

3-1978

## CC291 Wheat & Feed Grains Programs - 1978

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## WHEAT & FEED GRAINS PROGRAMS - 1978 1/

- OBJECTIVES AND POSSIBLE IMPACTS

- KEY PROGRAM PROVISIONS

- FARM MANAGEMENT DECISIONS

### INTRODUCTION

The Food and Agriculture Act of 1977 provides the authority for agricultural price and income programs and food assistance programs in 1978 and three subsequent years. This act replaces the Agriculture and Consumer Protection Act of 1973 which expired with 1977 crops. It extends and modifies the concepts of previous legislation. Principal changes in commodity programs are the elimination of historical acreage allotments and completion of the move from parity to cost-of-production as the basis for price and income support levels.

The broad objective of the 1977 Act is: "To provide price and income protection for farmers and assure consumers of an abundance of food and fiber at reasonable prices, and for other purposes." Among "other purposes" are to: establish grain reserves; improve U.S. balance of payments; and restrain inflation. Realization of these objectives will depend upon crop and economic conditions in the U.S. and worldwide, administrative decisions, and possible further congressional action.

The purposes of this publication are to: summarize the main provisions of the 1978 farm commodity programs; discuss their possible economic impacts; and provide information and procedures to help wheat and feed grain producers decide whether or not to participate in these programs in 1978.

### Possible Impacts of the Programs

The production control, price support and income maintenance provisions of the 1977 Act are likely to be used considerably more than similar provisions of the '73 Act. Large grain crops in 1976 and '77 have so improved the world supply situation that U.S. grain stocks in mid-1978 will be about 25 percent above those of the previous year. The resulting outlook for continued low wheat and feed grain prices, assuming normal weather, led to the announcement of acreage set-aside programs for 1978 crops of wheat and feed grains.

Program costs in 1978, including deficiency payments on 1977 crops but excluding food assistance programs, have been estimated at \$7.3 billion for all products. Congress is considering additional legislation which, if enacted, would increase this amount. Direct program costs for income payments represent an income transfer from the nonfarm to the farm sector of our economy through the progressive income tax. Higher loan rates than now provided could boost grain prices and retail food prices. This would increase farmers' income but would adversely affect low-income consumers.

To keep U.S. grains competitive in world markets, loan rates for wheat and feed grains may be reduced in any year if the average market price falls to 105 percent of the loan rate in the previous year. This downward adjustment is limited to 10 percent a year but cannot go below \$2.00 a bushel for wheat or \$1.75 a bushel for corn. If this variable loan provision is used, deficiency payments must be increased to protect producers' incomes, and would not be subject to payment limits.

Loan and target price levels for 1978 crops are specified by law and, depending upon participation in the grain reserve and set-aside programs, crop production here and abroad, and world economic conditions, should stop the decline in U.S. grain prices. The estimated effects of stronger market prices and income payments under these programs is to increase net farm income by \$2.0 to \$2.5 billion in 1978.

Discussion continues as to whether or not the 1977 Act will result in "fair" product prices and "reasonable" or "equitable" net returns to farmers. Many producers feel that target prices do not cover production costs. But production costs vary widely among farmers even in the same type-of-farming area because of differences in managerial ability, investment in land and equipment, equity position, tenure, and quality of soils and other resources. Land charges were considered in determining 1978 target prices but will be excluded in figuring future cost-of-production adjustments in target prices to restrain inflationary pressures on land values.

Participation in the 1978 wheat and feed grains programs is voluntary, but necessary to be eligible for program benefits. These are: non-recourse loans, deficiency payments, disaster payments and, probably, a long-term grain reserve program. No payment is presently planned on set-aside acres. Each farm operator and landlord should study carefully the advantages and disadvantages involved in their particular situations.

Everett E. Peterson  
Extension Economist

#### PROVISIONS OF THE 1978 WHEAT AND FEED GRAIN PROGRAMS

The '78 program adds an additional dimension to the farm management decision process. To properly analyze the program and how it might affect individual farms, operators and landlords need to understand the provisions of the program. The producer has until May 1, 1978 to declare his intention for participation in the 1978 program by signing up at his County ASCS Office or other announced locations.

#### Eligibility for Participation

Participation in the program is voluntary, but is required for eligibility to receive program benefits. The producer who participates in the program becomes eligible for commodity loans, deficiency payments, and disaster payments. While deficiency and disaster payments apply only to wheat, barley, corn and sorghum, commodity loans will be available for oats, rye, and soybeans.

To participate in the wheat program the producer will be required to have a set-aside equal to 20% of his 1978 total wheat plantings for harvest as grain. For participation in the feed grain program the producer will be required to have a set-aside equal to 10% of his total 1978 plantings of corn, sorghum and barley. To be in compliance, the acreage planted plus the acreage set-aside cannot exceed the farm's normal crop acreage.

### Normal Crop Acreage (NCA)

The farm's NCA is defined as the total number of acres normally planted on the farm for harvest. A farm's NCA is based on the acreage planted in 1977 to the designated crops (adjusted for abnormal conditions). Nebraska's designated crops are wheat, barley, corn, dry edible beans, oats, rye, grain sorghum, popcorn, potatoes, sunflowers, flax and sugar beets. Forage sorghum, cane and sweet sorghum are not included in the NCA.

The producer is responsible for reporting his 1977 plantings to the county ASCS Office. Failure to report will result in a zero NCA being assigned to the farm which would make the producer ineligible for all program benefits. There is no deadline for certification of NCA, but after April 30, 1978, NCA will be applied to 1979 crops, instead of 1978 plantings. After certifying NCA, the County ASCS Office will notify the producer as to his NCA and the yield established for his farm. If the producer disagrees with the county committee's decision, he can appeal.

### Set-Aside Acres

Set-aside acres are part of the total normal crop acres (NCA), as required to qualify for program benefits. Set-aside land is to be cropland that was tilled within one of the last three years in the production of a crop other than hay or pasture (unless the hay was in normal rotation with small grains or row crops). Excluded are orchards and vineyards, strips in striprow planting patterns and other areas of abnormal shape or small size. The corners of fields under circular irrigation systems will qualify as set-aside acres provided they are normally planted to crops for harvest.

The land devoted to set-aside has to be protected from weeds and from water and wind erosion. Normally the set-aside land must have some type of vegetative cover or an approved conservation practice established on it no later than the normal period for planting spring crops. The land can be prepared for fall seeded crops but cannot be left unprotected. The type of cover crop may consist of small grains, annual or perennial grasses or legumes, stubble or stubble mulch, or volunteer stands (not weeds) that meet the criteria set by the State ASC Committee. Soybeans and sweet sorghum are excluded. Nebraska allows conservation tillage, commonly known as stubble mulch, stubble residue, and eco-fallow, to qualify as set-aside. The requirements are 750 lbs/acre residue on the surface for small grain and 1500 lbs/acre residue on the surface for corn and sorghum. This is a minimum requirement and must remain on the land throughout the year unless fall planted. If unusual conditions should arise, the County ASC Committee can grant exception to these set-aside requirements. No crop can be hayed or harvested on set-aside land unless this restriction is waived by the County ASC Committee during a time of emergency. Grazing on set-aside land will be allowed from November through February plus 2 additional months as determined by the State ASC Committee. No grazing is allowed from April 16 through October 15 for the eastern half of Nebraska and from May 1 through October 31 in the western half. This grazing restriction can be waived by the County ASCS Committee in times of emergency.

No payments are made on set-aside acres, but the producer can use cost-sharing funds from the Agricultural Conservation Program (ACP) to help finance the establishment of approved cover. Cost-sharing funds can be used if the conservation practice is of an enduring nature and not just an annual practice. For instance, cost-sharing could be used for establishing permanent vegetative cover, terrace systems, diversions, windbreaks and sod waterways. The funds will also be authorized for the establishment of permanent wildlife habitat on set-aside acres.

### Target Price and Loan Rates

The target price for corn will be \$2.10 and the national loan rate is \$2.00. In Nebraska, the county loan rates range from \$1.93-\$2.05. Wheat has an established target price of \$3.00 per bushel with an announced national loan rate of \$2.25 that will be in effect if total U.S. production exceeds 1.8 billion bushels. If production is less than 1.8 billion, the target price will be \$3.05 per bushel. County loan rates in Nebraska range from \$2.09-\$2.34. Target prices and loan rates for other crops are yet to be announced.

If a producer feels that he might wish to place some of his 1978 crops in the long-term grain reserve program, should the opportunity arise, he should realize that only grain eligible for CCC loans can be placed in reserve. Grain is only eligible for loan if the producer has participated in the set-aside program.

### Deficiency Payments

Deficiency payments are a form of income support that will be provided if market price falls below the established target price levels. The amount of deficiency payment for the designated crops (wheat, corn, sorghum and barley) will be based on the difference between the target price and the national average price received by farmers during the first five months of the market year. The payment cannot be greater than the difference between the target price and the national loan rate. Therefore, if the market price on wheat and corn remains below the loan rate, payments would probably be \$.65 and \$.10 respectively.

Some confusion may arise as to the percentage of set-aside required for compliance and the percentage of designated crop reduction needed to qualify for 100 percent deficiency payment. The producer first makes a choice as to whether or not to participate in the program. If the decision is to participate in the wheat program, acreage equal to 20% of the wheat acres planted to harvest as grain must be in set-aside. If the producer also plants a feed grain he must also set-aside 10% of the feed grains in order to receive any benefits. The producer can plant as much of any crop as he wishes provided that he meets set-aside requirements and does not exceed his NCA. He will still qualify for commodity loans, and disaster payments on 100% of his plantings, and deficiency payments of 80-100 percent.

The next decision the producer must make is whether or not he wishes to guarantee his eligibility for 100% deficiency payment on the designated crops (wheat, corn, sorghum, and barley). If he so desires, he must reduce his plantings of wheat and barley for harvest by 20% and corn and sorghum by 5% from the acres he planted for harvest in 1977. If a producer raises both corn and sorghum and wishes to receive 100% deficiency payments on each commodity he must reduce the acres of each by 5 percent from the 1977 acres. Where both dryland and irrigated corn are raised on the same farm, a reduction of 5 percent of the total corn acres from 1977 is required for 100% deficiency payments. Although dryland and irrigated acres are not separated for eligibility, those acres are separated for calculation of the deficiency payment because they have different established normal yields. The producer should keep in mind that eligibility for full benefits of the program is a 2-step decision process.

If the producer wishes eligibility for at least 80 percent deficiency payments on his designated crops then he need meet only set-aside and total NCA requirements to be eligible for loans and disaster payments. If the producer does not reduce his wheat, corn, sorghum and barley acres, he then becomes subject to an allocation factor in determining his deficiency payments.

### Program Allocation Factor (PAF)

A production allocation factor (PAF) for each crop will be established by the relationship between the national program acreage that the Secretary of Agriculture designates as needed to meet domestic and normal export needs, and the actual estimated harvested acres. The PAF will be determined by dividing the program acres by the actual number of acres.

By law the PAF cannot be less than 80 percent nor more than 100%. The allocation factor will affect those producers who elected to meet the set-aside requirement but did not reduce their acres planted to harvest. The PAF will be multiplied by the actual acres planted and then by the normal yield of the crops grown and by the deficiency payment per bushel to obtain the actual payment received by the producer.

The producer needs to remember that either full or partial target price guarantee apply only to the normal established yield of the crop grown. Also eligibility for deficiency payments requires that a producer must plant and harvest the crop unless disaster prevents his doing so.

### Disaster Payment Program

The disaster program for 1978 includes payments for prevented plantings and low yields. The '78 program differs from the previous program on four main points. First, payments are to be computed on the number of acres the producer actually plants (or intended to plant) for harvest rather than on allotment. Second, the producer will qualify when yields are reduced 40% rather than 33%. Third, payments will be limited to the losses exceeding 40% while in the 1977 program payments were made on losses below the allotment times the established yield. Fourth, the low yield payment rates will be 50% of the target price, instead of one-third of the target price.

Prevented planting payments will be made to producers who cannot seed wheat or feed grains because of a natural disaster. The payment will be based on the smaller of (a) the acreage intended for wheat, feed grains or any other nonconserving crop or (b) the amount that the acreage planted to designated crops in 1977 exceeds the 1978 acreage. If the producer couldn't plant in 1977, the County ASC Committee can adjust the 1977 acreage to reflect this in the NCA.

Low-yield payments will be made to participating producers on losses below 60 percent of the established yield times acres planted for harvest. If a producer qualifies for disaster payments, the ASCS will subtract the number of bushels that received disaster payments before calculating the deficiency payment. The producer cannot receive both disaster and deficiency payments on the same bushel of grain.

### Other Provisions

#### Cross-Compliance

If a producer raises both wheat and feed grains and wishes to receive any benefits from either program, he must be in compliance with every set-aside program. This provision affects all crops in the Normal Crop Acreage (NCA).

#### Offsetting Compliance

This provision affects those farmers operating more than one farm. The producer may place only one farm in the program, but the NCA planted for harvest on the non-participating farms cannot exceed the NCA when a crop subject to set-aside is planted. If the non-participating farm exceeds the NCA, the benefits are lost on the farm participating in the program.

This can affect the landlord who has different farms and different tenants on those farms. For example, if there is one landlord with five different tenants, four of whom comply with the provisions of the program and one plants in excess of the NCA, this action by one tenant could prevent the landlord from receiving any benefits for his share of the crop on all farms.

Payment Limitation

There is a payment limitation of \$40,000. This is a combination of wheat, feed grain and upland cotton programs. Disaster payments are excluded from this limit.

Additional Information

For more specific information on how these provisions affect your situation and for possible changes, contact your county ASCS office.

Lynn Lutgen  
Extension Economist

## PARTICIPATION OR NON-PARTICIPATION: THE FARM MANAGEMENT DECISION

The 1978 wheat and feed grains program are complicated because the 1977 Act allows more than one level of compliance and provides more than one level of deficiency payments. In addition, some crops are eligible for loans but not for deficiency or disaster payments. For these reasons, careful appraisal of the impact of these alternatives on his farm should be made by each producer.

### Major Considerations

The producer who makes a wise choice needs to consider more information in deciding to comply or stay out of the program than simply the rules and regulations:

1. Become and stay informed: Keep up with developing and changing rules and regulations of the 1978 programs through your county agent, local ASCS office, and printed media. Each producer should also understand that the signup in the program does not necessarily commit the producer to compliance with program provisions. Compliance dates are to be announced later so the producer who signed up in March-April, 1978 period can decide whether or not to comply with the program options available to him when compliance dates are announced.
2. Estimate expected market prices : Compare this with the target price. Obviously if the expected market price is greater than the target price, you would be better off without the program. But without participation, there will be no loans available or deficiency payments as price cushions.
3. Actual yield vs. normal yield: You should estimate 1978 expected yield and compare with the ASCS normal yield for your farm. If the normal yield for the farm is much lower than the 1978 expected yield, you might be better off without the program since a relatively small proportion of 1978 production would then be covered by the target price protection. However, if the 1978 actual yields were significantly lowered by flood, drought, etc., you would have no income insurance from disaster payments.
4. Cropping history and production plans: Consider your individual cropping history in deciding the choice between complying at the allocation factor level (80-100% of target price) or at the guaranteed full target price level (100%). For wheat, a maximum of 13¢ per bushel (.20 X 65¢) would possibly be subtracted from the deficiency payments you receive compared with the 100% guaranteed level. For corn, a maximum of only 2¢ per bushel (.20 X 10¢) would be subtracted from maximum deficiency payments at the 80-100% level. However, it is easier to comply with the 100% payment level for corn since only a 5% reduction below 1977 acreage is required provided that you have other crop acres in your normal crop acreage, such as oats, which can be reduced to meet the additional set-aside required (1 acre for each 10 acres of corn planted). The 1978 target prices are not yet available for grain sorghum and barley but compliance rules for grain sorghum are the same as for corn. However, the regulations for barley indicate that a 20% reduction from 1977 acreage would be required for the 100% deficiency level while only a set-aside of 10% of 1978 plantings would be required for the 80-100% allocation factor.
5. Estimate the costs and uses of set-aside land: Apparently no operations are required on wheat set-aside land other than weed control. No crop may be harvested and at least 750 pounds of crop residue per acre must be maintained on wheat set-aside. For corn and grain sorghum the same provisions apply except that at least 1500 pounds of residue must be maintained

on set-aside land. The County ASCS Offices decide when regular tillage operations can be undertaken on set-aside land. If a cover crop must be planted on set-aside land to provide land cover, this significantly greater expense may be offset by livestock grazing during permitted months. Participation will be more attractive if quality of set-aside land is below that land to be cropped.

6. Estimate advantages (and disadvantages) of greater flexibility in crop rotation and insect and disease control: Will the set-aside acres provide a rotational advantage and reduce pesticide use and/or reduce costs or increase yields?
7. Storage availability: Adequate storage will make it possible for you to place grain under loan, a point in favor of participation.
8. Machine capacity and acreage farmed: Participation may bring machinery capacity and acreage cropped into better balance if you are currently overextended as to land farmed.

Alternatives Available on Typical Nebraska Farms

In this section, illustrations are given of producer alternatives available in 1978 for three Nebraska farm situations: (1) a wheat-fallow farm; (2) a wheat-feed grain farm; and (3) a feed grain-soybean farm with no wheat history. These examples are not exhaustive nor do they provide financial comparisons of the alternatives presented. The last section of this publication provides worksheets and illustrations for determining possible financial results from compliance with the 1978 crop program provisions of the 1977 Farm Act.

Example 1. 960 Acre Wheat-Fallow Farm

	1977 <u>Crops</u> (Acres)	Alternatives:	
		<u>A</u> (Acres)	<u>B</u> (Acres)
Wheat	480	400	384
Fallow	480	480	500
Set-aside		80	76
Normal crop acreage	(480)	(480)	(480)
Total acres	960	960	960
Qualify for:			
80%-100% deficiency payments		Yes	---
Full target price		No	Yes
Loan		Yes	Yes
Disaster payments		Yes	Yes

Alternative A qualifies the producer for the minimum 80% deficiency payment, loans, and potential disaster payment on wheat. This alternative requires a 20% set-aside with total wheat and set-aside acreage which cannot exceed the normal crop acreage.

Alternative B qualifies the producer for the full target price in addition to loan and disaster features. Beside meeting the 20% set-aside, the producer must reduce his wheat acreage by 20% from 1977.

In both cases crops not considered as part of the normal crop acreage (example - millet) could be grown under program participation so long as set-aside is maintained. The reduced wheat acreage and increased fallow or set-aside might increase the interest in substituting such crops for fallow.

Example 2. Wheat-Feed Grain Farm, 800 Acres

	1977	Alternatives:			
	<u>Crops</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
	(Acres)	(Acres)	(Acres)	(Acres)	(Acres)
Wheat (W)	320	320	266	256	256
Fallow	320	320	320	320	320
Grain sorghum (GS)	80	14	73	73	84
Millet*	80	80	80	93	80
Set-aside		66	61	58	60
Normal crop acreage	(400)	(400)	(400)	(400)	(400)
Total	800	800	800	800	800

Qualify for:

80%-100% def. pymts. (W,GS)	Yes-W	Yes-W	---	Yes-GS
Full target price (W,GS)	Yes-GS	Yes-GS	Yes	Yes-W
Loan (W,GS)	Yes	Yes	Yes	Yes
Disaster payments (W,GS)	Yes	Yes	Yes	Yes

\*Not part of normal crop acreage.

Alternative A qualifies the producer for the minimum 80% deficiency payments, loans, and disaster payments. Wheat is maintained at 1977 levels with set-aside reducing grain sorghum acreage. Wheat acreage could actually be greater than 1977 (333 acres) which, when added to required set-aside (67 acres), would not exceed NCA if grain sorghum acreage was reduced to zero. Millet is not part of normal crop acreage, hence, not directly affected by the programs.

Alternative B represents a "uniform" reduction in grain sorghum and wheat. Wheat acreage was not reduced enough to qualify for full target price protection but grain sorghum acreage was reduced by at least 5% from 1977.

Alternative C is a cut-back in both wheat and grain sorghum to qualify for full target price protection on both. The acreage "freed up" was placed in millet but could alternatively have been placed in fallow.

In alternative D, full target price protection for wheat is received but only the minimum 80% deficiency payment level reached for grain sorghum. In this example, grain sorghum acreage actually increased over 1977. This alternative has the advantage of receiving the relatively high full deficiency payment on wheat compared to grain sorghum.

No program alternative exists to increase both wheat and grain sorghum acreage above 1977 acreages. This is due to the requirement that, under the minimum program participation, wheat, grain sorghum and set-aside acreage cannot exceed normal crop acreage. This can only occur where 1977 normal crop acreage included oats, soybeans or rotation alfalfa to provide substitution alternatives.

Example 3: Feed Grain Soybean Farm, 520 Acres, No 1977 Wheat.

	1977 Crops (acres)	Alternatives:					
		A (acres)	B (acres)	C (acres)	D (acres)	E (acres)	F (acres)
Corn (C)	160	160		240	152	160	152
Grain Sorghum (GS)	80	80		160	76	80	76
Soybeans (SB)	120	120	440		120	56	69
Oats (O)	80	56			69		
Alfalfa*	80	80	80	80	80	80	80
Wheat (W)	0					100	100
Set-aside		24		40	23	44	43
Normal Crop Acreage	<u>(440)</u>	<u>(440)</u>	<u>(440)</u>	<u>(440)</u>	<u>(440)</u>	<u>(440)</u>	<u>(440)</u>
Total Acres	520	520	520	520	520	520	520

Qualify for:

80%-100% Def. Pymt.  
(C, GS, W)

C	no	C	---	C	W
GS		GS		GS	
				W	

Full Target Price  
(C, GS, W)

no	no	no	C	no	C
			GS		GS
			W		

Loan  
(C, GS, O, SB, W)

C	SB	C	C	C	C
GS		GS	GS	GS	GS
O			O	SB	SB
SB			SB	W	W

Disaster Payments  
(C, GS, W)

C	no	C	C	C	C
GS		GS	GS	GS	GS
				W	W

\*Assumed not to be in the normal crop rotation. Had it been in the normal crop rotation in 1977, the normal crop acreage would have been greater allowing for more substitution alternatives.

Alternative A represents a minimum 80% deficiency payment level for feed grain program participation. Oats acreage was reduced in order to maintain corn and grain sorghum at 1977 levels, soybeans could have alternatively been reduced.

In alternative B the loan provision for soybeans was reached by placing the normal crop acreage to soybeans. Oats acreage could also have been increased partially or as a complete substitute for soybeans and receive the loan provision as long as the acreage of either or in combination did not exceed the normal crop acreage.

Alternative C qualifies the producer for the minimum 80% deficiency payment for feedgrains. In this case corn and grain sorghum acreage was increased over 1977 levels.

Alternative D demonstrates full target price protection for corn and grain sorghum by reducing corn and grain sorghum acreage by 5% from 1977 acreages while maintaining the 10% set-aside.

Alternatives E and F are shown if the alternative of growing wheat exists. With no 1977 wheat acreage, full compliance on wheat for target price protection is impossible. However, the minimum 80% deficiency payment provision can be reached.

Alternative E. Here both wheat and feed grain program compliance is reached at the 80% deficiency payment level. Corn and grain sorghum could exceed 1977 acreage under this alternative as long as the required set-aside is maintained.

Alternative F shows the required reduction of corn and grain sorghum acreage to reach target price protection for corn and grain sorghum.

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### SHOULD I PARTICIPATE IN THE 1978 PROGRAM ?

Many factors should be considered when deciding whether or not to participate in the 1978 Wheat and Feed Grains Programs. A major factor is your expected profit from participating in the program vs. not participating. Calculating the benefits from participation in the 1978 programs is somewhat more difficult than it was for the programs of the late 60's and early 70's, as the benefits are more difficult to quantify.

The sources of benefits in the 1978 program are:

1. Loan rate. This benefit is quantifiable, and has been established. If you have storage, or access to it, you can take advantage of the loan rates. This provides a minimum price for the eligible crops.
2. Deficiency payments. The maximum amount of the deficiency payment per bushel, as pointed out earlier, is the difference between the target price and loan rate. But, the payment rate for any of the eligible crops could be less than the maximum if the national average price received by farmers in the first 5 months of the marketing year for that crop is above its loan rate. Thus, your estimate of your possible deficiency payment depends on your price expectations for these crops. Also, if you do not reduce wheat acreage by 20% and feed grain acreage by 5% under 1977 levels, the acres eligible for deficiency payments are subject to an allocation factor which can range from 0.8 to 1.0, as discussed earlier.
3. Disaster payments. Participation in the program entitles you to certain payments if you are prevented from planting certain crops, or if the yield of these crops is abnormally low due to weather, disease, etc. This "crop insurance" benefit is of more value to some producers than to others. This benefit is probably the most difficult to quantify.

Thus, your estimated benefits from the loan rate and deficiency payments resulting from participation in the program depend heavily upon your price expectations for the 1978 wheat and feed grains crops. Your financial condition will also be a big factor in evaluating your need for a price floor as well as disaster payments.

### Procedures for Making Decisions

Even though there are some variables and uncertainties regarding program benefits, you will no doubt be able to make a better management decision regarding participation in the program if you do some calculating--using your best estimates of what the prices will be.

Two approaches are suggested below: I) A simple single-crop approach and II) A whole-farm budget approach.

Both of these approaches are based on a comparison of returns over variable costs from participation vs. non-participation. In a short run (annual) planning decision, you should consider only the expected return over variable costs. Your fixed costs will be nearly the same whether you participate or not. Thus, the fixed costs will not affect the outcome. And, the arithmetic is simplified if we can ignore them. The following lists of typical fixed and variable costs of crop production may help clarify this discussion:

Variable Costs--Fuel, lubrication, filters, and repairs on field machinery, irrigation, and drying equipment; custom machine hire (including drying); seed; fertilizer; herbicides; insecticides; hired labor (hourly); and interest on operating expenses.

Fixed Costs--Depreciation, interest on the investment, insurance, and housing on field machinery, irrigation and drying equipment; land interest and taxes; farm overhead; management; and labor (operator and full-time hired labor).

### I. Single Crop Approach

If you are a specialized producer of summer fallow wheat or irrigated corn, for example, this approach may be useful to you. In addition, this approach may be useful as a rule of thumb for diversified crop producers. If, however, you grow several crops and want to evaluate some alternative cropping plans, you should use the whole-farm budget approach outlined in Section II below.

This single-crop approach considers the deficiency payment and loan rate benefits of the program. A break-even price is calculated according to the following formulas for wheat and corn.

Wheat: To calculate the break-even price for wheat, you need four items:

	<u>Example</u>	<u>Your Farm</u>
Expected yield per acre	<u>36</u> bu/A	_____ bu/A
ASCS yield per acre	<u>34</u> bu/A	_____ bu/A
Variable wheat production costs per acre	\$ <u>30</u> /A	\$ _____ /A
Net variable cost of set aside per acre (If benefits from winter grazing exceed the costs, the net set aside cost would be negative)	\$ <u>5</u> /A	\$ _____ /A

Then, perform the following calculations using the constants as given (15 under b and 5 under f):

	<u>Example</u>	<u>Your Farm</u>
a. $ASCS\ yield/A =$	<u>34</u>	_____
b. $15 \times ASCS\ yield/A =$	<u>510</u>	_____
c. Plus wheat variable costs/A	+\$ <u>30</u>	+\$ _____
d. Minus set aside variable costs/A	-\$ <u>5</u>	-\$ _____
e. $(b + c - d) =$	<u>535</u>	_____
f. $(5 \times a) =$	<u>170</u>	_____
g. Plus expected yield/A	+ <u>36</u>	+ _____
h. $(f + g) =$	<u>206</u>	_____
i. Break-even price/bu. $(e \div h)$	\$ <u>2.60</u>	\$ _____

(Answers computed using this formula are valid if "i" is between \$2.35 and \$3.00)

Corn: To calculate the break-even price for corn you need five items:

	<u>Example</u>	<u>Your Farm</u>
Expected yield per acre	<u>80</u> bu/A	_____ bu/A
ASCS yield per acre	<u>75</u> bu/A	_____ bu/A
Variable corn production costs	<u>\$ 66</u> /A	<u>\$</u> _____ /A
Net variable cost per acre of set aside	<u>\$ 15</u> /A	<u>\$</u> _____ /A
Corn price you would receive if it were placed under loan	<u>\$ 1.97</u> /bu	<u>\$</u> _____ /bu

Then, perform the following calculations using the constants as given (.091 under e and .909 under i)

	<u>Example</u>	<u>Your Farm</u>
a. ASCS yield/A =	<u>75</u>	_____
b. Plus corn variable costs/A	<u>+\$ 66</u>	<u>+\$</u> _____
c. Minus set aside variable costs/A	<u>-\$ 15</u>	<u>-\$</u> _____
d. (a + b - c) =	<u>126</u>	_____
e. Multiply the amount in "d" by .091 =	<u>11.47</u>	_____
f. Price/bu. for which corn could be placed under loan	<u>\$ 1.97</u>	<u>\$</u> _____
g. Your estimated yield/A	<u>x 80</u>	<u>x</u> _____
h. (f x g) =	<u>157.6</u>	_____
i. Multiply amount in "h" by .909	<u>143.26</u>	_____
j. (e + i) =	<u>154.73</u>	_____
k. Break-even price (j + g)	<u>\$ 1.93</u>	<u>\$</u> _____

(Answers computed by the above formula are valid if "k" is \$2.00 per bu. or less)

The prices computed using these formulas are break-even prices. If the market price for our example producer's 1978 wheat crop is \$2.60 per bushel (his break-even price), his returns over variable costs would be about equal whether he participates in the program or not. If he participates, he would have the additional benefit of disaster payments, however. If the wheat price would turn out to be below \$2.60/bu., his returns over variable costs would be greater if he participated in the program. Conversely, if the wheat price were above \$2.60/bu., his returns over variable costs would be greater if he did not participate in the program, ignoring the benefits of the disaster payments.

The break-even price formulas presented here implicitly assume an allocation factor of 1.0 and that the quality of land set aside is equal to that which is used for crop production. Potential benefits of disaster payments have not been included. Thus, you need to consider these benefits in addition to the break-even price when making your decision.

The break-even price approach is useful, as your price expectation for your 1978 crops is a key factor in your participation vs. non-participation decision. The break-even price is in essence a "line" between participation and non-participation. You can then "place your bet" on whichever side of the "line" your price expectations dictate.

II. Whole-farm Budget Approach

This approach allows you to evaluate the impact of participation and non-participation alternatives on your return over variable costs from the cropping side of your farming operation. This approach will take more time than using the break-even formulas presented in Section I. But, the interaction of participation in both the wheat and feed grains programs, as well as changes in cropping plans can be evaluated using this approach. This method is presented on the following pages, using an example farm. Also, a set of blank worksheets have been included in this bulletin for you to use with your farm situation.

## Instructions for Completing Whole-farm Budget

### Page One--BASIC PLANNING DATA

1. Fill in the names of the crops across the page on the top line. List irrigated and dryland crops separately, as they will have different ASCS yields, expected yields, and variable production costs.
  - a. Enter your 1978 ASCS yields for corn, grain sorghum, wheat, and barley on line 1-a.
  - b. Enter your estimate of the deficiency payment per bushel for the eligible crops on line 1-b. Your estimate of the deficiency payment rate will depend on your price expectation for the 1978 crops. Remember, the deficiency payment rate is the lesser of: 1) Target price minus loan rate, or 2) Target price minus national average price received by farmers during the first five months of the marketing year for the crop. In the example below, the producer anticipates a price of \$2.50 per bushel for wheat, and that this price will be about the average received by farmers. Thus, his estimated deficiency payment rate is  $\$3.00 - \$2.50 = \$.50$ . (Target price minus average price received.)
  - c. Calculate the estimated deficiency payment per acre for each eligible crop.
  
2. In this section, enter information based on your records as well as your expectations for 1978.
  - a. Enter the yields of each crop which you feel you can achieve in 1978.
  - b. Enter the market price you anticipate for each crop. These should be in keeping with your estimates of deficiency payment rates in 1-b above.
  - c. Calculate your gross income per acre by multiplying the figure on line 2-a by the one on line 2-b in each column.
  - d. Enter your variable production costs per acre. A list of the items which make up variable production costs was presented earlier. Possibly you have these figures in your records. You can estimate them, or consult your County Extension Agent or District Farm Management Specialist for average levels of variable costs per acre for crops in your area.
  - e. Subtract the figures on line 2-d from those on line 2-c to determine your estimated return over variable costs per acre for each crop.
  - f. If the market price which you entered on line 2-b is below what you could realize by placing the crop under loan, enter the difference on line 2-f. In the example, the producer felt that the market price would be \$1.90/bu. for corn. But, he could place the crop under loan for \$2.00/bu., so he entered the 10¢/bu. difference on line 2-f. If the market price you listed on line 2-b for a crop is above your loan rate (soybeans in the example below) or if the crop does not qualify for the loan (alfalfa in the example) there is no need to complete lines 2-f, 2-g, and 2-h for that crop.
  - g. Multiply the additional price on line 2-f by your expected yields on line 2-a.
  - h. Add the added return per acre shown on line 2-g to the amount on line 2-e and place the result on line 2-h.
  
3. Enter the variable cost which you estimate per acre of set aside, and subtract the value which you expect to receive from it from winter grazing. If the grazing value exceeds the cost, the "net cost" on line 3-c will be negative.

Page One--BASIC PLANNING DATA

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Irrig. Corn	Dryland Corn	Milo	Wheat	Soybeans	Oats	Alfalfa
1. <u>Your ASCS Information:</u>							
a. Your ASCS yield per acre	<u>120 bu.</u>	<u>65 bu.</u>	<u>70 bu.</u>	<u>35 bu.</u>	<u>-</u>	<u>-</u>	<u>-</u>
b. x estimated deficiency payment rate per bushel	<u>.10</u>	<u>.10</u>	<u>.38*</u>	<u>.50</u>	<u>-</u>	<u>-</u>	<u>-</u>
c. = estimated deficiency payment per acre (a x b)	<u>\$ 12.00</u>	<u>\$ 6.50</u>	<u>\$ 26.60</u>	<u>\$ 17.50</u>	<u>-</u>	<u>-</u>	<u>-</u>
2. <u>Your Farm Information:</u>	* Based on 1977 Target Prices, 1978 Target price not established yet						
a. Expected yield per acre	<u>130 bu.</u>	<u>75 bu.</u>	<u>80 bu.</u>	<u>42 bu.</u>	<u>30 bu.</u>	<u>60 bu.</u>	<u>3.5 Tons</u>
b. x estimated market price per bushel	<u>\$ 1.90</u>	<u>\$ 1.90</u>	<u>\$ 1.65</u>	<u>\$ 2.50</u>	<u>\$ 5.50</u>	<u>\$ .90</u>	<u>\$ 30</u>
c. = estimated gross income per acre	<u>\$ 247</u>	<u>\$ 142.50</u>	<u>\$ 132</u>	<u>\$ 105</u>	<u>\$ 165</u>	<u>\$ 54</u>	<u>\$ 105</u>
d. less variable cost per acre	<u>\$ 115</u>	<u>\$ 70</u>	<u>\$ 40</u>	<u>\$ 30</u>	<u>\$ 28</u>	<u>\$ 24</u>	<u>\$ 20</u>
e. = return over variable cost per acre	<u>\$ 132</u>	<u>\$ 72.50</u>	<u>\$ 92</u>	<u>\$ 75</u>	<u>\$ 137</u>	<u>\$ 30</u>	<u>\$ 85</u>
f. additional price per bushel which could be realized by placing crop under loan	<u>\$ .10</u>	<u>\$ .10</u>	<u>\$ .25</u>	<u>\$ .50</u>	<u>-</u>	<u>\$ .13</u>	<u>-</u>
g. additional return per acre by placing crop under loan (2a x 2f)	<u>\$ 13</u>	<u>\$ 7.50</u>	<u>\$ 20</u>	<u>\$ 21</u>	<u>-</u>	<u>\$ 7.80</u>	<u>-</u>
h. Net return over variable cost per acre if crop placed under loan (2e + 2g)	<u>\$ 145</u>	<u>\$ 80</u>	<u>\$ 112</u>	<u>\$ 96</u>	<u>-</u>	<u>\$ 37.80</u>	<u>-</u>
3. <u>Your Estimated Net Set-aside Cost:</u>							
a. Variable cost per acre of set-aside					\$	<u>15</u>	
b. less value of grazing per acre of set-aside					\$	<u>-</u>	
c. = Net cost per acre of set-aside					\$	<u>15</u>	

Page Two--COMPARISON OF ALTERNATIVE FARM PLANS

1. List the names of the crops on line 1-a through 1-g in the order in which they were listed on the "Basic Planning Data" page of the worksheet.
  - a. In the first column, enter the 1977 acreage of each crop and the Normal Crop Acreage (item 2) which were certified by your ASCS office.
  - b. Plan 1 -- Enter the acres of crops which reflect the required set aside acreage as well as a reduction of 20% in wheat and 5% in feed grains acreage from 1977. The total set aside acres are entered in item 2. The total acreages of crops which comprise the Normal Crop Acreage and set aside acreage must not exceed the ASCS Normal Crop Acreage for your farm. In the example farm, the producer chose to make his entire reduction in corn acreage from his dryland corn. Now, multiply the acreage of each crop by the return over variable costs per acre from page one of the worksheet, line 2-h if it is filled in. Otherwise, use the figures on line 2-e. Place the results in the "Amount" column.
  - c. Plan 2 -- Enter the acres of crops which reflect the required set aside acreage, but not necessarily a reduction from 1977 acreage. You may have several alternatives you would like to evaluate. One alternative plan is shown for the example farm. Enter the total set aside acres associated with this plan in item 2, and check to see that you have not exceeded the Normal Crop Acreage. Now, multiply the acreages in "Plan 2" by the return over variable costs per acre, as you did with "Plan 1."
  - d. Plan 3 -- Enter the acres of each crop you would grow if you do not participate in the program. Multiply these acreages by the return over variable costs per acre shown on line 2-e of the first page of the worksheet, and list the results in the "Amount" column. Now, total the "Amount" columns for each plan.
2. Multiply your net cost per acre of set aside (line 3-c of the first page of the worksheet) by the set aside acres in "Plan 1," and list the result in the "Cost" column. Do the same for "Plan 2."
3. List your crops which are eligible for deficiency payments on lines 3-a through 3-d.
  - a. Enter the acreage of each of these crops in the "Plan 1" column. Multiply the estimated set aside payment per acre of each crop (on line 1-c of the first page of the worksheet) by the acres of that crop and enter the result in the "Payment" column.
  - b. Use the same procedure to calculate the figures for "Plan 2," and place the result in the "Payment" column which reflects an allocation factor of 1.0. Then, multiply each item in that column by 0.8, and place the result in the column which reflects an allocation factor of 0.8. Then, total the "Payment" columns for Plans 1 & 2.
4. Now, add the return over variable costs from crop production (item 1), the total deficiency payments (item 3), and subtract the set aside cost (item 2), for Plans 1 and 2. For Plan 3, the return over variable cost from crop production (item 1) is the bottom line figure also.

COMPARISON OF RETURNS OVER VARIABLE COSTS RESULTING FROM PARTICIPATION AND NON-PARTICIPATION ALTERNATIVES

1977 Normal Crop Acreage	PLAN 1 Participation with Reduct. of 5% in Feed Grain & 20% Wheat Ac.		PLAN 2 Program Participation without Wheat & Feed Grain Acreage Reduction		PLAN 3 Non-participation			
	Crop	Acres	Acres	Amount	Acres	Amount	Acres	Amount
1. Return Over Variable Costs from Crop Prod:								
a. Irr. Corn	130	130	\$ 18,850	130	\$ 18,850	130	\$ 17,160	
b. Dryland Corn	30	22	1,760	24	1,920	30	2,175	
c. Milo	100	95	10,640	100	11,200	100	9,200	
d. Wheat	50	40	3,840	50	4,800	50	3,750	
e. Soybeans	60	60	8,220	60	8,220	60	8,220	
f. Oats	30	20	756	-	-	30	900	
g. Alfalfa	30	30	2,550	30	2,550	30	2,550	
Total	430		\$ 46,616		\$ 47,540		\$ 43,955	
2. Net Cost of Set- Aside Acres:		Acres	Cost	Acres	Cost			
		33	\$ 495	36	\$ 540			
ASCS Normal Crop Acreage	400	400		400		400		
3. Possible Deficiency Payments:		Acres	Payment	Acres	1.0	0.8		
a. Irr. Corn	130	130	\$ 1,560	130	\$ 1,560	\$ 1,248		
b. Dryland Corn	22	22	143	24	156	125		
c. Milo	95	95	2,527	100	2,660	2,128		
d. Wheat	40	40	700	50	875	700		
Total			\$ 4,930		\$ 5,251	\$ 4,201		
Total Return Over Variable Costs: (item 1 less item 2 plus item 3)			\$ 51,051		\$ 52,251	\$ 51,201	\$ 43,955	

By comparing the total return over variable costs from Plans 1, 2, and 3, you can see which plan is likely to produce the most profit. In Plan 2, the return over variable costs will likely be in the range resulting from allocation factors of 1.0 and 0.8. The exact factor for each crop will not be determined until after harvest.

You may want to evaluate other plans as well as price situations, using these worksheets. Another section of this bulletin contains suggestions of several alternatives. In addition to annual income, other factors such as crop rotations, weed problems, conservation, and legume establishment will no doubt influence your decision.

The foregoing procedures have presented methods of evaluating the benefits of the loan rate and deficiency payments. A third benefit, which we have not evaluated, is the disaster payments.

### Disaster Payments

These benefits are more difficult to quantify, but you should calculate them for at least your major crops, to determine the amount of these payments, in the event that a disaster did occur. These are two types of disaster payments: 1) Prevented planting payments and 2) Low yield payments.

#### Prevented Planting Payments

As outlined in an earlier section of this bulletin, if you are prevented from planting a crop, you may be eligible for a payment calculated as follows:

- a.  $.75 \times \text{ASCS yield}$
- b.  $.33 \times \text{Target price}$
- c.  $a \times b = \text{Payment per acre}$
- d.  $\text{ASCS intended acres for the crop not planted}$
- e.  $c \times d = \text{Total payment for the crop}$

For example if you were prevented from planting 100 acres of non-irrigated corn, and your ASCS yield was 70 bu./A.

- a.  $.75 \times 70 \text{ bu./A} = 52.5 \text{ bu./A}$
- b.  $.33 \times \$2.10/\text{bu.} = \$.70/\text{bu.}$
- c.  $52.5 \times .70 = \$36.75 \text{ payment per acre}$
- d. 100 acres
- e.  $\$36.75/\text{A} \times 100 \text{ acres} = \$3,675 \text{ total payment}$

#### Low Yield Payment

If your crop yields are abnormally low due to drouth, hail, insects, disease, etc., you may be eligible for a low-yield payment, which would be calculated as follows:

- a.  $.60 \times \text{ASCS yield}$
- b. Actual yield
- c.  $a - b = \text{Yield deficit per acre}$
- d.  $.5 \times \text{Target price}$
- e.  $c \times d = \text{Payment per acre}$
- f. Acres planted
- g.  $e \times f = \text{Total payment}$

Using the example of 100 acres of non-irrigated corn with an ASCS yield of 70 bu./A, and an actual yield, due to disaster, of 30 bu./A, the calculations would be as follows:

- a.  $.60 \times 70 = 42$  bu./A
- b. 30 bu./A Actual yield
- c.  $42 - 30 = 12$  bu./A Yield deficit
- d.  $.5 \times \$2.10/\text{bu.} = \$1.05/\text{bu.}$
- e.  $12 \text{ bu./A} \times \$1.05/\text{bu.} = \$12.60/\text{A}$
- f. 100 Acres planted
- g.  $\$12.60/\text{A} \times 100 \text{ acres} = \$1,260$  Total payment

One possible method of evaluating the benefit of the low-yield payments is to determine what all-risk crop insurance would cost on your farm for similar coverage. This may vary from \$3-5/A for corn in eastern Nebraska to \$2-3/A for wheat in southwest Nebraska. The disaster payments under the ASCS program are paid in addition to any crop insurance which a producer may have purchased.

You should calculate the potential disaster payments for your major crops in order to determine the magnitude of this factor before making your participation vs. non-participation decision. The crops eligible for disaster payments are wheat, corn, grain sorghum, and barley. As stated earlier, deficiency payments on an individual farm will be reduced by the amount of disaster payments received.

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Page One--BASIC PLANNING DATA

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1. <u>Your ASCS Information:</u>	_____	_____	_____	_____	_____	_____	_____
a. Your ASCS yield per acre	_____	_____	_____	_____	_____	_____	_____
b. x estimated deficiency payment rate per bushel	_____	_____	_____	_____	_____	_____	_____
c. = estimated deficiency payment per acre (a x b)	=====	=====	=====	=====	=====	=====	=====
2. <u>Your Farm Information:</u>							
a. Expected yield per acre	_____	_____	_____	_____	_____	_____	_____
b. x estimated market price per bushel	_____	_____	_____	_____	_____	_____	_____
c. = estimated gross income per acre	=====	=====	=====	=====	=====	=====	=====
d. less variable cost per acre	_____	_____	_____	_____	_____	_____	_____
e. = return over variable cost per acre	=====	=====	=====	=====	=====	=====	=====
f. additional price per bushel which could be realized by placing crop under loan	_____	_____	_____	_____	_____	_____	_____
g. additional return per acre by placing crop under loan (2a x 2f)	_____	_____	_____	_____	_____	_____	_____
h. Net return over variable cost per acre if crop placed under loan (2e + 2g)	=====	=====	=====	=====	=====	=====	=====
3. <u>Your Estimated Net Set-aside Cost:</u>							
a. Variable cost per acre of set-aside					\$ _____		
b. less value of grazing per acre of set-aside					\$ _____		
c. = Net cost per acre of set-aside					\$ _____		

COMPARISON OF RETURNS OVER VARIABLE COSTS RESULTING FROM PARTICIPATION AND NON-PARTICIPATION ALTERNATIVES

1977 Normal Crop Acreage	PLAN 1 Participation with Reduct. of 5% in Feed Grain & 20% Wheat Ac.		PLAN 2 Program Participation without Wheat & Feed Grain Acreage Reduction		PLAN 3 Non-participation			
	<u>Crop</u>	<u>Acres</u>	<u>Acres</u>	<u>Amount</u>	<u>Acres</u>	<u>Amount</u>	<u>Acres</u>	<u>Amount</u>
1. <u>Return Over Variable Costs from Crop Prod:</u>								
a. _____	_____	_____	\$ _____	_____	\$ _____	_____	\$ _____	_____
b. _____	_____	_____	_____	_____	_____	_____	_____	_____
c. _____	_____	_____	_____	_____	_____	_____	_____	_____
d. _____	_____	_____	_____	_____	_____	_____	_____	_____
e. _____	_____	_____	_____	_____	_____	_____	_____	_____
f. _____	_____	_____	_____	_____	_____	_____	_____	_____
g. _____	_____	_____	_____	_____	_____	_____	_____	_____
<u>Total</u>			\$ _____		\$ _____		\$ _____	
2. <u>Net Cost of Set- Aside Acres:</u>		<u>Acres</u>	<u>Cost</u>	<u>Acres</u>	<u>Cost</u>			
ASCS Normal Crop Acreage _____		_____	\$ _____	_____	\$ _____			
3. <u>Possible Deficiency Payments:</u>		<u>Acres</u>	<u>Payment</u>	<u>Acres</u>	<u>1.0</u>	<u>0.8</u>		
a. _____		_____	\$ _____	_____	\$ _____	\$ _____		
b. _____		_____	_____	_____	_____	_____		
c. _____		_____	_____	_____	_____	_____		
d. _____		_____	_____	_____	_____	_____		
<u>Total</u>			\$ _____		\$ _____	\$ _____		
<u>Total Return Over Variable Costs:</u> (item 1 less item 2 plus item 3)			\$ _____		\$ _____	\$ _____		\$ _____

