



Current Report

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ANALYSIS OF THE 1986 GOVERNMENT COTTON PROGRAM

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Sign-up for the 1986 cotton program is expected to begin March 3 and be open until April 11. The highlights of the program include the target price frozen at the 1985 level and a market enhancement program with much discretion for the Secretary of Agriculture (see CR #483 for provision details). Factors producers should consider when deciding whether to participate and at what level to participate include:

- expected harvest price, expected yields, and ASCS yield;
- planted acres compared to base acres;
- actual costs associated with production and ARP acreage;
- non-program crops that can be grown.

Such factors may significantly affect the outcome. The "best" decision will vary from producer to producer.

Table 1: Summary of Upland Cotton Provisions

	1986	1987	1988	1989	1990
Target Price (\$/lb.) ²	0.81	0.794	0.77	0.745	0.729
Loan Rate (\$/lb.)	0.55 ³	(85% average spot or 90% N.Eur. price; 5% limit, .50 floor)			
Maximum ARP ⁴ (%)	25	25	25	25	25

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² Target price for 1987-1990 is estimated; Secretary has discretion to lower 2-3% annually.

³ Estimate of national average loan rate.

⁴ Acreage Reduction Program (ARP)

Additional upland cotton provisions include:

- Signup will be held March 3 through April 11;
- An advance deficiency payment of 7.8 cents per pound (30 percent of the projected total deficiency payment rate of 26 cents per pound) will be paid in cash during signup to producers who request an advance payment;
- The loan rate cannot be announced until after the adjusted world price is determined and announced. It cannot, however, be less than 55 cents per pound for Strict Low Middling (SLM) 1-1/6 inch cotton at an average U.S. location;
- The loan repayment rate also cannot be determined and announced until the adjusted world price is determined and announced. However, if the adjusted world price is determined to be below the loan rate at the time of announcement of the loan rate, it is the intention of the USDA to implement Plan A under which the loan repayment rate cannot be less than 80 percent of the loan rate.

Program Analysis and Worksheet

A worksheet is used to illustrate the potential net returns associated with three alternatives. The alternatives include (see Table 2): 1) non-participation; 2) participation in the required ARP and 3) not harvesting 50 percent of the permitted acreage to cotton. For the third option, it is assumed that 37.5% of each acre is devoted to cotton, 25% is devoted to ARP and 37.5% is devoted to a non-program crop. Production costs and returns are weighted to account for harvested, and non-harvested cost associated with the 50% participation option. The 50/92 plan assumes a non-program crop is grown on the 50% not harvested and 92% deficiency payment is received on all permitted acres. Then, costs and returns are calculated for each portion of one acre, as applicable.

Table 2: Key Factors for Participation Alternatives, 1 Acre

	NON-PARTICIPATION	ARP	ARP(50/92)
Base (acres)	1	1	1
ARP (acres)	0	.25	.25
Cotton (acres)	1	.75	.375
Other Crop (acres)	0	0	.375
Cotton Yield (pounds)	400	425	450
Other Crop Net Revenue	\$ 0	\$ 0	\$60
ARP Cost	\$ 0	\$20	\$20

The example shown assumes a 400# cotton yield for non-participation, 425# for participation in ARP and 450# for participation on 50/92. The assumption is that the land that is set aside or not harvested is marginal/less productive. This example has an expected market price of \$.45 per lb. for participation. This

assumes the market price will be greater than the net loan price. Note: If the expected cash price is higher than the net loan price, you will expect to receive more money by selling on the cash market. If the net loan price is higher than the cash price, the crop should be placed under loan although there may be unique tax considerations.

Variable production costs are assumed to be \$150.00 per harvested acre, \$20.00 per acre for ARP and \$60.00 per acre on the 50/92 non-program crop acreage. A \$120.00 per acre gross return is assumed on this 50/92 land.

All calculations will result in net returns per base acre¹. Total return for non-participation (3) is calculated by multiplying the expected yield (1) by the expected price (2). Variable costs (4) are subtracted from total return (3) to determine net income (5). The value in line 5 will be compared with the net returns calculated on the participation worksheet.

1986 GOVERNMENT PROGRAM WORKSHEET
(NON-PARTICIPATION)

		<u>Your Values</u>
1. Expected Yield/Acre	<u>400</u>	_____
2. Expected Market Price/Acre	<u>.45</u>	_____
3. Total Return(L2xL1)	<u>\$180.00</u>	_____
4. Variable Cost/Acre	<u>150.00</u>	_____
5. Net Return/Acre(L3-L4)	<u>\$ 30.00</u>	_____

For participation, the percent of acres harvested is entered in line 3 of the "1986 Cotton Program Worksheet". This is .75 for ARP and .375 for 50/92. The ARP column will be used to show how the calculations work. Multiplying lines 1, 2, and 3 (425x.45x.75) gives the per acre income from cotton shown on line 4.

Lines 5, 6 and 7 are used to calculate the income from the deficiency payment. The percent in line 7 for the 50/92 column (.69) is the adjusted figure. While 75% of the acreage is considered planted for deficiency payment, 92% will be paid (thus .75x.92 = .69).

¹Note: Because of advance deficiency payments, time value of money may be important. For simplification, that was not considered in this example. The producer may want to discuss this with the Area Farm Management Specialist or financial advisor.

Lines 3 and 9 are used to compute other income on the 50/92 column. In this example, it is assumed that the producer can grow 800# of mungbeans and sell them for .15 per pound. The mungbeans will gross \$120.00 per acre (line 9). Line 9 multiplied by line 3 adjusts the return to a per acre basis to get line 10.

Line 11 is the total return per acre. This total is arrived at by adding lines 4, 8 and 10. In this example, the return for ARP is \$221.44 per acre.

Lines 12 and 13 are used to compute the variable cost for cotton. With a \$150.00 variable cost (line 12) and .75 of each acre harvested under ARP, line 14 is \$112.50 ($\$150.00 \times .75$).

The cost for ARP acres is computed in lines 15, 16 and 17. For ARP this is $\$20.00 \times .25^1$, or \$5.00 per base acre in line 17.

Lines 18, 19 and 20 are used to compute the cost of the mung beans in this example. A \$60.00 per acre cost is used on .375 (line 19) acres under the 50/92 program. Line 20 is ($\$60.00 \times .375$) \$22.50 per acre.

Total cost is computed by adding the amounts in line 14, line 17 and line 20. These amounts give a total variable cost of \$117.50 per acre for ARP.

Net returns are shown in line 22. The amount is computed by subtracting the amount in line 21 from line 11 (L11-L21). For the ARP column, the returns are \$103.94 per acre.

The return for ARP of \$103.94 compares to the return of \$30.00 per acre for non-participation and \$108.95 for 50/92. This example would indicate that the 50/92 option is the most profitable. The 50/92 option may very well be the most profitable, but the producer must know the costs and returns for the particular non-program crop that is intended to be grown on these acres.

¹Note: The technical computation by ASCS may make this .23.

1986 COTTON PROGRAM WORKSHEET
(Participation)*

	<u>25% ARP</u>	<u>50/92</u>
1. Expected Yield Per Acre	425	450
2. Expected Net Market or Loan Price	.45	.45
3. Percent of Base Acres Harvested	.75	.375
4. Return Per Harvest Acres (L1xL2xL3)	143.44	75.94
5. Expected Deficiency Payment	.26	.26
6. ASCS Base Yield Per Acre	400	400
7. Percent of Base Acres Planted	.75	.69**
8. Deficiency Payment Per Base Acre (L5xL6xL7)	78.00	71.76
9. Other Gross Income Per Acre	xxxx	120.00
10. Other Gross Income Per Base Acre (L3xL9)	xxxx	45.00
11. Total Return Per Acre (L4+L8+L10)	221.44	192.70
12. Variable Cost Per Harvested Acre	150.00	150.00
13. Percent of Base Acre Harvested	.75	.375
14. Variable Cost Per Base Acre (L12xL13)	112.50	56.25
15. Variable Cost Per ARP Acre	20.00	20.00
16. Percent of Base Acres ARP	.25	.25
17. Variable Cost Per ARP Acre (L15xL16)	5.00	5.00
18. Variable Cost for 50/92	xxxx	60.00
19. Percent for 50/92 alternate crop	xxxx	.375
20. Variable Cost for 50/92 (L18xL19)	xxxx	22.50
21. Total Variable Cost Per Acre (L14+L17+L20)	117.50	83.75
22. Net Return Per Base Acre (L11-L21)	103.94	108.95

* No loan rate had been determined when this was written; therefore, the example is based upon the floor rate of \$0.55.

** Adjusted for 92%: (.75x.92) = .69

1986 COTTON PROGRAM WORKSHEET

	<u>25% ARP</u>	<u>50/92</u>
1. Expected Yield Per Acre	_____	_____
2. Expected Net Market or Loan Price	_____	_____
3. Percent of Base Acres Harvested	_____	_____
4. Return Per Harvest Acres (L1xL2xL3)	_____	_____
5. Expected Deficiency Payment	_____	_____
6. ASCS Base Yield Per Acre	_____	_____
7. Percent of Base Acres Planted	_____	_____
8. Deficiency Payment Per Base Acre (L5xL6xL7)	_____	_____
9. Other Gross Income Per Acre	_____	_____
10. Other Income Per Acre (L3xL9)	_____	_____
11. Total Return Per Acre (L4+L8+L10)	_____	_____
12. Variable Cost Per Harvested Acre	_____	_____
13. Percent of Base Acre Harvested	_____	_____
14. Variable Cost Per Base Acre (L12xL13)	_____	_____
15. Variable Cost Per ARP Acre	_____	_____
16. Percent of Base Acres ARP	_____	_____
17. Variable Cost Per ARP Acre (L15xL16)	_____	_____
18. Variable Cost for 50/92	_____	_____
19. Percent for 50/92	_____	_____
20. Variable Cost for 50/92 (L18xL19)	_____	_____
21. Total Variable Cost Per Acre (L14+L17+L20)	_____	_____
22. Net Return Per Base Acre (L11-L21)	_____	_____

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