tation Bulletin 464 March 1963

The Feed Grain Program in Minnesota

Who Participated

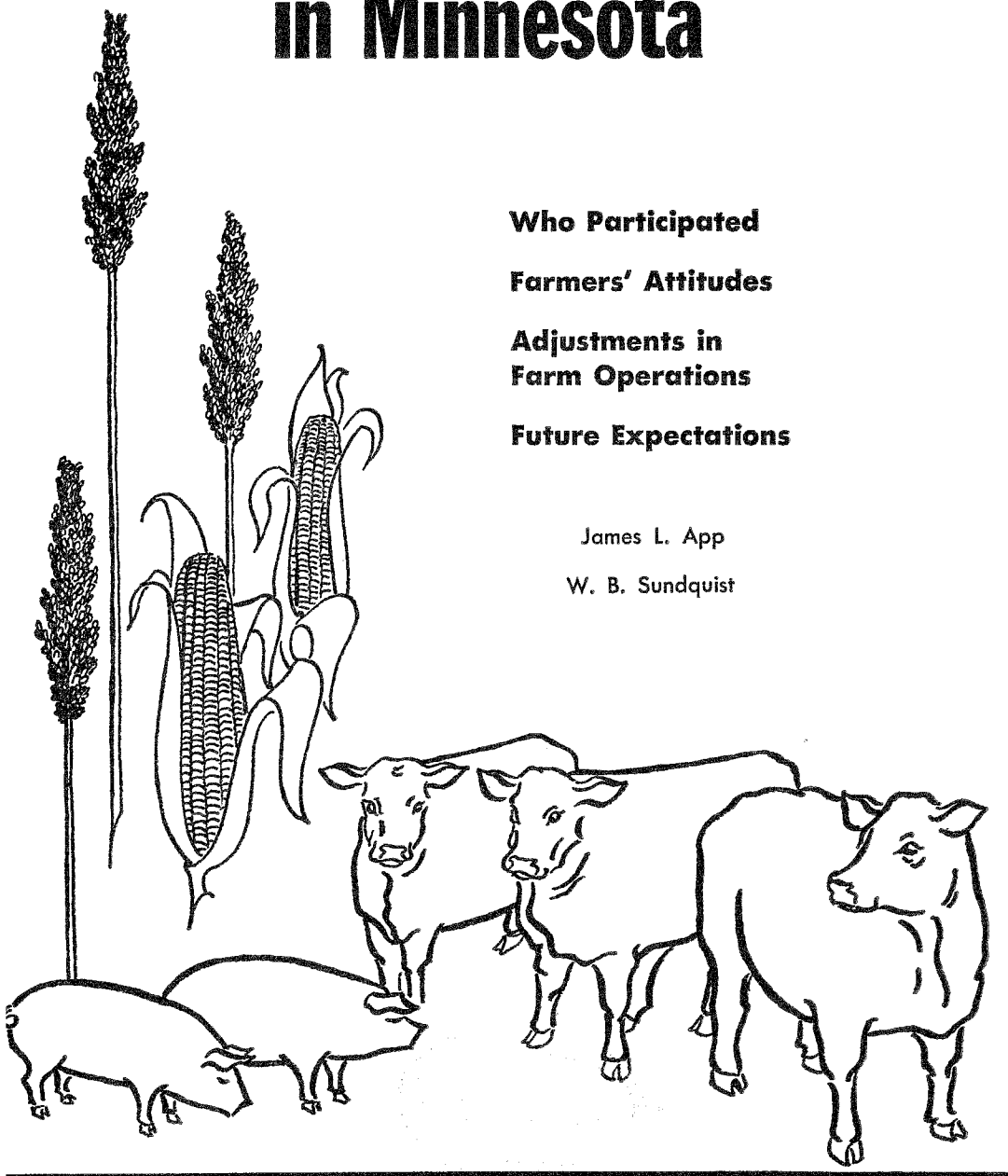
Farmers' Attitudes

Adjustments in Farm Operations

Future Expectations

James L. App

W. B. Sundquist



University of Minnesota ■ Agricultural Experiment Station

in cooperation with

Farm Production Economics Division ■ Economic Research Service

U.S. Department of Agriculture

This Bulletin in Brief

THE emergency feed grain program was initiated nationally in 1961 to help reduce production of feed grains, decrease quantities of Government stored grains, increase farm income, and promote long range conservation of resources. The program specifically provided for payments to farmers who voluntarily reduced acreage of corn and/or grain sorghums. Minimum diversion was 20 percent and maximum diversion 40 percent of the average acreage of the crops grown in the base years of 1959 and 1960. In 1962 barley was added to the list of feed grains eligible for the program and participants were again eligible for price supports for qualified feed grains. Nonparticipants could produce feed grains on as many acres as they desired; however, any corn marketed by them was subject to the open market forces of supply and demand and resultant price levels.

WHAT characteristics distinguished those farmers participating in the 1961 Feed Grain Program from nonparticipants? Why did some farmers participate and others not? How would selective changes in the program affect participation rates? What attitudes do farmers have toward the feed grain program and alternative farm price policies?

To find the answers to these and related questions a survey was made of farmers in two areas of southern Minnesota. Data were provided by 304 farm operators in 16 Minnesota counties and the Agricultural Stabilization (ASCS) office in each of these counties. A summary of the findings appears on the next two pages. For detailed information see:

A Comparison: Participants and Nonparticipants

Several characteristics of both farms and operators were obtained to help identify important considerations for program participation.

Age—There was little difference in the proportion of participants and nonparticipants over 65 years of age. This indicates that the decision to slow down or retire probably was not important to participation.

Off-farm employment—A similar proportion of participants and nonparticipants had some off-farm employment. A greater incidence of off-farm employment was found in southeast than in southwest Minnesota.

Tenure—No significant differences were apparent in proportions of owner-operators and tenants participating in the program.

Farm size—Participants in both Minnesota areas had significantly larger farms including more cropland, soybeans, and pasture than did nonparticipants.

Livestock—No differences were recorded in total livestock units per farm in the southeast sample. But nonparticipants in the southwest had more livestock units than participants. In both areas nonparticipants had substantially larger livestock enterprises per acre of cropland.

Labor—The amount of crop-season labor used did not differ significantly between participants and nonparticipants.

Corn acreage base—Because they had a larger corn acreage in 1959 and 1960, participants in both areas were assigned larger corn base acreages than nonparticipants.

Productivity index—Normal bushel productivity index and per acre payment rates assigned by ASC committees were almost identical for participants and nonparticipants.

Fertilizer use—Both groups of farmers in the southeast fertilized their corn acreage more heavily than those in the southwest. Participants in the southeast applied more fertilizer per acre than nonparticipants. No significant differences existed between participants and nonparticipants in the southwest.

During 1961 nonparticipants increased fertilizer use on corn substantially compared to 1960—by over 50 percent in the southeast and 36 percent in the southwest. These increases were attributable to an increase in: (1) acreage fertilized, and (2) amounts applied per acre.

Participants reduced the total amount of fertilizer applied. Although their per acre application rates were higher in 1961 than in 1960, this was more than offset by a decline in acres fertilized.

Cash corn sales—A higher proportion of participants in both areas reported feed grains produced for sale. They sold a larger volume of these crops than did nonparticipants.

Reasons For or Against Participation

Farmers voiced several reasons for their decisions regarding the 1961 Feed Grain Program. The foremost reason stated for participation was that it enabled the land resource to be idled. Profitability of participating, decreased farm expenses and resource use, and risk reduction were frequently stated.

Foremost policy-oriented reasons included: (1) allowing the feed grain program 1 year to prove its merit, and (2) assisting the Government to control surpluses. Unfavorable spring weather in 1961 and weed control on diverted acres were only minor considerations for participation.

Generally, respondents associated advantages of the program to their individual farm situation (increased income and decreased resource use) more than with the agricultural industry situation.

Many nonparticipants listed the need for corn for livestock feed and improved profits as reasons for nonparticipation. Nonparticipants indicated dissatisfaction with the feed grain program as Government policy. They felt generally that Government should not be involved in agricultural programs.

Reasons for dissatisfaction with administration of the feed grain program

were: (1) lower than expected productivity indexes, and (2) unsatisfactory base acreage allotment assignments.

Other disadvantages mentioned were directed primarily at inability of the program to control production, low payment rates, and unequal effects on different sizes and types of farms.

A higher proportion of program disadvantages than advantages, as cited by respondents, dealt with general policy aspects of the program.

Reaction to Program Changes

Farmers indicated that adjustments in participation would probably occur with certain changes in the feed grain program and its administration. A summary of individual estimates of adjustments indicates that a 10-percent reduction in diversion payment rates would reduce participation 80 to 90 percent from the 1961 level. Raising diversion payment rates by 10 percent would attract about 25 percent of the farmers not anticipating participation in 1962.

Alternative policies of: (1) raising feed grain price supports by 12½ percent, or (2) reducing minimum acreage diversion requirements from 20 to 15 percent, would attain increased participation rates similar to a 10-percent increase in diversion payment rates. Permission to pasture diverted acres would have attained participation rates in 1962 equivalent to raising payment rates by 20 percent.

Initiation of a 5-year feed grain program would likely attract greater participation than a 1-year program.

Requiring participation in the program in order to obtain soybean support prices would be an unattractive alternative if these prices were below 1961 levels.

Preferred Policies for Agriculture

Attitudes toward optimal agricultural policy undoubtedly were important to the decision of participation. With no change in economic conditions, higher proportions of 1961 participants than nonparticipants preferred a support price situation for corn and hogs. This was true in both Minnesota areas.

Levels of corn and hog prices, both at date of survey and expected during the last quarter of 1962, were lower than levels respondents believed should be price goals of national farm policy. Hog price goals of free-market advocates averaged slightly lower than did those of price support advocates. Both were well above the average hog price received from 1956 to 1960.

The average corn price desired by free-market advocates was about $1.12 per bushel. Price-support advocates thought a desirable price was about $1.25. Projections of free market quantity-price relations indicate that major adjustments must occur in total corn supplies to reach the equilibrium price desired by respondents.

A voluntary system of controlling feed grain production was favored by over two-thirds of the respondents preferring a combination support price-free market situation (support prices for either corn or hogs but not both). Respondents preferring support prices for both hogs and corn were more equally divided between a mandatory and voluntary approach. Of the several methods for reducing production, taking some cropland out of many farms was preferred. Little interest was expressed in removing whole farms from production.

Respondents who preferred either: (1) a free market, or (2) a combination support price-free market situation, and who thought there are better ways to control feed grain production, concentrated suggested alternatives in two categories:

1. Over 85 percent of respondents in the southeast area felt farmers should integrate purchases of agricultural inputs and sales of agricultural products through a farmer-controlled organization. This cooperative would establish market quotas on participating members.

2. On the other hand, 80 percent of respondents in this category in the southwest area preferred removal of all control programs from the agricultural scene.

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The Feed Grain Program In Minnesota

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THE 1961 FEED GRAIN PROGRAM HAD WIDESPREAD APPLICATION TO MINNESOTA AGRICULTURE, particularly in southern Minnesota counties with a large corn acreage. In 1961 Minnesota ranked third nationally in total corn production with a total of 5,027,000 acres of corn harvested for grain.[1] Approximately 1.5 million acres were diverted from feed grain production in 1961 as a result of participation in the program.[2] The program exerted a sizable economic impact on Minnesota agriculture since an estimated 50 percent of the farmers in the state were participants.[3]

A Complex Decision

Because program signup was established on a voluntary basis, each eligible farmer was faced with the decision to participate or not participate. These decisions were rendered extremely complex for analysis because of the almost infinite array of interrelated factors. These include: personal goals and values of individual farmers, type and size of farm, labor supply, capital and management resources available, and alternative employment for these resources. And some individual decisions were influenced by nonrecurring factors beyond a farmer's control, such as illness, weather, and weed infestations.

These complexities require that the search for explanations of farmers' decisions to participate or not participate in the feed grain program be conducted within a conceptual framework which includes consideration of both their economic and noneconomic environments. The scope of the study reported here

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The authors are, respectively, assistant professor and extension economist in farm management, Institute of Agriculture; agricultural economist, Farm Production Economics Division, Economic Research Service, U. S. Department of Agriculture.

[1] Minnesota Agricultural Statistics, 1962, Crop and Livestock Reporting Service, Minn. Dept. Agr., March 1962, St. Paul.

[2] *Minnesota Farm Business Notes*, March 1962, No. 439, Univ. Minn., St. Paul.

[3] Minnesota State ASCS data, St. Paul.

includes both (1) a description of the characteristics of the participants and nonparticipants and of their farm units, and (2) an economic analysis of the effects of the feed grain program on farm organizations, operations, and resource adjustments. Then an attempt is made to analyze farmers' attitudes towards this or alternative agricultural policy programs.

Objectives of the Study

Four major objectives form the framework for this study:

1. To identify selected characteristics of farmers and their farm units as they relate to participation or nonparticipation in the feed grain program.
2. To determine relation of actual and expected adjustments in farm organization and operation to participation or nonparticipation.
3. To determine the relation of selected characteristics of decision making to participation or nonparticipation.
4. To identify the relation of attitudes of participants and nonparticipants toward (a) the feed grain program specifically, and (b) other national agricultural policies.

Background

Because the feed grain program has been in operation only since 1961, few research studies have been completed on the factors associated with participation or nonparticipation and on adjustments in farm organization planned or completed.

Jensen and Sundquist conducted a survey of farmers in the Southeastern and Southwestern Farm Management Associations in Minnesota in 1961.[4] The information obtained dealt primarily with reasons for participation and nonparticipation in the feed grain program in 1961. The reasons given most often for participating were (1) higher net income, (2) lower but surer income, (3) feeling of obligation, and (4) savings in labor and machine hire. The primary reasons for nonparticipation were (1) feed was needed from the farming operation, (2) opposition to Government controls, and (3) higher net income was obtained by not participating.

App and Sundquist reported on expected participation in the 1962 Feed Grain Program in Minnesota.[5] The study indicated that expected participation in selected areas of Minnesota would be lower in 1962 than in 1961 due to several factors. These included: (1) an improved income position for many farmers, (2) high corn yields in 1961, (3) local weather conditions, and (4) lower than expected price differentials between support prices and open market corn prices in 1961. The data on expected participation were reported as an initial phase of this study.

Similar studies were conducted concurrently in Iowa, Kansas, Ohio, and Texas.

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[4] H. R. Jensen and W. B. Sundquist, "Participation in the 1961 Feed Grain Program," *Minnesota Farm Business Notes*, No. 435, Univ. of Minn., St. Paul, November 1961.

[5] J. L. App, and W. B. Sundquist, "Expected Participation in the 1962 Feed Grain Program," *Minnesota Farm Business Notes*, No. 439, Univ. of Minn., St. Paul, March 1962.

Source and Nature of the Data

PRIMARY data used in this study were obtained from (1) 5 counties in southeastern Minnesota, and (2) an 11-county area in southwestern Minnesota (see map below).[6]

Data utilized in both areas were obtained from two principal sources: (1) county Agricultural Stabilization and Conservation records, and (2) personal interviews with program participants and nonparticipants included in the sample.

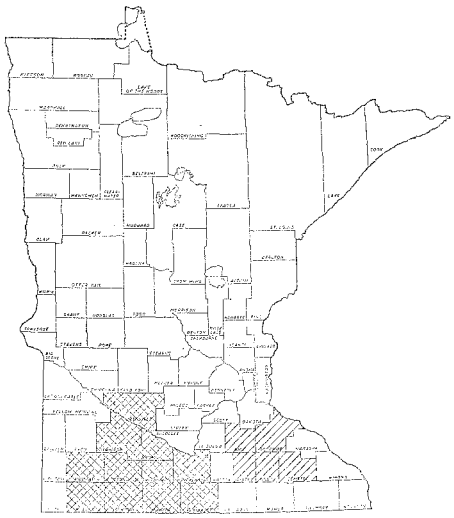
Southeast Sample

In the five-county southeast sample area, one-half of the commercial farms are classified as dairy farms. General farms, livestock farms, and cash grain farms each comprise an additional one-sixth of the total number of commercial farms.

A random sample was drawn in the southeast area. Each county furnished 30 observations, one-half being drawn from nonparticipants and one-half being drawn from participants in the 1961 Feed Grain Program. Thus, a total sample of 150 observations plus alternatives was acquired for the five-county area of the southeast. All county ASC records were examined to eliminate those farm operators who did not have an opportunity to participate in the 1961 Feed Grain Program. Exclusions were primarily operators who had farms where Conservation Reserve Contracts (Soil Bank Programs) were in force, and where the whole farm unit was diverted to conservation use. The remaining farms in each county were separated into groups of nonparticipants or participants in the 1961 Feed Grain Program. Random samples were drawn from each of the two groups.

Southwest Sample

The procedure in the southwest area differed from the one used in the southeast in that a previously drawn sample was utilized.[7] The original sample was stratified to include representation of 12 different cells based on four types of farms: (1) general, (2) livestock, (3) dairy, and (4) cash grain, with three



Sample areas in (left) southwest and (right) southeast Minnesota.

[6] Hereafter in this report the study areas will be referred to as the southeast and southwest areas.

[7] The sample was initially drawn by H. R. Jensen and C. O. Nohre of the Department of Agricultural Economics, University of Minnesota, for use in a regional study of adjustments in beef-hog farming.

size strata within each type. The criteria for each type were adapted from the census of agriculture classification for general livestock, dairy, and general and cash grain farms.[8] Only those farms were included which (1) had gross sales from the farm equal to or greater than $2,500, and (2) had less than 50 percent of their gross sales from poultry and poultry products.

From the original sample of 218 farms, 173 observations were utilized in this study. Forty-five observations were randomly removed from the livestock type farms. This was done because (1) some of the nonlivestock farm cells had a much smaller total of observations, and any withdrawal of observations might render a cell average unreliable due to the small number of observations remaining, and (2) it was felt that even with some dropout an initial sample of 173 observations in the southwest area would be sufficient to accomplish the objectives of the study. Of those farms remaining in the sample, 48 were cash grain farms, 42 were livestock farms, 26 were dairy farms, and 57 were general farms. About 70 percent of the farm operators in the sample were participants in the 1961 Feed Grain Program and 30 percent were not. A total of 151 interviews were obtained in the southeast and 154 in the southwest.[9]

County ASC offices in both sample areas furnished acreage and crop histories for 1959 and 1960 and other background characteristics for each farm included in the sample. These same crop histories were the basis used by the ASC office and committeemen to determine the feed grain base for each farm. The remaining data required were obtained from each farmer by personal interviews conducted during December 1961.

[8] See 1959 Census of Agriculture, Volume 1, Part 15, pp. xxiv-xxv, U.S. Bureau of Census, U.S. Government Printing Office, Washington, D.C., 1961.

[9] Nineteen farmers in the sample either were not available or did not wish to participate in the study. Of the 19, 10 participated in the 1961 Feed Grain Program and 9 did not.

How Participants Compared to Nonparticipants

THE analysis and results in this section center on distinguishing characteristics of the feed grain program participants as compared to nonparticipants. Inferences and comparisons are based primarily on internal differences between the group of participants and the group of nonparticipants in each of the two samples. Three types of statistical tests were employed in the analysis. These included tests for significance between means, variances, and proportions. The 5-percent probability level (.05) was used as the critical value for acceptance or rejection of the null hypothesis (the hypothesis of no difference between the statistics being compared).[10]

Characteristics studied include: age, farmer resources, off-farm income and employment, and crop and livestock programs. Changes in labor and capital use are also assessed.

Age of Operator

The average age of feed grain program participants was 44.5 years of age in the southeast and 45.6 years in the southwest (table 1). Nonparticipants averaged 47.9 years of age in the southeast and 43.8 in the southwest. In neither case were age differentials between participants and nonparticipants statistically significant. Approximately one-half of the participants and nonparticipants were between 35 and 49 years of age in both sample areas.

It was hypothesized that farmers over 65 years of age would tend to participate in the program because retiring land acreage would reduce labor and capital requirements, yet would assure certain income from the retired acreage. Approximately 4 percent of the participants in the southeast and 2 percent of the participants in the southwest were 65 years of age or older compared to 8 percent of the southeast nonparticipants and 4 percent of the southwest nonparticipants. Thus, there was not a disproportionately

Table 1. Age distribution of participants and nonparticipants

	Southeast				Southwest			
	Participants		Nonparticipants		Participants		Nonparticipants	
Age in years	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 20	1	1	0	0	1	1	0	0
20-34	15	20	10	13	15	14	11	24
35-49	36	47	36	48	54	50	22	48
50-64	21	28	23	31	35	33	11	24
65-79	3	4	4	5	2	2	2	4
80 and over	0	0	2	3	0	0	0	0
Total	76	100	75	100	107	100	46	100
Average age	44.5		47.9		45.6		43.8	

[10] Because of the difference in sampling procedures in southeast and southwest Minnesota, the critical differences in statistical tests for the two samples will also be different. In several cases small cell size prohibited use of statistical tests.

Table 2. Distribution of off-farm employment and income

Item	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
Percent with off-farm employment	37.0	30.0	26.0	24.0
Average weeks of off-farm employment	20.5	17.7	20.7	15.4
Proportion with off-farm income	44.7	46.7	38.0*	30.0*
Level of off-farm income	$2,279	$2,464	$1,458†	$1,002†

* The two proportions are significantly different at the .05 level.

† The two averages are significantly different at the .05 level.

large number of participating farmers approaching retirement age.

Off-Farm Employment and Income

Participants in both areas who were employed off the farm were so employed approximately 40 percent of the year compared to 30 percent for the southwest nonparticipants, and 34 percent for the southeast nonparticipants (table 2).

The distribution of off-farm income is also reported in table 2. Off-farm income is often derived from sources other than off-farm employment. Other sources respondents were instructed to indicate are: farms and land rented out; stocks, bonds, and savings accounts; and social security, old age assistance, or pensions. Off-farm income from sources other than off-farm employment was well disbursed among the several sources listed above.

The southeast sample had both (1) a higher proportion of farmers with off-farm income, and (2) a higher average level of income from off-farm sources than did the southwest sample. A greater proportion of southwest participants had off-farm income and their income levels from off-farm sources were higher than those of the nonparticipants. No such differences were apparent in the southeast.

Tenure Status

The two areas differed considerably in the tenure status of farm operators, with a higher proportion of tenancy in the southwest (table 3). It was hypothesized that landlords would prefer the certain and stable income from participating and that a higher proportion of tenant-operated than owner-operated farms would be in the program. The data in table 3 do not support this hypothesis. No significant differences were observed in either area between the percentage of tenants and owner-operators who participated.

Table 3. Tenurial status of participants and nonparticipants in the feed grain program by percentage composition, 1961

Tenurial status	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
	percent			
Owner-operator	53.3	54.6	32.4	32.4
Tenants	15.8	26.7	45.4	43.5
Owner-operator—rent additional acreage	30.9	18.7	22.2	24.1

Characteristics of Farms

Farm Size and Land Use

In both areas the participants had larger farms with more cropland than nonparticipants (table 4). Participants' farms were 71 acres larger on the average in the southeast and 58 acres larger in the southwest. Participants' cropland exceeded that of nonparticipants by 61 acres in the southeast and 53 acres in the southwest. Over 76 percent of the nonparticipants in the southeast and 59 percent in the southwest had 160 acres of cropland or less.

Further detailed examination of the type of crops grown and respective acreages is shown in table 5. Compared to nonparticipants, cropland acreage use of the participants differed primarily in two respects: (1) the participants in each area had diverted more than 30 acres as a result of the feed grain program, and (2) they had 15 to 18 acres more soybeans than nonparticipants. The additional soybean acreage of participants is indicative of the ease of substituting soybeans for corn in a cropping program.

The paritcipants in both areas had more noncropland, including permanent pasture. To the extent that permanent pasture substitutes for cropland, particularly rotation pasture and hayland, this may have helped to make participation less restrictive on farms with large livestock enterprises.

Type and Intensity of Livestock Enterprises

Livestock enterprises, particularly dairy, hogs, and beef, are important in southern Minnesota. Since livestock farms typically utilize available home grown

Table 4. Farm size and distribution of cropland acreage, 1961

	Farm size			
	Southeast		Southwest	
Acreage	Participants	Nonparticipants	Participants	Nonparticipants
	percent			
Total Farm				
1-80	10.5	14.7	1.8	4.3
81-160	30.3	49.3	27.8	41.3
161-240	21.1	22.7	30.6	32.6
241-320	14.5	8.0	18.5	13.1
321-400	14.5	2.7	7.4	2.4
401-480	2.6	0	5.6	2.4
481-560	2.6	1.3	3.7	3.0
561 and over	3.9	1.3	4.6	.9
Average size farm operated	246*†	175*†	264*‡	206*‡
Cropland				
1-80	14.5	21.4	2.8	8.8
81-160	35.5	54.7	36.4	50.0
161-240	22.4	17.3	31.7	30.5
241-320	15.8	4.0	10.3	4.3
321-400	9.2	1.3	11.2	2.1
401-480	9.0	0	3.8	4.3
481 and over	2.6	1.3	3.8	0
Average cropland acres	201*†	140*†	225*‡	172*‡

* The averages for participants and nonparticipants are significantly different at the .05 level.

† The variance in farm size and cropland operated by participants in the southeast is greater than for nonparticipants at the .05 level.

‡ The variance in farm size and cropland operated by participants in the southwest is greater than for nonparticipants at the .05 level.

Table 5. Distribution of acreage by use of cropland and noncropland, 1961

Land use	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
	acres			
Cropland				
Corn-grain	45.4	48.4	74.0	78.9
Corn-silage	5.2	6.4	3.8	5.1
Diverted acreage	32.5*	.....*	34.1*	.....*
Small grain	35.2	31.3	31.4	27.9
Legumes and rotational pasture	37.6	36.7	21.3	23.4
Soybeans	34.5*	15.9*	53.1*	34.7*
Other crops (sweet corn, peas, etc.)	10.6*	1.3*	7.3	2.0
Total cropland acres	201*	140*	225*	172*
Noncropland				
Permanent pasture	29.7*	18.7*	29.6*	18.3*
Other uses (roads, farmstead, etc.)	15.3	16.3	9.4	15.7
Total noncropland acres	45*	35*	39	34
Total land in farm	246*	175*	264*	206*

* The averages for participants and nonparticipants are significantly different at the .05 level.

feeds and forage, cropland may effectively limit the expansion of the livestock enterprises. Because of this, it was hypothesized that those farms with more livestock units would have a lower rate of participation in the feed grain program.[11]

Respondents were asked to indicate the amount of livestock raised and bought for a 12-month period beginning October 1, 1960, and the number of milk cows and hens on inventory as of January 1, 1961 (table 6).

In the southeast dairy-hog area the proportion of nonparticipants reporting milk cows and hogs was significantly higher than for participants.

In the southwest area a higher proportion of nonparticipants than participants reported feeder cattle, hogs, milk cows, poultry, and sheep. Over 60 percent of the nonparticipants reported

Table 6. Proportion of respondents reporting livestock units, 1961

Kind of livestock	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
	percent			
Feeder cattle	43	43	54*	63*
Hogs	45*	67*	74*	87*
Milk cows on hand 1/1/61	63*	81*	44*	76*
Poultry on hand 1/1/61	43	47	65*	76*
Sheep	13	8	18*	30*

* The two proportions for participants and nonparticipants are significantly different at the .05 level.

[11] One livestock unit in this study refers to 1 dairy cow or bull, 2 other dairy cattle, 1¼ beef cows or 1 bull, 1 feeder steer or heifer, 3⅓ other beef cattle, 7 sheep, 14 lambs, 2½ hogs, 5 pigs, 50 hens, or 1,100 pounds of turkey produced. See Report 259, Dept. of Agr. Econ. Univ. of Minn. June 1961, p. 20.

feeder cattle and almost 90 percent reported hogs. More than 75 percent reported milk cows.

Table 7 presents further analysis of the number of livestock units on farms reporting livestock. Analysis of these data indicate that the size of enterprises did not differ significantly.

In the southwest nonparticipants reported more hogs, sheep, and total livestock units than did participants. Feeder and dairy cattle numbers, however, were not significantly different.

Since nonparticipants in both the southeast and the southwest had a larger volume of livestock production per acre of cropland, one can conclude that pressure on home-produced feed supplies may have discouraged their participation.

Corn Base and Productivity Index

Each farm in the survey was assigned a corn acreage base by the county ASC committee. This base was the average acreage of corn produced in 1959 and 1960.[12]

Participation required a minimum acreage diversion and provided price support on a maximum bushelage. For example, a farmer with a 100-acre base could divert from 20 to 40 acres and qualify for diversion payment on this acreage, and support prices on normal production from the remaining 60 to 80 acres. Normal production, diversion payment rates, and maximum bushelage eligible for price supports were based on a productivity index assigned by county ASC committees. Data summarizing corn base acreages and productivity indexes are presented in table 8.

Because of larger corn acreages in 1959 and 1960 participants had substantially larger base acreages than nonparticipants. However, there were no significant differences in the productivity indexes of participants and nonpartici-

Table 7. Livestock units fed, raised, or on farms reporting some livestock, 1960-61 feeding year*

Kind of livestock	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
	number of livestock units			
Feeder cattle	28.3	31.0	38.3	39.5
Hogs raised	26.7	19.9	24.4*	28.9*
Milk cows on hand 1/1/61	22.0	21.0	13.1	16.5
Poultry on hand 1/1/61	6.3	7.5	8.2	6.9
Sheep	3.5	3.8	3.6*	8.4*

* The two averages for participants and nonparticipants are significantly different at the .05 level.

Table 8. Comparison of corn base acreages and bushel productivity indexes assigned participants and nonparticipants

Item	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
Corn base acreage assigned	79.3*	52.4*	114.2*	86.8*
Bushel productivity index per acre	61.9	61.7	57.4	55.9

* The averages of participants and nonparticipants are significantly different at the .05 level.

[12] Adjustments were made on an individual farm basis if 1959 and/or 1960 were extremely unusual years (extremely wet years so that the planned corn acreage could not be planted, etc.).

pants in either area, thus rejecting any hypothesis that nonparticipants were assigned lower productivity indexes. Nonparticipants were discriminated against only if historical yields on their corn acreage would have warranted assignment of higher productivity indexes.

Comparison of Per Acre Cash Costs of Corn Production and Diversion Payment Rates

Certain income and cost consequences were attached to participating or not participating in the feed grain program. One income benefit to participants was the elimination of certain cash costs on those acres diverted from corn production. Nonparticipants would, of course, incur these cash operating costs. Participants would, however, incur costs for fuels, seed, and other items required to establish the seeding or to control weeds as prescribed by program regulations.

Respondents were asked to estimate cash operating costs of producing corn, including seed, fertilizer, fuel, hired labor, and insecticide. Participants in the southeast estimated their cash costs to be $2.61 higher per acre than the nonparticipants (see table 9). The difference of 5 cents observed in the southwest was not statistically significant. In all cases, average diversion rates paid per acre exceeded estimated average cash costs substantially.

1961 Corn Yields

Participation in the feed grain program left farmers with a reduced acreage for corn production. Although potential production was diminished somewhat in proportion to diverted acreage, each

Table 9. Estimated cash costs of producing corn, and payment rates per acre for minimum diversion

Item	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
Cash costs per acre		percent		
$ 1.00- 9.99	1.4	8.0	3.7	6.5
10.00-14.99	15.3	13.4	17.8	13.0
15.00-19.99	18.1	24.0	24.4	28.3
20.00-24.99	25.0	21.3	25.2	26.1
25.00-29.99	13.8	21.3	13.1	17.4
30.00-34.99	12.5	8.0	11.2	4.3
35 and over	13.9	4.0	4.6	4.4
Average cash costs per acre	$23.43*	$20.82*	$20.48	$20.43
Rates paid per acre†		percent		
$26.50 and below	0	0	6.4	6.5
26.51-28.50	2.2	5.1	12.7	6.5
28.51-30.50	4.5	6.3	19.2	30.4
30.51-32.50	12.4	10.1	23.6	30.4
32.51-34.50	37.1	29.1	24.5	19.7
34.51-36.50	15.7	21.5	10.0	6.5
36.51-38.50	16.9	13.9	3.6	0
38.51-40.50	11.2	12.7	0	0
40.51 and over	0	1.3	0	0
Average rate paid per acre	$34.60	$34.58	$31.10	$30.09

* These two averages are statistically different at the .05 level.

† Per acre payment rates are proportional to the bushel productivity index shown in table 8.

Table 10. Comparison of corn acreage, average corn yields per acre, and total corn production by participants and nonparticipants, 1961

Item	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
Corn acreage	45.4	48.4	74.0	78.8
Yield, bushels per acre	81.9	80.3	69.7*	74.0*
Total bushels of corn produced	3,718	3,886	5,158	5,831

* These two averages are significantly different at the .05 level.

farmer could increase corn production on remaining acres by increasing resource inputs on these acres. With reduced acreage, available equipment and capital could be utilized with greater intensity. Also, since participants had the option of accepting one-half the payment for diverting acreage in advance of the growing season, more working capital was available for purchase of fertilizers, and other capital inputs.

Participants could potentially gain by increasing yields, lowering unit production costs, and marketing corn produced in excess of normal yields either (1) by selling on the open market, or (2) by utilizing it as livestock feed. Nonparticipants might expect higher market corn prices to result from the higher price supports and the reduction in corn acreage. If so, they would probably try to capitalize on these higher prices by becoming more efficient in their own corn production in order (1) to minimize costs of feed for livestock, and (2) to sell any excess at a higher price on the open market. Thus, both participants and nonparticipants had potential incentives for efficient corn production during 1961.

In 1961 nonparticipants in the southwest had slightly higher corn yields than participants while no significant difference was apparent in the southeast (table 10). In both areas 1961 corn yields were substantially higher than the assigned productivity indexes, as shown by a comparison of tables 8 and 10.

Fertilizer Program

Weather conditions and production technologies are important determinants of the level of corn production. It is difficult to assess the impact of weather

Table 11. Corn acreage fertilized, actual pounds plant food applied per acre, and total plant food used in 1961

Item	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
Corn acres fertilized	47.6	47.3	60.4	62.6
Pounds plant food per acre of corn	110.7*	93.1*	85.2	94.9
Pounds nitrogen	34.9	25.3	29.0	32.6
Pounds phosphorus	34.9	32.0	35.3	36.1
Pounds potash	40.9	35.8	20.9	26.2
Total pounds plant food used on corn	5,269.3*	4,403.6*	5,146.1	5,940.7
Proportion of corn acres fertilized	percent			
	94	86	78†	71†

* The means for participants are significantly different than means for nonparticipants at the .05 level.

† The two proportions are significantly different at the .05 level.

Table 12. Proportions of farmers selling and buying corn and amounts of corn and grain sold and purchased, feeding year beginning October 1, 1960

Item	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
Proportions of farmers reporting corn and grain sales (percent)*	63†	36†	80†	67†
Bushels of corn and grain sold and sealed (average)	1,745‡	666‡	3,013‡	1,522‡
Proportions of farmers reporting corn and grain purchases (percent)	34.0†	52.0†	39.8	43.0
Bushels of corn and grain bought (average)	546	745	369‡	623‡

* Sales include Commodity Credit Corporation (CCC) corn sealed for storage.

† The proportions of participants and nonparticipants are significantly different at the .05 level.

‡ The averages for participants and nonparticipants are significantly different at the .05 level.

on 1961 corn production. Technological factors such as improved hybrids, cultural practices, fertilization, and harvesting contribute to increased production. In this study information is available only on the fertilization programs of the respondents.

Both groups in the southeast sample fertilized 86 percent or more of their corn acreage, with participants applying significantly more plant food per acre (table 11). Both groups in the southwest sample fertilized over 70 percent of their corn acreage (71 percent for nonparticipants; 78 percent for participants). However, a difference in plant food applications of less than 10 pounds per acre was not statistically significant.

Sales and Purchases of Corn and Other Grains

Because corn and grains are utilized to a large extent in livestock production, it was hypothesized (1) that participants in the feed grain program, having less livestock per acre of cropland, would sell more corn and other grains, and (2) nonparticipants would sell less grain and would make larger grain purchases to meet feed needs.[13]

The data in table 12 partially substantiate this reasoning. In both areas the participants had significantly larger proportions of farms reporting sales of corn and grain, and significantly greater quantities sold. A significantly higher proportion of nonparticipants in the

Table 13. Comparison of 1961 crop season operator and family labor use and expenditures for hired labor per farm reporting

Item	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
Man months of operator and family labor	9.7	9.9	8.3*	8.9*
Dollars spent for hired labor	434	470	462*	316*

* The averages for both participants and nonparticipants are significantly different at the .05 level.

[13] These hypotheses are part of the general proposition that the program was more appealing to cash grain than to livestock farmers.

southeast purchased corn and other grains. In the southwest no significant differences existed in the proportions of participants and nonparticipants purchasing corn and other grains, although nonparticipants purchased a larger bushel volume.

Crop Season Labor Requirements

Earlier analysis indicated that, after diversion of corn acreage, participants had about the same corn acreage as nonparticipants. Of other crops, only soybean acreages differed substantially, with participants having a larger acreage of soybeans. It was hypothesized, therefore, that crop season labor requirements would not differ significantly. Furthermore, with no significant differences in off-farm employment, it was hypothesized that the amount of hired labor required would not be different.[14] Data on labor use is presented in table 13.

The hypothesis of no difference in man months of operator and family labor used during the crop season is supported in the southeast. In the southwest nonparticipants had a significantly greater amount of family and operator labor. However, participants in the southwest used a significantly larger amount of hired labor per farm than nonparticipants. This difference, though statistically significant, is not very substantial.

Adjustments in Farm Operations

ADJUSTMENTS in farming operations frequently occur as a result of new situations. Information from respondents in this study indicates an assessment can be made of some short term changes in farm operation. Some changes can be attributed to existence of the feed grain program, others cannot. However, a concept of changes which occurred can assist in appraising the relevance of the program as a catalyst of agricultural adjustment. Although not illustrated here, farm size has grown in both study areas in recent years, as has the acreage of soybeans. Changes studied here are limited specifically to those between 1960 and 1961 for (1) fertilizer; (2) labor use; and (3) capital expenditures for machinery, equipment, and storage facilities.

Fertilizer

Nonparticipants in the southeast increased use of plant food in 1961 over 1960 (table 14). Total pounds of plant food used for corn were increased as was the acreage fertilized. Pounds of plant food applied per acre were up 14.8 percent. Participants, on the other hand, applied more fertilizer per acre but decreased the acreage fertilized. In 1961 southeast participants averaged 17.6 pounds of plant food per acre more than nonparticipants. While the total plant food applied to corn by participants decreased 9.6 percent, nonparticipants increased total plant food usage on corn by 54.7 percent.

Corn fertilization patterns in the southwest were quite similar to those in the southeast. Participants increased per acre applications but decreased the corn acreage fertilized. As a result, the total poundage of plant food used on corn was reduced slightly. Nonparticipants in-

[14] The bulk of hired labor was assumed to be employed during the crop season period.

Table 14. Adjustments in fertilizer use on corn land, average applied per farm, 1960 to 1961

	Participants			Nonparticipants		
	1960	1961	Percent change	1960	1961	Percent change
Southeast						
Corn acres fertilized	57.6	47.6	−17.4	35.1	47.3	+34.8
Pounds plant food per acre of corn	101.2	110.7	+9.4	81.1	93.1	+34.8
Pounds nitrogen	32.5	34.9	+7.4	17.8	25.3	+42.1
Pounds phosphorus	35.7	34.9	−2.2	32.9	32.0	− 2.7
Pounds potash	33.0	40.9	+23.9	30.4	35.8	+17.8
Total pounds plant food used on corn	5,829.1	5,269.3	− 9.6	2,846.6	4,403.6	+54.7
Southwest						
Corn acres fertilized	72.7	60.4	−16.9	53.5	62.6	+17.0
Pounds plant food per acre of corn	73.3	85.2	+16.2	78.0	94.9	+21.6
Pounds nitrogen	21.1	29.0	+37.4	25.1	32.6	+29.9
Pounds phosphorus	31.9	35.3	+10.7	31.6	36.1	+14.2
Pounds potash	20.3	20.9	+ 3.0	21.3	26.2	+23.0
Total pounds plant food used on corn	5,328.9	5,146.1	− 3.4	4,173.0	5,940.7	+42.4

creased the acreage fertilized, increased per acre application rates, and increased total plant food usage by 42.4 percent from that of 1960.

Labor

Operator and family labor use was not significantly reduced during the 1961 crop season as a result of program participation. While the southeast participants reported labor use increased 0.1 man months in 1961 compared to 1960, nonparticipants reported a decrease of 0.2 man months. Southwest participants and nonparticipants alike reported no change.

Expenditures for hired labor in 1960 and 1961 are compared in table 15. As in the case of family and operator labor, changes in expenditures for hired labor do not appear to be related to participation in the feed grain program.

Machinery and Storage Facilities

Participation in the 1961 Feed Grain Program enabled between 8 and 10 percent of the participants in the two areas to forestall buying machines they otherwise would have purchased in 1961. Therefore, this was, at most, a limited consideration for participation.

Almost 12 percent of the southeast participants and over 19 percent of the southwest participants increased capacity for storage of CCC grains. Of those participants increasing storage facilities, the average capacity increased in both areas was over 4,000 bushels.

Table 15. Adjustments in expenditures for hired labor 1960 to 1961 (per farm reporting)

Expenditures for hired labor	Participants			Nonparticipants		
	1960	1961	Percent change	1960	1961	Percent change
Southeast	$364	$433	+18.9	$453	$470	+ 3.8
Southwest	$551	$462	−16.2	$375	$316	−15.7

Decision Factors and Attitudes

RESPONDENTS were asked a series of questions designed to provide an appraisal of (1) their participation in a previous Government program (the acreage reserve programs of the soil bank), (2) their sources of information about the 1961 Feed Grain Program, (3) their specific reason(s) for participating or not participating in the program, and (4) the advantages or disadvantages they saw in the program. A system of open end questions was utilized for appraising items 2, 3, and 4.

Previous Experience in Acreage Reserve Program

The acreage reserve program was one phase of the soil bank program operated during the latter 1950's. Generally producers could divert corn acreage into conservation uses and receive payments for such diversion. Of the feed grain program participants, 26.3 percent in the southeast and 27.4 percent in the southwest had also participated in the acreage reserve program. Only 8 percent and 6.5 percent of the nonparticipants in the southeast and southwest, respectively, had been in the acreage reserve program. This analysis indicates high proportions of acreage reserve program participants also participated in the feed grain program.

Sources of Information and Decision-Making Assistance

Respondents were queried to determine the source of their information on how the program would affect their respective farms. The number of sources and specific sources of information are summarized in table 16. No significant differences were observed in average number of information sources used in the two areas. Very high proportions of the respondents (75 percent or more in both areas) received information from the county ASC offices.

The mass media sources of newspapers, farm papers, and radio ranked second, third, and fourth in frequency of contact. Television was utilized by much smaller proportions of both participants

Table 16. Number and type of sources utilized in decisions of participation or nonparticipation

	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
Average No. of sources of information	2.47	2.44	1.93	1.96
Sources of information		percent		
ASC	86.8	77.3	89.8	76.1
Newspapers	32.9	26.7	32.4*	52.2*
Farm papers	27.6	30.7	36.1*	28.3*
Radio	19.7	25.3	23.1	23.9
Neighbors	11.8	16.0	4.6	2.1
Agricultural agencies	9.2	9.3	0.9*	4.3*
Television	5.3	5.3	0.9*	4.3*
Relatives	2.6	1.3	0.9	2.1
Others	1.3	2.6	0	0

* The proportions for participants and nonparticipants are significantly different at the .05 level.

and nonparticipants. Relatives, neighbors, and professional agricultural agencies were utilized to a lesser extent than the mass media sources.

The second question asked of respondents was, "Who, if anyone, assisted you in making your decision to participate or not participate in the 1961 Feed Grain Program?" Table 17 reports the answers. The proportion of participants reporting assistance in making decisions about the 1961 Feed Grain Program is significantly higher than for nonparticipants. The three main sources of assistance were the wives of respondents, other relatives, and landlords. High proportions of participants received information about the program from the county ASC. However, a very small number of respondents reported the ASC as a direct source of decision making assistance.

Reasons for Participation or Nonparticipation

A wide range of reasons were given by respondents as to why they participated or didn't participate in the 1961 Feed Grain Program. It is apparent from table 18 that both economic and noneconomic considerations were important in the decisions of participants. An example of questionable economic rationale is reflected in the highest incidence reason listed, that of "opportunity to rest the land." More than one-third of the southeast participants and more than two-fifths of the southwest participants felt this was a reason for participating.

Other major reasons for participation were improved profits, reduction in farm expenses and resource use, and to help the Government control surpluses.

Nonparticipants, although somewhat diversified in their expressions of why they didn't participate, concentrated on two reasons (table 19). The primary reason was "needed feed for livestock." Sixty-eight percent of the southeast nonparticipants and almost 59 percent of the southwest nonparticipants stated this reason. Previous analysis established that significantly greater proportions of nonparticipants had livestock and, for some types of livestock, larger enterprises. The second important reason for nonparticipation was profitability. Almost 31 percent of the southeast nonparticipants and 50 percent of the southwest nonparticipants felt it was more profitable to stay out of the program.

Although doing so required some subjective judgment, individual reasons were further categorized. This categorization permits a less fragmented and perhaps a more meaningful delineation of reasons. The six major categories established were:

- Farm resources.
- Farm production and income.
- Environment.

Table 17. Sources of assistance utilized in final decision of participation or nonparticipation

	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
	percent			
Reporting assistance in making decision	56.5	43.5*	52.6	25.3*
Sources of assistance				
Wife	42.5	57.9	19.7	20.0
Father	7.5	5.3	9.8	15.0
Other relatives	27.5	10.5	18.0*	35.0*
Landlord	17.5	36.8	52.5	45.0
ASC	12.5	10.5	6.6*	0*
Other	10.0*	0*	0	0

* The proportions for participants and nonparticipants are significantly different at the .05 level.

Table 18. Reasons given for participating in the 1961 Feed Grain Program*

Reason	Southeast participants	Southwest participants
	percent	
Opportunity to rest the land	34.2	41.7
Weather conditions (favorable to go in the program)	17.1	2.8
Participation favored weed control	12.0	11.8
More profitable to be in program	31.6	35.2
Help Government to control surpluses	21.1	31.5
Forced decision—landlord or others involved in the decision desired to participate	1.3	6.5
Good Government program for agriculture	6.5	13.2
Program deserved 1-year chance	18.4	20.4
Timely advance payments	19.7	9.3
Reduction of risk	25.0	11.1
Opportunity for off-farm employment	3.9	0.9
Reduce farm expense and resource use	35.5	24.1
No particular reason	5.3	1.9

* Some respondents gave more than one reason, thus percentages are of farmers giving these individual reasons and the summation of percentages need not equal 100.

- Administration of program.
- Policy.
- Other.

The farm resource category includes reasons dealing with the use of resources, particularly land. Crop rotations and organization of cropable acreage are examples of this category. Farm production and income includes farm expenses, profitability, advance payments, and reduction of risk. Environment includes weed control and weather conditions. Administration of the program includes payment rates, productivity indexes, and individual relationships with county ASC administrating units. In the policy category, reactions to the Government's role in agricultural policy generally is differentiated from the preceding category

Table 19. Reasons for not participating in the 1961 Feed Grain Program*

Reason	Southeast nonparticipants	Southwest nonparticipants
	percent	
Needed feed for livestock	68.0	58.7
More profitable to stay out of program	30.7	50.0
Poor Government program for agriculture	5.3	2.2
Don't like Government programs for agriculture	13.3	8.7
Didn't know about feed grain program	6.7	2.2
Inequitable treatement by local ASC office	1.3	4.3
Productivity index and payment too low for the farm unit	13.3	6.5
Ineligible for Government loans	4.0	4.3
Base acreage established was not satisfactory	9.3	6.5
Forced decision by landlord and/or tenant	2.7	8.7
Participation would disrupt organization of fields	6.5	2.7
Program not designed for small farms	12.0	13.0
No particular reason	0	2.2

* Some respondents gave more than one reason, thus percentages are of farmers giving these individual reasons and the summation of percentages need not equal 100.

Table 20. Major categories of reasons reported by farmers for their participation or nonparticipation

Reasons for or against participation	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
	percent			
Farm resources	16.5*	1.6*	12.3	8.7
Farm production and income	47.0	62.2	50.9	65.0
Environment	12.2	0	7.3	0
Administration of program	0*	18.1*	0	11.3
Policy	22.1	18.1	28.6	13.7
Other	2.2	0	0.9	1.3

* The proportions for participants and nonparticipants are significantly different at the .05 level.

which includes respondent's attitude toward administration of the 1961 Feed Grain Program particularly.

Summarizations and comparisons of the new categories of reasons are presented in table 20. The "farm production and income" category contains the highest percentage of all responses (ranging from 47 to 65 percent).

The second most frequently mentioned category is that of policy. In this category participants most frequently mentioned the desirability of giving the program a chance while nonparticipants mentioned opposition to the Government's role in agriculture. Variation in responses is centered on environment and the program administration categories. Nonparticipants did not indicate environmental reasons (such as weed control or weather conditions). Some respondents indicated that nonparticipation was due to the administration of the program (inequitable payment rates, unsatisfactory acreage base, etc.). No participant indicated that the administration of the program was responsible for his participation.

Among the participants in both areas, certain respondents diverted the 20-percent minimum acreage of corn to qualify for program benefits. Other respondents diverted over 20 percent and up to the maximum of 40 percent. In table 21 categories of reasons (similar to the preceding table) are summarized for these two groups. The primary reason for diverting the minimum acreage was that diversion beyond the minimum would reduce the feed supply needed for livestock. Respondents diverting more than the minimum primarily expressed a desire to idle land in order to raise its future productivity.

Table 21. Aggregation of reasons reported by farmers for selection of either minimum or greater diversion

Reasons	Southeast participants		Southwest participants	
	Minimum diversion	More than minimum	Minimum diversion	More than minimum
	percent			
Farm resources and inputs	69.0	32.1	42.9	26.6
Farm production and income	20.7	41.7	52.4	54.1
Environment	3.4	10.7	1.6	12.2
Administration of program	.....	.....	.....	.....
Policy	6.9	14.3	3.1	6.1
Others	0	1.2	0	1.0

Table 22. Advanatges of the 1961 Feed Grain Program, all respondents*

Reasons	Southeast		Southwest	
	Participants	Non-participants	Participants	Non-participants
	percent mentioning these reasons			
Good Government program for agriculture	2.6	1.3	10.2	4.3
Program helps control surpluses	52.6	33.3	58.3	32.6
No advantages	5.3	18.7	3.7	13.0
Opportunity to control weeds on diverted areas	3.9	2.7	16.7	6.5
Opportunity to rest land and build up future productivity	43.4	24.0	50.9	21.7
Reduces risks and assures income payments	34.2	8.0	13.9	4.3
Place poorer land in program	1.3	4.0	1.9	0
Reduces labor load on the farm	18.4	16.0	12.0	4.3
Cuts down farm costs and expenses	2.6	4.0	8.3	0
No opinion	1.3	4.0	1.9	2.2
Eligibility for price supports	2.6	4.0	15.7	2.2
Favorable to larger farms	2.6	4.0	1.9	10.9
Limitations on amount individual farmer can seal	1.3	17.3	6.5	2.2
Limits grain farm expansion of production	5.3	16.0	3.7	13.0
Raises market prices of livestock	25.0	8.0	19.4	13.0
Brings capital into the community	2.6	1.3	4.6	0

* Some respondents gave more than one reason, thus percentages are of farmers giving these individual reasons and the summation of percentages need not equal 100.

In the environment category, participants with greater than minimum diversion expressed two reasons, (1) wet fields, and (2) need for weed control, as most responsible for their higher rate of participation. These two reasons were only minor considerations for participants who participated at the minimum rate.

Advantages and Disadvantages of the Feed Grain Program[15]

Several reasons dominated the respondents' expressions of advantages of the 1961 Feed Grain Program. Table 22 indicates that over half of the participants and one-third of the nonparticipants

Table 23. Comparison of aggregated advantages of the 1961 Feed Grain Program (proportions of all responses)

Reasons	Southeast		Southwest	
	Participants	Non-participants	Participants	Non-participants
	percent			
Farm resources, production, and income	51.0	47.5	45.6	33.3
Environment	2.0	1.6	7.3	5.0
Policy	43.9	36.9	44.7	50.0
Other	0.5	2.5	0.8	1.7
No advantages	2.6*	11.5*	1.6	10.0

* The proportions for participants and nonparticipants are significantly different at the .05 level.

[15] This series of questions on advantages or disadvantages was asked irrespective of a respondent's decision to participate or not participate in the 1961 Feed Grain Program.

Table 24. Disadvantages of the 1961 Feed Grain Program, all respondents*

Reasons—disadvantages	Southeast		Southwest	
	Participants	Non-participants	Participants	Non-participants
	percent			
Payment rates too low	19.7	9.3	20.4	23.9
Inequitable administration by the ASC committee	17.1	16.0	23.1	13.0
Unfavorable to the livestock farmer	10.5	33.3	9.3	26.1
Bushelage that can be sealed is too low	1.3	0	3.7	6.5
Favors the grain producer	2.6	4.0	1.9	8.7
Unfavorable to the small farmer	5.3	25.3	12.0	19.6
Program is not effective in controlling production	43.4	48.0	29.6	32.6
Government can't control production	5.3	10.7	7.4	8.7
Increases taxes and expenses of Government program	7.9	12.0	8.3	19.6
Disrupts cropping program and farm organization	1.3	2.7	11.1	4.3
Takes away decision making from farmers	5.3	5.3	4.6	6.5
Encourages off-farm employment—unfair to nonagricultural workers	2.6	4.0	0.9	0
Dislike Government program for agriculture	1.3	14.7	10.2	8.7
Price supports encourage overproduction	5.3	0	1.9	2.2
Can't pasture diverted acres	2.6	5.3	1.0	2.2
No disadvantages	13.2	6.7	14.9	0
No opinion	2.6	2.7	1.9	15.2

* Some respondents gave more than one reason, thus percentages are of farmers giving these individual reasons and the summation of percentages need not equal 100.

thought the program to be advantageous in controlling surpluses. Opportunity to rest the land to build up future productivity was expressed by a range of 21 to 24 percent of the nonparticipants and 43 to 50 percent of the participants. One-third of the southeast participants also felt risk reduction (certain income) was an advantage of participation. Over 20 percent of all participants felt that the feed grain program tends to raise market prices for livestock.

Aggregation of reasons in table 23 makes two categories of advantages, (1) farm resources, production, and income, and (2) policy, stand out. Together they account for almost 80 percent of all responses. As indicated earlier, the reason

Table 25. Comparisons of aggregated disadvantages of the 1961 Feed Grain Program (proportions of all responses)

Reasons	Southeast		Southwest	
	Participants	Non-participants	Participants	Non-participants
	percent			
Farm resources, production, and income	6.3	3.3	8.5*	2.2*
Administration of feed grain program	25.0	12.7	26.7*	18.9*
Policy	58.0	79.4	54.6*	71.1*
No disadvantages	8.9	3.3	9.1	0
Other	1.8	1.3	1.1*	7.8*

* The proportions for participants and nonparticipants are significantly different at the .05 level.

"opportunity to rest the land" contributes heavily to the percentage of responses in the farm resource, production, and income category. Similar influences are experienced with the "program controlling surpluses" reason for the policy category. Over 10 percent of all responses from the nonparticipants indicated that the feed grain program had no advantages.

Table 24 indicates that administration and policy disadvantages of the program apparently overshadowed farm management disadvantages. Individual exceptions to this are the disadvantages said to be incurred by operators of small farms or livestock farms.

Table 25 shows that over 80 percent of the disadvantages listed by respondents are concentrated in the categories of (1) policy, and (2) administration of the feed grain program. In contrast, the concentration of advantage responses dealt with (1) effect of the program on individual farm resource production and income, and (2) policy. Generally the respondents associated the advantages of the program to individual benefits (income, production, and resource use) while expressions of disadvantage were aimed more directly at the national policy functions of the program and its possible administrative weaknesses.

Profitability of Participation and Nonparticipation

What were the economic considerations underlying participation or nonparticipation in the program? To analyze this question requires certain assumptions about the decision-making situation farmers faced. One must be cautious when using estimates based on an assumed framework for explanation or prediction, but the results should furnish additional insights into respondents' decisions.

Since the analysis followed the time of decision, a set of assumptions was made for prices, costs, yields, and value of production resources. Marginal costs and marginal returns of nonparticipation and/or minimum participation were calculated through a partial budgeting technique. The average payment rates for participation and cash costs (variable costs) were taken from table 9 where per acre costs diversion payments exceeded variable costs by a minimum of $9.66. It was assumed that cash costs and yields per acre would have been identical on each diverted acre. Participants indicated that they diverted land of equal productivity to that planted to corn in 1961. Several nonparticipants, however, mentioned diversion of some poorer quality land as a disadvantage of the program. Open market corn prices were established at an average expected level of $1 per bushel compared to an actual support price level of $1.13 in the southeast and $1.10 in the southwest. Yield levels assumed were those assigned by the county ASC office (table 8) for each classification. A value of $1 per hour was assumed for labor in alternative employment. Labor requirement for raising corn was established at 4 hours per acre.

Preliminary analysis based on the above assumptions indicates the decision to participate would have been profitable for participants and nonparticipants alike. Average financial gains would have ranged between $260 and $400 per farm.

In retrospect, however, productivity indexes assigned by the ASC in 1961 were well below actual corn yields. A comparison of tables 8 and 10 indicates that productivity indexes were 20 bushels lower for southeast participants, 18 bushels for the southeast nonparticipants, 12 bushels for the southwest participants and 18 bushels for the southwest nonparticipants. With realized 1961 yields, the same inputs, and price-cost relationships assumed above, participation in the program was a marginal situation for farmers in both areas. However, the assumption of $1 per hour labor return for alternative employment is unrealistic for some farmers. Labor earnings higher than $1 per hour in alternative enterprises would have favored participation in the program, particularly if a shift from oats or other small grain to soybean production or an increase in livestock numbers were realistic alternatives.

Future Expectations[16]

THIS section assesses respondents' expectations with respect to participation in the 1962 Feed Grain Program assuming (1) no modification in program, (2) with modification in diversion payment rates, support prices, and other selected changes in the program, and (3) with the program established for a 5-year instead of a 1-year period. This assessment should be useful in determining the potential success of other voluntary-type policy proposals for agriculture. Since it was hypothesized that expected participation might be related to prices expected for farm products in 1962, price expectations were also obtained.

Expected Price Levels in 1962

Expected price levels were obtained for four agricultural commodities—market hogs, fat steers, corn, and milk. Price expectations were obtained for 200- to 240-pound market hogs, good grade fat steers, No. 2 yellow corn and grade B (manufacturing) milk. The summary of expected prices is included in table 26. Differences in the levels of prices expected by participants and nonparticipants for these four commodities were in no case statistically significant. Neither were significant differences observed in the variance in expected prices among the groups of respondents. The levels of prices expected for the last quarter of 1962 were similar to, and not significantly different from, the actual levels of prices experienced during the survey period, December 1961.

Rejectors of 1962 Program

Respondents who planned not to participate in the 1962 Feed Grain Program included both participants and nonparticipants of the 1961 program. Specific questions addressed to these respondents provide some indication of changes necessary to secure their participation in the 1962 program. Specific questions asked all respondents were, "Assuming no other changes in the program except those to be specified, would you plan to participate in the 1962 Feed Grain Program?" The first category specifies an

Table 26. Expected price levels for selected agricultural products during the last quarter (October-December) 1962

Agricultural products	Southeast		Southwest	
	Participants	Non-participants	Participants	Non-participants
Hogs, 200 to 240 pounds, (cwt.)	$16.80	$16.62	$15.91	$15.90
Fat steers, good grade, (cwt.)	25.15	24.82	24.63	24.22
Corn (bu.)	1.02	1.02	.98	.93
Milk, grade B, (cwt.)	3.29	3.23	3.28	3.20

[16] Expected participation in the 1962 Feed Grain Program was reported by App and Sundquist, *Minnesota Farm Business Notes*, No. 439, March 1962. Although participation in the 1962 program is now historical data the effects of modifications in the program on expected participation rates are of continuing interest.

increase in diversion payment rates for participating. In both areas, a considerably higher proportion of the 1961 participants than nonparticipants said they would change their decision and participate again in 1962 with increased payment rates (see table 27). With a 30-percent increase in payment rates per acre, nearly 90 percent of this group would reconsider and participate again in 1962. This is contrasted to less than half of the 1961 nonparticipants in the southeast and less than 70 percent of those in the southwest.

Assuming no other changes in the program, the responsiveness to increased support prices ($1.35 per bushel of corn) is again much higher for 1961 participants in both areas. Similarly, with a 5-percent reduction in minimum acreage requirements (from 20 to 15 percent) over one-third of the 1961 participants in the southeast and one-half of these in the southwest (who did not expect to participate in 1962) would change their plans.

A sizable number of all groups not planning participation in 1962 stated they would participate if the diverted acreage could be pastured.

Soybean producers not planning participation in 1962 were queried as to their decision if soybean support prices were a condition for participation. Specifically, respondents were asked to indicate if they would participate if the support prices for soybeans were established at four different levels: $2.30, $2.15, $2.00, and $1.85 a bushel. Table 28 indicates that this is a more relevant consideration in the southwest area than in the southeast. In general, a feed grain program requiring support prices for soybeans lower than in 1961 tends to be an unattractive alternative compared to the 1961 program.

Further analysis was made of the reasons given by 1961 participants for not participating in 1962. Three main reasons were given for this change including: (1) needing the home grown feeds for livestock, (2) more profitable to stay out of the program, and (3) the inequity of payment rates (see table 29).

Acceptors of 1962 Program

Respondents intending to participate in the 1962 Feed Grain Program planned substantial reductions in participation and diversion if diversion payment rates were reduced. If payment rates were reduced 10 percent expected participation in the southeast would drop 73 percent,

Table 27. Proportion of farmers not planning to participate in the feed grain program in 1962 who would participate with specific program changes

Item	Farmers who would participate if payments for participation were higher in 1961 by . . .			Farmers who would participate if:		
	10 percent	20 percent	30 percent	Feed grain support prices were 12.5 percent higher than in 1961	Minimum acreage to be diverted was reduced to 15 percent	They received permission to pasture diverted land
				percent		
Participants 1961						
Southeastern Minnesota ...	40	75	90	65	37	75
Southwestern Minnesota...	27	71	87	47	50	35
Nonparticipants 1961						
Southeastern Minnesota ...	10	31	44	25	16	36
Southwestern Minnesota...	18	47	68	30	32	50

Table 28. Soybean producers not planning to participate in the 1962 Feed Grain Program who would participate if required to do so to obtain support prices for soybeans

Item	Farmers planning to produce soybeans but not planning to participate in 1962 Feed Grain Program	Farmers planning to grow soybeans in 1962 who would participate in feed grain program to get per bushel price support on soybeans at . . .			
		$2.30	$2.15	$2.00	$1.85
		percent			
Participants 1961					
Southeastern Minnesota	50	12	12	12	12
Southwestern Minnesota	88	33	13	7	6
Nonparticipants 1961					
Southeastern Minnesota	60	24	20	10	0
Southwestern Minnesota	76	47	31	3	3

and for those who would still participate acreage diverted would decrease by almost 15 percent. A similar situation would exist in the southwest where participation would be reduced by 68 percent and diversion of those participating would be decreased by 27 percent. With payment rates established 20 percent lower than in 1961, expected participation would drop to 9 percent of 1961 participation in the southeast and 3 percent in the southwest. This characterizes a rather severe dropoff in participation in response to decreases in payment rates, assuming no other changes in the feed grain program.

General Implications

It would thus appear that raising the payment rates for minimum diversion with no other program changes would have a substantial impact on the expected plans for participation in the 1962 Feed Grain Program. With an increase of 10 to 20 percent in payment rates, participation would increase substantially, particularly among those farmers who participated in 1961 but did not expect to participate in 1962. Any reduction in payment rates would drop overall expected participation to a very low level, possibly to 10 to 20 percent of the 1961 levels.

Alternative policies of raising feed grain support prices by 12½ percent compare favorably to a 10-percent increase in diversion payment rates, in terms of obtaining expected participation. Lowering minimum acreage diverted from 20 to 15 percent would attract participation comparable to a 10-percent increase in rates. Permission to pasture diverted

Table 29. Distribution of reasons of 1961 Feed Grain Program participants who do not intend to participate in 1962, by southeast and southwest respondents

Reasons for the change*	Southeast	Southwest
	percent	
Need feed for livestock in 1962	46.7	37.5
More profitable to stay out of program in 1962	33.3	37.5
1961 acre payment rates were inequitable	0	25.0
Will not be operating the same farm in 1962	6.7	12.5
1961 diverted acres needed permanent improvement	6.7	0
Continued participation in 1962 would disrupt farm organization	13.3	0

* Some respondents gave more than one reason, thus percentages are of farmers giving these individual reasons and the summation of percentages need not equal 100.

Table 30. Respondents indicating profitability of and ability to acquire additional operating capital

Proportion of farmers who stated:	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
	percent			
More operating capital could be used profitably	77.6	69.3	71.3	67.4
More operating capital could be borrowed	71.0	64.0	92.2	100.0

acres is a significant participation incentive for all groups.

Income Payments

Advance payments of up to one-half of the total were made for participation in the 1961 Feed Grain Program. The impact of advance payments on participation in 1961 is difficult to assess. However, approximately 70 percent of the participants stated they would participate again in the 1962 program, even if the entire payment was made in November 1962.

Farmers' need for operating capital and the desire for advance payments from participation in the feed grain program does not yield a significant relationship. Between 67 and 77 percent of all respondents stated they could utilize more operating capital (table 30). However, a very high proportion of these respondents indicate they could borrow the funds from various credit sources. Saving interest payments by obtaining advance payments instead of credit may, however, be a significant feature of the program.

Effects of a Long Term Program

The patterns of participation in any year-to-year feed grain program could be different than a system where the program was established on a long-term basis, such as a 5-year program where each producer each year would have the option of participation or nonparticipation. Queries of the respondents provide an indication of the expected rates of participation and production adjustments under a long term feed grain program.

"If the 1962 Feed Grain Program had been offered as a 5-year program with the option of signing up each year, would you participate in the program during this period?", was the question asked of all respondents. Respondents were asked to indicate if they would participate at any time period during the 5 years, not necesarily for the full 5-year period. Percentages of (1) 1961 participants intending to participate again in 1962, and (2) those who would also participate during the 5-year program are similar (table 31). However, the 5-year program would attract a number (24 percent in the southeast and 11 percent in the south-

Table 31. Proportion of 1961 participants and nonparticipants who would participate in the 1962 program or in a 5-year program

Area	Participants in 1961 who:		Nonparticipants in 1961 who:	
	Will participate in 1962	Would participate in a 5-year program	Will participate in 1962	Would participate in a 5-year program
	percent			
Southeast	81	81	2	26
Southwest	81	76	10	21

west) of those respondents who did not participate in 1961 and who were not planning to participate in the 1962 (1 year) program.

Respondents were asked what changes and adjustments would be likely to accompany participation during a 5-year program but not the present year-to-year announcement of the feed grain program. Indications are (table 32) that the 1961 participants in both areas would not make any major changes aside from changing their crop rotation. Of the 1961 nonparticipants who would join a 5-year program, over one-fifth indicated an expected decrease in livestock units (shown in table 32). A large number were either (1) undecided as to changes they would make or (2) would not expect to make any changes in farm organization.

Attitudes Toward Agricultural Policy

ADDITIONAL perspective can be gained of farmers' reaction to the feed grain program by an analysis of what they consider to be an optimum agricultural policy and program. The following analysis concerns five specific questions about agricultural policy:

1. What type of alternative market situations (free market or support prices) are preferred for hogs and corn?
2. What prices (for hogs and corn) should be the goals of agricultural policy?
3. Should the system of reducing total agricultural production be voluntary or mandatory in nature?
4. To reach policy goals of reducing production, what should be the required actions for each participating farmer?
5. What better ways, than the 1961 Feed Grain Program, could be used to control feed grain production?

Respondents were queried concerning the desirability of two alternative market situations: (1) the free market, and (2) supported prices for either of two major agricultural products: corn, market hogs, or both. The free market situation is one usually associated with price patterns being determined strictly from the supply and demand factors, without other forces entering in (for example, no Government purchases to maintain price levels). A situation of supported prices infers that certain measures would be taken by Government to achieve predetermined price levels.

Table 33 presents the pattern of desired market situations. In all situations a higher proportion of the 1961 Feed Grain Program participants preferred a support price for corn and hogs than did corresponding groups of nonparticipants. Whereas nonparticipants were about equally divided in both areas on the market situation preferred for corn, the ratio of participants in the southeast preferring price supports to those preferring no supports for corn was more than 3:2, and approximately 3:1 in the southwest. Lower proportions of the participants, less than 50 percent in each area, desired price supports for hogs. Nonparticipants favored a free market for hogs, with 60 percent in the southeast and more than 70 percent in the southwest favoring this situation. Generally price supports for corn would meet greater favor among the participants and nonparticipants than a price support system for market hogs.

Table 32. Expected changes and adjustments in farm organization and operation by respondents who indicated they would participate in a 5-year feed grain program

Expected changes	Southeast		Southwest	
	1961 Participants	1961 Nonparticipants	1961 Participants	1961 Nonparticipants
	percent			
No expected changes	53.9	41.2	55.1	22.2
Change crop rotation	16.9	5.9	24.4	22.2
Produce more corn by increasing fertilizer	4.6	5.9	3.8	11.1
Produce more legumes	1.5	5.9	6.4	.....
Reduce grain and legume acreages	1.5	11.8	1.3	.....
Increase conservation practices	4.6	.....	3.8	.....
Increase weed control practices	1.5	.....	5.1	.....
Add more grain storage facilities	1.5	.....	10.3	11.1
Increase livestock units	6.2	5.9	1.3	.....
Decrease livestock units	1.5	23.5	5.1	22.2
Reduce hired labor	6.2	.....	0	.....
Undecided	.....	.....	1.3	33.3

Only slight differences existed in the corn prices desired by those preferring a free market. The average price ranged between $1.11 and $1.14 or a variation of only 3 cents a bushel for the four groups. Those preferring a support price for corn desired corn prices between $1.17 and $1.30, or 5 to 16 cents higher than the corresponding prices for those expresing a desire for free markets. Two significant factors are apparent:

1. The average price levels expected during the last quarter of 1962 for all respondents ($1 per bushel) is lower than price goals of either free market or price support advocates.
2. Research conducted in other states[17] indicates that under a free market situation, corn prices would range between 70 and 80 cents per bushel by 1965. These levels are considerably below the levels desired by the free market advocates in the survey, indicating that severe adjustments would need to take place in total corn supplies if an equilibrium of $1.11 to $1.14 were to result.

Table 33. Assuming no changes in present economic conditions, what prices of corn and hogs do you believe should be the goals of national farm policy?*

Desired market situation	Southeast				Southwest			
	1961 Participants		1961 Nonparticipants		1961 Participants		1961 Nonparticipants	
	Percent desiring	Desired price	Percent desiring	Desired price	Percent desiring	Desired price	Percent desiring	Desired price
Free market corn	38.7	$1.12	53.4	$1.11	25†	$1.14	48.9†	$1.12
Support price corn	61.3	1.27	46.6	1.22	75‡	1.30†	51.1‡	1.17†
Free market hogs	53.4	18.12	63	18.28	65.4	17.73	72.7	17.39
Support price hogs	46.6	18.47	37	18.26	34.6	17.87	27.3	17.34

* Corn prices are per bushel and hog prices per cwt. of market hogs.

† The proportions for participants and nonparticipants are significantly different at the .05 level.

‡ The averages for participants and nonparticipants are significantly different at the .05 level.

Table 34. Proportion of respondents indicating preference for a free market for corn and hogs, their preferred price level goals, and methods for reaching these goals*

	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
Percent favoring free market	38.8	50.7	24.1†	45.7†
Price level goals per bu. corn	$ 1.16	$ 1.18	$ 1.01‡	$ 1.20‡
price level goals per cwt. hogs	$18.60	$18.61	$15.84‡	$18.00‡
Of respondents indicating free market, the proportions indicating:		percent		
A voluntary program to reduce production	46.4	29.0	69.2†	33.3†
A national program requiring reduction of production	17.9	10.5	15.4	14.3
No preference	35.9†	60.5†	15.4†	52.4†
Proportion of these respondents who felt participants should:				
Take some specified cropland out of production	35.7†	13.2†	42.3†	28.6†
Take whole farms out of production	3.6	2.6	11.5	4.7
Have a choice of each method	21.4	18.4	34.7	28.6
No preference	39.3†	65.8†	11.5†	38.1†
Are there better ways to control feed grain production than those listed above:				
Proportion reporting yes	85.7	86.8	84.6	90.5
Proportion reporting no	14.3	13.2	15.4	9.5

* Corn prices based on bushel basis and hogs on a cwt. basis at market.

† The proportions for participants and nonparticipants are significantly different at the .05 level.

‡ The averages for participants and nonparticipants are significantly different at the .05 level.

Although no significant within-area differences were expressed between participants and nonparticipants, respondents in the southeast suggested price goals for hogs slightly higher than those suggested by respondents in the southwest.

The average hog price goal suggested by all respondents was $17.97 or about $1.78 above a recent 5-year average of prices received at South St. Paul for market hogs.[18] Average price levels for both corn and hogs in recent years have been substantially below the levels the respondents believed should be the price goals of national farm policy.

Respondents were further classified into three groups: (1) those preferring a free market for both corn and hogs, (2) those preferring price supports for both corn and hogs, and (3) those preferring price supports for either corn or hogs, but not for both.

Utilizing this classification, price levels, goals, alternative systems of reducing total agricultural production, and required action for reaching goals were traced through for each classification and comparisons were made between classifications.

Complete summaries for these three classifications are in tables 34 to 36.

[17] Analysis conducted by the Iowa State Agricultural Experiment Station and the Cornell University Agricultural Experiment Station.

[18] This includes barrows and gilts, 200 to 240 pounds, grades 1, 2, and 3, marketed at South St. Paul (1956-1960 average price is $16.19).

In essence these tables show relatively larger proportions of the nonparticipants would prefer a free market situation. Those indicating free market price goals believe price levels from this policy should average about 10 percent lower for corn and 5 percent lower for hogs than the price levels desired by respondents favoring supported prices.

With the specified price policy goals and market situations, respondents were asked to indicate which, if either, of two alternative systems they desired to reach these goals: (1) a voluntary program to reduce production with individual participating farmers paid to reduce production (only those individuals participating would receive support prices), (2) a national program that required all farmers to reduce production, or (3) no preference.

Certain patterns of response emerged significantly for each market situation classification. Although more preferred a voluntary program, between 10 and 18 percent of all respondents indicating a free market situation preferred a system of a national program of supply management to reduce production. Since the free market situation implies supply and demand forces establishing price levels, these respondents exhibit some degree of conflict between means and goals.

The tendency for respondents preferring a combination support price-free market situation was toward a definite

Table 35. Proportion of respondents indicating preference for a combination of free market support price situations for corn and hogs; their preferred price level goals and methods for reaching these goals*

	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
Percent favoring free market and support price situation	14.5	9.3	42.6†	28.2†
Price level goals per bu. corn	$ 1.25	$ 1.32	$ 1.31	$ 1.16
Price level goals per cwt. hogs	$16.63‡	$18.80‡	$18.09	$17.94
Of respondents indicating free market and support prices the proportions indicating:				
		percent		
A voluntary program to reduce production	58.3	71.4	67.4	76.9
A national program requiring reduction of production	33.3	28.6	26.1	23.1
No preference	8.3	0	6.5	.....
Proportion of these respondents who felt participants should:				
Take some specified cropland out of production	33.3	57.1	65.2	69.2
Take whole farms out of production	16.7	.....	.....	7.7
Have a choice of each method	50.0†	14.3†	28.3	23.1
No preference	.....	28.6	6.5	.....
Are there better ways to control feed grain production than those listed above:				
Proportions reporting yes	41.7	42.9	21.7	23.0
Proportions reporting no	50.0	57.1	78.3	77.0

* Corn prices based on bushel basis and hogs on a cwt. basis at market.

† The proportions for participants and nonparticipants are significantly different at the .05 level.

‡ The averages for participants and nonparticipants are significantly different at the .05 level.

system of controlling feed grain production. Over two-thirds of these respondents preferred voluntary programs. An additional one-fourth preferred a national supply management program. Respondents with no preference constitute a very small percentage of the total and were concentrated entirely in the two groups of participants.

Among respondents preferring price supports for both products the type of system preferred is more equally divided. Approximately 40 percent prefer national programs of supply management; over 50 percent prefer voluntary programs.

Respondents were queried further as to the method each participating farmer should be required to follow to reach the price goals established. Of the alternatives listed, the method of taking some specified cropland out of production or having a choice of methods dominates the response pattern. Relatively little interest was expressed toward requiring removal of whole farms from production.

In response to the question: "Are there better ways of controlling feed grain production than those listed?", a 7:1 ratio of respondents advocating free market said: "Yes—there are better ways." Of the respondents preferring a combination situation (price supports for corn and hogs but not both) over 50 percent in the southeast said no, and 75 percent in the southwest said no. Of price support advocates, about 80 percent said there were no better ways to control feed production.

Respondents preferring either a free market or a combination support price-free market situation suggested improvements of two types. Over 85 percent of

Table 36. Proportion of respondents indicating preference for support prices for both corn and hogs, their preferred price level goals, and methods for reaching these goals*

	Southeast		Southwest	
	Participants	Nonparticipants	Participants	Nonparticipants
Percent favoring support price	43.4	36.0	33.3	21.7
Price level goals per bu. corn	$ 1.33	$ 1.22	$ 1.33	$ 1.23
Price level goals per cwt. hogs	$19.03	$19.11	$18.72	$18.36
Of respondents indicating support price, the proportions indicating:				
		percent		
A voluntary program to reduce production	69.7	51.9	50.0	50.0
A national program requiring reduction of production	30.3	40.7	44.4	50.0
No preference	.....	7.4	5.6	.....
Proportion of these respondents who felt participants should:				
Take some specified cropland out of production	60.6†	29.6†	75.0†	30.0†
Take whole farms out of production	.....	7.4	5.6†	60.0†
Have a choice of each method	39.4	55.6	13.8	10.0
No preference	.....	7.4	5.6	.....
Are there better ways to control feed grain production than those listed above:				
Proportions reporting yes	21.2	33.3	16.7	10.0
Proportions reporting no	78.8	66.7	83.3	90.0

* Corn prices based on bushel basis and hogs on a cwt. basis at market.

† The proportions for participants and nonparticipants are significantly different at the .05 level.

southeast respondents said farmers should integrate their purchases of agricultural inputs and sales of agricultural products through a farmer controlled organization. This organization would establish market quotas on the participating members to reduce production. Ten percent stated that anti-trust actions should be brought against major agricultural suppliers and processors to reduce profits.

In contrast, of the same two groups in the southwest area, 80 percent of the suggested improvements were for complete removal of Government from agricultural price policies and support programs, leaving forces of supply and demand to establish price levels. Of the other improvements suggested, exporting more agricultural products abroad, and higher domestic food consumption were the major alternatives listed.

Further analysis indicates fairly substantial agreement among those respondents desiring Government programs. They prefer programs with voluntary participation and specified cropland removed from each participating farm. These provisions are essentially in agreement with the feed grain program provisions.

Conclusions

THE 1961 Feed Grain Program had about equal appeal to farm operators of all age and tenure characteristics. The program attracted farmers who operated larger than average sized farm units as measured by total land and cropland acreage. Furthermore, this group had larger corn base acreage assignments with relatively less livestock intensity for the available cropland than did nonparticipants. Participation enabled resource shifts, primarily into other crop enterprises, particularly from small grains to soybeans.

In terms of overall resource adjustment, the results of participation are not clear and concise. Both participants and nonparticipants are experiencing increases in the size of farm operated, and both are increasing the number of livestock units with greater specialization in enterprises heavily dependent on cropland (dairy, beef, and hogs). Relatively minor adjustments occurred in the participants' labor inputs during the crop season, while use of capital for machinery and equipment continued at the same pace as prior to participation in 1961.

The program afforded risk reduction for participants and a potential means of releasing their resources for mobility into off-farm employment. However, no greater proportions of participants were engaged in part-time off-farm employment than nonparticipants.

The decision to retire did not play an important role in program participation. A year-to-year feed grain program likely does not provide a definite enough basis for planning retirement. Even with participation, the bulk of resources are still committed to agriculture. As a result, there is substantially less opportunity to explore retirement or other employment alternatives as compared to alternative approaches which attract all resources out of agriculture under a long term program with or without retention of farm ownership by the operator. Response from farm operators who would participate in an announced 5-year program, indicates that participation would be in-

creased as compared to a 1-year program and that some shifts would occur, principally in crop enterprises.

Within the framework of the present feed grain program, several alternative incentives (increases in payment rates, reducing minimum acreage diversion requirements, raising feed grain support prices, and/or allowing diverted acreage to be pastured) could increase the rate of participation significantly. However, to achieve increased participation, each of these alternatives has aggregate economic consequences. For example, in order to achieve adjustment in feed grain production the above alternatives would either increase the cost of the program or control less of the resource inputs used in feed grain production. Thus, production adjustments gained must be matched with increased program costs and/or the possible effects of release of additional production resources. For participants who withdraw labor and capital resources on the diverted acreage, the opportunity exists to increase the rate of production technology (use of chemicals, fertilizer application, etc.), in order to increase output per acre on the remaining acreage. This, of course, has a countervailing effect on adjusting feed grain production.

Variation in the factors considered by farmers in conceptualizing (1) participation in the feed grain program, and (2) synthesis of an optimal agricultural policy, demonstrates the difficulty and impediments facing national policy for agriculture. Surprisingly widespread among participants and nonparticipants alike is the relatively high value placed on idling land with the expectation of greater production in future production periods. Such values have high opportunity costs in southern Minnesota where land is adapted to an intensive cropping program such as continuous corn production. Similarly, lack of information about the feed grain program, its method of administration, and the overall economic implications for the farm unit affected participation decisions.

Based on (1) the reactions of the farm operators surveyed, and (2) other price policy research, it can be concluded that a situation exists where typical price policy goals designated by respondents as optimal are unattainable with the preferred system of reducing feed grain production. Several additional tentative conclusions can be drawn:

1. A majority of respondents indicated preference for a program with voluntary participation with specified cropland removed from each participant's farm. This leaves capital and labor inputs virtually uncontrolled on the remaining acreage and tends to dampen the potential for controlling feed grain production.

2. Although various alternative approaches to increasing the demand (domestic and foreign) are thought to be available, the detail of and the prospects for these approaches relieving the overall surplus problem are not clearly understood by many respondents.

3. Although substantial proportions of the participants and nonparticipants prefer a free market situation, the analysis indicated a high percentage of these farmers would either begin or resume voluntary participation in the feed grain program if (a) economic incentives from payment rates and support prices were raised, (b) the minimum diversion requirements were lowered, and/or (c) pasturing was allowed on diverted acreage. In these situations apparently a point is reached where individual profit maximization is equated with an inherent value for a free market situation.

The feed grain program has provided some potential adjustment from the standpoint of providing opportunities for off-farm employment and income. Such effects of the program, however, were negligible or indeterminate after a single year of program operation.

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