Profitability of the 1988 Upland Cotton Program

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ABSTRACT

The profitability of full and "50/92" participation in the 1988 upland cotton program is estimated for representative farms in Maricopa, Pinal, LaPaz and Yuma counties. Special attention is given to the effect on profitability of farm size, multiple-partner ownership and changes in program provisions for harvesting alfalfa hay. In general, full participation is shown to be the most profitable, given the assumptions used here.

INTRODUCTION

Upland cotton remains Arizona's most important crop, totaling 299,000 acres in 1987, which equals approximately 40% of the state's harvested acreage. Maricopa, Pinal, La Paz and Yuma counties accounted for 87% of the state's upland acreage with 102,400; 78,400; 16,800; and 19,100 acres respectively of upland cotton in 1986.

Upland cotton producers have actively participated in past cotton programs. In all years from 1982 (the first year of the 4-year 1981 Farm Bill) to the present, 69% or more of the state's cotton acreage has been enrolled in the upland program. In 1987, nearly 55% of the enrolled base was in the "50/92" program. Cotton program payments, in the form of deficiency, paid acreage diversion, and PIK payments, have been very large, ranging from $44 million in 1982 to over $120 million in 1983. In 1986 cotton program payments in Arizona were $66 million.

Participation in the upland program has varied among counties, especially some years, but 1987 participation was high in all counties. In Maricopa, Pinal, La Paz and Yuma counties some 80, 95, 82 and 80 percent, respectively, of base acreages were enrolled in the program.

How profitable will participation in the 1988 upland cotton program be? Is full or "50/92" participation best? What difference does owning a farm in partnership, vs. single ownership make? What if the Agricultural Stabilization and Conservation Service (ASCS) changes the rule on harvesting alfalfa from conserving-use (CU) acres: will "50/92" be as attractive as last year?

Results of a recent analysis to answer these questions are given here. The analysis estimates gross margins for both participants and nonparticipants in the 1988 upland cotton program. The difference in the gross margins between participants and nonparticipants shows the profitability of participation. The counties considered--Maricopa, Pinal, La Paz and Yuma--typically produce nearly 90 percent of the state's upland cotton. Two farm sizes, one with 100 acres of upland base and another with 1,000 acres of upland base, were used to demonstrate how the $50,000 government payment limit affects program profitability.

Profit estimates assume the 1987 yields and input costs for each of the counties as given in the 1987 Arizona Field Crop Budgets by Hathorn, et. al. of the University of Arizona. These budgets might be considered somewhat representative for better managers, but individual farm yields and input costs (especially water) can vary sharply from those used here.

The Arizona farm price for upland cotton in December 1988 is assumed to be $.66/lb. and the U.S. average price $.60/lb. The price of extra long staple (ELS) cotton and alfalfa are assumed to be $1.10/lb and $75/ton respectively.

SINGLE OWNER FARMS

The gross margins for the single owner nonparticipant, full participant, and "50/92" participant, assuming Acreage Conservation Reserve (ACR) and CU acres cannot be harvested, are shown in Table 1. In all four counties for both the small and large farm examples, full participation results in gross margins considerably greater than nonparticipation, given our assumptions. For the small, 100-acre base farm, full participation adds nearly $12,000 to farm profits. For the large, 1,000-acre base farm, full participation adds $26,000 to $44,000 to farm profits, depending

on the county. For "50/92," the analysis indicates it is less profitable than either non- or full participation in all four counties, given the assumptions. Gross margins are about $20,000 less than full participation for the 100-acre base farm, and at least $160,000 less for the 1,000-acre base farm.

The above analysis assumed ELS was planted on free acres of the 1,000 acre base farms in Maricopa and Pinal counties. Although ELS is permitted on free acres, ELS does not protect upland base. Accordingly, another analysis was done for Maricopa and Pinal counties using alfalfa on the free acres. Gross margins were reduced by $18,000 to $30,000, depending on the county and whether for the full or 50/92 participation case. However, the basic conclusion that full participation is most profitable remained unchanged.

Table 1. Estimated Gross Margins for Single Owner Participant and Nonparticipant Upland Producers With 100 and 1,000 Acres Base: Maricopa, Pinal, La Paz and Yuma Counties, 1988

	Maricopa		Pinal		La Paz (Parker)		Yuma	
	100Ac Base	1000 AC Base	100Ac Base	1000Ac Base	100Ac Base	1000Ac Base	100Ac Base	1000Ac Base
Gross Margin	$1000							
ACR & CU Not Harvested								
Non Part.	41	410	34	341	38	378	40	395
Full Part.	52	452	47	385	51	405	52	421
50/92 Part.	32	258	30	222	32	228	32	236
Gross Margin	$1000							
ACR & CU Harvested								
Non Part.	41	410	34	341	38	378	40	395
Full Part.	56	462	48	388	55	415	56	432
50/92 Part.	48	395	35	268	49	369	50	389

As indicated earlier, at the time this analysis was done, ASCS had not determined if alfalfa could be harvested from ACR and/or CU acres. The preceding analysis assumes no harvest. Gross margins under the assumption that ACR and CU acres could be harvested were also estimated, and these results are shown in the bottom half of Table 1.

The results, given ACR and CU acres are in established alfalfa and harvested, increase the incentive to participate in the upland program. In the case of the 100 acre base farm, permitting harvest from ACR and CU acres adds from $1,000 to $4,000 to full participation profits, depending on the county. For the 1,000 acre base situation, permitting alfalfa harvest from ACR and CU add $3,000 to $11,000 to the profitability of full participation.

Permitting alfalfa harvest from ACR and CU acres does add considerably to the profitability of "50/92" participation. Still, "50/92" is less profitable than full participation for both the small and large farm in all four examples.

Partnership Vs. Single Owner

Partnerships, compared to the previous single-owner example, may alter the profitability of farm program participation. The key difference is that multiple partners increase the number of government deficiency payments, each subject to the $50,000 deficiency payment limit, which may be received. It should be noted, however, that not all partnerships qualify for this payment limitation treatment, and farmers should consult with their ASCS offices for qualification guidelines.

Gross margins for the large, 1,000-acre base farm with 5 equal partners, were estimated and contrasted with the previous single-owner analysis. For full and "50/92" participation, assuming alfalfa is not harvested from ACR and CU acres, profits are increased by at least $64,000 in each of the four county examples when the 1,000 acre base is owned equally by 5 partners instead of a single owner. Full participation is the most profitable. If alfalfa can be harvested from ACR and CU acres, full participation is still more profitable than "50/92," although the difference is not nearly so great.

Other Considerations

There are other potential program benefits, besides expected profits, which may be attractive to producers. First, like forward contracting and hedging in futures or options, participation may reduce the risk of unusually low cotton prices. Between the price received for cotton and the deficiency payment, the producer (at least those not constrained by the $50,000 deficiency limit) has a price floor of $.759/lb. This assurance may help secure operating loans and help assure a cash flow to meet operation and other cash needs. Second, participants can receive an advance deficiency payment at the start of the crop year. The advance is 40% of the projected total. Farmers needing cash early in the year may benefit from this program provision and reduce the need and cost of borrowing.

Producers should discuss program provisions with their local ASCS office. Especially important are the final provisions regarding harvest of alfalfa from ACR and/or CU acres and restrictions on partnerships. Both of these factors may substantially affect program profitability.

Interested parties may obtain a detailed report of the 1988 upland program and profit computation worksheets from the author.