to 76 million in 1987.

Additional key features of the 1985 legislation included marketing loans for some commodities, allowing price support loans to be repaid at levels below the support price. The 1985 Act and other broader authority for CCC to use commodity certificates in lieu of cash payments in order to make surplus stocks more accessible to the market were also critical elements of the new programs. In total, these revisions were designed to make the programs more sensitive to market conditions and restore U.S. agriculture to a more competitive position in world markets. However, the program design left the Government exposed to high expenditures for income support payments.

The program authorized by the 1985 Act affected only those FY-86 outlays driven by the 1986 crop, a relatively small part of the total. Since FY-86, the progress toward lower CCC net outlays has also been aided by drought-reduced production, particularly in 1988, which accelerated the decline of surplus grain stocks. In addition, macroeconomic conditions, including some reduction in the foreign exchange value of the U.S. dollar, have been more favorable in the late 1980's. Stronger market prices have reduced deficiency payments as well as forfeitures of commodities pledged as collateral for price support loans.

Lower price support loan rates and other provisions have encouraged producers to market their commodities rather than to forfeit them to the Government. Lower price support levels, combined with export expansion programs such as the Export Enhancement Program and export credit, made U.S. agricultural commodities more price competitive in world markets. In addition, the U.S. price support program no longer provided a substantial "umbrella" of protection for expanded production by export competitors. As a result, U.S. export market share has recovered from the drastic losses of the early Eighties. U.S. agricultural exports in FY-89 were \$40 billion, up from \$26 billion in FY-86 and about the same in nominal terms as the FY-80 level. While price support loan rates have been below market clearing levels in recent years, net farm income reached record or near record levels during the late 1980's.

Major Commodities. Outlays for individual program commodities often fluctuate even more widely than total CCC expenditures. The feed grains program (corn, grain sorghum, barley, oats) has had the largest outlays over the past two decades, constituting 42 percent of total CCC net outlays over the 1980-89 period and 34 percent over the 1970-79 period. However, net outlays for the feed grain programs have ranged from a negative \$800 million in FY-84, when receipts exceeded outlays, to nearly \$14 billion in FY-87.

Wheat has been the second largest program, accounting for 17 to 18 percent of CCC net outlays over both decades. Wheat's share has declined in the last few years, partly as a result of export programs and drought-reduced production which reduced surplus stocks and boosted prices. The cotton program accounted for 15 percent of net CCC outlays during the 1970's, ranking third largest. Its share declined to 8 percent during the past decade. The dairy program has had the third-largest share over the 1980-89 period, with about 12 percent of CCC net outlays. The dairy program accounted for only about 6 percent of net CCC outlays during 1970-79. High support prices for milk set in the late 1970's encouraged rapid production expansion and mushrooming surplus stocks in the early 1980's. Dairy program outlays have declined since 1983 in response to programs to remove excess production capacity and reduce support prices to discourage the buildup of dairy surpluses.

CCC NET OUTLAYS
(\$Bil. per fiscal year)

Commodity	1970-79										
	Aver.	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Feed Grains.....	1.0	1.3	-0.5	5.4	6.8	-0.8	5.2	12.2	14.0	9.0	3.4
Wheat	0.6	0.9	1.5	2.2	3.4	2.5	4.7	3.4	2.8	0.7	0.1
Dairy	0.2	1.0	1.9	2.2	2.5	1.5	2.1	2.3	1.2	1.3	0.7
Cotton.....	0.5	0.1	0.3	1.2	1.4	0.2	1.6	2.1	1.8	0.7	1.5
Other ^a	0.7	-0.5	0.8	0.6	4.7	3.8	4.1	5.7	2.6	0.8	4.9
TOTAL	3.0	2.8	4.0	11.6	18.8	7.3	17.7	25.8	22.4	12.5	10.5

^aIncludes rice, soybeans, tobacco, peanuts, sugar, honey, wool, plus operating expense, interest expenditure, export programs, disaster assistance, other.

Concluding Comment. The history of farm program outlays over the past two decades demonstrates their sensitivity to general economic conditions, as well as to weather and other agricultural conditions difficult to predict. The decade of the 1970's, especially the mid-1970's, was characterized by a low level of Government involvement in agriculture, including low levels of spending while farm income was high. The early 1980's demonstrated how high and inflexible Government price supports can lead to large Government expenditures and unfavorable farm economic conditions when general economic conditions turn less favorable. Program spending under the more market-oriented and flexible program policies of the 1985 Act contrasts favorably with conditions earlier in the 1980's.

The farm programs generate other impacts in addition to their direct budgetary impacts and farm income effects, which also need to be taken into account in any comprehensive assessment. These include effects on consumer food and fiber prices, on overall economic efficiency, and on environmental quality.

LIMITS ON FARM PAYMENTS

Evolution of Limits. A limitation on the total annual payments that a person may receive under farm commodity programs has been in effect since 1970 (1971 crop year programs). Limitations and definitions of a “person” have been modified several times. Current laws and rules cover payment “eligibility” and “limitations.”

Applicability. Many Federal programs for farm commodities, disasters, and conservation have payment limitations. The limitations discussed here apply to payments made under the annual programs for wheat, feed grains, cotton, rice, and honey.

For feed grains, food grains, and cotton, the basic limitation for deficiency and diversion payments is \$50,000 per person. These payments, when combined with certain other benefits, are subject to a total limitation of \$250,000 per person.

Other benefits included are (1) that portion of deficiency payments attributable to a reduction in the statutory loan rate (“Findley payments”) to make commodities more competitive, and (2) loan deficiency payments and marketing loan benefits (which occur when producers’ repay price support loans at the world price when it is lower than the announced loan rate, such as for cotton and rice).

Who Is a “Person”? A person is an individual farmer or an individual who is a member of a joint farming operation, a corporation, a joint company, an association, a limited partnership, a trust, an estate, or a charitable organization. A “person” must be “actively engaged in farming” before becoming eligible for payments.

Some Examples: A husband and wife may be separate “persons” if each of them brought separate farming operations into the marriage and have maintained the operations separately throughout their marriage. A minor child may be a separate “person” under the rules in certain instances where the minor’s farming operation is separate from his/her parents’ farming operation.

More Specifics. If an owner contributes land to a farming operation for a share of the crop, that landowner may be “actively engaged in farming” and a separate “person.” If an adult family member makes a significant contribution of active personal labor or management to a joint family operation, that family member may be considered a separate “person” (this provision makes it much easier for a family member to get started in farming than under previous rules). If a sharecropper makes a significant contribution of active personal labor, that individual may be considered a separate “person.”

Permitted Entities. The law now provides that no individual may receive certain specified payments from more than three entities in which the individual holds interest, or from more than

two entities if the individual is receiving payments as an individual. For example, if an individual owns and operates a farm and also owns stock in six corporations that are engaged in farming, that individual must select just two of the corporations through which the individual may indirectly receive payments.

Totaling the Entities. An individual may receive \$50,000 from his or her own farm, plus as much as \$50,000 from interests in two other entities—for a total of \$100,000 in deficiency and diversion payments. Similarly, an individual could receive combined deficiency and diversion payments—along with certain other benefits (such as “Findley” payments, loan deficiency payments, and marketing loan benefits) on his or her own farm, totalling \$250,000, plus another \$250,000 from interests in two other entities—for a combined total payment limitation of \$500,000.

HOW COMPETITIVE ARE U.S. FARMERS?

U.S. farmers have to compete in two markets. They compete with farmers from other countries in our own domestic U.S. market and in foreign markets. Farmers also compete with other U.S. industries for inputs such as capital goods, credit, energy, and labor. U.S. farmers have been very competitive over the years. They successfully produce a wide variety of temperate-climate products to meet domestic needs and for export.

One reason why U.S. agriculture is globally competitive is our abundant supply of natural resources. The U.S. has a large share of the world's fertile land, combined with a very favorable and dependable climate for growing temperate crops. This helps make us a reliable supplier at home and in foreign markets.

About 15 percent of total U.S. farm output is exported—and a much higher percentage of some commodities. Those exports consist mainly of grains, oilseeds, some livestock products, and fruits. Large U.S. exports of those commodities is proof that the U.S. can compete successfully in export markets for those commodities. For other farm products, U.S. farmers are less competitive abroad, but they are still very competitive at home.

World's Largest Exporter. The United States is the world's largest exporter of grains and oilseeds. Those commodities utilize the abundance of fertile land in the United States. One reason the United States is somewhat less competitive in world markets for processed food products is because that production requires relatively little land and more labor. Compared with many other countries, labor is expensive in the U.S. relative to land.

U.S. farmers are also backed by an agribusiness complex—providing research, mechanization, production inputs, financing, marketing, communication, storage, port facilities, and transportation—that is unequaled anywhere in the world.

Since World War II, world agricultural production has expanded more rapidly than world demand for food and fiber. This has led to a decline in farm prices. Meanwhile, farm input costs have gone up. Still, even with this cost/price squeeze, U.S. farm output and exports have grown. Farmers have remained competitive.

How have farmers done this? By remaining efficient and increasing productivity. Since 1950, U.S. farm output has increased 80 percent. Farm inputs declined 20 percent. Labor in agriculture actually declined nearly 70 percent. The result: A unit of farm input now produces more than twice the output of 40 years ago.

You can also measure productivity as the output per hour of labor. Farmers have outshone the rest of the economy. Between 1970 and 1982, farm output per hour of labor nearly doubled. It increased

only 15 percent for the rest of the economy. The outcome is that much less labor is now needed on farms. This lowers the production costs per unit of farm output, especially for grains and oilseeds.

An expanding, vigorous U.S. economy has absorbed more of our farm population than in almost all other countries.

What's Behind Productivity. One reason for our increase in farm productivity is that U.S. farmers are educated and innovative, take to new ideas quickly, and are good managers. Another reason is an advanced public and private research program. The U.S. land grant university system does a large amount of basic research on production, distribution, and marketing of food and fiber products. The Extension Service disseminates research findings and help farmers make their farms more efficient.

Farmers are also aided by their own organizations and by aggressive agribusinesses that are turning out new inputs for farmers and serving them with information on new techniques. By-and-large, U.S. commercial farms are also large-scale, well-mechanized, and capital-intensive units which handle enough volume to maintain an efficient, modern agriculture.

This gives U.S. farmers a comparative advantage in many commodities over less developed countries and over most developed countries as well. European nations, with their small-farm agriculture, have been able to compete with U.S. farmers only by heavily subsidizing their farm production, their processors, and their farm exports—and by erecting import barriers at the border. This has been very expensive for their consumers.

Government Farm Policies. Government policies play an important role in agricultural competitiveness. Monetary and fiscal policies influence interest rates and exchange rates. For example, inflation drove up our costs of production in the 1970's (once these costs go up, they seldom come down much, if at all). Then the high value of the dollar in the mid- 1980's (high in value of other currencies because dollars were in demand around the world) raised the cost of our farm exports in relation to our competitors. Foreign buyers had to put up more of their own currency to get dollars to pay for a bushel, pound, bale, or ton of U.S. farm products—even though those U.S. farm products were cheaper in dollars here at home. We lost market share. We have regained some of that since.

Our Government farm programs directly affect U.S. agricultural exports. Unrealistic loan rates during the first half of the 1980's helped price U.S. farm commodities out of world markets. Acreage reduction programs also reduced our supplies that compete for export markets. That raised prices for our competitors and also encouraged new investment in competing production around the world (and once committed the investment doesn't retreat easily). Lower, more competitive loan rates have increased our ability to compete.

Finally, the economic vitality and trade policies of our foreign buyers and of our competitors affect our competitiveness. The debt level and economic strength of foreign developing nations greatly influence our potential U.S. farm markets overseas. Likewise trade barriers and foreign trade subsidies affect our farm export markets. Export Enhancement Programs have helped us compete in markets where foreign competition is subsidized. But that is costly for us and for our competitors. The present level of farm trade is not indicative of what it would be if we could compete more freely for markets overseas on the basis of our innate U.S. farm competitiveness.

HOW EXPORTS AFFECT FARM INCOME

U.S. agricultural exports are critical to the growth and prosperity of the farm economy. Here's why: Farm productivity has been rising nearly 2 percent per year. Domestic demand for food and fiber has been growing closer to 1 percent per year. Without growth in exports—and if U.S. farmers produced only for the domestic market—they would have to reduce their acreage constantly to offset steady gains in productivity.

Historically, when U.S. farm exports are rising strongly, farmers enjoy strong farm prices and rising farm prosperity. When farm exports stagnate or weaken, farm prices weaken, surpluses mount, and farmers suffer financial difficulties.

Looking ahead, the growth in population overseas and growth in farm product use overseas are expected to far surpass the growth in U.S. population and growth in the use of farm products in the U.S. Foreign population numbers will increase almost 70 times more than U.S. population numbers in the next 30 years.

Farm Export Facts. U.S. farmers earned nearly 30 percent of their total income from exports in 1988, while exports contributed 8 percent to the total earnings of food processing firms. During the 1988/89 marketing year, exports took 78 percent of our wheat production, 54 percent of our rice, 52 percent of our cotton, 43 percent of our corn, and 34 percent of our soybeans. Not only are exports important to U.S. farmers, but U.S. farm exports are important to the world's food and fiber importers. The U.S., as a large-volume, low-cost producer, accounts for about four-fifths of world corn trade, a third of world soybean and cotton trade, two-fifths of world wheat trade, and one-fifth of rice trade.

In 1989/90, U.S. exports absorbed the output from the equivalent of 65 million acres of grain crops (feed grains, wheat, and rice), 6 million acres of cotton, and 18 million acres of soybeans. This means that 4 out of 10 acres of the total U.S. area harvested for those crops is for the export market.

Wheat, feed grain, cotton, and rice crops are supported by target prices and are subject to acreage reduction programs (ARPs). Smaller exports would cause larger carryover stocks and larger ARP levels for these crops. Incomes of U.S. crop farmers are greater when exports are larger, stocks are lower, market prices are higher, and ARP levels are smaller.

Although deficiency payment rates tend to rise when exports and market prices decline, increased Government payments will not offset the negative effects on incomes of higher ARP levels and lower market prices. Incomes of crop producers not in the Government programs are hit even harder when exports fall off. Income from soybeans, for which there are no target prices, tends to fall even more whenever exports drop.

The 1970's and 1980's demonstrated the vital impact that exports have on farm financial conditions. In 1980 U.S. farm exports took the production from 65 million more harvested crop acres than in 1970. Farm export volume peaked in 1980, but by 1985 had declined sharply—and was taking the production from 58 million fewer crop acres than in 1980. We lost in dollar exports,

in volume, in acres used, and in the U.S. share of world exports. That year, 1985, was the low tide in farm exports and was also the peak period of farm financial stress. It shows how farm exports and farm prosperity go hand-in-hand.

During the 1970-80 growth in farm income, wheat used in the U.S. rose only 100,000 tons—but U.S. wheat exports increased by 21 million tons. U.S. feed grain use went up 5.5 million tons—but feed grain exports increased by 51 million tons. In that 1970-80 period, U.S. harvested crop acreage increased 59 million acres—while acreage going into export increased even more, by 65 million acres.

Causes of the sharp drop in U.S. farm exports in 1980-85 were large global farm production, sluggish world economic growth, the high value of the dollar, and high loan rates for U.S. farm commodities. This made our farm exports less competitive—thus massive Government-owned stockpiles accumulated and couldn't be sold. Since 1985, the farm financial situation and the export picture have improved simultaneously, largely as the result of lower loan rates, an improved global economy, and a lower exchange rate value of the dollar. Total U.S. farm exports in FY-90 are expected to reach 148.5 million tons valued at \$39 billion, compared with 110 million tons and \$26 billion in FY-86.

Farm Exports and the General Economy. Farm exports contribute to employment, income, and business activity in other sectors of the U.S. economy. It is estimated that each \$1 in farm exports generated another \$1.51 in economic activity in 1988, much of which was in nonfarm sectors of the economy. Thus, agricultural exports generated an estimated \$93 billion in economic activity in 1988—\$37 billion directly in exports and \$56 billion in supporting activity.

U.S. exports supported an estimated work force of 1 million workers in 1988. More than 600,000 jobs in the nonfarm sector were directly or indirectly related to assembling, processing, and distributing agricultural products for export.

Farm exports account for one-eighth of total U.S. exports of all kinds. The \$17 billion positive agricultural trade balance estimated for FY-90 makes a substantial contribution to reducing the large U.S. trade deficit.

Population and Export Growth. Since crop year 1960-61, total U.S. grain consumption has increased by 65 million tons. But consumption in the rest of the world increased by 801 million tons—12 times more than in the U.S. It is even more dramatic for some crops. Since 1960-61, U.S. grain exports have grown by 75 million tons. But the rest of the world has increased its grain exports by 85 million tons.

Now let's look at the potential for increased food consumption here in the U.S. and in the rest of the world: In the 30 years since 1960, U.S. population has increased by 69 million people (181 mil. to 250 mil.). However the U.S. population is forecast to increase only by 44 million in the next 30 years, by 2020—an annual growth rate of about one-half percent.

Since 1960, population in the rest of the world has increased by 2,179 million people (moving from 2.805 bil. to 4.984 bil.) and is forecast to increase by 3,052 million people (to 8.036 bil.) in the next 30 years—69 times larger than the 44-million increase in U.S. population—an annual growth rate of more than 2 percent.

Not only will the increase in population in the rest of the world far outstrip our growth, but most of that increase will come in countries that are trying to improve their diets in quantity and quality.

EXPORT ENHANCEMENT PROGRAM

How EEP Meets Subsidized Competition. The Export Enhancement Program (EEP) was announced by the U.S. Department of Agriculture on May 15, 1985. EEP enables U.S. farm exports to move in world markets at prices which compete with subsidized exports from our competitors. U.S. farmers benefit from increased sales.

The program is not used to undercut world market prices, but to meet competition from subsidized exports, especially from the European Community (EC). The primary objectives are to challenge unfair trade practices, to encourage competitors to undertake serious negotiations on farm trade problems, and to expand U.S. farm exports.

Under the program, U.S. exporters receive bonuses or subsidies to help them match the prices offered by subsidizing competitors. The bonus makes up the difference between U.S. prices (plus freight) and the subsidized prices offered by competitors in targeted markets. The bonus is paid to the U.S. exporter, not to the targeted country. The bonus is always in the form of a certificate for commodities from the Commodity Credit Corporation (CCC) Government-owned stockpile.

Exporters are given "generic" certificates of a specified value which they or an assignee can redeem to receive a like value of designated commodities from the CCC inventory. To earn a generic certificate bonus, exporters must furnish USDA with evidence that the specified commodity has been exported from the U.S. and entered into the target country.

How Exporters Participate in the Program. Exporters who participate in the EEP must meet qualification standards. These include:

1. Documented experience during the 3 previous years in buying and selling for export the kind of agricultural commodity to be exported under the EEP agreement.
2. An office and an agent in the U.S., including names, addresses, and a description of form of doing business (incorporation data, for example).
3. Evidence of financial responsibility, such as a record of satisfactory performance under previous contracts or agreements with the U.S. during the last 3 years.

If an exporter has not participated in U.S. Government programs during the previous 3 years, the exporter must provide an audited financial statement showing a positive net worth. In addition to meeting these described standards, the exporter must post a performance security in favor of the CCC before entering into an agreement.

How Sales are Made. All sales that are aided by EEP are made by the private sector, not by the Government. Once an EEP initiative is announced by USDA, agricultural exporters contact prospective buyers in the targeted eligible countries. The exporters and buyers reach a tentative agreement on prices, quantities, and other terms of the sale.

Eligible exporters post a performance security payable to CCC at the time they submit a bid for consideration. Each exporter then submits a bid to USDA requesting a subsidy—or bonus—that would allow the sale to take place at the agreed price.

USDA reviews all bids for the competitiveness of the sale in the targeted country; compares the bids with offers and sales by other U.S. exporters; and determines the competitiveness of the sales price and the bonus requested for the sale. USDA has the right to reject any or all bids.

Once USDA accepts a bid, the sale is completed and the contract is binding. USDA announces EEP bid acceptances at 10:00 a.m. Eastern Time.

Record of EEP Sales. Since 1985 the EEP has been used to move nearly \$10 billion worth of commodities in export sales. Close to \$2.7 billion worth of EEP bonuses have been awarded. About 56% of all wheat and flour exports during 1985-89 were assisted by the EEP program.

Altogether, 65 countries have been targeted for EEP sales. In 1988, USDA awarded \$1 billion worth of EEP bonuses to help sell almost \$3.3 billion worth of U.S. agricultural commodities. By contrast, the EC spent \$9 billion on export subsidies in 1988.

In FY-90 as much as \$566 million may be made available by CCC as bonuses under the EEP. The President's FY-91 budget request provides for as much as \$900 million for commodity certificates that might be made available as EEP bonuses.

Commodities exported under EEP have included wheat, barley, wheat flour, semolina, barley malt, sorghum, rice, poultry feed, vegetable oil, frozen poultry, dairy cattle, and eggs. Amounts moved under EEP bonuses through February 22, 1990, include:

COMMODITIES SOLD WITH EEP BONUSES					
Commodity	Tons Mil.	Commodity	Tons 000	Commodity	Amount
Wheat	69.7	Sorghum	319	Semolina	73 m/t
Barley	7.0	Barley Malt	257	Table Eggs	461 mil.
Flour	3.4	Rice	191	Dairy Cattle	69,000
Vegetable Oil	0.5	Poultry Feed	189		
		Frozen Poultry	166		

EEP has served as an effective trade policy tool that has put pressure on our competitors to end trade-distorting practices and to negotiate in the GATT Uruguay Round.

INTERNATIONAL FOOD AID AND DEVELOPMENT

Program Objectives. The Agricultural Trade Development and Assistance Act of 1954, also known as Public Law 480, enables the U.S. Government to donate U.S. farm products to friendly developing countries and also allows U.S. exporters to sell agricultural commodities to these countries under government-to-government long-term, low-cost credit agreements.

P.L. 480 is an important vehicle for meeting humanitarian food needs, spurring economic and agricultural growth in developing countries, creating and expanding markets, and promoting the foreign policy of the United States. It also has paved the way for the transition of many developing countries into important dollar customers for all kinds of U.S. products. The Food for Peace Program has achieved a string of success stories, with many P.L. 480 "graduates" now important commercial customers.

Japan is an excellent example of market development benefits to the United States from the P.L. 480 program. Japan went from a Title I recipient in the 1950's to the No. 1 U.S. farm market overseas. Other examples include South Korea and Taiwan, both of which appear on the Top 10 list for U.S. agricultural exports.

Program Activities. Title I provides for long-term (typically 20-40 years) and low-interest (3-4 percent) U.S. Government financing to friendly developing countries. Under Title I, the credit may be repaid in dollars or in local convertible currencies that can be converted to dollars. Under some conditions, sales are made for local currencies, which the U.S. Government then loans to local financial institutions to finance private sector development.

Recipient countries generally sell P.L. 480 Title I commodities internally and use the proceeds for agricultural and economic development projects. They cannot ship P.L. 480 commodities to other countries, nor are they allowed to export similar commodities, without U.S. approval. A request for a Title I sale must be initiated by a foreign government and be approved or rejected by an interagency group which includes representatives of USDA as well as the Departments of Treasury and State; the Office of Management and Budget; and the Agency for International Development.

Title II is the donation program of P.L. 480. More than \$10 billion worth of U.S. agricultural products have been donated under Title II since 1955. More than half of the commodities are donated through nonprofit U.S. voluntary agencies such as CARE, Catholic Relief services, Seventh-Day Adventist Services, and the National Cooperative Business Association. Title II donations also are made directly to recipient governments, mostly for large emergency feeding programs, and through multilateral organizations, primarily the World Food Program.

P.L. 480's Title III, the Food for Development Program, provides for the forgiveness of debt incurred under Title I for the poorest countries. It allows countries to purchase U.S. commodities on Title I terms, and resell the commodities in their own countries. However, instead of paying the United States for commodities, they may use the proceeds from local sales (or the commodities themselves) for self-help projects which increase farm production; improve storage, transportation and distribution of farm products; or improve the quality of rural life through health and nutrition programs. As the currencies are used for approved projects, an equivalent dollar value of the Title I debt is forgiven.

The commodities and quantities available for export under P.L. 480 are determined by the Secretary of Agriculture, taking into account U.S. stocks and projected carryover levels, domestic requirements, farm and consumer price levels, and commercial sales. This procedure helps ensure that exports under the P.L. program are in addition to—not a replacement for—normal commercial exports and do not have an adverse impact on U.S. domestic consumers. The Cargo Preference Act requires that 75 percent of total P.L. 480 tonnage be shipped on privately owned flag vessels.

In addition to P.L. 480, assistance is also provided under two other food aid programs:

1. Food for Progress, which authorizes both credit sales and donations to encourage developing countries in their effort to establish private sector economies; and

2. Section 416 (b) of the Agricultural Act of 1949, which authorizes additional donations of surplus commodities owned by the Commodity Credit Corporation of the U.S. Department of Agriculture.

Relationships to Economic Development. In the long term, U.S. overseas food aid helps to contribute to economic development primarily in two ways: commodity sales take some of the pressure off developing countries struggling to feed their populations; and the program generates currencies which the United States can lend or grant to the recipient country to further economic development and increase farm production. Agricultural progress is essential to economic development in most countries since this progress reduces hunger and malnutrition, permits a larger share of the labor force to work in nonfarm industries as the agricultural sector becomes more efficient, stimulates economic growth, and increases incomes both in agriculture and in the non-farm economy.

HOW MILK PRICES ARE SUPPORTED

THE DAIRY SUPPORT PROGRAM supports farm milk prices through Government purchases of storable surplus dairy products at prices which enable the manufacturers of those products to pay (on average) the announced support price for milk. The U.S. Department of Agriculture's Commodity Credit Corporation (CCC) offers to purchase all butter, cheese, and nonfat dry milk which cannot be sold commercially at or above the level necessary to maintain milk prices at the support level. The dairy support program, therefore, establishes a price floor under which milk prices (an average) should not fall.

IN THE LATE 1970'S, legislation increased the minimum price support for milk to 80% of parity and mandated semi-annual adjustments to reflect changes in the parity index. With much of the uncertainty about the support level removed, dairy farmers increased milk production. The momentum of increased milk output generated during the late 1970's continued well into the 1980's, with annual production reaching 145.1 billion pounds in FY-86, up from 121.6 just 8 years earlier.

IN THE EARLY AND MID-1980'S, seven pieces of dairy legislation were enacted to curb milk production and reduce the volume of surplus dairy products purchased by the CCC. At the peak in FY-83, CCC purchased the equivalent of 16.6 billion pounds of milk, 12% of milk marketings that year. CCC purchased 2.4 billion pounds of butter, nonfat dry milk, and cheese, enough to fill nearly 60,000 railcars.

THE FOOD SECURITY ACT OF 1985 contains a formula that seeks to avoid massive Government purchases by adjusting the milk price support levels to reflect market conditions. The 1985 Act requires the Secretary of Agriculture to review the milk support price annually and adjust it according to the formula. The Secretary must reduce the support price 50 cents per hundredweight if the CCC is expected to purchase more manufactured dairy products than can be made from the equivalent of 5 billion pounds of milk in the coming year. The Secretary must raise the support price 50 cents per hundredweight if the projected next-year purchases are equivalent to 2.5 billion pounds of milk or less. If projected purchases are between 2.5 and 5.0 billion pounds, milk equivalent, no change is made in the support price.

MILK SUPPORT LEVELS during the 5-year period 1986-90 ranged from \$11.60 to \$10.10 per hundredweight. The support level of \$10.10 went into effect Jan. 1, 1990.

GOVERNMENT PURCHASES of surplus manufactured dairy products have fallen from 12.3 billion pounds, milk equivalent, milkfat basis, in FY-86 to a projected 7.8 billion pounds in FY-90. Cheese purchases declined from 572 million pounds for FY-86 to 46 million pounds for FY-89. In the same period nonfat dry milk purchases dropped from 945 million pounds to zero. Butter purchases increased from 337 million pounds to 420 million pounds. The annual cost of the dairy price support program fell from \$2.3 billion in FY-86 to a projected \$0.5 billion in FY-90. In short,

the more market-oriented price support adjustment formula contained in the 1985 Act worked to discourage the expansion of production, reduce Government purchases, and bring down the costs of the dairy program.

COMMERCIAL DEMAND has increased from 132.8 billion pounds of milk in FY-86 to an estimated 135.3 billion pounds in FY-89, a 2-percent increase during the 3-year period.

HOLDINGS OF CCC-OWNED DAIRY PRODUCTS on Jan. 1, 1990, included 235.3 million pounds of butter, 5.2 million pounds of cheese, and 0.2 million pounds of nonfat dry milk. Uncommitted stocks of dairy products have fallen to less than half of the nearly 10 billion pounds, milk equivalent, in FY-86. Aggressive donations and sales of surplus dairy products contributed to the drop, as did lower CCC purchases.

THE DAIRY WHOLE HERD BUYOUT PROGRAM, which began April 1, 1986, was an attempt to sharply reduce milk production in order to better balance supply with demand and was entered into by nearly 14,000 dairy farmers. These dairy farmers, who had marketed 12.3 billion pounds of milk in calendar 1985, contracted with the CCC, through bids (the payment they would take per cwt. of milk), to dispose of their entire dairy herds and terminate any interest they had in the production of milk or in dairy cattle for a period of 5 years. An assessment was made on all milk marketed during the 18-month program to pay a part of the cost of the program, although this assessment financed only about 38% of the buyout costs.

THE METHOD OF DETERMINING the milk equivalent of CCC purchases of surplus dairy products has become an issue recently. The projected milk surplus for the coming year, and how it is calculated, took on new meaning with the Food Security Act of 1985. That legislation directly tied automatic adjustment in the milk support price to the estimate of the purchase of surplus on a milk equivalent basis for the coming year.

IN PREVIOUS YEARS, the CCC purchased disproportionately large quantities of nonfat milk solids (in the form of nonfat dry milk). More recently, the CCC purchased disproportionately large quantities of milkfat (in butter) relative to the nonfat milk solids in milk. USDA believes this issue is one of price alignment rather than measurement.

FOUR STEPS HAVE BEEN TAKEN since April 1, 1989, to realign the CCC purchase prices of butter and nonfat dry milk with market conditions. When prices are realigned, CCC purchases of milkfat and nonfat milk solids will be in the same proportion that they occur in milk. Thus, the method of measurement—whether by milkfat, nonfat milk solids, or both—will result in the same estimate of surplus and the question of which method of measurement to use will be moot.

FEDERAL MILK MARKET ORDERS set minimum prices for Grade A milk that processors in a geographical area must pay dairy farmers or their cooperatives. Producers elect to come under Federal Orders. Minimum prices are set for milk for fluid use and for regulated Grade A milk used in manufactured products in the milk order area. Milk is classified and priced according to use in each milk market order area.

MINIMUM CLASS PRICES are established monthly for each of the marketing orders by a formula based on the price of manufacturing grade milk in Minnesota and Wisconsin. The Minnesota-Wisconsin price is directly affected by changes in the milk price support program.

THE U.S. SUGAR PROGRAM

The Food Security Act of 1985 established a price support program for domestically grown sugarcane and sugarbeets for crop years 1986-90. The Act requires that sugarcane be supported at not less than 18 cents a pound for raw cane sugar and that sugarbeets be supported at a rate that is fair and reasonable in relation to the price for sugarcane.

Prices are supported through Commodity Credit Corporation (CCC) nonrecourse loans to processors who hold the raw cane sugar and refined beet sugar as loan collateral. To qualify for loans, processors must agree to pay farmers the minimum price support levels established by USDA for sugarcane and sugarbeets.

“No Cost” Provision. The 1985 Act requires that the sugar program operate at “no cost” to the Federal Government. Consequently, market prices must, if possible, be maintained high enough so that processors can sell the sugar in the market and repay the CCC loans with interest rather than turning the sugar over to the CCC as repayment for the loan. Since domestic market prices must be maintained at levels to avoid forfeiture and to comply with “no cost” to the Federal Government, it is domestic consumers of sugar, rather than taxpayers, who shoulder the costs of the sugar program.

Each September USDA announces a market stabilization price (MSP) for raw cane sugar for the upcoming fiscal year. This is a reference price which, if attained in the market, is high enough to avoid loan forfeitures to the CCC.

U.S. sugar prices, which are above world prices, have been maintained at or near the MSP by placing country-by-country quotas on imported sugar, thereby balancing available supplies with estimated U.S. demand at the required price level. Without the quotas, more lower-priced foreign sugar would be imported, the U.S. price would fall below the CCC loan rate, and processors would forfeit domestically produced sugar to the CCC. It would no longer be a “no cost” program to the Federal Government, although costs to domestic sugar consumers would decline.

A nominal duty of 0.625 cents (the legal minimum) per pound, raw sugar equivalent, and fees of 1 cent per pound of refined sugar are charged on imports. No import fees are charged on raw sugar.

Higher Returns for Producers and Processors. The higher U.S. sugar prices, made possible by the sugar program, directly raise the income of producers and processors. The domestic market price averaged 11.4 cents per pound over world prices during fiscal years 1987-89.

Each 1-cent-a-pound increase in the U.S. raw sugar price above the world price yields about \$139 million a year in additional income for domestic producers and processors. Total benefits

averaged \$1.6 billion annually during fiscal years 1987-89. Producer benefits averaged \$235,000 per sugarcane farm (including Puerto Rico) and \$50,500 per sugarbeet farm.

Consumers Pay Higher Prices. Critics of the sugar program contend that it costs consumers millions of dollars in higher food prices. Consumers pay an estimated \$286 million a year (\$13.25 per person during 1987-89) for sugar and sugar-containing products for each 1-cent-a-pound premium by which U.S. raw sugar prices exceed world prices. Sugar program advocates point out that world prices are artificially low because most countries have policies that lead to excess production.

Higher Prices, But Much Lower Volume. While those countries that have a share of the total import quota for sugar benefit from the higher U.S. price associated with the quota share, the volume of sugar these countries are able to supply has been sharply curtailed under the sugar program. Therefore, the benefit of the U.S. price may be partially or more than offset by the sugar program's import restrictions.

Imports averaged 4.2 million tons in 1979-81, but have declined to about 1 million tons per year during 1987-89. Quota sugar imports represented about 12 percent of U.S. sugar consumption during 1987-89, compared with the typical 40-50 percent before the 1980's.

Industrial Effects. The number of sugar refineries and the amount of refining capacity have declined under the sugar program. Between fiscal years 1982-84 and 1987-89, refining volume decreased more than 20 percent as imports of raw sugar fell more than 50 percent. Ten refineries have ceased operations since 1981 and U.S. refining capacity declined 35 percent. The decline in refining capacity was caused by a decline in the demand for sugar, a drop in imports of raw sugar as indicated under falling import quotas, and an increase in the beet sugar share (beet sugar does not require separate refining facilities) of the U.S. market.

The sugar program has stimulated increased imports of sugar-containing products such as confectionery and chewing gum, bakery and cereal goods, and preserved fruit. Higher U.S. sugar prices enable foreign manufacturers to produce sugar-containing products at less cost than in the United States.

Corn sweetener manufacturers, especially high fructose corn syrup (HFCS) producers, benefit from the sugar program through higher sweetener prices. The umbrella of stable raw sugar prices at long-term minimum levels has stimulated faster investment in corn wet milling facilities and speeded up the shift from sugar to HFCS.

For technical reasons, HFCS is now close to its maximum potential as a substitute for sugar. Further HFCS use will depend largely on population growth.

DISASTER PROGRAMS IN THE EIGHTIES

1983: Drought hit 28 States in 1983. Secretary of Agriculture Block told Congress on September 21 that "... it is probably the most severe drought that we've had in 50 years." Block also noted that, unlike earlier droughts, producers in 1983 could rely on large payments from Federal Crop Insurance and Payment-in-Kind (PIK) programs.

A drought relief provision was attached to the dairy-tobacco bill (P.L. 98-180) directing the Secretary of Agriculture to permit farmers and ranchers in drought areas to buy federally owned surplus corn for feed at 75 percent of the current price support loan rate (about \$2 per bushel).

Expenditures for the 1983 disaster: ASCS, \$116 million. FmHA Emergency loans, \$566 million (represents total FmHA emergency loans for that period. There is no separation available for what loans were for drought and what were not).

1986: A summer-long drought in the Southeast was followed by floods in autumn in the Midwest. Congress attached a \$400-million package to the FY-87 omnibus spending bill (P.L. 99-591) that required issuance of PIK certificates to farmers in counties where crops were destroyed by flood, drought, or hail.

Secretary of Agriculture Lyng used his discretionary authority under the 1985 Farm Act (P.L. 99-198) and on August 1 announced he would permit PIK assistance, along with various other measures:

A task force was created from USDA agencies: A toll-free drought hotline for producers was established; haying and grazing were permitted on acreage removed from production for conservation; harvesting of farm program crops for forage was allowed. Later a feed cost-sharing program was put in place and an additional 10 percent advance deficiency payment was made. ASCS began implementing a newly enacted disaster payment program for 1986 crop losses in designated counties.

On May 27, 1987, the Farm Disaster Assistance Act of 1987 (P.L. 100-45) was signed. It contained an additional \$135 million to cover shortfalls in the original program and increased costs of the new provisions from 1986.

Expenditures for the 1986 disaster: \$5.5 million under disaster assistance programs; \$656 million in PIK certificates. FmHA Emergency Loans: \$218 million (no separation for what was for drought and what was not).

1988: One of the worst droughts in U. S. history hit the central U. S. Extreme heat and lack of rain were especially intense during crop-growing stages in the Northern Plains and Midwest. Grain and soybean production dropped 28 percent from 1987.

President Reagan established an Interagency Drought Policy Committee on June 15. Assistance for livestock producers received high priority. ASCS put its Emergency Feed Program and Emergency Feed Assistance Program into operation and by early November those programs had been approved for producers in 2,076 counties in 41 States.

The Disaster Assistance Act of 1988 was signed into law (P.L. 100-387) on August 11. It provided assistance for emergency livestock feed; loss of 1987 and 1988 tree seedlings; reestablishment of forage crops on established pasture; disaster payments for low-yield crops; retention of certain advance 1988-crop deficiency payments; authorization for oats, soybeans, and sunflowers to be planted on 1989 and 1990 permitted program acreages; and a temporary dairy price support increase from April through June 1989. The law contained \$3.9 billion budgeted under existing programs for emergency feed assistance and Federal crop insurance payments.

Expenditures for the 1988 disaster: \$3.9 billion from ASCS as of December 31, 1989. FmHA Emergency loans: \$30 million (no separation for drought and what was not).

1989: Drought hit parts of the Midwest, Great Plains, and South. Secretary Yeutter established a USDA Drought Task Force on April 26 and announced the following to take effect immediately: Permitted haying and grazing on Acreage Conservation Reserve and Conserving Use acreage, on a county-by-county basis, during the usual restricted 5-month periods; implementation of Emergency Feed and Emergency Feed Assistance Programs; harvesting hay on FmHA inventory property and sales of such hay at reasonable cost.

On May 14 Secretary Yeutter announced permission for state-wide emergency haying and grazing on ACR and CU acreage in States with 75 percent of their counties already declared eligible. Producers were to be allowed to sell ACR and CU forage at full market prices instead of at harvest cost recovery prices.

On June 2, Secretary Yeutter announced permission for haying and grazing on Conservation Reserve Program (CRP) acreage until July 15 under carefully prescribed conditions. On June 28, emergency haying of CRP acres was expanded to allow haying of Permanent Wildlife Habitat acres under CRP. On June 30, the haying and grazing were extended to CRP acres planted or replanted to vegetative cover prior to December 1.

The Disaster Assistance Act of 1989 was signed into law (P.L. 101-82) on August 14, providing \$900 million.

Expenditures for the 1989 disaster: \$1.3 billion from ASCS as of March 31, 1990. FmHA Emergency Loans: \$112.6 million (no separation available for drought and what was not).

HOW FEDERAL CROP INSURANCE OPERATES

Federal crop insurance started in 1938 on an experimental basis. It was greatly expanded when the Federal Crop Insurance Act of 1980 authorized the Federal Crop Insurance Corporation (FCIC) to operate a national multi-peril crop insurance program. From 1974 through 1980, prior to the expansion in Federal crop insurance, growers of wheat, rice, feed grains, and cotton received disaster assistance—mainly through direct cash payments. That program cost the Government an average of \$510 million in yearly outlays and was terminated with the 1980 crop insurance amendments.

FCIC, a USDA agency, offers crop insurance to farmers through private insurance agents. Premiums from insurance stand behind indemnity claims paid to insured farmers for losses. The FCIC makes up any indemnities paid out that are not covered by premiums. The FCIC is funded through annual appropriations from Congress.

Who May Insure. Anyone who has an insurable interest in a crop may insure—an owner-operator, landlord, tenant, renter, partnerships, corporations, and estates. Each person may insure his/her interest, independent of the others who have an interest in the crop.

What Is Insured. Most crops are insured against unavoidable loss of yield. For some crops—such as citrus trees—a dollar amount per acre representing costs of replacing trees is guaranteed, instead of a yield. If actual yields turn out to be less than the insured guaranteed yields, policy holders are paid an insurance indemnity that makes up the difference in cash.

For most field crops, virtually all unavoidable losses are covered. For some, only specific causes of loss are covered. Differences in coverage are determined by normal farming requirements for a crop. Policies may also cover loss in quality, even if yields are not below the guaranteed level.

Who Pays for Insurance. The FCIC pays all the expenses for Federal crop insurance sales, administration, actuarial work, underwriting, and loss adjustments. FCIC subsidizes more than 50% of the combined premium costs and administrative expenses of Federal crop insurance. States may also pay a portion of farmers' premiums—only Alaska, Delaware, and Minnesota participate.

What Insurance Covers. Federal crop insurance is offered on 50 crops in more than 3,000 counties, making more than 20,000 county crop programs. Farmers have three choices of yield guarantees. They may insure a yield guarantee of 50% or 65% of their 10-year average farm yields, with FCIC paying 30% of the premium costs. Farmers may also insure a yield guarantee of 75%, with the premium subsidy at the same dollar level as for 65%.

Farmers usually may select from three dollar payment levels. These are the amounts FCIC pays per pound, bushel, or other measurement, for losses below the 50%, 65%, or 75% yield level for which producers are insured. For corn, wheat, and soybeans, a futures market basis is used to determine the top dollar amount used for indemnification. Losses in yield below the yield guarantees are paid to the insured at the dollar level per unit of yield selected by the policy holder.

Premiums are determined by the percentage rate, which reflects risk, and by the payment level, yield guarantee, and acres insured. Premiums are tax deductible as a farm business expense. Insurance is taken out prior to planting, premiums are payable at planting time, but producers may elect to wait until about harvest time to pay.

Starting in 1990, farmers may insure part of a crop, leaving out the most risky land—such as flood plains—which ordinarily would run up their overall premium costs. Also in 1990, insured farmers must have an approved conservation plan for highly erodible cropland.

The idea behind crop insurance is to offer farmers risk insurance to provide more stability and protection of cash flow and net worth. Crop insurance can be used to secure a loan, aid cash flow projections, and provide backup for crops contracted to be sold prior to harvest.

Crop Insurance Participation. Presently, eight commodities account for 93% of the acres insured by Federal crop insurance. They are wheat, corn, soybeans, cotton, barley, grain sorghum, sunflowers, and peanuts.

The 1986-88 participation rate—national crop acres covered by insurance compared with potential insurable acres for the commodity—averaged 31% for barley, 28% for wheat, 20% for cotton, 18% for soybeans and corn, 15% for grain sorghum, and 9% for oats (1988 only for oats).

Lowest participation rates were for forage, rye, walnuts, and sugarcane (less than 2% coverage); citrus and grapes (6% coverage); stonefruit (8% coverage); and oats (9% coverage).

Prior to 1988 the highest national average coverage for potential insurable cropland acreage peaked at 25%. Farmers who received ad hoc disaster assistance in 1988 were required to take out Federal crop insurance in 1989. This helped increase participation to 40% in 1989.

Crop Insurance Losses. From 1980 to present, Federal crop insurance loss ratios have averaged 1.58. For each premium dollar taken in—including the Government subsidy on premiums—FCIC paid out \$1.58 in claims. FCIC net Government outlays, above premiums paid by producers, and including administrative expenses and agency operations, in crop year 1988 were \$957 million, and in 1989 were \$954 million. Loss ratios in those two years were 2.4 and 1.5.

Three times in the 1980's, Congress enacted ad hoc disaster assistance. Those actions, along with crop insurance losses and the use of standing disaster authorities, cost the Government an average of \$1.1 billion per year in the 1980's.

WHAT'S IN THE CONSERVATION RESERVE?

The Conservation Reserve Program (CRP) is authorized by the Food Security Act of 1985. CRP is the largest long-term cropland retirement program in U.S. history. It allows farmers to bid for the annual rental payments they will accept from the U.S. Department of Agriculture (USDA) in return for maintaining a protective cover of grass, trees, or other approved conservation practice on their highly erodible and other environmentally sensitive cropland for the next 10 years.

One goal of the CRP is to reduce soil erosion on enrolled acreage. Other objectives include protecting the Nation's longrun ability to produce food and fiber, reducing sedimentation in streams and lakes, improving water quality, enhancing wetland areas, fostering wildlife habitat, curbing the production of surplus commodities, and providing income support for farmers.

How CRP Works: In exchange for retiring highly erodible and other environmentally sensitive cropland for 10 years, USDA pays farm owners or operators an annual per acre payment and half the cost of establishing a permanent vegetative cover (usually grass or trees). This is outlined in a conservation plan approved by the local Soil Conservation District for the offered acreage. The plan also establishes other conservation measures and maintenance to be carried out by the owner or operator during the contract period.

There are about 423 million acres of cropland (used to grow crops) in the United States. About one-fourth is eligible for enrollment in the CRP. Enrolled cropland has an average erosion rate of 20.9 tons per acre per year, nearly three times higher than the national average. Total CRP enrollment now includes 33.9 million acres, representing 333,392 contracts made with farmers.

Soil Savings: As a result of the CRP, annual soil erosion has been reduced by more than 655 million tons.

Water Quality Benefits: Cropland eligible for CRP has been expanded to increase water quality benefits. Eligible land now includes filter strips, cropped wetlands, and cropland subject to scour erosion (caused by out-of-bank water flows that can be expected to cause flood damage at least once every 10 years).

Filter strips are adjacent to streams, lakes, estuaries, and other permanent bodies of water. Trees or grass planted on these areas filter sediment and nutrients from upslope runoff water, thus substantially contributing to improved water quality. Currently, almost 49,000 acres are enrolled in CRP filter strips.

Wetland Benefits: Cropped wetlands enrolled in the CRP result in a number of environmental benefits, including increased habitat for wildlife (including migratory birds), conservation of surface water, improved ground water conditions, reduced runoff, flood control, and improved surface water quality. Trees are to be planted on enrolled cropped wetland acres in suitable areas. More than 410,000 acres of cropped wetlands have been enrolled in the CRP. About 83,000 acres of this land have been devoted to trees.

Other Benefits: Nearly 2.2 million of the acres enrolled in CRP at the end of 1989 will grow trees, creating a variety of environmental benefits.

Retiring cropland from production under the CRP will influence the Nation's rural economy. CRP will improve environmental quality substantially over the life of the program (1986-99). These gains will come at the cost of somewhat higher Government administrative expenses, potential reductions in farm input sales, and other lessened local economic activity tied to farm production where enrollment is heavy.

Base Reductions: The millions of acres of cropland taken out of production under the CRP are expected to strengthen commodity prices. However, the enrollment of cropland in the CRP has the negative economic consequence of impairing international competitiveness since productivity has been reduced and commodity prices have been raised artificially.

Crop base acres enrolled in CRP through August 1989 include the following: barley, 2.8 mil. ; corn, 3.8 mil.; oats, 1.3 mil.; sorghum, 2.4 mil.; upland cotton, 1.3 mil.; and wheat, 10.3 mil.

Other Programs: The 1985 Act also established three complementary natural resource conservation provisions: sodbuster, swampbuster, and conservation compliance. These provisions require farmers to protect soil and water resources as a precondition to participation in USDA programs.

Sodbuster provisions deny most Federal farm program benefits to producers who plant crops on previously uncropped highly erodible lands without approved conservation plans.

Swampbuster provisions generally deny most Federal program benefits to producers who convert designated wetlands to cropland after December 23, 1985.

Conservation Compliance provisions deny benefits to producers who do not develop adequate conservation protection plans on existing highly erodible cropland and complete the implementation of those plans by January 1, 1995.

WHAT IS SUSTAINABLE AGRICULTURE?

Sustainable agriculture is a term for a farming system designed to protect the environment, conserve resources, assure food safety, and provide farmers with an adequate profit. It generally refers to farming practices where attempts are made to lessen the farm's dependence on purchased inputs—particularly manufactured chemical pesticides and fertilizers.

Sustainable agriculture calls for skilled management of equipment, labor, and chemicals; scientific knowledge; and ability to use onfarm resources. This helps sustain natural resources by reducing soil erosion and ground water pollution and by protecting wildlife.

What Sustainable Agriculture Covers: Sustainable agriculture usually involves greater use of rotations . . . crop and livestock diversification . . . soil and water conservation . . . mechanical cultivation . . . use of animal and green manures . . . and biological pest controls.

Sustainable agriculture includes organic farming, but also includes the wise use of chemicals. Integrated Pest Management (IPM) and Best Management Practices (BMP's) deal with specific parts of total farm management and are compatible with a whole-farm sustainable agriculture approach.

The sustainable agriculture system is dedicated to maintaining farm profits, promoting safe and abundant food and water supplies, revitalizing rural America, controlling soil erosion, protecting farmer and farmworker health, and improving the international competitiveness of American agriculture.

The Sustainable Agriculture Program. Sustained agriculture was recognized as a formal program by the Food Security Act of 1985 and was first funded in FY-88 when Congress appropriated \$3.9 million for the program.

Sustained Agriculture Research and Education in the Field (SAREF) supports the development and dissemination to farmers of practical and reliable information on sustainable farming practices. Each of four U.S. regions has a host institution that approves project proposals. The Cooperative Extension Service is a partner in the program. Farmers, universities, and private groups are directly involved in managing the research and education programs.

Sustainable Agriculture Projects. On-farm research is an important part of sustainable agriculture projects. In 1988, 49 projects of all kinds were approved from 371 project proposals submitted. In 1989, a total of 78 research and education projects were funded from 431 proposals submitted. These projects deal with the feasibility and economics of sustainable practices, as well as communicating results to farmers.

Projects emphasize biological pest control, crop rotations, and pest-resistant crops. Studies are being made of cover crops that smother weeds, rotations that disrupt weed cycles, crops that make their own "natural" herbicides, and mechanical cultivation. Scientists are studying ways to use legumes like clover and alfalfa as a source of nitrogen for grain crops.

Active projects include such studies as low-input practices of producing apples in the Northeast . . . use of cover crops to reduce leaching of nutrients to groundwater . . . teaching farmers profitable, year-round forage management using intensive rotational grazing . . . the performance and health of swine raised with low-input methods versus conventional confinement systems. . . the effects of using rye, hairy vetch, and oats to help control weeds . . . low-input ridge tillage as a sustainable agriculture technique in the Corn Belt . . . legumes and annual summer forage crops to reduce the need for purchased fertilizer and herbicides to grow blueberries in the South . . . the productivity and profitability of low-input versus high-input vegetable production systems in California . . . and use of legumes and other green manures in the cropping systems of the Northern Plains.

The headquarters of the four regions are:

WEST—Dave Schlegel, Office of the Vice President, DANR, University of California, 300 Lakeside Drive, Sixth Floor, Oakland, Calif. 94612-3560. Phone: 425-987-0029. And Fred Poston, cooperative Extension Service, Ag Sciences Building, Washington State University, Pullman, Wash. 99164-6230. Phone: 509-335-2933.

NORTH CENTRAL—Warren Sahs, Agriculture Hall, University of Nebraska, Lincoln, Neb. 68583-0704. Phone: 402-472-2973. And Jerald R. DeWitt, Cooperative Extension Service, Iowa State University, Ames, Iowa 50011. Phone: 515-294-7801.

NORTHEAST—Frederick R. Magdoff, Dept. of Plant & Soil Science, University of Vermont, Burlington, Ver. 05405. Phone: 802-656-2630. And Craig S. Oliver, Cooperative Extension Service, University of Maryland, Room 1104 Symonds Hall, College Park, Md. 202742. Phone: 301-454-3742.

SOUTH—Charles W. Laughlin, 107 Conner Hall, University of Georgia, Athens, Ga. 30602. Phone: 404-542-2151. And T. Roy Bogle, Cooperative Extension Service, Oklahoma State University, Stillwater, Okla. 74078. Phone: 404-744-5398.

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Dr. Paul O'Connell, Cooperative State Research Service, U.S. Department of Agriculture, Aerospace Building, 901 D St., S.W., Washington, D.C. 20251. Phone: 202-447-2860.

Dr. Vivan Jennings, Cooperative Extension Service, U.S. Department of Agriculture, Room 3849 South Building, Washington, D.C. 20251. Phone: 202-447-5623.

WHAT USDA IS DOING ABOUT FOOD SAFETY

* Food safety in meat and poultry is the responsibility of the U.S. Department of Agriculture. USDA has active inspection and testing programs for bacteria and chemical compounds that ensure that food is safe. USDA shares responsibility for eggs and egg product safety with FDA. In addition, States have regulatory inspection programs to help keep foods safe. Those State programs work closely with USDA, FDA, and EPA.

* USDA and other Government agencies are continually developing new tests to prevent harmful chemical residues in food from reaching consumers. Good health does not require that foods be pesticide free, but levels should be no greater than what is considered safe based on scientific information. Today's tests can detect a chemical residue so small that it is analogous to 1 second in 32,000 years. Some foods contain natural toxins. In time, through biotechnology and bio-engineering, even some of the naturally occurring toxins can be reduced.

* Chemicals are used on the farm and in processing—if and when necessary—to control insects, molds, and bacteria and to protect consumers' health. USDA and other Government agencies are working to help keep the use of chemicals low and with as minimal a risk as possible to assure that the public has high-quality, safe food.

* No farmer inherently wants to use chemicals in food production. Chemicals cost money. They are often hard to apply. If the chemicals in excess are harmful, the farmer and his family are the first to suffer. But chemicals, used judiciously, help keep food high in quality, plentiful, and available at a reasonable cost to consumers. USDA aims to help bring safe, high-quality, plentiful food to the public at a reasonable cost. USDA wants to protect farmers' health and to protect the nation's food supply.

* Before a pesticide is approved for use, the Environmental Protection Agency (EPA) requires extensive tests to establish that the product works and doesn't cause unreasonable risk to people or the environment. EPA determines which pesticides can be used on which crops, how much may be applied, and how long before selling the crop the use of the chemical must stop.

* EPA sets tolerance levels for the amount of chemical residue permitted on food. New proposals have been made to enable EPA to suspend or cancel unsafe pesticides more quickly and easily—and to determine safe "negligible risk" levels of chemical residues in food.

* The Food and Drug Administration (FDA) enforces safe-tolerance levels in foods other than meat, poultry, and eggs. Since 1965, FDA has run tests on table-ready foods, as contrasted with raw, unwashed, and uncooked foods. The results consistently show that people's food at the table contains only a small fraction of the pesticide residue considered safe, if any at all.

* USDA is doing research to learn all it can about disease-causing microorganisms on food and food producing animals on the farm, during processing and marketing, in storage, and during transportation. USDA gives that research high priority as part of its responsibility to consumers. For that reason, USDA's food safety program will continue to improve as we learn more from research. Food safety dealing with bacteria and chemical residues is a scientific procedure and includes research, testing, education, and monitoring.

* USDA is continually improving its food safety procedures. In the last 8 years, USDA has tripled its volume of microbiological testing. USDA is testing for 120 different residue compounds—up from 66 compounds 10 years ago. More than 500,000 samples and 2.5 million analyses are conducted each year on meat and poultry. A national advisory committee of experts was established 2 years ago to advise USDA, HHS, and other Government agencies on bacteriological control.

* FSIS has more than 7,500 inspectors and veterinarians in 6,700 meat and poultry slaughtering and processing plants. They inspect animals before slaughter to detect diseases or abnormalities; inspect them again after slaughter; and inspect products during processing, handling, and packing to ensure safe and properly labeled food products. Each year FSIS inspects about 120 million head of livestock, 5 billion birds, and 135 billion pounds of processed products.

* When USDA finds animal drug residues, the information is entered into a computerized library that is shared with the Food and Drug Administration. This network is helpful in tracing residues to their sources and preventing their recurrence.

* USDA continually updates its regulations, including those for prepared "ready-to-eat" foods. The food industry is stepping up quality control, education of plant personnel managers, and safety testing. And USDA continually issues new regulations that put additional safety controls in slaughter and processing plants.

* USDA is requiring more elaborate procedures for some foods. For example, if USDA finds any *Listeria* bacteria (which can multiply at refrigerated temperatures), or *Salmonella* bacteria in a "ready-to-eat" product, it recalls the production "batch" if it has entered the market, and requires the plant to hold and test subsequent production through five consecutive clean lots.

* USDA is working with the food industry to implement a system called HACCP. The letters stand for Hazard Analysis and Critical Control Points. This system strengthens inspection at the points where food is most likely to become contaminated.

* USDA is working in the international area through a special commission to draft codes and standards for foods imported into the U.S. through international trade—as well as for our exports.

* USDA maintains a toll free meat and poultry food safety hotline. The hotline in the Food Safety and Inspection Service (FSIS) handles more than 1,000 calls a week from consumers. The hotline is staffed with trained home economists ready to answer food safety questions. More than 1,000 newspapers carried the hotline number last year; and more than 125 magazines—some of the largest in the country—printed the number. USDA hopes to expand this hotline to answer questions on all foods.

* Much of our food is eaten away from home today. Consequently, USDA has expanded its food safety education to food service managers, dietitians, and those responsible for large-scale food production in hospitals, nursing homes, day-care centers, and schools.

MAKING FARMERS HOME ADMINISTRATION LOANS

The Farmers Home Administration (FmHA) offers temporary financial assistance to rural people and communities who cannot get commercial credit at terms they can afford. To qualify for FmHA assistance, applicants must be unable to obtain credit from usual commercial credit sources. The agency operates through 1,904 county offices, 264 district offices, 46 State offices (covering all 50 States, Puerto Rico, the Virgin Islands, the Pacific Trust Territory, American Samoa, and Guam), and through the Finance Office in St. Louis, Mo., and the National FmHA Office at USDA in Washington, D. C.

FmHA assistance is focused in three primary areas: Farmer Programs, Rural Housing, and Community and Business Programs.

Farmer Loan Programs. The farmer programs include loans for farm ownership, farm operating, soil and water activities, and recovery from natural disaster emergencies. During FY-89, the agency made 36,875 farm loans for more than \$2.2 billion. Of that, \$1.18 billion, 53%, were guaranteed loans. A FmHA goal is to help farmers become self-sufficient and to "graduate" borrowers to commercial credit as soon as possible.

FmHA has an outreach program to provide socially disadvantaged borrowers with farm credit. Limited resource loans help beginning, or minority, farmers get financing for successful farming operations. FmHA farmer programs include youth project loans which help rural youth conduct income-producing projects through organized programs, such as 4-H Clubs, Future Farmers of America, or schools.

FmHA Rural Housing Loans. Rural housing loans provide loans for home ownership and repair, rental housing, farm labor housing, and mutual self-help housing. Grants are available for farm labor housing and for senior citizens who need home repairs, but cannot afford to repay a loan. In FY-89, the agency provided 44,513 loans and grants for rural housing, amounting to \$2.17 billion.

FmHA's housing programs are available in rural areas and in most towns of up to 10,000 people (to 20,000 in some cases). The program also includes congregate housing for elderly residents who need assistance with some aspects of living, such as meal preparation, shopping, bathing, etc., but who do not need constant medical supervision. Rental assistance from FmHA is available as well through HUD's Section 8 program.

Community and Business Program Loans. These include water and waste disposal system loans and grants, community facilities loans, and business and industry loan guarantees. During FY-89, FmHA made 1,023 loans and grants totalling \$455.6 million for water and waste disposal systems and 304 loans for \$95.7 million for other community facilities. In addition, FmHA guaranteed 100 loans for \$99.1 million for business and industrial development.

Other community programs include industrial development loans and grants, and loans for resource conservation and development, watersheds, irrigation and drainage, grazing associations, and Indian land acquisition.

FARMERS HOME ADMINISTRATION LOAN DELINQUENCIES

KIND OF LOANS	LOAN \$\$	LOAN \$\$	TOTAL NO. OF LOANS	PERCENT	PERCENT
	OUT- STANDING	DELIN- QUENT		LOANS	LOAN \$\$
	\$Bil	\$Bil.		DELIN- QUENT	DELIN- QUENT
				%	%
Farm Ownership	7.045	0.623	109,389	31	9
Farm Operating	5.228	1.338	100,521	36	26
Housing	18.667	0.258	761,636	18	1
Emergency	7.683	5.630	88,575	40	60
Econ. Emergency	3.065	1.343	37,120	47	44
Other	7.280	0.316	20,440	1	4
TOTAL LOANS	45.968	8.285	1,117,681	23	18

EMERGENCY AND ECONOMIC EMERGENCY LOAN DELINQUENCIES BY STATES

State	--Emergency Loans—drought, flood, etc.--			----Economic Emergency Loans----		
	Percent Borrowers Delinquent	Percent Loan \$\$ Delinquent	Amount Loan \$\$ Delinquent	Percent Borrowers Delinquent	Percent Loan \$\$ Delinquent	Amount Loan \$\$ Delinquent
	%	%	\$Mil	%	%	\$Mil
Georgia	68	105	629.1	68	84	64.2
Florida	67	99	159.3	72	94	47.4
Arizona	57	90	119.1	47	41	10.9
California	50	90	450.1	65	68	81.7
Louisiana	72	85	374.4	73	73	47.1
Mississippi	51	80	546.0	61	69	31.1
Texas	54	79	474.8	65	70	71.9
Maine	45	72	25.9	32	43	3.4
Arkansas	39	62	194.5	36	30	28.4
Indiana	55	60	78.3	63	55	86.1
Idaho	46	59	52.5	62	62	62.3
New Mexico	38	55	16.3	51	42	8.1
N. Carolina	43	55	87.3	44	42	41.5
S. Carolina	43	55	92.5	53	46	10.7
Nevada	48	54	2.4	53	44	3.9
Washington	32	52	26.4	39	29	22.5
Oklahoma	44	51	141.9	54	41	58.6
New Jersey	47	49	9.1	46	41	0.7
Ohio	45	49	58.2	57	44	26.4
Colorado	46	48	25.3	68	77	38.8
All States	40	60	4630	47	44	1343

(Data for Sept. 30, 1989)

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