The Effects of Commodity Program Participation on Bidding in the Conservation Reserve Program

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An analysis of Conservation Reserve Program contracts obtained during the 1986 sign-up periods indicates commodity program participants enrolled more acreage at higher costs than farmers not participating in other commodity programs. Significant differences also occurred between the various commodity program crops, reflecting the difference in benefits available for these crops.

Introduction

The Conservation Reserve Program (CRP), authorized by Congress in the Conservation Title of the 1985 Food Security Act, retired just over 8 million acres in 1986. Participation in the program has been unevenly distributed throughout the U.S. with the Southeast, Mountain, and Pacific regions showing exceedingly high participation rates (21.2 percent of eligible cropland has enrolled), while the Northeast, Appalachian, and Corn Belt regions have had significantly lower participation rates (5.3 percent). The U.S. average rate of participation (11.8 percent) in the CRP has been criticized as too slow and the cost of the program has been criticized as too high. A major factor thought to inhibit participation is the reluctance of farmers to give up crop base used in obtaining commodity program benefits (Soth). Similarly, lucrative commodity program benefits have been blamed for the per acre land enrollment costs exceeding all previous estimates.

Have the commodity programs been responsible for the less than anticipated level of enrollment and the higher than anticipated level of expenditures? This paper addresses this question by comparing the acreage enrolled and the rental rate obtained by commodity program participants and nonparticipants from the March and May CRP sign-up periods.

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Conservation Reserve Program (CRP)

The CRP offers farmers who agree to retire their highly credible cropland for ten years, an annual rental payment and one-half the cost of establishing a permanent cover. Congress established enrollment goals of 5, 15, 25, 35, and 40-45 million acres for the fiscal years 1986 through 1990, respectively. To participate in the CRP, producers must submit an offer during a designated sign-up period. The offer contains the amount of the eligible cropland the producer wishes to enroll and the annual rental rate he requires for this purpose. Grazing or harvesting of forage or any other commercial activity is not permitted for the duration of the CRP contract unless specifically allowed by the Secretary of Agriculture. Also, the cropland base and allotment history for the farm will be reduced by the ratio of the land retired to total cropland acreage (Dicks, et al., 1987).

Three sign-up periods occurred during the 1986 fiscal year, allowing producers to sign up for either the 1986 or 1987 crop years. These three sign-up periods enrolled some 8.2 million acres. Slightly more than 2 million of these were enrolled for the 1986 crop year, falling short of the 5 million acre goal for 1986. The remaining 6.2 million were

enrolled for the 1987 crop year, requiring an additional 6.8 million acres in order to meet the 1987 enrollment goal of 15 million acres.

Comparing Commodity Program Participants and Nonparticipants

Comparing the characteristics of commodity program participants and nonparticipants has been of major interest to agricultural economists for the last two decades. A study of the 1961 Feed Grain Program by Vermeer (1963), best summarizes the results common to most of the studies. Vermeer concluded commodity program participants had: (1) larger farms, (2) a larger proportion of land in crops, and (3) more crop acreage in the high value crops (corn, sorghum, soybeans, wheat) than nonparticipants. Further, nonparticipants were found to be older, less dependent on crop sales, and have lower estimated cash costs than similar estimates provided by commodity program participants. A recent study by Johnson and Short (1983) on southern grain and cotton farmers also found that, on average, farmers participating in commodity programs operated larger farms, harvested larger acreages, and obtained a larger share of sales from crops. The findings of these studies suggest that those commodity program participants choosing to enroll a given percentage of their farmland in the CRP would be expected, on average, to individually enroll more land than would nonparticipants. In comparing the rental rates on land enrolled in the CRP by participants and nonparticipants, work by Miller (1974) and Boggess (1986) lend some insight. Miller reasoned that commodity programs help establish a rate of return to investments in agricultural production thus boosting the demand for farm land and, given the relatively inelastic supply of this land, increasing the purchase and rental prices. Boggess specifically focuses on the CRP and develops a theoretical decision model for the farmer who is attempting to maximize his or her expected utility over time. Boggess restricts the farmer's decision problem to one of determining the optimal combination of commodity program participation, CRP participation, and general farm operation. The conceptual model of bid calculation developed as the first part of the maximization, reveals that participants who choose to enroll land in the CRP would explicitly consider revenue from commodity programs in determining their submitted rental rate. Given these studies, one might expect program participants who enroll in the CRP to, on average, require a higher rental payment than nonparticipants.

Data Limitations

Although three sign-up periods occurred in 1986, we use only the data from the first two sign-up periods (March and May). During the first two sign-up periods farmers had no knowledge of the acceptable rental rate level (bid cap). By the third sign-up, information on the bid caps had been provided in trade journals and farm magazines and thus farmers set their offer price based upon the bid cap, The average rental rate for a given area closely approximated the area bid cap for the third sign-up (Boggess, 1987).

When an offer to enroll in the CRP is made, specific information about each offer is collected, including the number of acres to be enrolled, the type and acreage of crop base to be retired, the average yield on the base acreage, the annual rental rate bid, and an estimate of the erosion rate. This information is collected in two stages. In the initial stage, information on all bids submitted is collected; the final stage contains information for contracted acres, only. To obtain a collective set of information for each sign-up period the information from the two stages is merged by farm identification number. As numerous counties are in the process of changing farm identification systems, some accepted bids were not matched between the two stages of data collection. The non-matches, accounting for approximately 3 percent of the bids accepted, have thus been omitted from this analysis. The data sets for each period are large (i.e., 9,407 observations for March and 21,520 observations for May) and the non-matches occurred in various counties throughout the U.S. Thus, it is assumed that the omitted data will not significantly affect the final results.

Only producers retiring wheat, corn, barley, sorghum, cotton, or oats base acreage are identifiable in the current data. These farmers are denned as commodity program participants for the purpose of this analysis.

Methodology

The first part of the analysis compares accepted rental rates and acres enrolled by commodity program participants and nonparticipants. Means for accepted rental rates and for acres enrolled are computed for the March and May sign-up periods. A t-test is conducted to test the hypothesis that the means for the participants and nonparticipants within each period are statistically equal. This testing procedure is applied on both a national level and a regional level for each sign-up period.

The second part of the analysis tests for statistical differences between the program crops. To determine if statistical differences exist for a program commodity, the means for that commodity would be compared to the means of the other five program commodities (e.g., the mean bid and mean acreage for corn would be compared to the means for a dataset containing barley, oats, wheat, cotton, and sorghum). Similarly, this testing procedure is applied on both a national level and a regional level for each sign-up period.

Results

1. Participants Versus Nonparticipants

The reported t-statistics in Tables 1 and 2 indicate that for both the March and May sign-up periods the mean rental rate and the mean acres enrolled are statistically different for participants and nonparticipants. At the national level the mean rental rates and mean acres enrolled by participants exceeded those of the nonparticipants. This result indicates that, on average, participants require a higher compensation than do nonparticipants for enrolling their land in the CRP and is consistent with the work by Miller (1974) and Boggess (1986). The higher acreage enrolled per bid, on average, by participants may be a reflection of their generally greater farm size as revealed by Vermeer (1963) and Johnson and Short (1983).

The results of the regional analysis for the March sign-up period are presented in Tables 3 and 4. Mean rental rates for participants are statistically different from those for nonparticipants in all but the last four regions, i.e., the Northern Plains, the Southern Plains, the Mountain, and the Pacific regions. Mean acres enrolled by participants are significantly different from those enrolled by nonparticipants in only the Southeast, Delta States, Lake States, and the Southern Plains.

The results of the regional analysis for the May sign-up period are presented in Tables 5 and 6. Once again mean rental rates differ significantly for participants and nonparticipants in all but the last four regions. The mean acres enrolled differ significantly between participants and nonparticipants in all but the Northeast, the Northern Plains, and the Pacific regions.

2. *Bid Comparisons Between the Different Commodity Programs*

The results of the t-test for all regions (Tables 7 and 8) illustrate that a significant difference exists between accepted rental rates submitted depending upon the commodity program crop base retired. The mean acreage enrolled was also significantly different for all commodities with the exception of

Table 1. Means for accepted rental rates for each bid period by commodity program participants and nonparticipants.

Bid Round	CPP[1]	N[2]	Mean Rental rate	t-stat[3]	Range
March	0	948	$38.7	- 15.96*	$7-$85
	1	8,459	46.3		S1-S90
May	0	2,012	$46.4	- 12.76*	S14-$90
	1	19,508	49.9		$10-$95

Table 2. Means for accepted acres per bid for each bid period by commodity program participants and nonparticipants.

Bid Round	CPP[1]	N[2]	Mean acres	t-stat[3]	Range
March	0	948	57.21	-5.64*	2- 1,566
	1	8,459	82.68		1-12,367
May	0	2,012	84.22	- 12.76*	2- 1,901
	1	19,508	133.39		1-11,815

[1] Dummy variable for commodity program participant defined as: CPP — 1: Wheat, corn, barley, sorghum, cotton or oats commodity program participant. CPP — 0: Non-participant in wheat, corn, barley, sorghum, cotton, or oats commodity programs.

[2] Number of observations in each sample.

[3] Traditional t-statistic if the hypothesis of equal variance of the two groups can be accepted; approximate t-statistic if this hypothesis cannot be accepted.

Table 3. Means for rental rates for each region in the March bid period by commodity program participants and nonparticipants.

Region	CPP[1]	N[2]	Mean rental rate	t-stat[3]	Range
Northeast	0	36	$44.4	-2.77*	S20-S65
	1	153	49.6		S20-S65
Appalachia	0	177	43.2	-4.18*	$10-$60
	1	1,125	46.2		$12~$60
Southeast	0	243	29.5	-2.44*	S10-S45
	1	1,238	30.8		S1-S45
Delta States	0	171	30.6	-3.01*	S10-S50
	1	640	33.0		S9-S50
	0	144	53.3	-6.44*	S25-S85
Com Belt	1	1,871	60.4		$25- $90
	0	92	49.8	-2.52*	S7-S80
Lake States	1	1,328	54.0		S14-S85
Northern	0	39	43.8	- 1.05	$20-$60
Plains	1	1,245	45.6		$14-$70
Southern	0	44	32.5	-1.58	$17-$50
Plains	1	277	34.4		$10-550
Mountain	0	12	31.6	- 1.43	$10-$45
	1	433	34		$ll-$42
Pacific	0	20	44	- 1.18	$34-$50
	1	149	45.7		$24-$65

[1] Dummy variable for commodity program participant defined as: CPP — 1: Wheat, com, barley, sorghum, cotton or otas commodity program particpant CPP = 0: Non-participant in wheat, com, barley, sorghum, cotton, or oats commodity programs.
[2] Number of observations in each sample.
[3] Traditional t-statistic if the hypothesis of equal variance of the two groups can be accepted; approximate t-statistic if this hypothesis cannot be accepted. 4/ T-statistic statistically significant at the 95 percentile level.

Table 4. Means for acres enrolled for each region in the March bid period by commodity program participants and nonparticipants.

Region	CPP[1]	N[2]	Mean acres	t-stat[3]	Range
Northeast	**0**	**36**	**26.9**	**-.63**	**2-123**
	1	**153**	**30.6**		**3-176**
	0	**177**	**39.9**	**-.69**	**2-400**
Appalachia	**1**	**1,125**	**43.4**		**1-1,126**
	0	**243**	**42.7**	**-2.02***	**3-708**
Southeast	**1**	**1,238**	**53.5**		**3-1,099**
	0	**171**	**46.4**	**-2.68***	**4-322**
Delta States	**1**	**640**	**59.3**		**2-781**
	0	**144**	**56.2**	**.47**	**3-1,055**
Corn Belt	**1**	**1,871**	**52.7**		**1-965**
Lake States	**0**	**92**	**34.7**	**-4.3***	**2-1,071**
	1	**1,328**	**57.3**		**1-1,303**

Table 4. (Continued)

Region	CPP[1]	N[2]	Mean acres	t-stat[3]	Range
Northern	0	39	107.0	.88	5-512
Plains	1	1,245	88.0		[2]-1,856
Southern	0	44	99.0	-4.55*	10-364
Plains	1	277	174.8		9-1,145
Mountain	0	12	306.2	-.31	20- 1,566
	I	133	368.6 ,		10-12,367
Pacific	0	20	303.6	-.25	23-1,443
	1	1,409	329.5		6-3,369

[1] Dummy variable for commodity program participant defined as; CPP — 1: Wheat, corn, barley, sorghum, cotton or oats commodity program participant. CPP — 0: Non-participant in wheat, corn, barley, sorghum, cotton, or oats commodity programs.
[2]Number of observations in each sample.
[3] Traditional t-statistic if the hypothesis of equal variance of the two groups can be accepted; approximate t-statistic if this hypothesis cannot be accepted.

Table 5. Means for rental rates for each region in the May bid period by commodity program participants and nonparticipants.

Region	CPP[1]	N[2]	Mean bid	t-stat[3]	Range
	0	80	$54.2	-2.47*	S22-S65
Northeast	1	385	56.4		$12-$65
	0	322	49.3	-4.4*	S15-S60
Appalachia	1	1,786	51.1		$15-560
	0	291	37.3	-4.8*	$14-$60
Southeast	1	1,779	38.9		$10-$45
	0	321	37.8	-4.1*	S16-S50
Delta States	1	1,007	39.3		S16-S50
	0	290	58.8	-9.6*	$32-$90
Corn Belt	1	3,793	65.2		$30-$90
	0	250	52.8	-5.4*	$20-$85
Lake States	1	2,625	58.4		$19-$86
Northern	0	100	48.0	-.27	$26-$70'
Plains	1	3,326	48.3		S19-S70
Southern	0	135	38.0	- 1.27	S27-S55
Plains	1	1,618	38.5		$25-$50
	0	77	37.6	-1.38	$20-$45
Mountain	1	2,521	38.3		$20-$95
	0	146	48.8	.12	$30-$80
Pacific	1	668	48.7		S24-S65

[1] Dummy variable for commodity program participant defined as: CPP = 1: Wheat, corn, barley, sorghum, cotton or oats commodity program participant. CPP = 0: Non-participant in wheat, corn, barley, sorghum, cotton, or oats commodity programs.
Number of observations in each sample.
[3] Traditional t-statistic if the hypothesis of equal variance of the two groups can be accepted; approximate t-statistic if this hypothesis cannot be accepted.

Table 6. Means for acres enrolled for each region in the May bid period by commodity nroeram participants and nonpar ticipants.

Region	CPP[1]	N[2]	Mean acres	t-stat[3]	Range
_———.————	0	80	32.0	-.48	3-345
Northeast	1	385	34.0		2-474
	0	322	34.0	-3.8*	2-344
Appalachia	1	1,786	51.1		1-490
	0	291	46.2	-3.3*	2-854
Southeast	1	1,779	61.3		1-1,251
	0	321	61.0	—2.7*	3-912
Delta States	1	1,007	76.3		2-1,143
	0	290	54.5	-7.4*	2-462
Corn Belt	1	3,793	86.3		1-1,175
	0	250	52.4	-2.3*	3-1,071
Lake States	1	2,625	67.3		1-1,303
Northern	0	100	103.5	-.81	3-981
Plains	1	3,326	117.0		1-2,533
Southern	0	135	181.4	-2.03*	8-1,274
Plains	1	1,618	223.0		3-3,775
	0	77	244.4	-3.29*	9-1,901
Mountain	1	2,521	371.8		2-11,815
	0	146	305.0	-.42	5-1,315
Pacific	1	668	317.0		3-5,477

[1] Dummy variable for commodity program participant defined as: CPP = 1: Wheat, corn, barley, sorghum, cotton or oats commodity program participant. CPP = 0: Non-participant in wheat, corn, barley, sorghum, cotton, or oats commodity programs.
Number of observations in each sample.
[3] Traditional t-statistic if the hypothesis of equal variance of the two groups can be accepted; approximate t-statistic if this hypothesis cannot be accepted.

Table 7. Means for rental rates by crop for commodity program participants in all regions

Bid round	Crop	N[1]	Mean rental rate	t-stat[2]	Range
Maj-ch					
	Corn	3,468	$51.02	23.27*	$8- $90
	Other	4,991	$42.99		$1-$90
	Barley	844	$40.39	- 16.38*	$15-$89
	Other	7,615	$46.94		$1-$90
	Oats	2,249	$51.20	17.02*	$12- $90
	Other	6,210	$41.81		S1-S90
	Wheat	4,315	$43.85	-14.83*	$1-$90
	Other	4,144	$48.81		$8-$90
	Cotton	237	$34.89	- 19.13*	$10-$60
	Other	8,222	$46.61		$1-$9O
	Sorghum	1,960	$41.78	- 18.09*	S1-S89
	Other	6,499	$47.64		$5-$90

Table 7. (Continued)

Bid round	Crop	N[1]	Mean rental rate	t-stat[2]	Range
May					
	Corn	6,703	$57.27	52.30*	$I5-$95
	Other	12,805	$46.12		$ 10-S90
	Barley	2,842	$42.90	-43.38*	$15-$95
	Other	16,666	$51.15		$10-$90
	Oats	4,902	$54.78	25.56*	i $15-$95
	Other	14,606	$48.32		$10-$90
	Wheat	10,978	$47.20	-30.81*	$12-$95
	Other	8,530	$53.49		$10-$90
	Cotton	858	$38.62	-51.74*	S20-S90
	Other	18,650	$50.47		$IO-$95
	Sorghum	4,858	$45.43	-32.96*	S10-S95
	Other	14,650	$51.45		$12-$90

[1] Number of observations.
[2] Traditional t-statistic, if the hypothesis of equal variance of the two groups can be accepted; approximate t-statistic if this hypothesis cannot be accepted.
[3] T-statistics are statistically significant at the 95 percentile level.

Table 8. Means for acre enrollment by crop for commodity program participants in all regions

Bid round	Crop	N[1]	Mean rental	t-stat[2]	Range
March					
	Corn	**3,468**	**62.00**	**-8.87***	**1-1,181**
	Other	**4,991**	**97.06**		**1-12,367**
	Barley	**844**	**192.26**	**7.02***	**2-12,367**
	Other	**7,615**	**70.54**		**1-3,369**
	Oats	**2,249**	**73.25**	**-3.10***	**2-2,575**
	Other	**6,210**	**86.10**		**1-12,367**
	Wheat	**4,315**	**108.32**	**11.93***	**1-12,367**
	Other	**4,144**	**55.99**		**1-1,934**
	Cotton	**237**	**100.52**	**1.68**	**2-1,442**
	Other	**8,222**	**82.17**		**1-12,367**
	Sorghum	**1,960**	**120.07**	**6.08***	**2-12,356**
	Other	**6,499**	**71,41**		**1-3,369**
May					
	Corn	**6,703**	**76.17**	**-29.98***	**1-2,831**
	Other	**12,805**	**163.35**		**1-11,815**
	Barley	**2,842**	**250.64**	**30.38***	**1-5,477**
	Other	**16,666**	**113.40**		**1-11,815**
	Oats	**4,902**	**99.71**	**-14.21***	**1-2,533**

Table 8. (Continued)

Bid round	Crop	N[1]	Mean rental	t-stat[2]	Range
May	Cotton	858	212.33	8.85*	2-2,728
	Other	18,650	129.76		1-11,815
	Sorghum	4,858	191.58	15.69*	2-11,815
	Other	14,650	114.10		1-5,477

[1] Number of observations.
[2] Traditional t-statistic, if the hypothesis of equal variance of the two groups can be accepted; approximate t-statistic if this hypothesis cannot be accepted. Ail t-statistics are statistically significant at the 95 percentile level unless otherwise indicated.
T-statistics are statistically significant at the 95 percentile level.

cotton indicating the general differences among average farm size for each crop.

Bids with corn or oats base acreage retired had rental rates higher than those for the average rental rates of bids from all other crops. The mean acreage enrolled for corn and oats, also tended to be significantly lower than for the aggregated commodity group.

Regional results for each program crop tended to be less clear and thus are not reported here. Across regions, there is no individual crop where the mean rental rate or mean acres enrolled is significantly different from the means of the aggregated group of five crops. However, withinaregion some statistical differences did occur.

Discussion

In general, the results indicate that commodity program participants required a higher rental rate than did nonparticipants. Only the four western regions did not have statistically significant differences in rental rates for participants and nonparticipants. A possible explanation may be the heavy reliance upon irrigation in the western states. The average cash rent for irrigated cropland is, on the average, twice as much as for dryland (ERS, 1987). Determination of the rental rate cap, for a given area, was based upon the average cash rent for dryland. In fact, it has been established that because irrigated cropland cash rents were included in the estimation of the rental rate cap, the rental rate caps in some areas of the west (particularly in the southwest) were more than three times the level of average dryland cash rent (Dicks, 1986). The offering of this large windfall for cropland coupled with the lower value placed on dryland relative to irrigated cropland would reduce the impact of commodity program benefits on CRP rental rate determination if only dryland were enrolled. Furthermore, no irrigated cropland was enrolled in the CRP, as irrigated cropland produces yields that exceed national average, and no observations had above average yields.

The large differences in rental rates observed for the program crops can be explained by two factors. First, when farmers enroll in the CRP, they are required to reduce their base acreage by the proportion of their total base to total cropland. Farmers may retire any base or combination of bases to meet the CRP base retirement requirement. Mag-leby and Dicks (1987) have noted that the proportion of each crop base enrolled to the total base enrolled is not representative of national or regional crop distributions. A proportionately greater amount of the lower valued crop bases (oats and barley) are enrolled than the higher valued crop bases (corn and wheat). Second, the location of the base acreage enrolled will affect the average rental rate paid for retiring that base. For example, the majority of oats base acreage enrolled was from the Corn Belt and Lake State regions. These regions also showed the highest average rental rates. Further, in retiring acreage from the Corn Belt, where corn and soybeans are the principal crops, enrolling an acre of cropland in the CRP has an opportunity cost equal to at least the cash rental value of the cropland for producing corn or soybeans. Thus, the high rental rate associated with retiring of oat base acres can be attributed, at least in part, to the higher valued crops (corn and soybeans) that could be (and may be) produced on the enrolled acreage.

Policy Implications

The analysis of the data collected for the March and May sign-up periods of the Conservation Reserve Program indicates a statistical difference between the mean bid rates and mean acres enrolled nationally by participants in the wheat, corn, barley, sorghum, cotton, or oats commodity programs and nonparticipants. These statistical differences are also generally evident on the regional level.

The statistical difference in bid rates is in keeping with the work by Miller (1974) on the rate of return in agricultural production and the theoretical model developed by Boggess (1986) on the effect of commodity program participation on an individual farmer's decision to participate in the Conservation Reserve Program. The statistical tests conducted by this research indicate that commodity program participants require a higher level of compensation to enroll land in the CRP than do non-participants. The current criteria for accepting eligible acreage into the CRP requires the accepted rental rate to be equal to or less than the established rental rate for the given area. Such a criteria may preclude participation by commodity program participants if the area rental rate does not match or exceed the revenue that would be earned by planting the CRP eligible land with the given program crop. From a policy viewpoint this result implies that an increase in the rental rate cap, or a perceived decrease in the benefits of commodity program participation, may result in an increase in CRP eligible acreage enrolled by program participants.

The statistical difference in mean acres enrolled by program participants and nonparticipants is consistent with research results by Vermeer (1963) and Johnson and Short (1983) which find that program participants, on average, have larger farms than nonparticipants thus suggesting program participants, on average, would individually enroll more land in the CRP than nonparticipants. Thus, a reduction in commodity program benefits would likely have a major impact on the rate of CRP participation.

The results of the analysis hold important policy information especially as they pertain to the surplus commodity reduction goals described in the 1985 Food Security Act (Glaser, 1986). In 1986 an excess corn capacity of 2,620 bushels was reported which represents approximately 29% of the corn production for that year (Dvoskin, 1987). Increased enrollment of eligible corn base acreage in the CRP would assist in reducing this excess capacity. An increase in the accepted rental rate for those crops which have large quantities of eligible, yet unenrolled, acreage could encourage the retirement of those crop bases.

References

Bogess, William G. "Implementing the Conservation Reserv Provisions: Potential Risks Facing Farmers." In: #,•,,). *Analysis for Agricultural Production Firms: Implication for Managers, Policymakers, and Researchers.* Proceedings of a seminar sponsored by Southern Regional Project S-180, "An Economic Analysis of Risk Management Strategies for Agricultural Production Firms," Tampa Florida. March 23-26, 1986.

Boggess, William G. "Analyzing CRP Bidding Behavior Under Uncertainty: A Reliability Criterion Approach." Presented at the AAEA National Meetings, East Lansing, Michigan August 3-5, 1987.

Dicks, Michael R. "Conservation Reserve Grows Rapidly," *Agricultural Outlook,* AO-124, October, 1986, p. 28.

Dicks, Michael R. "Definitional Consistency for Conservation Provisions of the 1985 Food Security Act.[1]' Washington D.C., USDA, ERS Staff Report No. AGES861214, 1987.'

Dicks. Michael R. et al. "Implementation of the 1985 Farm Bill." *Agricultural Outlook.* AO-117, March, 1986, pp 23-33.

Dvoskin, Dan. "Excess Capacity in U.S. Agriculture. An Economic Approach to Measurement." Washington, D.C., USDA, ERS Staff Report No. AGES870618, 1987.

Economic Research Service. *Agricultural Resources,* Outlook and Situation Summary, USDA, April, 1987.

Glaser, Lawrence K. "Provisions of the Food Security Act of 1984," Agricultural Information Bulletin, No. 498, USDA, Economic Research Service, April, 1986.

Johnson, J. and S. D. Short. "Price and Income Support and the Distribution of Farm Related Incomes: Observations from Southern Grain and Cotton Farms." Paper presented at SAEA Annual Meeting, Atlanta, Georgia. February 6 -9, 1983.

Magleby, Richard and Michael R. Dicks. "Soil Conservation," *Agricultural Resources;* Cropland, Water, and Conservation Situation and Outlook Report, AR-8, October, 1987, pp. 8-14.

Miller, T. A. "Estimating the Income Supplement in the Farm Program Payments." Washington, D.C., USDA, ERS Technical Bulletin No. 1492, March, 1974.

Soth, Lauren. "Conservation Reserve Might Work," *Agweek,* October 6, 1986, p. 50.

Vermeer. J. "An Economic Appraisal of the 1961 Feed Grain Program." Washington, D.C., USDA. ERS AER No. 3, June, 1963.