

ESTIMATING 1990 PRODUCTION  
COSTS IN ARKANSAS

EXTENSION TECHNICAL BULLETIN NO. 100

COTTON

LOAMY SOILS, NARROW 2x1 SKIP ROW, FURROW  
IRRIGATION, SOUTH OF I-40, EASTERN ARKANSAS



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# ESTIMATING PRODUCTION COSTS IN ARKANSAS

## INTRODUCTION

Estimating Production Costs is an Extension Technical Bulletin prepared by the Agricultural Economics Section within the University of Arkansas Cooperative Extension Service. The authors are Economists specializing in management and finance of the farm business.

The primary purpose of this analysis is to provide a systematic procedure for estimating specified costs associated with producing a defined enterprise. Costs are first developed for each field operation and then aggregated by input item. This publication has seven major parts: A written discussion, page 2; a summary of specified operating and ownership costs, page 3; a sensitivity analysis, page 4; returns above total specified costs at various yield, price, and cost combinations, page 5; a sequential listing of field operations, pages 6 and 7.

## SPECIFIED OPERATING AND OWNERSHIP COSTS

Specified operating and ownership costs for this particular enterprise, location, soil type, and irrigation method are located on page 3. The specified operating costs are derived from the sequential listing of operations presented on pages 6 and 7. Breakeven prices for total specified operating costs are given for a base yield and at deviations of 25 and 35 percent.

Total specified ownership costs and breakeven prices for total specified costs are also given on page 3. The depreciation and interest cost components represent an average cost allocated over the entire useful life of the machinery. Various financing arrangements and tax depreciation methods can produce costs that vary significantly from these estimates in a given year. The ability to estimate the actual cost is a complex economic procedure whereby cash accounting and economic costs may vary greatly.

## SENSITIVITY ANALYSIS

A sensitivity analysis is presented to provide a broader perspective from which an individual may analyze the specific situation budgeted. Since input prices and quantity may vary, costs are increased and decreased by 20 percent as shown on page 4. A per unit breakeven price is provided for a base yield and at yields of 25 and 35 percent above and below the base yield. These breakeven prices account for changes in costs due to yield differences, such as ginning.

## RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 5 are estimated enterprise returns above total specified costs at various yield, price, and cost combinations. *Not included in these returns are charges for land, risk, overhead labor, other overhead, crop insurance, real estate taxes, and management.*

## SEQUENCE OF OPERATIONS

A sequential listing of each operation performed for this enterprise is given on pages 6 and 7. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

### ACKNOWLEDGEMENTS EXTENSION COTTON COMMITTEE

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THE MENTION OF ANY COMMERCIAL PRODUCT IN THIS ANALYSIS DOES NOT IMPLY ITS ENDORSEMENT BY THE UNITED STATES DEPARTMENT OF AGRICULTURE OR THE UNIVERSITY OF ARKANSAS COOPERATIVE EXTENSION SERVICE OVER OTHER PRODUCTS NOT NAMED, NOR DOES THE OMISSION IMPLY THAT THEY ARE NOT SATISFACTORY.

SPECIFIED OPERATING COSTS

RESOURCE OR INPUT	PER ACRE COST (PER LAND ACRE)	YOUR ESTIMATED COST
SEED	\$6.73	
FERTILIZER	\$49.99	
LIME + APPLICATION	\$9.35	
HERBICIDE	\$13.39	
FUNGICIDE	\$8.66	
INSECTICIDE	\$57.45	
DEFOLIANT	\$14.50	
AERIAL APPLICATION	\$40.75	
MACHINERY:		
FUEL, OIL, LUBRICANTS	\$15.77	
REPAIRS	\$43.39	
LABOR	\$20.29	
IRRIGATION:		
FUEL, OIL, LUBRICANTS	\$4.86	
REPAIRS	\$2.46	
IRRIGATION LABOR	\$5.04	
CUSTOM SPREAD	\$5.50	
CUSTOM HAUL	\$0.00	
CUSTOM DRY OR GINNING	\$76.00	
MISCELLANEOUS	\$14.00	
CROP INSURANCE PREMIUM		
OTHER		
INTEREST ON OP. CAP.	\$17.17	

TOTAL SPECIFIED OPERATING COSTS \$405.28

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OPERATING COST	YIELD IN POUNDS PER LAND ACRE				
	617.50	712.50	950.00	1187.50	1282.50
	\$0.53	\$0.46	\$0.35	\$0.28	\$0.26

BREAKEVEN PRICES REFLECT A COTTONSEED CREDIT AGAINST GINNING CHARGES.

SPECIFIED OWNERSHIP COSTS

RESOURCE OR INPUT	PER LAND ACRE COST	YOUR ESTIMATE
TRACTORS:		
DEPRECIATION	\$9.88	
INTEREST	\$8.15	
EQUIPMENT:		
DEPRECIATION	\$7.80	
INTEREST	\$4.61	
SPECIAL EQUIPMENT:		
DEPRECIATION	\$28.93	
INTEREST	\$12.17	
MISCELLANEOUS:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
IRRIGATION:		
DEPRECIATION	\$10.82	
INTEREST	\$9.52	
TAXES & INSURANCE	\$7.83	
INTEREST	\$0.86	
OVERHEAD LABOR		
OTHER OVERHEAD		
LAND & PROPERTY TAX		
MANAGEMENT		

TOTAL SPECIFIED OWNERSHIP COSTS \$100.59

TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS \$505.87

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OWNERSHIP & OPERATING COST	YIELD IN POUNDS PER LAND ACRE				
	617.50	712.50	950.00	1187.50	1282.50
	\$0.70	\$0.60	\$0.45	\$0.36	\$0.34

NOT INCLUDED IN THIS REPORT ARE CHARGES FOR LAND, RISK, OVERHEAD LABOR, OTHER OVERHEAD, CROP INSURANCE, REAL ESTATE TAXES, AND MGT.

SENSITIVITY ANALYSIS:

EFFECTS OF A 20% VARIATION IN SPECIFIED INPUT COSTS ON  
PER UNIT BREAKEVEN PRICES.

ENTERPRISE: COTTON, NARROW 2\*1 SKIP (75%)  
 ENTERPRISE FILE NO.: SCOT9008, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

RESOURCE OR INPUT	-20% DEVIATION	BASE COST PAGE 3	+20% DEVIATION
(A)	(B)	(D)	(F)
DRY OR GINNING (COMMERCIAL)	\$60.80	\$76.00	\$91.20
INSECTICIDE	\$45.96	\$57.45	\$68.93
DEPRECIATION	\$45.95	\$57.43	\$68.92
FERTILIZER	\$39.99	\$49.99	\$59.99
REPAIRS	\$36.68	\$45.85	\$55.02
AERIAL APPLI. (CUSTOM HIRE)	\$32.60	\$40.75	\$48.90
OWNERSHIP INTEREST	\$28.26	\$35.32	\$42.39
HIRED LABOR	\$20.27	\$25.34	\$30.40
INTEREST ON OP. CAP.	\$13.73	\$17.17	\$20.60
MACHINERY FUEL & OIL	\$12.61	\$15.77	\$18.92
DEFOLIANT	\$11.60	\$14.50	\$17.40
MISCELLANEOUS	\$11.20	\$14.00	\$16.80
HERBICIDE	\$10.71	\$13.39	\$16.06
LIME + APPLICATION	\$7.48	\$9.35	\$11.22
FUNGICIDE	\$6.92	\$8.66	\$10.39
SEED	\$5.39	\$6.73	\$8.08
FARM TAXES	\$5.01	\$6.27	\$7.52
SPREAD (CUSTOM HIRE)	\$4.40	\$5.50	\$6.60
IRRIGATION FUEL & OIL	\$3.89	\$4.86	\$5.83
FARM INSURANCE	\$1.25	\$1.57	\$1.88
CROP INSURANCE PREM.			
CROP MKT. & COM. STORAGE			
DRYING FUEL			
FINANCIAL SERVICES			
HAUL (CUSTOM HIRE)			
LAND CHARGE			
LEASE PAYMENTS			
MACHINE HIRE			
MANAGEMENT			
OVERHEAD			
UTILITIES			

TOTAL SPECIFIED COST/ACRE      \$404.70      \$505.87      \$607.05

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

	YIELD	BREAKEVEN PRICE (1/- SEE PAGE 5)		
-35% OF BASE YIELD	617.50	\$0.56	\$0.70	\$0.84
-25% OF BASE YIELD	712.50	\$0.48	\$0.60	\$0.72
BASE YIELD	950.00	\$0.36	\$0.45	\$0.54
+25% OF BASE YIELD	1187.50	\$0.29	\$0.36	\$0.43
+35% OF BASE YIELD	1282.50	\$0.27	\$0.34	\$0.40

ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS

ENTERPRISE: COTTON, NARROW 2\*1 SKIP (75%)  
 ENTERPRISE FILE NO.: SCOT9008, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

1/ SEED VALUES AND GINNING CHARGES VARY BY LOCATION. THIS ANALYSIS ASSUMES THAT SEED VALUES COVER GINNING CHARGES; THEREFORE, COSTS AND RETURNS SHOWN BELOW ARE ADJUSTED ACCORDINGLY.

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- 20% DEVIATION FROM BASE COSTS: \$343.90 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS PER LAND ACRE				
	617.50	712.50	950.00	1187.50	1282.50
-----	-35%	-25%	BASE YIELD	+25%	+35%
	-----				
	- - - - - RETURNS PER ACRE - - - - -				
\$0.35	(\$127.78)	(\$94.53)	(\$11.41)	\$71.71	\$104.96
\$0.45	(\$69.12)	(\$26.85)	\$78.84	\$184.52	\$226.79
BASE PRICE = \$0.54	(\$10.46)	\$40.84	\$169.09	\$297.33	\$348.63
\$0.64	\$48.21	\$108.53	\$259.34	\$410.15	\$470.47
\$0.73	\$106.87	\$176.22	\$349.59	\$522.96	\$592.31

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BASE COSTS: \$429.87 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS PER LAND ACRE				
	617.50	712.50	950.00	1187.50	1282.50
-----	-35%	-25%	BASE YIELD	+25%	+35%
	-----				
	- - - - - RETURNS PER ACRE - - - - -				
\$0.35	(\$213.76)	(\$180.51)	(\$97.39)	(\$14.27)	\$18.98
\$0.45	(\$155.10)	(\$112.82)	(\$7.14)	\$98.54	\$140.82
BASE PRICE = \$0.54	(\$96.43)	(\$45.14)	\$83.11	\$211.35	\$262.65
\$0.64	(\$37.77)	\$22.55	\$173.36	\$324.17	\$384.49
\$0.73	\$20.89	\$90.24	\$263.61	\$436.98	\$506.33

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+ 20% DEVIATION FROM BASE COSTS: \$515.85 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS PER LAND ACRE				
	617.50	712.50	950.00	1187.50	1282.50
-----	-35%	-25%	BASE YIELD	+25%	+35%
	-----				
	- - - - - RETURNS PER ACRE - - - - -				
\$0.35	(\$299.74)	(\$266.49)	(\$183.37)	(\$100.25)	(\$67.00)
\$0.45	(\$241.07)	(\$198.80)	(\$93.12)	\$12.56	\$54.84
BASE PRICE = \$0.54	(\$182.41)	(\$131.11)	(\$2.87)	\$125.38	\$176.67
\$0.64	(\$123.75)	(\$63.43)	\$87.38	\$238.19	\$298.51
\$0.73	(\$65.09)	\$4.26	\$177.63	\$351.00	\$420.35

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SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, NARROW 2\*1 SKIP (75%)  
 ENTERPRISE FILE NO.: SCOT9008, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MACHINERY COST

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 OPERATING COST OWNERSHIP COST  
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OPER- ATION NO.	DATE	OPERATION	WIDTH (FEET)	HORSE POWER PTO	PERFORMANCE RATE (AC/HR)	TIMES OVER (NO.)	REPAIRS & MAINTENANCE	FUEL, OIL & LUB	DEPRE- CIATION	INTEREST	TAXES & INSURANCE	TOTAL COST
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
1		12 STALK CUTTER	15.0	140.0	7.727	1.000	\$1.68	\$0.79	\$1.29	\$0.94	\$0.21	\$4.91
2		3 SUBSOIL	15.0	200.0	4.364	1.000	\$2.46	\$2.00	\$2.72	\$2.24	\$0.51	\$9.93
3		3 DISK, MC 9.0" SPACING	26.7	175.0	11.638	1.000	\$1.16	\$0.66	\$1.34	\$0.97	\$0.22	\$4.34
4		3 LAND FLOAT	16.0	175.0	7.273	1.000	\$1.45	\$1.05	\$1.27	\$1.15	\$0.26	\$5.17
5		4 APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
6		4 DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06
7		4 DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06
8		5 TRIPLE K	26.7	175.0	11.638	1.000	\$1.25	\$0.66	\$1.28	\$1.00	\$0.23	\$4.40
		5 SPRAYER, SADDLE MTD BC	26.7	0.0	11.638	1.000	\$0.13	\$0.00	\$0.31	\$0.17	\$0.04	\$0.64
		5 PICKUP, WATER TANK	20.0	170.0	8.485	0.045	\$0.04	\$0.04	\$0.02	\$0.01	\$0.00	\$0.11
9		5 PLNTR (SPLIT BOX) 8 ROW @ 38"	25.3	175.0	8.981	1.000	\$2.12	\$0.85	\$2.29	\$1.19	\$0.27	\$6.72
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
		5 SPRAYER, SADDLE MTD BC	25.3	0.0	8.981	1.000	\$0.16	\$0.00	\$0.40	\$0.22	\$0.05	\$0.82
		5 PICKUP, WATER TANK	20.0	170.0	8.485	0.045	\$0.04	\$0.04	\$0.02	\$0.01	\$0.00	\$0.11
10		5 ROW CULTIVATOR 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
11		6 APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12		6 ROW CULTIVATOR, 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.038	\$0.03	\$0.03	\$0.02	\$0.01	\$0.00	\$0.09
13		6 ROW CULTIVATOR, 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.038	\$0.03	\$0.03	\$0.02	\$0.01	\$0.00	\$0.09
14		6 APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
15		6 APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
16		6 APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, NARROW 2\*1 SKIP (75%)  
 ENTERPRISE FILE NO.: SCOT9008, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
1								0.00%	\$0.00		\$0.64	\$5.56
2								0.00%	\$0.00		\$1.14	\$11.07
3								0.00%	\$0.00		\$0.43	\$4.77
4								0.00%	\$0.00		\$0.68	\$5.86
5	CSTM AP FERT GRND (DRY)		ACRE	\$2.500	1.000			100.00%	\$2.50		\$0.00	\$2.50
	NITROGEN (ACTUAL N)		POUND	\$0.256	50.000			100.00%	\$12.80		\$0.00	\$12.80
	PHOSPHATE (MATERIAL)	0-46-0	POUND	\$0.094	75.000			100.00%	\$7.05		\$0.00	\$7.05
	POTASH (MATERIAL)	0-0-60	POUND	\$0.080	120.000			100.00%	\$9.60		\$0.00	\$9.60
6								0.00%	\$0.00		\$0.37	\$3.43
7								0.00%	\$0.00		\$0.37	\$3.43
8								0.00%	\$0.00		\$0.53	\$4.94
	PROWL	4EC	PINT	\$2.837	1.250			100.00%	\$3.55		\$0.00	\$4.18
								0.00%	\$0.00		\$0.00	\$0.11
9	COTTON SEED(ADJ FOR SKIP)		POUND	\$0.561	12.000			100.00%	\$6.73		\$1.06	\$14.52
	TEMIK (AFS)	15G	POUND	\$2.652	2.250			100.00%	\$5.97		\$0.00	\$5.97
	TERRACHLOR SX (AFS)	GRAN	POUND	\$1.154	7.500			100.00%	\$8.66		\$0.00	\$8.66
	COTORAN (AFS)	4L	PINT	\$5.794	1.200	38	18	47.37%	\$3.29		\$0.00	\$4.12
								0.00%	\$0.00		\$0.00	\$0.11
10								0.00%	\$0.00		\$0.77	\$5.81
11	CSTM AP FERT GRND (LIQUID)		ACRE	\$3.000	1.000			100.00%	\$3.00		\$0.00	\$3.00
	N (ACTUAL), (AFS)		POUND	\$0.217	37.500			100.00%	\$8.14		\$0.00	\$8.14
12								0.00%	\$0.00		\$0.97	\$6.01
	COTORAN (AFS)	4L	PINT	\$5.794	1.200	38	16	42.11%	\$2.93		\$0.00	\$3.74
	MSMA (AFS)	6.6#	PINT	\$1.596	1.818	38	16	42.11%	\$1.22		\$0.00	\$1.22
								0.00%	\$0.00		\$0.00	\$0.09
13								0.00%	\$0.00		\$0.97	\$6.01
	BLADDEX (AFS)	4L	PINT	\$2.481	1.125	38	16	42.11%	\$1.18		\$0.00	\$1.98
	MSMA (AFS)	6.6#	PINT	\$1.596	1.818	38	16	42.11%	\$1.22		\$0.00	\$1.22
								0.00%	\$0.00		\$0.00	\$0.09
14	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
15	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
16	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, NARROW 2\*1 SKIP (75%)  
 ENTERPRISE FILE NO.: SCOT9008, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MACHINERY COST

OPER- ATION NO.	DATE	OPERATION	WIDTH (FEET)	HORSE POWER PTO	PERFORMANCE RATE (AC/HR)	TIMES OVER (NO.)	OPERATING COST		OWNERSHIP COST			TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)	
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
17	7	HAND CHOP OR SPOT SPRAY	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
18	7	INSECT SCOUTING	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
19	7	FURROW IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
20	7	FURROW IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22	7	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23	8	FURROW IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
24	8	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
25	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26	8	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
29	9	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
30	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32	9	COTTON PICKER, FIRST PICK	6.3	114.0	1.496	0.750	\$15.27	\$3.01	\$17.26	\$7.30	\$1.66	\$44.50
	9	COTTON TRAILER	20.0	170.0	8.485	0.225	\$0.27	\$0.18	\$0.15	\$0.07	\$0.02	\$0.68
	9	COTTON TRAILER	20.0	170.0	8.485	0.225	\$0.27	\$0.18	\$0.15	\$0.07	\$0.02	\$0.68
33	10	COTTON PICKER, SCRAPPING	6.3	114.0	2.302	0.750	\$9.93	\$1.95	\$11.22	\$4.75	\$1.08	\$28.93

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, NARROW 2\*1 SKIP (75%)  
 ENTERPRISE FILE NO.: SCOT9008, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
17	HAND CHOP OR SPOT SPRAY		ACRE	\$10.000	1.000			100.00%	\$10.00		\$0.00	\$10.00
18	COTTON INSECT SCOUTING		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
19	FURROW IRRIGATION		AC IN	\$1.831	2.250			100.00%	\$4.12	\$7.50	\$0.00	\$11.62
20	FURROW IRRIGATION		AC IN	\$1.831	2.250			100.00%	\$4.12	\$7.50	\$0.00	\$11.62
21	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
22	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
23	FURROW IRRIGATION		AC IN	\$1.831	2.250			100.00%	\$4.12	\$7.50	\$0.00	\$11.62
24	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
25	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
26	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
27	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
28	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	CURACRON	8EC	PINT	\$9.041	1.000			100.00%	\$9.04		\$0.00	\$9.04
	LARVIN	3.2#	PINT	\$5.532	0.626			100.00%	\$3.46		\$0.00	\$3.46
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
29	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
30	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	PREP	6#/GAL	PINT	\$6.136	1.000			100.00%	\$6.14		\$0.00	\$6.14
	DEF/FOLEX	6EC	PINT	\$3.347	1.000			100.00%	\$3.35		\$0.00	\$3.35
31	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	DEF/FOLEX	6EC	PINT	\$3.347	1.500			100.00%	\$5.02		\$0.00	\$5.02
32								0.00%	\$0.00		\$7.49	\$51.99
								0.00%	\$0.00		\$0.00	\$0.68
								0.00%	\$0.00		\$0.00	\$0.68
								0.00%	\$0.00		\$4.87	\$33.80





## LIST OF PUBLICATIONS FOR ESTIMATING 1990 PRODUCTION COSTS

<u>ECONOMIC SUMMARY</u>	<u>ETB</u>	<u>DESCRIPTION</u>
AG-2-10-89	ETB 71	Oats, Loamy Soils, Arkansas
AG-3-10-89	ETB 72	Wheat, Loamy Soils, Arkansas
AG-4-10-89	ETB 73	Wheat, Clay Soils, Arkansas
AG-5-10-89	ETB 75	Rapeseed (Canola), Loamy Soils, Arkansas
AG-6-10-89	ETB 76	Soybeans, Loamy Soils, Arkansas
AG-7-10-89	ETB 77	Soybeans, Loamy Soils, Furrow Irrigation, Arkansas
AG-8-10-89	ETB 78	Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
AG-9-10-89	ETB 79	Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-10-10-89	ETB 80	Soybeans, Drilled, Loamy Soils, Arkansas
AG-11-10-89	ETB 81	Soybeans, Following Wheat, Loamy Soils, Arkansas
AG-12-10-89	ETB 82	Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-13-10-89	ETB 83	Soybeans, Clay Soils, Arkansas
AG-14-10-89	ETB 84	Soybeans, Clay Soils, Center Pivot Irrigation, Non-Towable, 130 Acres, Arkansas
AG-15-10-89	ETB 85	Soybeans, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-16-10-89	ETB 86	Soybeans, No-Till, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-17-10-89	ETB 87	Rice, Long Grain, Midseason Variety (Newbonnet), Silt Loam Soils, Eastern Arkansas
AG-18-10-89	ETB 88	Rice, Long Grain, Very Short Season Variety (Tebonnet), Silt Loam Soils, Eastern Arkansas
AG-19-10-89	ETB 89	Rice, Long Grain, Semi-dwarf Variety (Lemont), Silt Loam Soils, Eastern Arkansas
AG-20-10-89	ETB 90	Rice, Medium Grain, Short Season Variety (Mars), Silt Loam Soils, Eastern Arkansas
AG-21-10-89	ETB 91	Rice, Long Grain, Midseason Variety (Newbonnet), Clay Soils, Eastern Arkansas
AG-22-10-89	ETB 92	Rice, Long Grain, Midseason Variety (Newbonnet), Grand Prairie Soils, Grand Prairie Region, Arkansas
AG-23-10-89	ETB 93	Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
AG-24-10-89	ETB 94	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-25-10-89	ETB 95	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-26-10-89	ETB 96	Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-27-10-89	ETB 97	Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-28-10-89	ETB 98	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
AG-29-10-89	ETB 99	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
AG-30-10-89	ETB 100	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-31-10-89	ETB 101	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-32-10-89	ETB 102	Corn, Loamy Soils, Flood Irrigation, Arkansas
AG-33-10-89	ETB 103	Corn, Loamy Soils, Furrow Irrigation, Arkansas
AG-34-10-89	ETB 104	Grain Sorghum, Loamy Soils, Arkansas
AG-35-10-89	ETB 105	Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
AG-36-10-89	ETB 106	Grain Sorghum, Clay Soils, Arkansas
AG-37-10-89	ETB 107	Grain Sorghum, Clay Soils, Flood Irrigation, Arkansas

INFORMATION PRESENTED IN THIS DOCUMENT IS PREPARED SOLELY AS A GENERAL GUIDE AND IS NOT INTENDED TO RECOGNIZE OR PREDICT THE COSTS AND RETURNS FROM ANY ONE PARTICULAR FARM OR RANCH OPERATION

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ESTIMATING 1990 PRODUCTION  
COSTS IN ARKANSAS

EXTENSION TECHNICAL BULLETIN NO. 101

COTTON

LOAMY SOILS, NARROW 2x1 SKIP ROW,  
CENTER PIVOT IRRIGATION, 130 ACRES,  
SOUTH OF I-40, EASTERN ARKANSAS



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UNIVERSITY OF ARKANSAS  
COOPERATIVE EXTENSION SERVICE  
AGRICULTURAL ECONOMICS SECTION

# ESTIMATING PRODUCTION COSTS IN ARKANSAS

## INTRODUCTION

Estimating Production Costs is an Extension Technical Bulletin prepared by the Agricultural Economics Section within the University of Arkansas Cooperative Extension Service. The authors are Economists specializing in management and finance of the farm business.

The primary purpose of this analysis is to provide a systematic procedure for estimating specified costs associated with producing a defined enterprise. Costs are first developed for each field operation and then aggregated by input item. This publication has seven major parts: A written discussion, page 2; a summary of specified operating and ownership costs, page 3; a sensitivity analysis, page 4; returns above total specified costs at various yield, price, and cost combinations, page 5; a sequential listing of field operations, pages 6 and 7.

## SPECIFIED OPERATING AND OWNERSHIP COSTS

Specified operating and ownership costs for this particular enterprise, location, soil type, and irrigation method are located on page 3. The specified operating costs are derived from the sequential listing of operations presented on pages 6 and 7. Breakeven prices for total specified operating costs are given for a base yield and at deviations of 25 and 35 percent.

Total specified ownership costs and breakeven prices for total specified costs are also given on page 3. The depreciation and interest cost components represent an average cost allocated over the entire useful life of the machinery. Various financing arrangements and tax depreciation methods can produce costs that vary significantly from these estimates in a given year. The ability to estimate the actual cost is a complex economic procedure whereby cash accounting and economic costs may vary greatly.

## SENSITIVITY ANALYSIS

A sensitivity analysis is presented to provide a broader perspective from which an individual may analyze the specific situation budgeted. Since input prices and quantity may vary, costs are increased and decreased by 20 percent as shown on page 4. A per unit breakeven price is provided for a base yield and at yields of 25 and 35 percent above and below the base yield. These breakeven prices account for changes in costs due to yield differences, such as ginning.

## RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 5 are estimated enterprise returns above total specified costs at various yield, price, and cost combinations. *Not included in these returns are charges for land, risk, overhead labor, other overhead, crop insurance, real estate taxes, and management.*

## SEQUENCE OF OPERATIONS

A sequential listing of each operation performed for this enterprise is given on pages 6 and 7. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

### ACKNOWLEDGEMENTS EXTENSION COTTON COMMITTEE

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THE MENTION OF ANY COMMERCIAL PRODUCT IN THIS ANALYSIS DOES NOT IMPLY ITS ENDORSEMENT BY THE UNITED STATES DEPARTMENT OF AGRICULTURE OR THE UNIVERSITY OF ARKANSAS COOPERATIVE EXTENSION SERVICE OVER OTHER PRODUCTS NOT NAMED, NOR DOES THE OMISSION IMPLY THAT THEY ARE NOT SATISFACTORY.

**SPECIFIED OPERATING COSTS**

RESOURCE OR INPUT	PER ACRE COST (PER LAND ACRE)	YOUR ESTIMATED COST
SEED	\$6.73	
FERTILIZER	\$49.99	
LIME + APPLICATION	\$9.35	
HERBICIDE	\$13.39	
FUNGICIDE	\$8.66	
INSECTICIDE	\$57.45	
DEFOLIANT	\$14.50	
AERIAL APPLICATION	\$40.75	
MACHINERY:		
FUEL, OIL, LUBRICANTS	\$14.72	
REPAIRS	\$41.94	
LABOR	\$19.61	
IRRIGATION:		
FUEL, OIL, LUBRICANTS	\$6.94	
REPAIRS	\$5.81	
IRRIGATION LABOR	\$1.04	
CUSTOM SPREAD	\$5.50	
CUSTOM HAUL	\$0.00	
CUSTOM DRY OR GINNING	\$76.00	
MISCELLANEOUS	\$14.00	
CROP INSURANCE PREMIUM		
OTHER		
INTEREST ON OP. CAP.	\$17.07	

TOTAL SPECIFIED OPERATING COSTS \$403.44

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OPERATING COST YIELD IN POUNDS PER LAND ACRE				
617.50	712.50	950.00	1187.50	1282.50
\$0.53	\$0.46	\$0.34	\$0.28	\$0.26

BREAKEVEN PRICES REFLECT A COTTONSEED CREDIT AGAINST GINNING CHARGES.

**SPECIFIED OWNERSHIP COSTS**

RESOURCE OR INPUT	PER LAND ACRE COST	YOUR ESTIMATE
TRACTORS:		
DEPRECIATION	\$8.79	
INTEREST	\$7.25	
EQUIPMENT:		
DEPRECIATION	\$7.62	
INTEREST	\$4.37	
SPECIAL EQUIPMENT:		
DEPRECIATION	\$28.93	
INTEREST	\$12.17	
MISCELLANEOUS:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
IRRIGATION:		
DEPRECIATION	\$26.49	
INTEREST	\$22.58	
TAXES & INSURANCE	\$10.54	
INTEREST	\$1.16	
OVERHEAD LABOR		
OTHER OVERHEAD		
LAND & PROPERTY TAX		
MANAGEMENT		

TOTAL SPECIFIED OWNERSHIP COSTS \$129.91

TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS \$533.35

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OWNERSHIP & OPERATING COST YIELD IN POUNDS PER LAND ACRE				
617.50	712.50	950.00	1187.50	1282.50
\$0.74	\$0.64	\$0.48	\$0.39	\$0.36

NOT INCLUDED IN THIS REPORT ARE CHARGES FOR LAND, RISK, OVERHEAD LABOR, OTHER OVERHEAD, CROP INSURANCE, REAL ESTATE TAXES, AND MGT.

SENSITIVITY ANALYSIS:

EFFECTS OF A 20% VARIATION IN SPECIFIED INPUT COSTS ON  
PER UNIT BREAKEVEN PRICES.

ENTERPRISE: COTTON, NARROW 2\*1 SKIP, (75%)  
 ENTERPRISE FILE NO.: COT9009, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT

RESOURCE OR INPUT	-20% DEVIATION	BASE COST PAGE 3	+20% DEVIATION
(A)	(B)	(D)	(F)
DRY OR GINNING (COMMERCIAL)	\$60.80	\$76.00	\$91.20
DEPRECIATION	\$57.47	\$71.83	\$86.20
INSECTICIDE	\$45.96	\$57.45	\$68.93
FERTILIZER	\$39.99	\$49.99	\$59.99
REPAIRS	\$38.20	\$47.75	\$57.30
OWNERSHIP INTEREST	\$38.03	\$47.54	\$57.05
AERIAL APPLI. (CUSTOM HIRE)	\$32.60	\$40.75	\$48.90
HIRED LABOR	\$16.52	\$20.65	\$24.78
INTEREST ON OP. CAP.	\$13.66	\$17.07	\$20.48
MACHINERY FUEL & OIL	\$11.77	\$14.72	\$17.66
DEFOLIANT	\$11.60	\$14.50	\$17.40
MISCELLANEOUS	\$11.20	\$14.00	\$16.80
HERBICIDE	\$10.71	\$13.39	\$16.06
LIME + APPLICATION	\$7.48	\$9.35	\$11.22
FUNGICIDE	\$6.92	\$8.66	\$10.39
FARM TAXES	\$6.75	\$8.43	\$10.12
IRRIGATION FUEL & OIL	\$5.55	\$6.94	\$8.33
SEED	\$5.39	\$6.73	\$8.08
SPREAD (CUSTOM HIRE)	\$4.40	\$5.50	\$6.60
FARM INSURANCE	\$1.69	\$2.11	\$2.53
CROP INSURANCE PREM.			
CROP MKT. & COM. STORAGE			
DRYING FUEL			
FINANCIAL SERVICES			
HAUL (CUSTOM HIRE)			
LAND CHARGE			
LEASE PAYMENTS			
MACHINE HIRE			
MANAGEMENT			
OVERHEAD			
UTILITIES			

TOTAL SPECIFIED COST/ACRE      \$426.68      \$533.35      \$640.02

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

	YIELD	BREAKEVEN PRICE (1/- SEE PAGE 5)		
-35% OF BASE YIELD	617.50	\$0.59	\$0.74	\$0.89
-25% OF BASE YIELD	712.50	\$0.51	\$0.64	\$0.77
BASE YIELD	950.00	\$0.39	\$0.48	\$0.58
+25% OF BASE YIELD	1187.50	\$0.31	\$0.39	\$0.46
+35% OF BASE YIELD	1282.50	\$0.29	\$0.36	\$0.43

ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS

ENTERPRISE: COTTON, NARROW 2\*1 SKIP, (75%)  
 ENTERPRISE FILE NO.: COT9009, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT

1/ SEED VALUES AND GINNING CHARGES VARY BY LOCATION. THIS ANALYSIS ASSUMES THAT SEED VALUES COVER GINNING CHARGES; THEREFORE, COSTS AND RETURNS SHOWN BELOW ARE ADJUSTED ACCORDINGLY.

- 20% DEVIATION FROM BASE COSTS: \$365.88 PER ACRE

YIELD IN POUNDS PER LAND ACRE

PRODUCER PRICE ESTIMATES	617.50	712.50	950.00	1187.50	1282.50	
	-35%	-25%	BASE YIELD	+25%	+35%	
- - - - - RETURNS PER ACRE - - - - -						
	\$0.35	(\$149.77)	(\$116.52)	(\$33.40)	\$49.72	\$82.97
	\$0.45	(\$91.10)	(\$48.83)	\$56.85	\$162.54	\$204.81
BASE PRICE =	\$0.54	(\$32.44)	\$18.86	\$147.10	\$275.35	\$326.65
	\$0.64	\$26.22	\$86.54	\$237.35	\$388.16	\$448.48
	\$0.73	\$84.88	\$154.23	\$327.60	\$500.97	\$570.32

BASE COSTS: \$457.35 PER ACRE

YIELD IN POUNDS PER LAND ACRE

PRODUCER PRICE ESTIMATES	617.50	712.50	950.00	1187.50	1282.50	
	-35%	-25%	BASE YIELD	+25%	+35%	
- - - - - RETURNS PER ACRE - - - - -						
	\$0.35	(\$241.24)	(\$207.99)	(\$124.87)	(\$41.75)	(\$8.50)
	\$0.45	(\$182.58)	(\$140.30)	(\$34.62)	\$71.06	\$113.33
BASE PRICE =	\$0.54	(\$123.92)	(\$72.62)	\$55.63	\$183.87	\$235.17
	\$0.64	(\$65.25)	(\$4.93)	\$145.88	\$296.69	\$357.01
	\$0.73	(\$6.59)	\$62.76	\$236.13	\$409.50	\$478.85

+ 20% DEVIATION FROM BASE COSTS: \$548.82 PER ACRE

YIELD IN POUNDS PER LAND ACRE

PRODUCER PRICE ESTIMATES	617.50	712.50	950.00	1187.50	1282.50	
	-35%	-25%	BASE YIELD	+25%	+35%	
- - - - - RETURNS PER ACRE - - - - -						
	\$0.35	(\$332.71)	(\$299.47)	(\$216.35)	(\$133.23)	(\$99.98)
	\$0.45	(\$274.05)	(\$231.78)	(\$126.10)	(\$20.41)	\$21.86
BASE PRICE =	\$0.54	(\$215.39)	(\$164.09)	(\$35.85)	\$92.40	\$143.70
	\$0.64	(\$156.73)	(\$96.40)	\$54.40	\$205.21	\$265.53
	\$0.73	(\$98.06)	(\$28.72)	\$144.65	\$318.02	\$387.37

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, NARROW 2\*1 SKIP, (75%)  
 ENTERPRISE FILE NO.: COT9009, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT

MACHINERY COST

OPER- ATION NO. (A)	DATE (B)	OPERATION (C)	WIDTH (FEET) (D)	HORSE POWER PTO (E)	PERFORMANCE RATE (AC/HR) (F)	TIMES OVER (NO.) (G)	OPERATING COST			OWNERSHIP COST		TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)	
1	12	STALK CUTTER	15.0	140.0	7.727	1.000	\$1.68	\$0.79	\$1.29	\$0.94	\$0.21	\$4.91
2	3	SUBSOIL	15.0	200.0	4.364	1.000	\$2.46	\$2.00	\$2.72	\$2.24	\$0.51	\$9.93
3	3	DISK, MC 9.0" SPACING	26.7	175.0	11.638	1.000	\$1.16	\$0.66	\$1.34	\$0.97	\$0.22	\$4.34
4	4	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5	4	DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06
6	4	DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06
7	5	TRIPLE K	26.7	175.0	11.638	1.000	\$1.25	\$0.66	\$1.28	\$1.00	\$0.23	\$4.40
	5	SPRAYER, SADDLE MTD BC	26.7	0.0	11.638	1.000	\$0.13	\$0.00	\$0.31	\$0.17	\$0.04	\$0.64
	5	PICKUP AND WATER TANK	20.0	170.0	8.485	0.045	\$0.04	\$0.04	\$0.02	\$0.01	\$0.00	\$0.11
8	5	PLNTR (SPLIT BOX) 8 ROW @ 38"	25.3	175.0	8.981	1.000	\$2.12	\$0.85	\$2.29	\$1.19	\$0.27	\$6.72
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	5	SPRAYER, SADDLE MTD BC	25.3	0.0	8.981	1.000	\$0.16	\$0.00	\$0.40	\$0.22	\$0.05	\$0.82
	5	PICKUP AND WATER TANK	20.0	170.0	8.485	0.045	\$0.04	\$0.04	\$0.02	\$0.01	\$0.00	\$0.11
9	5	ROW CULTIVATOR 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
10	6	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11	6	ROW CULTIVATOR, 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6	PICKUP AND WATER TANK	20.0	170.0	8.485	0.038	\$0.03	\$0.03	\$0.02	\$0.01	\$0.00	\$0.09
12	6	ROW CULTIVATOR, 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6	PICKUP AND WATER TANK	20.0	170.0	8.485	0.038	\$0.03	\$0.03	\$0.02	\$0.01	\$0.00	\$0.09
13	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
15	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
16	7	HAND CHOP OR SPOT SPRAY	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, NARROW 2\*1 SKIP, (75%)  
 ENTERPRISE FILE NO.: COT9009, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIC COST (M)
1								0.00%	\$0.00		\$0.64	\$5.56
2								0.00%	\$0.00		\$1.14	\$11.07
3								0.00%	\$0.00		\$0.43	\$4.77
4	CSTM AP FERT GRND (DRY)		ACRE	\$2.500	1.000			100.00%	\$2.50		\$0.00	\$2.50
	NITROGEN (ACTUAL N)		POUND	\$0.256	50.000			100.00%	\$12.80		\$0.00	\$12.80
	PHOSPHATE (MATERIAL)	0-46-0	POUND	\$0.094	75.000			100.00%	\$7.05		\$0.00	\$7.05
	POTASH (MATERIAL)	0-0-60	POUND	\$0.080	120.000			100.00%	\$9.60		\$0.00	\$9.60
5								0.00%	\$0.00		\$0.37	\$3.43
6								0.00%	\$0.00		\$0.37	\$3.43
7								0.00%	\$0.00		\$0.53	\$4.94
	PROWL	4EC	PINT	\$2.837	1.250			100.00%	\$3.55		\$0.00	\$4.18
								0.00%	\$0.00		\$0.00	\$0.11
8	COTTON SEED(ADJ FOR SKIP)		POUND	\$0.561	12.000			100.00%	\$6.73		\$1.06	\$14.52
	TEMIK (AFS)	15G	POUND	\$2.652	2.250			100.00%	\$5.97		\$0.00	\$5.97
	TERRACHLOR SX (AFS)	GRAN	POUND	\$1.154	7.500			100.00%	\$8.66		\$0.00	\$8.66
	COTORAN (AFS)	4L	PINT	\$5.794	1.200	38	18	47.37%	\$3.29		\$0.00	\$4.12
								0.00%	\$0.00		\$0.00	\$0.11
9								0.00%	\$0.00		\$0.77	\$5.81
10	CSTM AP FERT GRND (LIQUID)		ACRE	\$3.000	1.000			100.00%	\$3.00		\$0.00	\$3.00
	N (ACTUAL), (AFS)		POUND	\$0.217	37.500			100.00%	\$8.14		\$0.00	\$8.14
11								0.00%	\$0.00		\$0.97	\$6.01
	COTORAN (AFS)	4L	PINT	\$5.794	1.200	38	16	42.11%	\$2.93		\$0.00	\$3.74
	MSMA (AFS)	6.6#	PINT	\$1.596	1.818	38	16	42.11%	\$1.22		\$0.00	\$1.22
								0.00%	\$0.00		\$0.00	\$0.09
12								0.00%	\$0.00		\$0.97	\$6.01
	BLADEX (AFS)	4L	PINT	\$2.481	1.125	38	16	42.11%	\$1.18		\$0.00	\$1.98
	MSMA (AFS)	6.6#	PINT	\$1.596	1.818	38	16	42.11%	\$1.22		\$0.00	\$1.22
								0.00%	\$0.00		\$0.00	\$0.09
13	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
14	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
15	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
16	HAND CHOP OR SPOT SPRAY		ACRE	\$10.000	1.000			100.00%	\$10.00		\$0.00	\$10.00

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, NARROW 2\*1 SKIP, (75%)  
 ENTERPRISE FILE NO.: COT9009, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT

MACHINERY COST

OPER- ATION NO.	DATE	OPERATION	WIDTH (FEET)	HORSE POWER PTO	PERFORMANCE RATE (AC/HR)	TIMES OVER (NO.)	OPERATING COST			OWNERSHIP COST			TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)		
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	
17	7	INSECT SCOUTING	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
18	7	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
19	7	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
20	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
21	7	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
22	8	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
23	8	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
24	8	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
25	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
26	8	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
27	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
28	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
29	9	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
30	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
31	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
32	9	COTTON PICKER, FIRST PICK	6.3	114.0	1.496	0.750	\$15.27	\$3.01	\$17.26	\$7.30	\$1.66	\$44.50	
	9	COTTON TRAILER	20.0	170.0	8.485	0.225	\$0.27	\$0.18	\$0.15	\$0.07	\$0.02	\$0.68	
	9	COTTON TRAILER	20.0	170.0	8.485	0.225	\$0.27	\$0.18	\$0.15	\$0.07	\$0.02	\$0.68	
33	10	COTTON PICKER, SCRAPPING	6.3	114.0	2.302	0.750	\$9.93	\$1.95	\$11.22	\$4.75	\$1.08	\$28.93	

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, NARROW 2\*1 SKIP, (75%)  
 ENTERPRISE FILE NO.: COT9009, 95% RELATIVE YIELD  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
17	COTTON INSECT SCOUTING		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
18	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
19	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
20	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
21	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
22	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
23	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
24	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
25	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
26	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
27	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
28	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	CURACRON	8EC	PINT	\$9.041	1.000			100.00%	\$9.04		\$0.00	\$9.04
	LARVIN	3.2#	PINT	\$5.532	0.626			100.00%	\$3.46		\$0.00	\$3.46
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
29	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
30	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	PREP	6#/GAL	PINT	\$6.136	1.000			100.00%	\$6.14		\$0.00	\$6.14
	DEF/FOLEX	6EC	PINT	\$3.347	1.000			100.00%	\$3.35		\$0.00	\$3.35
31	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	DEF/FOLEX	6EC	PINT	\$3.347	1.500			100.00%	\$5.02		\$0.00	\$5.02
32								0.00%	\$0.00		\$7.49	\$51.99
								0.00%	\$0.00		\$0.00	\$0.68
								0.00%	\$0.00		\$0.00	\$0.68
33								0.00%	\$0.00		\$4.87	\$33.80





## LIST OF PUBLICATIONS FOR ESTIMATING 1990 PRODUCTION COSTS

<u>ECONOMIC SUMMARY</u>	<u>ETB</u>	<u>DESCRIPTION</u>
AG-2-10-89	ETB 71	Oats, Loamy Soils, Arkansas
AG-3-10-89	ETB 72	Wheat, Loamy Soils, Arkansas
AG-4-10-89	ETB 73	Wheat, Clay Soils, Arkansas
AG-5-10-89	ETB 75	Rapeseed (Canola), Loamy Soils, Arkansas
AG-6-10-89	ETB 76	Soybeans, Loamy Soils, Arkansas
AG-7-10-89	ETB 77	Soybeans, Loamy Soils, Furrow Irrigation, Arkansas
AG-8-10-89	ETB 78	Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
AG-9-10-89	ETB 79	Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-10-10-89	ETB 80	Soybeans, Drilled, Loamy Soils, Arkansas
AG-11-10-89	ETB 81	Soybeans, Following Wheat, Loamy Soils, Arkansas
AG-12-10-89	ETB 82	Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-13-10-89	ETB 83	Soybeans, Clay Soils, Arkansas
AG-14-10-89	ETB 84	Soybeans, Clay Soils, Center Pivot Irrigation, Non-Towable, 130 Acres, Arkansas
AG-15-10-89	ETB 85	Soybeans, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-16-10-89	ETB 86	Soybeans, No-Till, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-17-10-89	ETB 87	Rice, Long Grain, Midseason Variety (Newbonnet), Silt Loam Soils, Eastern Arkansas
AG-18-10-89	ETB 88	Rice, Long Grain, Very Short Season Variety (Tebonnet), Silt Loam Soils, Eastern Arkansas
AG-19-10-89	ETB 89	Rice, Long Grain, Semi-dwarf Variety (Lemont), Silt Loam Soils, Eastern Arkansas
AG-20-10-89	ETB 90	Rice, Medium Grain, Short Season Variety (Mars), Silt Loam Soils, Eastern Arkansas
AG-21-10-89	ETB 91	Rice, Long Grain, Midseason Variety (Newbonnet), Clay Soils, Eastern Arkansas
AG-22-10-89	ETB 92	Rice, Long Grain, Midseason Variety (Newbonnet), Grand Prairie Soils, Grand Prairie Region, Arkansas
AG-23-10-89	ETB 93	Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
AG-24-10-89	ETB 94	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-25-10-89	ETB 95	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-26-10-89	ETB 96	Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-27-10-89	ETB 97	Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-28-10-89	ETB 98	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
AG-29-10-89	ETB 99	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
AG-30-10-89	ETB 100	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-31-10-89	ETB 101	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-32-10-89	ETB 102	Corn, Loamy Soils, Flood Irrigation, Arkansas
AG-33-10-89	ETB 103	Corn, Loamy Soils, Furrow Irrigation, Arkansas
AG-34-10-89	ETB 104	Grain Sorghum, Loamy Soils, Arkansas
AG-35-10-89	ETB 105	Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
AG-36-10-89	ETB 106	Grain Sorghum, Clay Soils, Arkansas
AG-37-10-89	ETB 107	Grain Sorghum, Clay Soils, Flood Irrigation, Arkansas

**INFORMATION PRESENTED IN THIS DOCUMENT IS PREPARED SOLELY AS A GENERAL GUIDE AND IS NOT INTENDED TO RECOGNIZE OR PREDICT THE COSTS AND RETURNS FROM ANY ONE PARTICULAR FARM OR RANCH OPERATION**

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Dr. Ted L. Jones, Director of Extension Service, University of Arkansas. The Arkansas Cooperative Extension Service offers its programs to all eligible persons regardless of race, color, national origin, sex, age, or handicap, and is an Equal Opportunity Employer.

**ESTIMATING 1990 PRODUCTION  
COSTS IN ARKANSAS**

**EXTENSION TECHNICAL BULLETIN NO. 93**

**COTTON**

**LOAMY SOILS, SOLID PLANTED,  
SOUTH OF I-40, EASTERN ARKANSAS**



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COOPERATIVE EXTENSION SERVICE  
AGRICULTURAL ECONOMICS SECTION**

# ESTIMATING PRODUCTION COSTS IN ARKANSAS

## INTRODUCTION

Estimating Production Costs is an Extension Technical Bulletin prepared by the Agricultural Economics Section within the University of Arkansas Cooperative Extension Service. The authors are Economists specializing in management and finance of the farm business.

The primary purpose of this analysis is to provide a systematic procedure for estimating specified costs associated with producing a defined enterprise. Costs are first developed for each field operation and then aggregated by input item. This publication has seven major parts: A written discussion, page 2; a summary of specified operating and ownership costs, page 3; a sensitivity analysis, page 4; returns above total specified costs at various yield, price, and cost combinations, page 5; a sequential listing of field operations, pages 6 and 7.

## SPECIFIED OPERATING AND OWNERSHIP COSTS

Specified operating and ownership costs for this particular enterprise, location, soil type, and irrigation method are located on page 3. The specified operating costs are derived from the sequential listing of operations presented on pages 6 and 7. Breakeven prices for total specified operating costs are given for a base yield and at deviations of 25 and 35 percent.

Total specified ownership costs and breakeven prices for total specified costs are also given on page 3. The depreciation and interest cost components represent an average cost allocated over the entire useful life of the machinery. Various financing arrangements and tax depreciation methods can produce costs that vary significantly from these estimates in a given year. The ability to estimate the actual cost is a complex economic procedure whereby cash accounting and economic costs may vary greatly.

## SENSITIVITY ANALYSIS

A sensitivity analysis is presented to provide a broader perspective from which an individual may analyze the specific situation budgeted. Since input prices and quantity may vary, costs are increased and decreased by 20 percent as shown on page 4. A per unit breakeven price is provided for a base yield and at yields of 25 and 35 percent above and below the base yield. These breakeven prices account for changes in costs due to yield differences, such as ginning.

## RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 5 are estimated enterprise returns above total specified costs at various yield, price, and cost combinations. *Not included in these returns are charges for land, risk, overhead labor, other overhead, crop insurance, real estate taxes, and management.*

## SEQUENCE OF OPERATIONS

A sequential listing of each operation performed for this enterprise is given on pages 6 and 7. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

## ACKNOWLEDGEMENTS EXTENSION COTTON COMMITTEE

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THE MENTION OF ANY COMMERCIAL PRODUCT IN THIS ANALYSIS DOES NOT IMPLY ITS ENDORSEMENT BY THE UNITED STATES DEPARTMENT OF AGRICULTURE OR THE UNIVERSITY OF ARKANSAS COOPERATIVE EXTENSION SERVICE OVER OTHER PRODUCTS NOT NAMED, NOR DOES THE OMISSION IMPLY THAT THEY ARE NOT SATISFACTORY.

**SPECIFIED OPERATING COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATED COST
SEED	\$7.85	
FERTILIZER	\$35.60	
LIME + APPLICATION	\$9.35	
HERBICIDE	\$14.80	
FUNGICIDE	\$0.00	
INSECTICIDE	\$47.37	
DEFOLIANT	\$5.02	
AERIAL APPLICATION	\$35.25	
MACHINERY:		
FUEL, OIL, LUBRICANTS	\$14.16	
REPAIRS	\$42.47	
LABOR	\$20.01	
IRRIGATION:		
FUEL, OIL, LUBRICANTS	\$0.00	
REPAIRS	\$0.00	
IRRIGATION LABOR	\$0.00	
CUSTOM SPREAD	\$5.50	
CUSTOM HAUL	\$0.00	
CUSTOM DRY OR GINNING	\$50.00	
MISCELLANEOUS	\$4.00	
CROP INSURANCE PREMIUM		
OTHER		
INTEREST ON OP. CAP.	\$13.28	

TOTAL SPECIFIED OPERATING COSTS \$304.66

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OPERATING COST YIELD IN POUNDS

406.25	468.75	625.00	781.25	843.75
\$0.63	\$0.54	\$0.41	\$0.33	\$0.30

BREAKEVEN PRICES REFLECT A COTTONSEED CREDIT AGAINST GINNING CHARGES.

**SPECIFIED OWNERSHIP COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATE
TRACTORS:		
DEPRECIATION	\$7.89	
INTEREST	\$6.51	
EQUIPMENT:		
DEPRECIATION	\$6.70	
INTEREST	\$3.83	
SPECIAL EQUIPMENT:		
DEPRECIATION	\$30.97	
INTEREST	\$13.03	
MISCELLANEOUS:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
IRRIGATION:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
TAXES & INSURANCE	\$5.31	
INTEREST	\$0.58	
OVERHEAD LABOR		
OTHER OVERHEAD		
LAND & PROPERTY TAX		
MANAGEMENT		

TOTAL SPECIFIED OWNERSHIP COSTS \$74.84

TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS \$379.50

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OWNERSHIP & OPERATING COST YIELD IN POUNDS

406.25	468.75	625.00	781.25	843.75
\$0.81	\$0.70	\$0.53	\$0.42	\$0.39

NOT INCLUDED IN THIS REPORT ARE CHARGES FOR LAND, RISK, OVERHEAD LABOR, OTHER OVERHEAD, CROP INSURANCE, REAL ESTATE TAXES, AND MGT.

SENSITIVITY ANALYSIS:

EFFECTS OF A 20% VARIATION IN SPECIFIED INPUT COSTS ON  
PER UNIT BREAKEVEN PRICES.

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9001  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: NONE

RESOURCE OR INPUT	-20% DEVIATION	BASE COST PAGE 3	+20% DEVIATION
(A)	(B)	(D)	(F)
DRY OR GINNING (COMMERCIAL)	\$40.00	\$50.00	\$60.00
INSECTICIDE	\$37.90	\$47.37	\$56.85
DEPRECIATION	\$36.45	\$45.56	\$54.68
REPAIRS	\$33.98	\$42.47	\$50.96
FERTILIZER	\$28.48	\$35.60	\$42.72
AERIAL APPLI. (CUSTOM HIRE)	\$28.20	\$35.25	\$42.30
OWNERSHIP INTEREST	\$19.17	\$23.96	\$28.75
HIRED LABOR	\$16.01	\$20.01	\$24.01
HERBICIDE	\$11.84	\$14.80	\$17.76
MACHINERY FUEL & OIL	\$11.33	\$14.16	\$16.99
INTEREST ON OP. CAP.	\$10.62	\$13.28	\$15.93
LIME + APPLICATION	\$7.48	\$9.35	\$11.22
SEED	\$6.28	\$7.85	\$9.42
SPREAD (CUSTOM HIRE)	\$4.40	\$5.50	\$6.60
DEFOLIANT	\$4.02	\$5.02	\$6.02
FARM TAXES	\$3.40	\$4.25	\$5.10
MISCELLANEOUS	\$3.20	\$4.00	\$4.80
FARM INSURANCE	\$0.85	\$1.06	\$1.28
CROP INSURANCE PREM.			
CROP MKT. & COM. STORAGE			
DRYING FUEL			
FINANCIAL SERVICES			
FUNGICIDE			
HAUL (CUSTOM HIRE)			
IRRIGATION FUEL & OIL			
LAND CHARGE			
LEASE PAYMENTS			
MACHINE HIRE			
MANAGEMENT			
OVERHEAD			
UTILITIES			

TOTAL SPECIFIED COST/ACRE      \$303.60      \$379.50      \$455.40

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

	YIELD	BREAKEVEN PRICE (1/- SEE PAGE 5)		
-35% OF BASE YIELD	406.25	\$0.65	\$0.81	\$0.97
-25% OF BASE YIELD	468.75	\$0.56	\$0.70	\$0.84
BASE YIELD	625.00	\$0.42	\$0.53	\$0.63
+25% OF BASE YIELD	781.25	\$0.34	\$0.42	\$0.51
+35% OF BASE YIELD	843.75	\$0.31	\$0.39	\$0.47

ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9001  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: NONE

1/ SEED VALUES AND GINNING CHARGES VARY BY LOCATION. THIS ANALYSIS ASSUMES THAT SEED VALUES COVER GINNING CHARGES; THEREFORE, COSTS AND RETURNS SHOWN BELOW ARE ADJUSTED ACCORDINGLY.

-----  
 - 20% DEVIATION FROM BASE COSTS: \$263.60 PER ACRE

PRODUCER PRICE ESTIMATES -----	YIELD IN POUNDS					
	406.25	468.75	625.00	781.25	843.75	
	-35%	-25%	BASE YIELD	+25%	+35%	
	-----RETURNS PER ACRE-----					
	\$0.35	(\$121.42)	(\$99.55)	(\$44.86)	\$9.82	\$31.70
	\$0.45	(\$82.83)	(\$55.01)	\$14.51	\$84.04	\$111.86
BASE PRICE =	\$0.54	(\$44.23)	(\$10.48)	\$73.89	\$158.26	\$192.01
	\$0.64	(\$5.64)	\$34.05	\$133.26	\$232.48	\$272.17
	\$0.73	\$32.96	\$78.58	\$192.64	\$306.70	\$352.32

-----  
 BASE COSTS: \$329.50 PER ACRE

PRODUCER PRICE ESTIMATES -----	YIELD IN POUNDS					
	406.25	468.75	625.00	781.25	843.75	
	-35%	-25%	BASE YIELD	+25%	+35%	
	-----RETURNS PER ACRE-----					
	\$0.35	(\$187.32)	(\$165.45)	(\$110.76)	(\$56.08)	(\$34.20)
	\$0.45	(\$148.73)	(\$120.92)	(\$51.39)	\$18.14	\$45.95
BASE PRICE =	\$0.54	(\$110.13)	(\$76.38)	\$7.99	\$92.36	\$126.11
	\$0.64	(\$71.54)	(\$31.85)	\$67.36	\$166.58	\$206.26
	\$0.73	(\$32.95)	\$12.68	\$126.74	\$240.80	\$286.42

-----  
 + 20% DEVIATION FROM BASE COSTS: \$395.40 PER ACRE

PRODUCER PRICE ESTIMATES -----	YIELD IN POUNDS					
	406.25	468.75	625.00	781.25	843.75	
	-35%	-25%	BASE YIELD	+25%	+35%	
	-----RETURNS PER ACRE-----					
	\$0.35	(\$253.22)	(\$231.35)	(\$176.67)	(\$121.98)	(\$100.11)
	\$0.45	(\$214.63)	(\$186.82)	(\$117.29)	(\$47.76)	(\$19.95)
BASE PRICE =	\$0.54	(\$176.03)	(\$142.29)	(\$57.92)	\$26.46	\$60.20
	\$0.64	(\$137.44)	(\$97.76)	\$1.46	\$100.67	\$140.36
	\$0.73	(\$98.85)	(\$53.22)	\$60.83	\$174.89	\$220.52

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9001  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: NONE

MACHINERY COST

OPER- ATION NO.	DATE	OPERATION	WIDTH (FEET)	HORSE POWER PTO	PERFORMANCE RATE (AC/HR)	TIMES OVER (NO.)	OPERATING COST			OWNERSHIP COST			TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)		
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	
1	12	STALK CUTTER	15.0	140.0	7.727	1.000	\$1.68	\$0.79	\$1.29	\$0.94	\$0.21	\$4.91	
2	3	CHISEL PLOW	21.0	175.0	7.127	1.000	\$1.59	\$1.07	\$1.43	\$1.15	\$0.26	\$5.51	
3	3	DISK, MC 9.0" SPACING	26.7	175.0	11.638	1.000	\$1.16	\$0.66	\$1.34	\$0.97	\$0.22	\$4.34	
4	4	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
5	4	DISK BEDDER 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06	
6	4	DISK BEDDER 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06	
7	5	TRIPLE K	26.7	175.0	11.638	1.000	\$1.25	\$0.66	\$1.28	\$1.00	\$0.23	\$4.40	
	5	SPRAYER, SADDLE MTD BC	26.7	0.0	11.638	1.000	\$0.13	\$0.00	\$0.31	\$0.17	\$0.04	\$0.64	
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15	
8	5	PLANTER 8 ROW @ 38"	25.3	175.0	9.257	1.000	\$1.69	\$0.82	\$1.76	\$1.01	\$0.23	\$5.51	
	5	SPRAYER, SADDLE MTD BC	25.3	0.0	9.257	1.000	\$0.16	\$0.00	\$0.38	\$0.21	\$0.05	\$0.80	
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15	
9	5	ROW CULTIVATOR 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
10	5	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
11	5	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
12	6	ROW CULTIVATOR 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.050	\$0.05	\$0.04	\$0.03	\$0.01	\$0.00	\$0.12	
13	6	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
14	6	ROW CULTIVATOR 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.050	\$0.05	\$0.04	\$0.03	\$0.01	\$0.00	\$0.12	
15	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
16	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
17	7	INSECT SCOUTING	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
18	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9001  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: NONE

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
1								0.00%	\$0.00		\$0.64	\$5.56
2								0.00%	\$0.00		\$0.70	\$6.21
3								0.00%	\$0.00		\$0.43	\$4.77
4	CSTM AP FERT GRND (DRY)		ACRE	\$2.500	1.000			100.00%	\$2.50		\$0.00	\$2.50
	NITROGEN (ACTUAL N)		POUND	\$0.256	40.000			100.00%	\$10.24		\$0.00	\$10.24
	PHOSPHATE (MATERIAL)	0-46-0	POUND	\$0.094	50.000			100.00%	\$4.70		\$0.00	\$4.70
	POTASH (MATERIAL)	0-0-60	POUND	\$0.080	80.000			100.00%	\$6.40		\$0.00	\$6.40
5								0.00%	\$0.00		\$0.37	\$3.43
6								0.00%	\$0.00		\$0.37	\$3.43
7								0.00%	\$0.00		\$0.53	\$4.94
	PROWL	4EC	PINT	\$2.837	1.250	38	18	47.37%	\$1.68		\$0.00	\$2.32
								0.00%	\$0.00		\$0.00	\$0.15
8	COTTON SEED		POUND	\$0.561	14.000			100.00%	\$7.85		\$1.03	\$14.40
	COTORAN	4L	PINT	\$5.794	1.600	38	18	47.37%	\$4.39		\$0.00	\$5.19
								0.00%	\$0.00		\$0.00	\$0.15
9								0.00%	\$0.00		\$0.77	\$5.81
10	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
11	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
12								0.00%	\$0.00		\$0.97	\$6.01
	COTORAN	4L	PINT	\$5.794	1.600	38	16	42.11%	\$3.90		\$0.00	\$4.71
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.12
13	CSTM AP FERT GRND (LIQUID)		ACRE	\$3.000	1.000			100.00%	\$3.00		\$0.00	\$3.00
	NITROGEN (ACTUAL N)		POUND	\$0.217	35.000			100.00%	\$7.60		\$0.00	\$7.60
14								0.00%	\$0.00		\$0.97	\$6.01
	BLADEX	4L	PINT	\$2.481	1.500	38	16	42.11%	\$1.57		\$0.00	\$2.38
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.12
15	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
16	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
17	COTTON INSECT SCOUTING		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
18	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77





## LIST OF PUBLICATIONS FOR ESTIMATING 1990 PRODUCTION COSTS

<u>ECONOMIC SUMMARY</u>	<u>ETB</u>	<u>DESCRIPTION</u>
AG-2-10-89	ETB 71	Oats, Loamy Soils, Arkansas
AG-3-10-89	ETB 72	Wheat, Loamy Soils, Arkansas
AG-4-10-89	ETB 73	Wheat, Clay Soils, Arkansas
AG-5-10-89	ETB 75	Rapeseed (Canola), Loamy Soils, Arkansas
AG-6-10-89	ETB 76	Soybeans, Loamy Soils, Arkansas
AG-7-10-89	ETB 77	Soybeans, Loamy Soils, Furrow Irrigation, Arkansas
AG-8-10-89	ETB 78	Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
AG-9-10-89	ETB 79	Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-10-10-89	ETB 80	Soybeans, Drilled, Loamy Soils, Arkansas
AG-11-10-89	ETB 81	Soybeans, Following Wheat, Loamy Soils, Arkansas
AG-12-10-89	ETB 82	Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-13-10-89	ETB 83	Soybeans, Clay Soils, Arkansas
AG-14-10-89	ETB 84	Soybeans, Clay Soils, Center Pivot Irrigation, Non-Towable, 130 Acres, Arkansas
AG-15-10-89	ETB 85	Soybeans, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-16-10-89	ETB 86	Soybeans, No-Till, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-17-10-89	ETB 87	Rice, Long Grain, Midseason Variety (Newbonnet), Silt Loam Soils, Eastern Arkansas
AG-18-10-89	ETB 88	Rice, Long Grain, Very Short Season Variety (Tebonnet), Silt Loam Soils, Eastern Arkansas
AG-19-10-89	ETB 89	Rice, Long Grain, Semi-dwarf Variety (Lemont), Silt Loam Soils, Eastern Arkansas
AG-20-10-89	ETB 90	Rice, Medium Grain, Short Season Variety (Mars), Silt Loam Soils, Eastern Arkansas
AG-21-10-89	ETB 91	Rice, Long Grain, Midseason Variety (Newbonnet), Clay Soils, Eastern Arkansas
AG-22-10-89	ETB 92	Rice, Long Grain, Midseason Variety (Newbonnet), Grand Prairie Soils, Grand Prairie Region, Arkansas
AG-23-10-89	ETB 93	Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
AG-24-10-89	ETB 94	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-25-10-89	ETB 95	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-26-10-89	ETB 96	Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-27-10-89	ETB 97	Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-28-10-89	ETB 98	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
AG-29-10-89	ETB 99	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
AG-30-10-89	ETB 100	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-31-10-89	ETB 101	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-32-10-89	ETB 102	Corn, Loamy Soils, Flood Irrigation, Arkansas
AG-33-10-89	ETB 103	Corn, Loamy Soils, Furrow Irrigation, Arkansas
AG-34-10-89	ETB 104	Grain Sorghum, Loamy Soils, Arkansas
AG-35-10-89	ETB 105	Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
AG-36-10-89	ETB 106	Grain Sorghum, Clay Soils, Arkansas
AG-37-10-89	ETB 107	Grain Sorghum, Clay Soils, Flood Irrigation, Arkansas

INFORMATION PRESENTED IN THIS DOCUMENT IS PREPARED SOLELY AS A GENERAL GUIDE AND IS NOT INTENDED TO RECOGNIZE OR PREDICT THE COSTS AND RETURNS FROM ANY ONE PARTICULAR FARM OR RANCH OPERATION

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**ESTIMATING 1990 PRODUCTION  
COSTS IN ARKANSAS**

**EXTENSION TECHNICAL BULLETIN NO. 94**

**COTTON**

**LOAMY SOILS, SOLID PLANTED, FURROW IRRIGATION,  
SOUTH OF I-40, EASTERN ARKANSAS**



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AGRICULTURAL ECONOMICS SECTION**

# ESTIMATING PRODUCTION COSTS IN ARKANSAS

## INTRODUCTION

Estimating Production Costs is an Extension Technical Bulletin prepared by the Agricultural Economics Section within the University of Arkansas Cooperative Extension Service. The authors are Economists specializing in management and finance of the farm business.

The primary purpose of this analysis is to provide a systematic procedure for estimating specified costs associated with producing a defined enterprise. Costs are first developed for each field operation and then aggregated by input item. This publication has seven major parts: A written discussion, page 2; a summary of specified operating and ownership costs, page 3; a sensitivity analysis, page 4; returns above total specified costs at various yield, price, and cost combinations, page 5; a sequential listing of field operations, pages 6 and 7.

## SPECIFIED OPERATING AND OWNERSHIP COSTS

Specified operating and ownership costs for this particular enterprise, location, soil type, and irrigation method are located on page 3. The specified operating costs are derived from the sequential listing of operations presented on pages 6 and 7. Breakeven prices for total specified operating costs are given for a base yield and at deviations of 25 and 35 percent.

Total specified ownership costs and breakeven prices for total specified costs are also given on page 3. The depreciation and interest cost components represent an average cost allocated over the entire useful life of the machinery. Various financing arrangements and tax depreciation methods can produce costs that vary significantly from these estimates in a given year. The ability to estimate the actual cost is a complex economic procedure whereby cash accounting and economic costs may vary greatly.

## SENSITIVITY ANALYSIS

A sensitivity analysis is presented to provide a broader perspective from which an individual may analyze the specific situation budgeted. Since input prices and quantity may vary, costs are increased and decreased by 20 percent as shown on page 4. A per unit breakeven price is provided for a base yield and at yields of 25 and 35 percent above and below the base yield. These breakeven prices account for changes in costs due to yield differences, such as ginning.

## RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 5 are estimated enterprise returns above total specified costs at various yield, price, and cost combinations. *Not included in these returns are charges for land, risk, overhead labor, other overhead, crop insurance, real estate taxes, and management.*

## SEQUENCE OF OPERATIONS

A sequential listing of each operation performed for this enterprise is given on pages 6 and 7. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

### ACKNOWLEDGEMENTS EXTENSION COTTON COMMITTEE

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THE MENTION OF ANY COMMERCIAL PRODUCT IN THIS ANALYSIS DOES NOT IMPLY ITS ENDORSEMENT BY THE UNITED STATES DEPARTMENT OF AGRICULTURE OR THE UNIVERSITY OF ARKANSAS COOPERATIVE EXTENSION SERVICE OVER OTHER PRODUCTS NOT NAMED, NOR DOES THE OMISSION IMPLY THAT THEY ARE NOT SATISFACTORY.

SPECIFIED OPERATING COSTS

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATED COST
SEED	\$8.98	
FERTILIZER	\$22.70	
LIME + APPLICATION	\$9.35	
HERBICIDE	\$14.80	
FUNGICIDE	\$11.54	
INSECTICIDE	\$59.43	
DEFOLIANT	\$14.50	
AERIAL APPLICATION	\$40.75	
MACHINERY:		
FUEL, OIL, LUBRICANTS	\$17.70	
REPAIRS	\$52.20	
LABOR	\$24.41	
IRRIGATION:		
FUEL, OIL, LUBRICANTS	\$6.48	
REPAIRS	\$2.46	
IRRIGATION LABOR	\$6.72	
CUSTOM SPREAD	\$5.50	
CUSTOM HAUL	\$0.00	
CUSTOM DRY OR GINNING	\$80.00	
MISCELLANEOUS	\$14.00	
CROP INSURANCE PREMIUM		
OTHER		
INTEREST ON OP. CAP.	\$18.78	

TOTAL SPECIFIED OPERATING COSTS \$440.31

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OPERATING COST  
YIELD IN POUNDS

	650.00	750.00	1000.00	1250.00	1350.00
	\$0.55	\$0.48	\$0.36	\$0.29	\$0.27

BREAKEVEN PRICES REFLECT A COTTONSEED CREDIT AGAINST GINNING CHARGES.

SPECIFIED OWNERSHIP COSTS

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATE
TRACTORS:		
DEPRECIATION	\$9.88	
INTEREST	\$8.15	
EQUIPMENT:		
DEPRECIATION	\$7.88	
INTEREST	\$4.68	
SPECIAL EQUIPMENT:		
DEPRECIATION	\$38.58	
INTEREST	\$16.23	
MISCELLANEOUS:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
IRRIGATION:		
DEPRECIATION	\$10.82	
INTEREST	\$9.52	
TAXES & INSURANCE	\$8.77	
INTEREST	\$0.96	
OVERHEAD LABOR		
OTHER OVERHEAD		
LAND & PROPERTY TAX		
MANAGEMENT		

TOTAL SPECIFIED OWNERSHIP COSTS \$115.46

TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS \$555.78

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OWNERSHIP & OPERATING COST  
YIELD IN POUNDS

	650.00	750.00	1000.00	1250.00	1350.00
	\$0.73	\$0.63	\$0.48	\$0.38	\$0.35

NOT INCLUDED IN THIS REPORT ARE CHARGES FOR LAND, RISK, OVERHEAD LABOR, OTHER OVERHEAD, CROP INSURANCE, REAL ESTATE TAXES, AND MGT.

SENSITIVITY ANALYSIS:

EFFECTS OF A 20% VARIATION IN SPECIFIED INPUT COSTS ON  
PER UNIT BREAKEVEN PRICES.

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9002  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

RESOURCE OR INPUT	-20% DEVIATION	BASE COST PAGE 3	+20% DEVIATION
(A)	(B)	(D)	(F)
DRY OR GINNING (COMMERCIAL)	\$64.00	\$80.00	\$96.00
DEPRECIATION	\$53.72	\$67.15	\$80.58
INSECTICIDE	\$47.55	\$59.43	\$71.32
REPAIRS	\$43.73	\$54.66	\$65.59
FERTILIZER	\$42.16	\$52.70	\$63.24
AERIAL APPLI. (CUSTOM HIRE)	\$32.60	\$40.75	\$48.90
OWNERSHIP INTEREST	\$31.64	\$39.54	\$47.45
HIRED LABOR	\$24.91	\$31.14	\$37.36
INTEREST ON OP. CAP.	\$15.03	\$18.78	\$22.54
MACHINERY FUEL & OIL	\$14.16	\$17.70	\$21.24
HERBICIDE	\$11.84	\$14.80	\$17.76
DEFOLIANT	\$11.60	\$14.50	\$17.40
MISCELLANEOUS	\$11.20	\$14.00	\$16.80
FUNGICIDE	\$9.23	\$11.54	\$13.85
LIME + APPLICATION	\$7.48	\$9.35	\$11.22
SEED	\$7.18	\$8.98	\$10.77
FARM TAXES	\$5.61	\$7.01	\$8.42
IRRIGATION FUEL & OIL	\$5.18	\$6.48	\$7.77
SPREAD (CUSTOM HIRE)	\$4.40	\$5.50	\$6.60
FARM INSURANCE	\$1.40	\$1.75	\$2.10
CROP INSURANCE PREM.			
CROP MKT. & COM. STORAGE			
DRYING FUEL			
FINANCIAL SERVICES			
HAUL (CUSTOM HIRE)			
LAND CHARGE			
LEASE PAYMENTS			
MACHINE HIRE			
MANAGEMENT			
OVERHEAD			
UTILITIES			

TOTAL SPECIFIED COST/ACRE      \$444.62      \$555.78      \$666.93

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

	YIELD	BREAKEVEN PRICE (1/- SEE PAGE 5)		
-35% OF BASE YIELD	650.00	\$0.59	\$0.73	\$0.88
-25% OF BASE YIELD	750.00	\$0.51	\$0.63	\$0.76
BASE YIELD	1000.00	\$0.38	\$0.48	\$0.57
+25% OF BASE YIELD	1250.00	\$0.30	\$0.38	\$0.46
+35% OF BASE YIELD	1350.00	\$0.28	\$0.35	\$0.42

ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9002  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

1/ SEED VALUES AND GINNING CHARGES VARY BY LOCATION. THIS ANALYSIS ASSUMES THAT SEED VALUES COVER GINNING CHARGES; THEREFORE, COSTS AND RETURNS SHOWN BELOW ARE ADJUSTED ACCORDINGLY.

- 20% DEVIATION FROM BASE COSTS: \$380.62 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	650.00	750.00	1000.00	1250.00	1350.00	
-----	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$153.13)	(\$118.13)	(\$30.64)	\$56.86	\$91.86
	\$0.45	(\$91.38)	(\$46.88)	\$64.36	\$175.61	\$220.11
BASE PRICE =	\$0.54	(\$29.63)	\$24.37	\$159.36	\$294.36	\$348.36
	\$0.64	\$32.12	\$95.62	\$254.36	\$413.11	\$476.61
	\$0.73	\$93.87	\$166.87	\$349.36	\$531.86	\$604.86

BASE COSTS: \$475.78 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	650.00	750.00	1000.00	1250.00	1350.00	
-----	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$248.29)	(\$213.29)	(\$125.80)	(\$38.30)	(\$3.31)
	\$0.45	(\$186.54)	(\$142.04)	(\$30.80)	\$80.45	\$124.94
BASE PRICE =	\$0.54	(\$124.79)	(\$70.79)	\$64.20	\$199.20	\$253.19
	\$0.64	(\$63.04)	\$0.46	\$159.20	\$317.95	\$381.44
	\$0.73	(\$1.29)	\$71.71	\$254.20	\$436.70	\$509.69

+ 20% DEVIATION FROM BASE COSTS: \$570.93 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	650.00	750.00	1000.00	1250.00	1350.00	
-----	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$343.45)	(\$308.45)	(\$220.96)	(\$133.46)	(\$98.47)
	\$0.45	(\$281.70)	(\$237.20)	(\$125.96)	(\$14.71)	\$29.78
BASE PRICE =	\$0.54	(\$219.95)	(\$165.95)	(\$30.96)	\$104.04	\$158.03
	\$0.64	(\$158.20)	(\$94.70)	\$64.04	\$222.79	\$286.28
	\$0.73	(\$96.45)	(\$23.45)	\$159.04	\$341.54	\$414.53

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9002  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MACHINERY COST

OPER- ATION NO. (A)	DATE (B)	OPERATION (C)	WIDTH (FEET) (D)	HORSE POWER PTO (E)	PERFORMANCE RATE (AC/HR) (F)	TIMES OVER (NO.) (G)	OPERATING COST			OWNERSHIP COST			TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)		
1	12	STALK CUTTER	15.0	140.0	7.727	1.000	\$1.68	\$0.79	\$1.29	\$0.94	\$0.21	\$4.91	
2	3	SUBSOIL	15.0	200.0	4.364	1.000	\$2.46	\$2.00	\$2.72	\$2.24	\$0.51	\$9.93	
3	3	DISK, MC 9.0" SPACING	26.7	175.0	11.638	1.000	\$1.16	\$0.66	\$1.34	\$0.97	\$0.22	\$4.34	
4	3	LAND FLOAT	16.0	175.0	7.273	1.000	\$1.45	\$1.05	\$1.27	\$1.15	\$0.26	\$5.17	
5	4	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
6	4	DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06	
7	4	DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06	
8	5	TRIPLE K	26.7	175.0	11.638	1.000	\$1.25	\$0.66	\$1.28	\$1.00	\$0.23	\$4.40	
	5	SPRAYER, SADDLE MTD BC	26.7	0.0	11.638	1.000	\$0.13	\$0.00	\$0.31	\$0.17	\$0.04	\$0.64	
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15	
9	5	PLNTR (SPLIT BOX) 8 R@38"	25.3	175.0	8.981	1.000	\$2.12	\$0.85	\$2.29	\$1.19	\$0.27	\$6.72	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5	SPRAYER, SADDLE MTD BC	25.3	0.0	8.981	1.000	\$0.16	\$0.00	\$0.40	\$0.22	\$0.05	\$0.82	
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15	
10	5	ROW CULTIVATOR 8 ROW @38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
11	6	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
12	6	ROW CULTIVATOR, 8 ROW@38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.050	\$0.05	\$0.04	\$0.03	\$0.01	\$0.00	\$0.12	
13	6	ROW CULTIVATOR, 8 ROW@38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.050	\$0.05	\$0.04	\$0.03	\$0.01	\$0.00	\$0.12	
14	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
15	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
16	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9002  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
1								0.00%	\$0.00		\$0.64	\$5.56
2								0.00%	\$0.00		\$1.14	\$11.07
3								0.00%	\$0.00		\$0.43	\$4.77
4								0.00%	\$0.00		\$0.68	\$5.86
5	CSTM AP FERT GRND (DRY)		ACRE	\$2.500	1.000			100.00%	\$2.50		\$0.00	\$2.50
	NITROGEN (ACTUAL N)		POUND	\$0.256	50.000			100.00%	\$12.80		\$0.00	\$12.80
	PHOSPHATE (MATERIAL)	0-46-0	POUND	\$0.094	75.000			100.00%	\$7.05		\$0.00	\$7.05
	POTASH (MATERIAL)	0-0-60	POUND	\$0.080	120.000			100.00%	\$9.60		\$0.00	\$9.60
6								0.00%	\$0.00		\$0.37	\$3.43
7								0.00%	\$0.00		\$0.37	\$3.43
8								0.00%	\$0.00		\$0.53	\$4.94
	PROWL	4EC	PINT	\$2.837	1.250	38	18	47.37%	\$1.68		\$0.00	\$2.32
								0.00%	\$0.00		\$0.00	\$0.15
9	COTTON SEED		POUND	\$0.561	16.000			100.00%	\$8.98		\$1.06	\$16.76
	TEMIK	15G	POUND	\$2.652	3.000			100.00%	\$7.96		\$0.00	\$7.96
	TERRACHLOR SX	GRAN	POUND	\$1.154	10.000			100.00%	\$11.54		\$0.00	\$11.54
	COTORAN	4L	PINT	\$5.794	1.600	38	18	47.37%	\$4.39		\$0.00	\$5.22
								0.00%	\$0.00		\$0.00	\$0.15
10								0.00%	\$0.00		\$0.77	\$5.81
11	CSTM AP FERT GRND (LIQUID)		ACRE	\$3.000	1.000			100.00%	\$3.00		\$0.00	\$3.00
	NITROGEN (ACTUAL N)		POUND	\$0.217	50.000			100.00%	\$10.85		\$0.00	\$10.85
12								0.00%	\$0.00		\$0.97	\$6.01
	COTORAN	4L	PINT	\$5.794	1.600	38	16	42.11%	\$3.90		\$0.00	\$4.71
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.12
13								0.00%	\$0.00		\$0.97	\$6.01
	BLADEX	4L	PINT	\$2.481	1.500	38	16	42.11%	\$1.57		\$0.00	\$2.38
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.12
14	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
15	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
16	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9002  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MACHINERY COST

OPER- ATION NO. (A)	DATE (B)	OPERATION (C)	WIDTH (FEET) (D)	HORSE POWER PTO (E)	PERFORMANCE RATE (AC/HR) (F)	TIMES OVER (NO.) (G)	OPERATING COST			OWNERSHIP COST			TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)		
17	7	HAND CHOP OR SPOT SPRAY	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
18	7	INSECT SCOUTING	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
19	7	FURROW IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
20	7	FURROW IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22	7	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23	8	FURROW IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
24	8	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
25	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26	8	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
29	9	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
30	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
31	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
32	9	COTTON PICKER, FIRST PICK	6.3	114.0	1.496	1.000	\$20.36	\$4.01	\$23.02	\$9.74	\$2.21	\$59.34	
	9	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91	
	9	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91	
33	10	COTTON PICKER, SCRAPPING	6.3	114.0	2.302	1.000	\$13.24	\$2.60	\$14.96	\$6.33	\$1.44	\$38.57	

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9002  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
17	HAND CHOP OR SPOT SPRAY		ACRE	\$10.000	1.000			100.00%	\$10.00		\$0.00	\$10.00
18	COTTON INSECT SCOUTING		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
19	FURROW IRRIGATION		AC IN	\$1.740	3.000			100.00%	\$5.22	\$7.50	\$0.00	\$12.72
20	FURROW IRRIGATION		AC IN	\$1.740	3.000			100.00%	\$5.22	\$7.50	\$0.00	\$12.72
21	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
22	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
23	FURROW IRRIGATION		AC IN	\$1.740	3.000			100.00%	\$5.22	\$7.50	\$0.00	\$12.72
24	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
25	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
26	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
27	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
28	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	CURACRON	8EC	PINT	\$9.041	1.000			100.00%	\$9.04		\$0.00	\$9.04
	LARVIN	3.2#	PINT	\$5.532	0.626			100.00%	\$3.46		\$0.00	\$3.46
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
29	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
30	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	PREP	6#/GAL	PINT	\$6.136	1.000			100.00%	\$6.14		\$0.00	\$6.14
	DEF/FOLEX	6EC	PINT	\$3.347	1.000			100.00%	\$3.35		\$0.00	\$3.35
31	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	DEF/FOLEX	6EC	PINT	\$3.347	1.500			100.00%	\$5.02		\$0.00	\$5.02
32								0.00%	\$0.00		\$9.99	\$69.32
								0.00%	\$0.00		\$0.00	\$0.91
								0.00%	\$0.00		\$0.00	\$0.91
33								0.00%	\$0.00		\$6.49	\$45.06





## LIST OF PUBLICATIONS FOR ESTIMATING 1990 PRODUCTION COSTS

<u>ECONOMIC SUMMARY</u>	<u>ETB</u>	<u>DESCRIPTION</u>
AG-2-10-89	ETB 71	Oats, Loamy Soils, Arkansas
AG-3-10-89	ETB 72	Wheat, Loamy Soils, Arkansas
AG-4-10-89	ETB 73	Wheat, Clay Soils, Arkansas
AG-5-10-89	ETB 75	Rapeseed (Canola), Loamy Soils, Arkansas
AG-6-10-89	ETB 76	Soybeans, Loamy Soils, Arkansas
AG-7-10-89	ETB 77	Soybeans, Loamy Soils, Furrow Irrigation, Arkansas
AG-8-10-89	ETB 78	Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
AG-9-10-89	ETB 79	Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-10-10-89	ETB 80	Soybeans, Drilled, Loamy Soils, Arkansas
AG-11-10-89	ETB 81	Soybeans, Following Wheat, Loamy Soils, Arkansas
AG-12-10-89	ETB 82	Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-13-10-89	ETB 83	Soybeans, Clay Soils, Arkansas
AG-14-10-89	ETB 84	Soybeans, Clay Soils, Center Pivot Irrigation, Non-Towable, 130 Acres, Arkansas
AG-15-10-89	ETB 85	Soybeans, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-16-10-89	ETB 86	Soybeans, No-Till, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-17-10-89	ETB 87	Rice, Long Grain, Midseason Variety (Newbonnet), Silt Loam Soils, Eastern Arkansas
AG-18-10-89	ETB 88	Rice, Long Grain, Very Short Season Variety (Tebonnet), Silt Loam Soils, Eastern Arkansas
AG-19-10-89	ETB 89	Rice, Long Grain, Semi-dwarf Variety (Lemont), Silt Loam Soils, Eastern Arkansas
AG-20-10-89	ETB 90	Rice, Medium Grain, Short Season Variety (Mars), Silt Loam Soils, Eastern Arkansas
AG-21-10-89	ETB 91	Rice, Long Grain, Midseason Variety (Newbonnet), Clay Soils, Eastern Arkansas
AG-22-10-89	ETB 92	Rice, Long Grain, Midseason Variety (Newbonnet), Grand Prairie Soils, Grand Prairie Region, Arkansas
AG-23-10-89	ETB 93	Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
AG-24-10-89	ETB 94	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-25-10-89	ETB 95	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-26-10-89	ETB 96	Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-27-10-89	ETB 97	Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-28-10-89	ETB 98	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
AG-29-10-89	ETB 99	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
AG-30-10-89	ETB 100	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-31-10-89	ETB 101	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-32-10-89	ETB 102	Corn, Loamy Soils, Flood Irrigation, Arkansas
AG-33-10-89	ETB 103	Corn, Loamy Soils, Furrow Irrigation, Arkansas
AG-34-10-89	ETB 104	Grain Sorghum, Loamy Soils, Arkansas
AG-35-10-89	ETB 105	Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
AG-36-10-89	ETB 106	Grain Sorghum, Clay Soils, Arkansas
AG-37-10-89	ETB 107	Grain Sorghum, Clay Soils, Flood Irrigation, Arkansas

INFORMATION PRESENTED IN THIS DOCUMENT IS PREPARED SOLELY AS A GENERAL GUIDE AND IS NOT INTENDED TO RECOGNIZE OR PREDICT THE COSTS AND RETURNS FROM ANY ONE PARTICULAR FARM OR RANCH OPERATION

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ESTIMATING 1990 PRODUCTION  
COSTS IN ARKANSAS

EXTENSION TECHNICAL BULLETIN NO. 95

COTTON

LOAMY SOILS, SOLID PLANTED,  
CENTER PIVOT IRRIGATION, 130 ACRES,  
SOUTH OF I-40, EASTERN ARKANSAS



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UNIVERSITY OF ARKANSAS  
COOPERATIVE EXTENSION SERVICE  
AGRICULTURAL ECONOMICS SECTION

# ESTIMATING PRODUCTION COSTS IN ARKANSAS

## INTRODUCTION

Estimating Production Costs is an Extension Technical Bulletin prepared by the Agricultural Economics Section within the University of Arkansas Cooperative Extension Service. The authors are Economists specializing in management and finance of the farm business.

The primary purpose of this analysis is to provide a systematic procedure for estimating specified costs associated with producing a defined enterprise. Costs are first developed for each field operation and then aggregated by input item. This publication has seven major parts: A written discussion, page 2; a summary of specified operating and ownership costs, page 3; a sensitivity analysis, page 4; returns above total specified costs at various yield, price, and cost combinations, page 5; a sequential listing of field operations, pages 6 and 7.

## SPECIFIED OPERATING AND OWNERSHIP COSTS

Specified operating and ownership costs for this particular enterprise, location, soil type, and irrigation method are located on page 3. The specified operating costs are derived from the sequential listing of operations presented on pages 6 and 7. Breakeven prices for total specified operating costs are given for a base yield and at deviations of 25 and 35 percent.

Total specified ownership costs and breakeven prices for total specified costs are also given on page 3. The depreciation and interest cost components represent an average cost allocated over the entire useful life of the machinery. Various financing arrangements and tax depreciation methods can produce costs that vary significantly from these estimates in a given year. The ability to estimate the actual cost is a complex economic procedure whereby cash accounting and economic costs may vary greatly.

## SENSITIVITY ANALYSIS

A sensitivity analysis is presented to provide a broader perspective from which an individual may analyze the specific situation budgeted. Since input prices and quantity may vary, costs are increased and decreased by 20 percent as shown on page 4. A per unit breakeven price is provided for a base yield and at yields of 25 and 35 percent above and below the base yield. These breakeven prices account for changes in costs due to yield differences, such as ginning.

## RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 5 are estimated enterprise returns above total specified costs at various yield, price, and cost combinations. *Not included in these returns are charges for land, risk, overhead labor, other overhead, crop insurance, real estate taxes, and management.*

## SEQUENCE OF OPERATIONS

A sequential listing of each operation performed for this enterprise is given on pages 6 and 7. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

### ACKNOWLEDGEMENTS EXTENSION COTTON COMMITTEE

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Brintle Jennings	Donald R. Johhson
Terry Kirkpatrick	J. Scott McConnell
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THE MENTION OF ANY COMMERCIAL PRODUCT IN THIS ANALYSIS DOES NOT IMPLY ITS ENDORSEMENT BY THE UNITED STATES DEPARTMENT OF AGRICULTURE OR THE UNIVERSITY OF ARKANSAS COOPERATIVE EXTENSION SERVICE OVER OTHER PRODUCTS NOT NAMED, NOR DOES THE OMISSION IMPLY THAT THEY ARE NOT SATISFACTORY.

**SPECIFIED OPERATING COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATED COST
SEED	\$8.98	
FERTILIZER	\$22.70	
LIME + APPLICATION	\$9.35	
HERBICIDE	\$14.80	
FUNGICIDE	\$11.54	
INSECTICIDE	\$59.43	
DEFOLIANT	\$14.50	
AERIAL APPLICATION	\$40.75	
MACHINERY:		
FUEL, OIL, LUBRICANTS	\$16.65	
REPAIRS	\$50.76	
LABOR	\$23.73	
IRRIGATION:		
FUEL, OIL, LUBRICANTS	\$6.94	
REPAIRS	\$5.81	
IRRIGATION LABOR	\$1.04	
CUSTOM SPREAD	\$5.50	
CUSTOM HAUL	\$0.00	
CUSTOM DRY OR GINNING	\$80.00	
MISCELLANEOUS	\$14.00	
CROP INSURANCE PREMIUM		
OTHER		
INTEREST ON OP. CAP.	\$18.51	

TOTAL SPECIFIED OPERATING COSTS \$434.99

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OPERATING COST  
YIELD IN POUNDS

	650.00	750.00	1000.00	1250.00	1350.00
	\$0.55	\$0.47	\$0.36	\$0.28	\$0.26

BREAKEVEN PRICES REFLECT A COTTONSEED CREDIT AGAINST GINNING CHARGES.

**SPECIFIED OWNERSHIP COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATE
TRACTORS:		
DEPRECIATION	\$8.79	
INTEREST	\$7.25	
EQUIPMENT:		
DEPRECIATION	\$7.70	
INTEREST	\$4.43	
SPECIAL EQUIPMENT:		
DEPRECIATION	\$38.58	
INTEREST	\$16.23	
MISCELLANEOUS:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
IRRIGATION:		
DEPRECIATION	\$26.49	
INTEREST	\$22.58	
TAXES & INSURANCE	\$11.48	
INTEREST	\$1.26	
OVERHEAD LABOR		
OTHER OVERHEAD		
LAND & PROPERTY TAX		
MANAGEMENT		

TOTAL SPECIFIED OWNERSHIP COSTS \$144.79

TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS \$579.78

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OWNERSHIP & OPERATING COST  
YIELD IN POUNDS

	650.00	750.00	1000.00	1250.00	1350.00
	\$0.77	\$0.67	\$0.50	\$0.40	\$0.37

NOT INCLUDED IN THIS REPORT ARE CHARGES FOR LAND, RISK, OVERHEAD LABOR, OTHER OVERHEAD, CROP INSURANCE, REAL ESTATE TAXES, AND MGT.

SENSITIVITY ANALYSIS:

EFFECTS OF A 20% VARIATION IN SPECIFIED INPUT COSTS ON  
PER UNIT BREAKEVEN PRICES.

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9003  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES

RESOURCE OR INPUT	-20% DEVIATION	BASE COST PAGE 3	+20% DEVIATION
(A)	(B)	(D)	(F)
DEPRECIATION	\$65.24	\$81.55	\$97.86
DRY OR GINNING (COMMERCIAL)	\$64.00	\$80.00	\$96.00
INSECTICIDE	\$47.55	\$59.43	\$71.32
REPAIRS	\$45.25	\$56.56	\$67.88
FERTILIZER	\$42.16	\$52.70	\$63.24
OWNERSHIP INTEREST	\$41.41	\$51.76	\$62.11
AERIAL APPLI. (CUSTOM HIRE)	\$32.60	\$40.75	\$48.90
HIRED LABOR	\$19.81	\$24.77	\$29.72
INTEREST ON OP. CAP.	\$14.81	\$18.51	\$22.21
MACHINERY FUEL & OIL	\$13.32	\$16.65	\$19.98
HERBICIDE	\$11.84	\$14.80	\$17.76
DEFOLIANT	\$11.60	\$14.50	\$17.40
MISCELLANEOUS	\$11.20	\$14.00	\$16.80
FUNGICIDE	\$9.23	\$11.54	\$13.85
LIME + APPLICATION	\$7.48	\$9.35	\$11.22
FARM TAXES	\$7.35	\$9.18	\$11.02
SEED	\$7.18	\$8.98	\$10.77
IRRIGATION FUEL & OIL	\$5.55	\$6.94	\$8.33
SPREAD (CUSTOM HIRE)	\$4.40	\$5.50	\$6.60
FARM INSURANCE	\$1.84	\$2.30	\$2.75
CROP INSURANCE PREM.			
CROP MKT. & COM. STORAGE			
DRYING FUEL			
FINANCIAL SERVICES			
HAUL (CUSTOM HIRE)			
LAND CHARGE			
LEASE PAYMENTS			
MACHINE HIRE			
MANAGEMENT			
OVERHEAD			
UTILITIES			
TOTAL SPECIFIED COST/ACRE	\$463.82	\$579.78	\$695.73

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

YIELD	BREAKEVEN PRICE (1/- SEE PAGE 5)		
-35% OF BASE YIELD 650.00	\$0.62	\$0.77	\$0.92
-25% OF BASE YIELD 750.00	\$0.53	\$0.67	\$0.80
BASE YIELD 1000.00	\$0.40	\$0.50	\$0.60
+25% OF BASE YIELD 1250.00	\$0.32	\$0.40	\$0.48
+35% OF BASE YIELD 1350.00	\$0.30	\$0.37	\$0.44

**ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS**

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9003  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES

1/ SEED VALUES AND GINNING CHARGES VARY BY LOCATION. THIS ANALYSIS ASSUMES THAT SEED VALUES COVER GINNING CHARGES; THEREFORE, COSTS AND RETURNS SHOWN BELOW ARE ADJUSTED ACCORDINGLY.

- 20% DEVIATION FROM BASE COSTS: \$399.82 PER ACRE

PRODUCER PRICE ESTIMATES -----	YIELD IN POUNDS				
	650.00	750.00	1000.00	1250.00	1350.00
	-35%	-25%	BASE YIELD	+25%	+35%
	- - - - - RETURNS PER ACRE - - - - -				
\$0.35	(\$172.33)	(\$137.33)	(\$49.84)	\$37.66	\$72.66
\$0.45	(\$110.58)	(\$66.08)	\$45.16	\$156.41	\$200.91
BASE PRICE = \$0.54	(\$48.83)	\$5.17	\$140.16	\$275.16	\$329.16
\$0.64	\$12.92	\$76.42	\$235.16	\$393.91	\$457.41
\$0.73	\$74.67	\$147.67	\$330.16	\$512.66	\$585.66

BASE COSTS: \$499.78 PER ACRE

PRODUCER PRICE ESTIMATES -----	YIELD IN POUNDS				
	650.00	750.00	1000.00	1250.00	1350.00
	-35%	-25%	BASE YIELD	+25%	+35%
	- - - - - RETURNS PER ACRE - - - - -				
\$0.35	(\$272.29)	(\$237.29)	(\$149.80)	(\$62.30)	(\$27.30)
\$0.45	(\$210.54)	(\$166.04)	(\$54.80)	\$56.45	\$100.95
BASE PRICE = \$0.54	(\$148.79)	(\$94.79)	\$40.20	\$175.20	\$229.20
\$0.64	(\$87.04)	(\$23.54)	\$135.20	\$293.95	\$357.45
\$0.73	(\$25.29)	\$47.71	\$230.20	\$412.70	\$485.70

+ 20% DEVIATION FROM BASE COSTS: \$599.73 PER ACRE

PRODUCER PRICE ESTIMATES -----	YIELD IN POUNDS				
	650.00	750.00	1000.00	1250.00	1350.00
	-35%	-25%	BASE YIELD	+25%	+35%
	- - - - - RETURNS PER ACRE - - - - -				
\$0.35	(\$372.25)	(\$337.25)	(\$249.76)	(\$162.26)	(\$127.27)
\$0.45	(\$310.50)	(\$266.00)	(\$154.76)	(\$43.51)	\$0.98
BASE PRICE = \$0.54	(\$248.75)	(\$194.75)	(\$59.76)	\$75.24	\$129.23
\$0.64	(\$187.00)	(\$123.50)	\$35.24	\$193.99	\$257.48
\$0.73	(\$125.25)	(\$52.25)	\$130.24	\$312.74	\$385.73

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9003  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES

MACHINERY COST

OPER- ATION NO.	DATE	OPERATION	WIDTH (FEET)	HORSE POWER PTO	PERFORMANCE RATE (AC/HR)	TIMES OVER (NO.)	OPERATING COST		OWNERSHIP COST			TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)	
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
1	12	STALK CUTTER	15.0	140.0	7.727	1.000	\$1.68	\$0.79	\$1.29	\$0.94	\$0.21	\$4.91
2	3	SUBSOIL	15.0	200.0	4.364	1.000	\$2.46	\$2.00	\$2.72	\$2.24	\$0.51	\$9.93
3	3	DISK, MC 9.0" SPACING	26.7	175.0	11.638	1.000	\$1.16	\$0.66	\$1.34	\$0.97	\$0.22	\$4.34
4	4	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5	4	DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06
6	4	DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06
7	5	TRIPLE K	26.7	175.0	11.638	1.000	\$1.25	\$0.66	\$1.28	\$1.00	\$0.23	\$4.40
	5	SPRAYER, SADDLE MTD BC	26.7	0.0	11.638	1.000	\$0.13	\$0.00	\$0.31	\$0.17	\$0.04	\$0.64
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15
8	5	PLNTR (SPLIT BOX) 8 ROW @ 38"	25.3	175.0	8.981	1.000	\$2.12	\$0.85	\$2.29	\$1.19	\$0.27	\$6.72
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	5	SPRAYER, SADDLE MTD BC	25.3	0.0	8.981	1.000	\$0.16	\$0.00	\$0.40	\$0.22	\$0.05	\$0.82
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15
9	5	ROW CULTIVATOR 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
10	6	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11	6	ROW CULTIVATOR, 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.050	\$0.05	\$0.04	\$0.03	\$0.01	\$0.00	\$0.12
12	6	ROW CULTIVATOR, 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.050	\$0.05	\$0.04	\$0.03	\$0.01	\$0.00	\$0.12
13	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
15	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
16	7	HAND CHOP OR SPOT SPRAY	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9003  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES  
 MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
1								0.00%	\$0.00		\$0.64	\$5.56
2								0.00%	\$0.00		\$1.14	\$11.07
3								0.00%	\$0.00		\$0.43	\$4.77
4	CSTM AP FERT GRND (DRY)		ACRE	\$2.500	1.000			100.00%	\$2.50		\$0.00	\$2.50
	NITROGEN (ACTUAL N)		POUND	\$0.256	50.000			100.00%	\$12.80		\$0.00	\$12.80
	PHOSPHATE (MATERIAL)	0-46-0	POUND	\$0.094	75.000			100.00%	\$7.05		\$0.00	\$7.05
	POTASH (MATERIAL)	0-0-60	POUND	\$0.080	120.000			100.00%	\$9.60		\$0.00	\$9.60
5								0.00%	\$0.00		\$0.37	\$3.43
6								0.00%	\$0.00		\$0.37	\$3.43
7								0.00%	\$0.00		\$0.53	\$4.94
	PROWL	4EC	PINT	\$2.837	1.250	38	18	47.37%	\$1.68		\$0.00	\$2.32
								0.00%	\$0.00		\$0.00	\$0.15
8	COTTON SEED		POUND	\$0.561	16.000			100.00%	\$8.98		\$1.06	\$16.76
	TEMIK	15G	POUND	\$2.652	3.000			100.00%	\$7.96		\$0.00	\$7.96
	TERRACHLOR SX	GRAN	POUND	\$1.154	10.000			100.00%	\$11.54		\$0.00	\$11.54
	COTORAN	4L	PINT	\$5.794	1.600	38	18	47.37%	\$4.39		\$0.00	\$5.22
								0.00%	\$0.00		\$0.00	\$0.15
9								0.00%	\$0.00		\$0.77	\$5.81
10	CSTM AP FERT GRND (LIQUID)		ACRE	\$3.000	1.000			100.00%	\$3.00		\$0.00	\$3.00
	NITROGEN (ACTUAL N)		POUND	\$0.217	50.000			100.00%	\$10.85		\$0.00	\$10.85
11								0.00%	\$0.00		\$0.97	\$6.01
	COTORAN	4L	PINT	\$5.794	1.600	38	16	42.11%	\$3.90		\$0.00	\$4.71
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.12
12								0.00%	\$0.00		\$0.97	\$6.01
	BLADEX	4L	PINT	\$2.481	1.500	38	16	42.11%	\$1.57		\$0.00	\$2.38
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.12
13	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
14	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
15	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
16	HAND CHOP OR SPOT SPRAY		ACRE	\$10.000	1.000			100.00%	\$10.00		\$0.00	\$10.00

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9003  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES

MACHINERY COST

OPER- ATION NO.	DATE	OPERATION	WIDTH (FEET)	HORSE POWER PTO	PERFORMANCE RATE (AC/HR)	TIMES OVER (NO.)	OPERATING COST			OWNERSHIP COST			TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)		
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	
17	7	INSECT SCOUTING	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
18	7	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
19	7	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
20	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
21	7	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
22	8	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
23	8	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
24	8	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
25	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
26	8	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
27	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
28	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
29	9	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
30	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
31	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
32	9	COTTON PICKER, FIRST PICK	6.3	114.0	1.496	1.000	\$20.36	\$4.01	\$23.02	\$9.74	\$2.21	\$59.34	
	9	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91	
	9	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91	
33	10	COTTON PICKER, SCRAPPING	6.3	114.0	2.302	1.000	\$13.24	\$2.60	\$14.96	\$6.33	\$1.44	\$38.57	

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9003  
 LOCATION: EASTERN ARKANSAS, SOUTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
17	COTTON INSECT SCOUTING		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
18	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
19	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
20	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
21	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
22	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
23	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
24	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
25	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
26	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
27	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
28	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	CURACRON	8EC	PINT	\$9.041	1.000			100.00%	\$9.04		\$0.00	\$9.04
	LARVIN	3.2#	PINT	\$5.532	0.626			100.00%	\$3.46		\$0.00	\$3.46
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
29	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LARVIN	3.2#	PINT	\$5.532	0.313			100.00%	\$1.73		\$0.00	\$1.73
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
30	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	PREP	6#/GAL	PINT	\$6.136	1.000			100.00%	\$6.14		\$0.00	\$6.14
	DEF/FOLEX	6EC	PINT	\$3.347	1.000			100.00%	\$3.35		\$0.00	\$3.35
31	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	DEF/FOLEX	6EC	PINT	\$3.347	1.500			100.00%	\$5.02		\$0.00	\$5.02
32								0.00%	\$0.00		\$9.99	\$69.32
								0.00%	\$0.00		\$0.00	\$0.91
								0.00%	\$0.00		\$0.00	\$0.91
33								0.00%	\$0.00		\$6.49	\$45.06





## LIST OF PUBLICATIONS FOR ESTIMATING 1990 PRODUCTION COSTS

<u>ECONOMIC SUMMARY</u>	<u>ETB</u>	<u>DESCRIPTION</u>
AG-2-10-89	ETB 71	Oats, Loamy Soils, Arkansas
AG-3-10-89	ETB 72	Wheat, Loamy Soils, Arkansas
AG-4-10-89	ETB 73	Wheat, Clay Soils, Arkansas
AG-5-10-89	ETB 75	Rapeseed (Canola), Loamy Soils, Arkansas
AG-6-10-89	ETB 76	Soybeans, Loamy Soils, Arkansas
AG-7-10-89	ETB 77	Soybeans, Loamy Soils, Furrow Irrigation, Arkansas
AG-8-10-89	ETB 78	Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
AG-9-10-89	ETB 79	Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-10-10-89	ETB 80	Soybeans, Drilled, Loamy Soils, Arkansas
AG-11-10-89	ETB 81	Soybeans, Following Wheat, Loamy Soils, Arkansas
AG-12-10-89	ETB 82	Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-13-10-89	ETB 83	Soybeans, Clay Soils, Arkansas
AG-14-10-89	ETB 84	Soybeans, Clay Soils, Center Pivot Irrigation, Non-Towable, 130 Acres, Arkansas
AG-15-10-89	ETB 85	Soybeans, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-16-10-89	ETB 86	Soybeans, No-Till, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-17-10-89	ETB 87	Rice, Long Grain, Midseason Variety (Newbonnet), Silt Loam Soils, Eastern Arkansas
AG-18-10-89	ETB 88	Rice, Long Grain, Very Short Season Variety (Tebonnet), Silt Loam Soils, Eastern Arkansas
AG-19-10-89	ETB 89	Rice, Long Grain, Semi-dwarf Variety (Lemont), Silt Loam Soils, Eastern Arkansas
AG-20-10-89	ETB 90	Rice, Medium Grain, Short Season Variety (Mars), Silt Loam Soils, Eastern Arkansas
AG-21-10-89	ETB 91	Rice, Long Grain, Midseason Variety (Newbonnet), Clay Soils, Eastern Arkansas
AG-22-10-89	ETB 92	Rice, Long Grain, Midseason Variety (Newbonnet), Grand Prairie Soils, Grand Prairie Region, Arkansas
AG-23-10-89	ETB 93	Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
AG-24-10-89	ETB 94	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-25-10-89	ETB 95	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-26-10-89	ETB 96	Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-27-10-89	ETB 97	Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-28-10-89	ETB 98	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
AG-29-10-89	ETB 99	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
AG-30-10-89	ETB 100	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-31-10-89	ETB 101	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-32-10-89	ETB 102	Corn, Loamy Soils, Flood Irrigation, Arkansas
AG-33-10-89	ETB 103	Corn, Loamy Soils, Furrow Irrigation, Arkansas
AG-34-10-89	ETB 104	Grain Sorghum, Loamy Soils, Arkansas
AG-35-10-89	ETB 105	Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
AG-36-10-89	ETB 106	Grain Sorghum, Clay Soils, Arkansas
AG-37-10-89	ETB 107	Grain Sorghum, Clay Soils, Flood Irrigation, Arkansas

INFORMATION PRESENTED IN THIS DOCUMENT IS PREPARED SOLELY AS A GENERAL GUIDE AND IS NOT INTENDED TO RECOGNIZE OR PREDICT THE COSTS AND RETURNS FROM ANY ONE PARTICULAR FARM OR RANCH OPERATION

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**ESTIMATING 1990 PRODUCTION  
COSTS IN ARKANSAS**

**EXTENSION TECHNICAL BULLETIN NO. 96**

**COTTON**

**LOAMY SOILS, SOLID PLANTED,  
NORTH OF I-40, EASTERN ARKANSAS**



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# ESTIMATING PRODUCTION COSTS IN ARKANSAS

## INTRODUCTION

Estimating Production Costs is an Extension Technical Bulletin prepared by the Agricultural Economics Section within the University of Arkansas Cooperative Extension Service. The authors are Economists specializing in management and finance of the farm business.

The primary purpose of this analysis is to provide a systematic procedure for estimating specified costs associated with producing a defined enterprise. Costs are first developed for each field operation and then aggregated by input item. This publication has seven major parts: A written discussion, page 2; a summary of specified operating and ownership costs, page 3; a sensitivity analysis, page 4; returns above total specified costs at various yield, price, and cost combinations, page 5; a sequential listing of field operations, pages 6 and 7.

## SPECIFIED OPERATING AND OWNERSHIP COSTS

Specified operating and ownership costs for this particular enterprise, location, soil type, and irrigation method are located on page 3. The specified operating costs are derived from the sequential listing of operations presented on pages 6 and 7. Breakeven prices for total specified operating costs are given for a base yield and at deviations of 25 and 35 percent.

Total specified ownership costs and breakeven prices for total specified costs are also given on page 3. The depreciation and interest cost components represent an average cost allocated over the entire useful life of the machinery. Various financing arrangements and tax depreciation methods can produce costs that vary significantly from these estimates in a given year. The ability to estimate the actual cost is a complex economic procedure whereby cash accounting and economic costs may vary greatly.

## SENSITIVITY ANALYSIS

A sensitivity analysis is presented to provide a broader perspective from which an individual may analyze the specific situation budgeted. Since input prices and quantity may vary, costs are increased and decreased by 20 percent as shown on page 4. A per unit breakeven price is provided for a base yield and at yields of 25 and 35 percent above and below the base yield. These breakeven prices account for changes in costs due to yield differences, such as ginning.

## RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 5 are estimated enterprise returns above total specified costs at various yield, price, and cost combinations. *Not included in these returns are charges for land, risk, overhead labor, other overhead, crop insurance, real estate taxes, and management.*

## SEQUENCE OF OPERATIONS

A sequential listing of each operation performed for this enterprise is given on pages 6 and 7. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

## ACKNOWLEDGEMENTS EXTENSION COTTON COMMITTEE

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Billy E. Herrington  
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THE MENTION OF ANY COMMERCIAL PRODUCT IN THIS ANALYSIS DOES NOT IMPLY ITS ENDORSEMENT BY THE UNITED STATES DEPARTMENT OF AGRICULTURE OR THE UNIVERSITY OF ARKANSAS COOPERATIVE EXTENSION SERVICE OVER OTHER PRODUCTS NOT NAMED, NOR DOES THE OMISSION IMPLY THAT THEY ARE NOT SATISFACTORY.

**SPECIFIED OPERATING COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATED COST
SEED	\$7.85	
FERTILIZER	\$36.03	
LIME + APPLICATION	\$6.47	
HERBICIDE	\$14.80	
FUNGICIDE	\$0.00	
INSECTICIDE	\$1.78	
DEFOLIANT	\$5.02	
AERIAL APPLICATION	\$32.50	
MACHINERY:		
FUEL, OIL, LUBRICANTS	\$14.18	
REPAIRS	\$42.49	
LABOR	\$20.01	
IRRIGATION:		
FUEL, OIL, LUBRICANTS	\$0.00	
REPAIRS	\$0.00	
IRRIGATION LABOR	\$0.00	
CUSTOM SPREAD	\$2.50	
CUSTOM HAUL	\$0.00	
CUSTOM DRY OR GINNING	\$42.00	
MISCELLANEOUS	\$4.00	
CROP INSURANCE PREMIUM		
OTHER		
INTEREST ON OP. CAP.	\$11.97	

TOTAL SPECIFIED OPERATING COSTS \$271.60

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OPERATING COST  
YIELD IN POUNDS

341.25	393.75	525.00	656.25	708.75
\$0.67	\$0.58	\$0.44	\$0.35	\$0.32

BREAKEVEN PRICES REFLECT A COTTONSEED CREDIT AGAINST GINNING CHARGES.

**SPECIFIED OWNERSHIP COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATE
TRACTORS:		
DEPRECIATION	\$7.89	
INTEREST	\$6.51	
EQUIPMENT:		
DEPRECIATION	\$6.70	
INTEREST	\$3.83	
SPECIAL EQUIPMENT:		
DEPRECIATION	\$30.98	
INTEREST	\$13.04	
MISCELLANEOUS:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
IRRIGATION:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
TAXES & INSURANCE	\$5.31	
INTEREST	\$0.58	
OVERHEAD LABOR		
OTHER OVERHEAD		
LAND & PROPERTY TAX		
MANAGEMENT		

TOTAL SPECIFIED OWNERSHIP COSTS \$74.85

TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS \$346.45

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OWNERSHIP & OPERATING COST  
YIELD IN POUNDS

341.25	393.75	525.00	656.25	708.75
\$0.89	\$0.77	\$0.58	\$0.46	\$0.43

NOT INCLUDED IN THIS REPORT ARE CHARGES FOR LAND, RISK, OVERHEAD LABOR, OTHER OVERHEAD, CROP INSURANCE, REAL ESTATE TAXES, AND MGT.

SENSITIVITY ANALYSIS:

EFFECTS OF A 20% VARIATION IN SPECIFIED INPUT COSTS ON  
PER UNIT BREAKEVEN PRICES.

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9004  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: NONE

RESOURCE OR INPUT	-20% DEVIATION	BASE COST PAGE 3	+20% DEVIATION
(A)	(B)	(D)	(F)
DEPRECIATION	\$36.46	\$45.57	\$54.69
REPAIRS	\$33.99	\$42.49	\$50.99
DRY OR GINNING (COMMERCIAL)	\$33.60	\$42.00	\$50.40
FERTILIZER	\$28.83	\$36.03	\$43.24
AERIAL APPLI. (CUSTOM HIRE)	\$26.00	\$32.50	\$39.00
INSECTICIDE	\$25.42	\$31.78	\$38.13
OWNERSHIP INTEREST	\$19.17	\$23.97	\$28.76
HIRED LABOR	\$16.01	\$20.01	\$24.01
HERBICIDE	\$11.84	\$14.80	\$17.76
MACHINERY FUEL & OIL	\$11.34	\$14.18	\$17.01
INTEREST ON OP. CAP.	\$9.58	\$11.97	\$14.36
SEED	\$6.28	\$7.85	\$9.42
LIME + APPLICATION	\$5.18	\$6.47	\$7.76
DEFOLIANT	\$4.02	\$5.02	\$6.02
FARM TAXES	\$3.40	\$4.25	\$5.10
MISCELLANEOUS	\$3.20	\$4.00	\$4.80
SPREAD (CUSTOM HIRE)	\$2.00	\$2.50	\$3.00
FARM INSURANCE	\$0.85	\$1.06	\$1.28
CROP INSURANCE PREM.			
CROP MKT. & COM. STORAGE			
DRYING FUEL			
FINANCIAL SERVICES			
FUNGICIDE			
HAUL (CUSTOM HIRE)			
IRRIGATION FUEL & OIL			
LAND CHARGE			
LEASE PAYMENTS			
MACHINE HIRE			
MANAGEMENT			
OVERHEAD			
UTILITIES			

TOTAL SPECIFIED COST/ACRE      \$277.16      \$346.45      \$415.74

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

	YIELD	BREAKEVEN PRICE (1/- SEE PAGE 5)		
-35% OF BASE YIELD	341.25	\$0.71	\$0.89	\$1.07
-25% OF BASE YIELD	393.75	\$0.62	\$0.77	\$0.93
BASE YIELD	525.00	\$0.46	\$0.58	\$0.70
+25% OF BASE YIELD	656.25	\$0.37	\$0.46	\$0.56
+35% OF BASE YIELD	708.75	\$0.34	\$0.43	\$0.52

ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9004  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: NONE

1/ SEED VALUES AND GINNING CHARGES VARY BY LOCATION. THIS ANALYSIS ASSUMES THAT SEED VALUES COVER GINNING CHARGES; THEREFORE, COSTS AND RETURNS SHOWN BELOW ARE ADJUSTED ACCORDINGLY.

- 20% DEVIATION FROM BASE COSTS: \$243.56 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	341.25	393.75	525.00	656.25	708.75	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - - - -RETURNS PER ACRE- - - - - - - -					
	\$0.35	(\$124.13)	(\$105.75)	(\$59.82)	(\$13.88)	\$4.49
	\$0.45	(\$91.71)	(\$68.35)	(\$9.94)	\$48.46	\$71.82
BASE PRICE =	\$0.54	(\$59.29)	(\$30.94)	\$39.93	\$110.80	\$139.15
	\$0.64	(\$26.87)	\$6.47	\$89.81	\$173.15	\$206.49
	\$0.73	\$5.55	\$43.87	\$139.68	\$235.49	\$273.82

BASE COSTS: \$304.45 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	341.25	393.75	525.00	656.25	708.75	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - - - -RETURNS PER ACRE- - - - - - - -					
	\$0.35	(\$185.02)	(\$166.64)	(\$120.71)	(\$74.78)	(\$56.40)
	\$0.45	(\$152.60)	(\$129.24)	(\$70.83)	(\$12.43)	\$10.93
BASE PRICE =	\$0.54	(\$120.18)	(\$91.83)	(\$20.96)	\$49.91	\$78.26
	\$0.64	(\$87.76)	(\$54.43)	\$28.92	\$112.26	\$145.59
	\$0.73	(\$55.34)	(\$17.02)	\$78.79	\$174.60	\$212.92

+ 20% DEVIATION FROM BASE COSTS: \$365.34 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	341.25	393.75	525.00	656.25	708.75	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - - - -RETURNS PER ACRE- - - - - - - -					
	\$0.35	(\$245.91)	(\$227.54)	(\$181.60)	(\$135.67)	(\$117.29)
	\$0.45	(\$213.49)	(\$190.13)	(\$131.73)	(\$73.32)	(\$49.96)
BASE PRICE =	\$0.54	(\$181.07)	(\$152.72)	(\$81.85)	(\$10.98)	\$17.37
	\$0.64	(\$148.65)	(\$115.32)	(\$31.98)	\$51.36	\$84.70
	\$0.73	(\$116.24)	(\$77.91)	\$17.90	\$113.71	\$152.03

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9004  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: NONE

MACHINERY COST

OPER- ATION NO. (A)	DATE (B)	OPERATION (C)	WIDTH (FEET) (D)	HORSE POWER PTO (E)	PERFORMANCE RATE (AC/HR) (F)	TIMES OVER (NO.) (G)	OPERATING COST			OWNERSHIP COST		TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)	
1	12	STALK CUTTER	15.0	140.0	7.727	1.000	\$1.68	\$0.79	\$1.29	\$0.94	\$0.21	\$4.91
2	3	CHISEL PLOW	21.0	175.0	7.127	1.000	\$1.59	\$1.07	\$1.43	\$1.15	\$0.26	\$5.51
3	3	DISK, MC 9.0" SPACING	26.7	175.0	11.638	1.000	\$1.16	\$0.66	\$1.34	\$0.97	\$0.22	\$4.34
4	4	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5	4	DISK BEDDER 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06
6	4	DISK BEDDER 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06
7	5	TRIPLE K	26.7	175.0	11.638	1.000	\$1.25	\$0.66	\$1.28	\$1.00	\$0.23	\$4.40
	5	SPRAYER, SADDLE MTD BC	26.7	0.0	11.638	1.000	\$0.13	\$0.00	\$0.31	\$0.17	\$0.04	\$0.64
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15
8	5	PLANTER 8 ROW @ 38"	25.3	175.0	9.257	1.000	\$1.69	\$0.82	\$1.76	\$1.01	\$0.23	\$5.51
	5	SPRAYER, SADDLE MTD BC	25.3	0.0	9.257	1.000	\$0.16	\$0.00	\$0.38	\$0.21	\$0.05	\$0.80
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15
9	5	ROW CULTIVATOR 8 ROW @38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
10	5	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
11	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
12	6	ROW CULTIVATOR 8 ROW @38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15
13	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
14	6	ROW CULTIVATOR 8 ROW @38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15
15	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
16	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
17	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9004  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: NONE

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
1								0.00%	\$0.00		\$0.64	\$5.56
2								0.00%	\$0.00		\$0.70	\$6.21
3								0.00%	\$0.00		\$0.43	\$4.77
4	CSTM AP FERT GRND (DRY)		ACRE	\$2.500	1.000			100.00%	\$2.50		\$0.00	\$2.50
	NITROGEN (ACTUAL N)		POUND	\$0.256	60.000			100.00%	\$15.36		\$0.00	\$15.36
	PHOSPHATE (MATERIAL)	0-46-0	POUND	\$0.094	50.000			100.00%	\$4.70		\$0.00	\$4.70
	POTASH (MATERIAL)	0-0-60	POUND	\$0.080	80.000			100.00%	\$6.40		\$0.00	\$6.40
5								0.00%	\$0.00		\$0.37	\$3.43
6								0.00%	\$0.00		\$0.37	\$3.43
7								0.00%	\$0.00		\$0.53	\$4.94
	PROWL	4EC	PINT	\$2.837	1.250	38	18	47.37%	\$1.68		\$0.00	\$2.32
								0.00%	\$0.00		\$0.00	\$0.15
8	COTTON SEED		POUND	\$0.561	14.000			100.00%	\$7.85		\$1.03	\$14.40
	COTORAN	4L	PINT	\$5.794	1.600	38	18	47.37%	\$4.39		\$0.00	\$5.19
								0.00%	\$0.00		\$0.00	\$0.15
9								0.00%	\$0.00		\$0.77	\$5.81
10	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
11	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	BIDRIN	8EC	PINT	\$8.708	0.200			100.00%	\$1.74		\$0.00	\$1.74
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
12								0.00%	\$0.00		\$0.97	\$6.01
	COTORAN	4L	PINT	\$5.794	1.600	38	16	42.11%	\$3.90		\$0.00	\$4.71
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.15
13	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
14								0.00%	\$0.00		\$0.97	\$6.01
	BLADEX	4L	PINT	\$2.481	1.500	38	16	42.11%	\$1.57		\$0.00	\$2.38
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.15
15	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	DIMETHOATE	2.67EC	PINT	\$2.125	0.600			100.00%	\$1.28		\$0.00	\$1.28
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
16	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	DIMETHOATE	2.67EC	PINT	\$2.125	0.600			100.00%	\$1.28		\$0.00	\$1.28
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
17	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75





## LIST OF PUBLICATIONS FOR ESTIMATING 1990 PRODUCTION COSTS

<u>ECONOMIC SUMMARY</u>	<u>ETB</u>	<u>DESCRIPTION</u>
AG-2-10-89	ETB 71	Oats, Loamy Soils, Arkansas
AG-3-10-89	ETB 72	Wheat, Loamy Soils, Arkansas
AG-4-10-89	ETB 73	Wheat, Clay Soils, Arkansas
AG-5-10-89	ETB 75	Rapeseed (Canola), Loamy Soils, Arkansas
AG-6-10-89	ETB 76	Soybeans, Loamy Soils, Arkansas
AG-7-10-89	ETB 77	Soybeans, Loamy Soils, Furrow Irrigation, Arkansas
AG-8-10-89	ETB 78	Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
AG-9-10-89	ETB 79	Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-10-10-89	ETB 80	Soybeans, Drilled, Loamy Soils, Arkansas
AG-11-10-89	ETB 81	Soybeans, Following Wheat, Loamy Soils, Arkansas
AG-12-10-89	ETB 82	Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-13-10-89	ETB 83	Soybeans, Clay Soils, Arkansas
AG-14-10-89	ETB 84	Soybeans, Clay Soils, Center Pivot Irrigation, Non-Towable, 130 Acres, Arkansas
AG-15-10-89	ETB 85	Soybeans, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-16-10-89	ETB 86	Soybeans, No-Till, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-17-10-89	ETB 87	Rice, Long Grain, Midseason Variety (Newbonnet), Silt Loam Soils, Eastern Arkansas
AG-18-10-89	ETB 88	Rice, Long Grain, Very Short Season Variety (Tebonnet), Silt Loam Soils, Eastern Arkansas
AG-19-10-89	ETB 89	Rice, Long Grain, Semi-dwarf Variety (Lemont), Silt Loam Soils, Eastern Arkansas
AG-20-10-89	ETB 90	Rice, Medium Grain, Short Season Variety (Mars), Silt Loam Soils, Eastern Arkansas
AG-21-10-89	ETB 91	Rice, Long Grain, Midseason Variety (Newbonnet), Clay Soils, Eastern Arkansas
AG-22-10-89	ETB 92	Rice, Long Grain, Midseason Variety (Newbonnet), Grand Prairie Soils, Grand Prairie Region, Arkansas
AG-23-10-89	ETB 93	Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
AG-24-10-89	ETB 94	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-25-10-89	ETB 95	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-26-10-89	ETB 96	Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-27-10-89	ETB 97	Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-28-10-89	ETB 98	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
AG-29-10-89	ETB 99	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
AG-30-10-89	ETB 100	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-31-10-89	ETB 101	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-32-10-89	ETB 102	Corn, Loamy Soils, Flood Irrigation, Arkansas
AG-33-10-89	ETB 103	Corn, Loamy Soils, Furrow Irrigation, Arkansas
AG-34-10-89	ETB 104	Grain Sorghum, Loamy Soils, Arkansas
AG-35-10-89	ETB 105	Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
AG-36-10-89	ETB 106	Grain Sorghum, Clay Soils, Arkansas
AG-37-10-89	ETB 107	Grain Sorghum, Clay Soils, Flood Irrigation, Arkansas

INFORMATION PRESENTED IN THIS DOCUMENT IS PREPARED SOLELY AS A GENERAL GUIDE AND IS NOT INTENDED TO RECOGNIZE OR PREDICT THE COSTS AND RETURNS FROM ANY ONE PARTICULAR FARM OR RANCH OPERATION

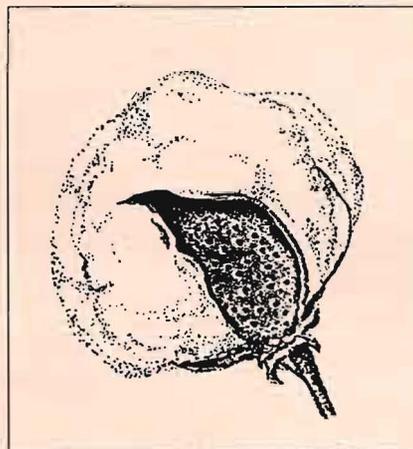
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ESTIMATING 1990 PRODUCTION  
COSTS IN ARKANSAS

EXTENSION TECHNICAL BULLETIN NO. 97

COTTON

CLAY SOILS, SOLID PLANTED,  
NORTH OF I-40, EASTERN ARKANSAS



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COOPERATIVE EXTENSION SERVICE  
AGRICULTURAL ECONOMICS SECTION

# ESTIMATING PRODUCTION COSTS IN ARKANSAS

## INTRODUCTION

Estimating Production Costs is an Extension Technical Bulletin prepared by the Agricultural Economics Section within the University of Arkansas Cooperative Extension Service. The authors are Economists specializing in management and finance of the farm business.

The primary purpose of this analysis is to provide a systematic procedure for estimating specified costs associated with producing a defined enterprise. Costs are first developed for each field operation and then aggregated by input item. This publication has seven major parts: A written discussion, page 2; a summary of specified operating and ownership costs, page 3; a sensitivity analysis, page 4; returns above total specified costs at various yield, price, and cost combinations, page 5; a sequential listing of field operations, pages 6 and 7.

## SPECIFIED OPERATING AND OWNERSHIP COSTS

Specified operating and ownership costs for this particular enterprise, location, soil type, and irrigation method are located on page 3. The specified operating costs are derived from the sequential listing of operations presented on pages 6 and 7. Breakeven prices for total specified operating costs are given for a base yield and at deviations of 25 and 35 percent.

Total specified ownership costs and breakeven prices for total specified costs are also given on page 3. The depreciation and interest cost components represent an average cost allocated over the entire useful life of the machinery. Various financing arrangements and tax depreciation methods can produce costs that vary significantly from these estimates in a given year. The ability to estimate the actual cost is a complex economic procedure whereby cash accounting and economic costs may vary greatly.

## SENSITIVITY ANALYSIS

A sensitivity analysis is presented to provide a broader perspective from which an individual may analyze the specific situation budgeted. Since input prices and quantity may vary, costs are increased and decreased by 20 percent as shown on page 4. A per unit breakeven price is provided for a base yield and at yields of 25 and 35 percent above and below the base yield. These breakeven prices account for changes in costs due to yield differences, such as ginning.

## RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 5 are estimated enterprise returns above total specified costs at various yield, price, and cost combinations. *Not included in these returns are charges for land, risk, overhead labor, other overhead, crop insurance, real estate taxes, and management.*

## SEQUENCE OF OPERATIONS

A sequential listing of each operation performed for this enterprise is given on pages 6 and 7. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

### ACKNOWLEDGEMENTS EXTENSION COTTON COMMITTEE

Claude M. Bonner, Chairman	Charlie Guy
Billy E. Herrington	Gary Huitink
Brangle Jennings	Donald R. Johnson
Terry Kirkpatrick	J. Scott McConnell
Woody N. Miley	George Morris
Clifford S. Snyder	Ples Spradley
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Robert G. Wells	Tony E. Windham

THE MENTION OF ANY COMMERCIAL PRODUCT IN THIS ANALYSIS DOES NOT IMPLY ITS ENDORSEMENT BY THE UNITED STATES DEPARTMENT OF AGRICULTURE OR THE UNIVERSITY OF ARKANSAS COOPERATIVE EXTENSION SERVICE OVER OTHER PRODUCTS NOT NAMED, NOR DOES THE OMISSION IMPLY THAT THEY ARE NOT SATISFACTORY.

**SPECIFIED OPERATING COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATED COST
SEED	\$11.22	
FERTILIZER	\$28.77	
LIME + APPLICATION	\$0.00	
HERBICIDE	\$20.20	
FUNGICIDE	\$0.00	
INSECTICIDE	\$31.78	
DEFOLIANT	\$5.02	
AERIAL APPLICATION	\$32.50	
MACHINERY:		
FUEL, OIL, LUBRICANTS	\$14.00	
REPAIRS	\$42.41	
LABOR	\$19.92	
IRRIGATION:		
FUEL, OIL, LUBRICANTS	\$0.00	
REPAIRS	\$0.00	
IRRIGATION LABOR	\$0.00	
CUSTOM SPREAD	\$2.50	
CUSTOM HAUL	\$0.00	
CUSTOM DRY OR GINNING	\$40.00	
MISCELLANEOUS	\$4.00	
CROP INSURANCE PREMIUM		
OTHER		
INTEREST ON OP. CAP.	\$11.68	

TOTAL SPECIFIED OPERATING COSTS \$263.99

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OPERATING COST  
YIELD IN POUNDS

325.00	375.00	500.00	625.00	675.00
\$0.69	\$0.60	\$0.45	\$0.36	\$0.33

BREAKEVEN PRICES REFLECT A COTTONSEED CREDIT AGAINST GINNING CHARGES.

**SPECIFIED OWNERSHIP COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATE
TRACTORS:		
DEPRECIATION	\$7.76	
INTEREST	\$6.40	
EQUIPMENT:		
DEPRECIATION	\$7.15	
INTEREST	\$4.07	
SPECIAL EQUIPMENT:		
DEPRECIATION	\$30.95	
INTEREST	\$13.03	
MISCELLANEOUS:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
IRRIGATION:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
TAXES & INSURANCE	\$5.34	
INTEREST	\$0.59	
OVERHEAD LABOR		
OTHER OVERHEAD		
LAND & PROPERTY TAX		
MANAGEMENT		

TOTAL SPECIFIED OWNERSHIP COSTS \$75.28

TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS \$339.27

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OWNERSHIP & OPERATING COST  
YIELD IN POUNDS

325.00	375.00	500.00	625.00	675.00
\$0.92	\$0.80	\$0.60	\$0.48	\$0.44

NOT INCLUDED IN THIS REPORT ARE CHARGES FOR LAND, RISK, OVERHEAD LABOR, OTHER OVERHEAD, CROP INSURANCE, REAL ESTATE TAXES, AND MGT.

SENSITIVITY ANALYSIS:

EFFECTS OF A 20% VARIATION IN SPECIFIED INPUT COSTS ON  
PER UNIT BREAKEVEN PRICES.

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9005  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: CLAY  
 IRRIGATION METHOD: NONE

RESOURCE OR INPUT	-20% DEVIATION	BASE COST PAGE 3	+20% DEVIATION
(A)	(B)	(D)	(F)
DEPRECIATION	\$36.69	\$45.86	\$55.03
REPAIRS	\$33.93	\$42.41	\$50.89
DRY OR GINNING (COMMERCIAL)	\$32.00	\$40.00	\$48.00
AERIAL APPLI. (CUSTOM HIRE)	\$26.00	\$32.50	\$39.00
INSECTICIDE	\$25.42	\$31.78	\$38.13
FERTILIZER	\$23.02	\$28.77	\$34.53
OWNERSHIP INTEREST	\$19.26	\$24.08	\$28.90
HERBICIDE	\$16.16	\$20.20	\$24.24
HIRED LABOR	\$15.94	\$19.92	\$23.91
MACHINERY FUEL & OIL	\$11.20	\$14.00	\$16.80
INTEREST ON OP. CAP.	\$9.34	\$11.68	\$14.01
SEED	\$8.98	\$11.22	\$13.46
DEFOLIANT	\$4.02	\$5.02	\$6.02
FARM TAXES	\$3.42	\$4.27	\$5.13
MISCELLANEOUS	\$3.20	\$4.00	\$4.80
SPREAD (CUSTOM HIRE)	\$2.00	\$2.50	\$3.00
FARM INSURANCE	\$0.85	\$1.07	\$1.28
CROP INSURANCE PREM.			
CROP MKT. & COM. STORAGE			
DRYING FUEL			
FINANCIAL SERVICES			
FUNGICIDE			
HAUL (CUSTOM HIRE)			
IRRIGATION FUEL & OIL			
LAND CHARGE			
LEASE PAYMENTS			
LIME + APPLICATION			
MACHINE HIRE			
MANAGEMENT			
OVERHEAD			
UTILITIES			

TOTAL SPECIFIED COST/ACRE      \$271.42      \$339.27      \$407.13

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

	YIELD	BREAKEVEN PRICE (1/- SEE PAGE 5)		
-35% OF BASE YIELD	325.00	\$0.74	\$0.92	\$1.11
-25% OF BASE YIELD	375.00	\$0.64	\$0.80	\$0.96
BASE YIELD	500.00	\$0.48	\$0.60	\$0.72
+25% OF BASE YIELD	625.00	\$0.38	\$0.48	\$0.57
+35% OF BASE YIELD	675.00	\$0.35	\$0.44	\$0.53

ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9005  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: CLAY  
 IRRIGATION METHOD: NONE

1/ SEED VALUES AND GINNING CHARGES VARY BY LOCATION. THIS ANALYSIS ASSUMES THAT SEED VALUES COVER GINNING CHARGES; THEREFORE, COSTS AND RETURNS SHOWN BELOW ARE ADJUSTED ACCORDINGLY.

- 20% DEVIATION FROM BASE COSTS: \$239.42 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	325.00	375.00	500.00	625.00	675.00	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$125.67)	(\$108.17)	(\$64.43)	(\$20.68)	(\$3.18)
	\$0.45	(\$94.80)	(\$72.55)	(\$16.93)	\$38.70	\$60.95
BASE PRICE =	\$0.54	(\$63.92)	(\$36.92)	\$30.57	\$98.07	\$125.07
	\$0.64	(\$33.05)	(\$1.30)	\$78.07	\$157.45	\$189.20
	\$0.73	(\$2.17)	\$34.33	\$125.57	\$216.82	\$253.32

BASE COSTS: \$299.27 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	325.00	375.00	500.00	625.00	675.00	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$185.53)	(\$168.03)	(\$124.28)	(\$80.53)	(\$63.04)
	\$0.45	(\$154.65)	(\$132.40)	(\$76.78)	(\$21.16)	\$1.09
BASE PRICE =	\$0.54	(\$123.78)	(\$96.78)	(\$29.28)	\$38.22	\$65.21
	\$0.64	(\$92.90)	(\$61.15)	\$18.22	\$97.59	\$129.34
	\$0.73	(\$62.03)	(\$25.53)	\$65.72	\$156.97	\$193.46

+ 20% DEVIATION FROM BASE COSTS: \$359.13 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	325.00	375.00	500.00	625.00	675.00	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$245.38)	(\$227.89)	(\$184.14)	(\$140.39)	(\$122.89)
	\$0.45	(\$214.51)	(\$192.26)	(\$136.64)	(\$81.02)	(\$58.77)
BASE PRICE =	\$0.54	(\$183.63)	(\$156.64)	(\$89.14)	(\$21.64)	\$5.36
	\$0.64	(\$152.76)	(\$121.01)	(\$41.64)	\$37.73	\$69.48
	\$0.73	(\$121.88)	(\$85.39)	\$5.86	\$97.11	\$133.61

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9005  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: CLAY  
 IRRIGATION METHOD: NONE

MACHINERY COST

OPER- ATION NO. (A)	DATE (B)	OPERATION (C)	WIDTH (FEET) (D)	HORSE POWER PTO (E)	PERFORMANCE RATE (AC/HR) (F)	TIMES OVER (NO.) (G)	OPERATING COST			OWNERSHIP COST			TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)		
1	12	STALK CUTTER	15.0	140.0	7.727	1.000	\$1.68	\$0.79	\$1.29	\$0.94	\$0.21	\$4.91	
2	3	DISK, HC 9.0" SPACING	18.6	175.0	8.116	1.000	\$1.57	\$0.94	\$1.75	\$1.28	\$0.29	\$5.82	
3	4	DISK, MC 9.0" SPACING	26.7	175.0	11.638	1.000	\$1.16	\$0.66	\$1.34	\$0.97	\$0.22	\$4.34	
4	4	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
5	4	DISK BEDDER 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06	
6	4	DISK BEDDER 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06	
7	5	TRIPLE K	26.7	175.0	11.638	1.000	\$1.25	\$0.66	\$1.28	\$1.00	\$0.23	\$4.40	
	5	SPRAYER, SADDLE MTD BC	26.7	0.0	11.638	1.000	\$0.13	\$0.00	\$0.31	\$0.17	\$0.04	\$0.64	
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15	
8	5	PLANTER 8 ROW @ 38"	25.3	175.0	9.257	1.000	\$1.69	\$0.82	\$1.76	\$1.01	\$0.23	\$5.51	
	5	SPRAYER, SADDLE MTD BC	25.3	0.0	9.257	1.000	\$0.16	\$0.00	\$0.38	\$0.21	\$0.05	\$0.80	
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.040	\$0.04	\$0.03	\$0.02	\$0.01	\$0.00	\$0.10	
9	5	ROW CULTIVATOR 8 ROW @38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
10	5	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
11	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
12	6	ROW CULTIVATOR 8 ROW @38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.040	\$0.04	\$0.03	\$0.02	\$0.01	\$0.00	\$0.10	
13	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
14	6	ROW CULTIVATOR 8 ROW @38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.040	\$0.04	\$0.03	\$0.02	\$0.01	\$0.00	\$0.10	
15	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
16	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
17	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9005  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: CLAY  
 IRRIGATION METHOD: NONE

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
1								0.00%	\$0.00		\$0.64	\$5.56
2								0.00%	\$0.00		\$0.61	\$6.43
3								0.00%	\$0.00		\$0.43	\$4.77
4	CSTM AP FERT GRND (DRY) NITROGEN (ACTUAL N)		ACRE POUND	\$2.500 \$0.256	1.000 75.000			100.00% 100.00%	\$2.50 \$19.20		\$0.00	\$2.50 \$19.20
5								0.00%	\$0.00		\$0.37	\$3.43
6								0.00%	\$0.00		\$0.37	\$3.43
7	PROWL	4EC	PINT	\$2.837	2.000	38	18	47.37%	\$2.69		\$0.00	\$3.32
								0.00%	\$0.00		\$0.00	\$0.15
8	COTTON SEED COTORAN		POUND PINT	\$0.561 \$5.794	20.000 3.200		38 18	100.00% 47.37%	\$11.22 \$8.78		\$1.03	\$17.77 \$9.58
								0.00%	\$0.00		\$0.00	\$0.10
9								0.00%	\$0.00		\$0.77	\$5.81
10	CSTM AP AIR 3 GAL BIDRIN SOLUBOR		ACRE PINT POUND	\$2.750 \$8.708 \$0.581	1.000 0.200 1.000			100.00% 100.00% 100.00%	\$2.75 \$1.74 \$0.58		\$0.00	\$2.75 \$1.74 \$0.58
11	CSTM AP AIR 3 GAL BIDRIN SOLUBOR		ACRE PINT POUND	\$2.750 \$8.708 \$0.581	1.000 0.200 1.000			100.00% 100.00% 100.00%	\$2.75 \$1.74 \$0.58		\$0.00	\$2.75 \$1.74 \$0.58
12								0.00%	\$0.00		\$0.97	\$6.01
	COTORAN	4L	PINT	\$5.794	1.600	38	16	42.11%	\$3.90		\$0.00	\$4.71
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.10
13	CSTM APP AIR 3 GAL GUTHION SOLUBOR		ACRE PINT POUND	\$2.750 \$2.765 \$0.581	1.000 1.000 1.000			100.00% 100.00% 100.00%	\$2.75 \$2.77 \$0.58		\$0.00	\$2.75 \$2.77 \$0.58
14								0.00%	\$0.00		\$0.97	\$6.01
	BLADEX	4L	PINT	\$2.481	1.500	38	16	42.11%	\$1.57		\$0.00	\$2.38
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.10
15	CSTM AP AIR 3 GAL DIMETHOATE GUTHION SOLUBOR		ACRE PINT PINT POUND	\$2.750 \$2.125 \$2.765 \$0.581	1.000 0.600 1.000 1.000			100.00% 100.00% 100.00% 100.00%	\$2.75 \$1.28 \$2.77 \$0.58		\$0.00	\$2.75 \$1.28 \$2.77 \$0.58
16	CSTM AP AIR 3 GAL DIMETHOATE SOLUBOR		ACRE PINT POUND	\$2.750 \$2.125 \$0.581	1.000 0.600 1.000			100.00% 100.00% 100.00%	\$2.75 \$1.28 \$0.58		\$0.00	\$2.75 \$1.28 \$0.58
17	CSTM APP AIR 3 GAL GUTHION SOLUBOR		ACRE PINT POUND	\$2.750 \$2.765 \$0.581	1.000 1.000 1.000			100.00% 100.00% 100.00%	\$2.75 \$2.77 \$0.58		\$0.00	\$2.75 \$2.77 \$0.58





## LIST OF PUBLICATIONS FOR ESTIMATING 1990 PRODUCTION COSTS

ECONOMIC SUMMARY	ETB	<u>DESCRIPTION</u>
AG-2-10-89	ETB 71	Oats, Loamy Soils, Arkansas
AG-3-10-89	ETB 72	Wheat, Loamy Soils, Arkansas
AG-4-10-89	ETB 73	Wheat, Clay Soils, Arkansas
AG-5-10-89	ETB 75	Rapeseed (Canola), Loamy Soils, Arkansas
AG-6-10-89	ETB 76	Soybeans, Loamy Soils, Arkansas
AG-7-10-89	ETB 77	Soybeans, Loamy Soils, Furrow Irrigation, Arkansas
AG-8-10-89	ETB 78	Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
AG-9-10-89	ETB 79	Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-10-10-89	ETB 80	Soybeans, Drilled, Loamy Soils, Arkansas
AG-11-10-89	ETB 81	Soybeans, Following Wheat, Loamy Soils, Arkansas
AG-12-10-89	ETB 82	Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-13-10-89	ETB 83	Soybeans, Clay Soils, Arkansas
AG-14-10-89	ETB 84	Soybeans, Clay Soils, Center Pivot Irrigation, Non-Towable, 130 Acres, Arkansas
AG-15-10-89	ETB 85	Soybeans, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-16-10-89	ETB 86	Soybeans, No-Till, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-17-10-89	ETB 87	Rice, Long Grain, Midseason Variety (Newbonnet), Silt Loam Soils, Eastern Arkansas
AG-18-10-89	ETB 88	Rice, Long Grain, Very Short Season Variety (Tebonnet), Silt Loam Soils, Eastern Arkansas
AG-19-10-89	ETB 89	Rice, Long Grain, Semi-dwarf Variety (Lemont), Silt Loam Soils, Eastern Arkansas
AG-20-10-89	ETB 90	Rice, Medium Grain, Short Season Variety (Mars), Silt Loam Soils, Eastern Arkansas
AG-21-10-89	ETB 91	Rice, Long Grain, Midseason Variety (Newbonnet), Clay Soils, Eastern Arkansas
AG-22-10-89	ETB 92	Rice, Long Grain, Midseason Variety (Newbonnet), Grand Prairie Soils, Grand Prairie Region, Arkansas
AG-23-10-89	ETB 93	Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
AG-24-10-89	ETB 94	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-25-10-89	ETB 95	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-26-10-89	ETB 96	Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-27-10-89	ETB 97	Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-28-10-89	ETB 98	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
AG-29-10-89	ETB 99	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
AG-30-10-89	ETB 100	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-31-10-89	ETB 101	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-32-10-89	ETB 102	Corn, Loamy Soils, Flood Irrigation, Arkansas
AG-33-10-89	ETB 103	Corn, Loamy Soils, Furrow Irrigation, Arkansas
AG-34-10-89	ETB 104	Grain Sorghum, Loamy Soils, Arkansas
AG-35-10-89	ETB 105	Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
AG-36-10-89	ETB 106	Grain Sorghum, Clay Soils, Arkansas
AG-37-10-89	ETB 107	Grain Sorghum, Clay Soils, Flood Irrigation, Arkansas

INFORMATION PRESENTED IN THIS DOCUMENT IS PREPARED SOLELY AS A GENERAL GUIDE AND IS NOT INTENDED TO RECOGNIZE OR PREDICT THE COSTS AND RETURNS FROM ANY ONE PARTICULAR FARM OR RANCH OPERATION

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ESTIMATING 1990 PRODUCTION  
COSTS IN ARKANSAS

EXTENSION TECHNICAL BULLETIN NO. 98

COTTON

LOAMY SOILS, SOLID PLANTED, FURROW IRRIGATION,  
NORTH OF I-40, EASTERN ARKANSAS



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UNIVERSITY OF ARKANSAS  
COOPERATIVE EXTENSION SERVICE  
AGRICULTURAL ECONOMICS SECTION

# ESTIMATING PRODUCTION COSTS IN ARKANSAS

## INTRODUCTION

Estimating Production Costs is an Extension Technical Bulletin prepared by the Agricultural Economics Section within the University of Arkansas Cooperative Extension Service. The authors are Economists specializing in management and finance of the farm business.

The primary purpose of this analysis is to provide a systematic procedure for estimating specified costs associated with producing a defined enterprise. Costs are first developed for each field operation and then aggregated by input item. This publication has seven major parts: A written discussion, page 2; a summary of specified operating and ownership costs, page 3; a sensitivity analysis, page 4; returns above total specified costs at various yield, price, and cost combinations, page 5; a sequential listing of field operations, pages 6 and 7.

## SPECIFIED OPERATING AND OWNERSHIP COSTS

Specified operating and ownership costs for this particular enterprise, location, soil type, and irrigation method are located on page 3. The specified operating costs are derived from the sequential listing of operations presented on pages 6 and 7. Breakeven prices for total specified operating costs are given for a base yield and at deviations of 25 and 35 percent.

Total specified ownership costs and breakeven prices for total specified costs are also given on page 3. The depreciation and interest cost components represent an average cost allocated over the entire useful life of the machinery. Various financing arrangements and tax depreciation methods can produce costs that vary significantly from these estimates in a given year. The ability to estimate the actual cost is a complex economic procedure whereby cash accounting and economic costs may vary greatly.

## SENSITIVITY ANALYSIS

A sensitivity analysis is presented to provide a broader perspective from which an individual may analyze the specific situation budgeted. Since input prices and quantity may vary, costs are increased and decreased by 20 percent as shown on page 4. A per unit breakeven price is provided for a base yield and at yields of 25 and 35 percent above and below the base yield. These breakeven prices account for changes in costs due to yield differences, such as ginning.

## RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 5 are estimated enterprise returns above total specified costs at various yield, price, and cost combinations. *Not included in these returns are charges for land, risk, overhead labor, other overhead, crop insurance, real estate taxes, and management.*

## SEQUENCE OF OPERATIONS

A sequential listing of each operation performed for this enterprise is given on pages 6 and 7. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

### ACKNOWLEDGEMENTS EXTENSION COTTON COMMITTEE

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THE MENTION OF ANY COMMERCIAL PRODUCT IN THIS ANALYSIS DOES NOT IMPLY ITS ENDORSEMENT BY THE UNITED STATES DEPARTMENT OF AGRICULTURE OR THE UNIVERSITY OF ARKANSAS COOPERATIVE EXTENSION SERVICE OVER OTHER PRODUCTS NOT NAMED, NOR DOES THE OMISSION IMPLY THAT THEY ARE NOT SATISFACTORY.

**SPECIFIED OPERATING COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATED COST
SEED	\$8.98	
FERTILIZER	\$42.14	
LIME + APPLICATION	\$6.47	
HERBICIDE	\$14.80	
FUNGICIDE	\$11.54	
INSECTICIDE	\$40.37	
DEFOLIANT	\$14.50	
AERIAL APPLICATION	\$34.25	
MACHINERY:		
FUEL, OIL, LUBRICANTS	\$17.69	
REPAIRS	\$52.19	
LABOR	\$24.41	
IRRIGATION:		
FUEL, OIL, LUBRICANTS	\$6.48	
REPAIRS	\$2.46	
IRRIGATION LABOR	\$6.72	
CUSTOM SPREAD	\$5.50	
CUSTOM HAUL	\$0.00	
CUSTOM DRY OR GINNING	\$76.00	
MISCELLANEOUS	\$14.00	
CROP INSURANCE PREMIUM		
OTHER		
INTEREST ON OP. CAP.	\$16.64	

TOTAL SPECIFIED OPERATING COSTS \$395.12

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OPERATING COST  
YIELD IN POUNDS

YIELD	617.50	712.50	950.00	1187.50	1282.50
PER UNIT BREAKEVEN PRICE	\$0.52	\$0.45	\$0.34	\$0.27	\$0.25

BREAKEVEN PRICES REFLECT A COTTONSEED CREDIT AGAINST GINNING CHARGES.

**SPECIFIED OWNERSHIP COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATE
TRACTORS:		
DEPRECIATION	\$9.88	
INTEREST	\$8.15	
EQUIPMENT:		
DEPRECIATION	\$7.87	
INTEREST	\$4.67	
SPECIAL EQUIPMENT:		
DEPRECIATION	\$38.57	
INTEREST	\$16.23	
MISCELLANEOUS:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
IRRIGATION:		
DEPRECIATION	\$10.82	
INTEREST	\$9.52	
TAXES & INSURANCE	\$8.77	
INTEREST	\$0.96	
OVERHEAD LABOR		
OTHER OVERHEAD		
LAND & PROPERTY TAX		
MANAGEMENT		

TOTAL SPECIFIED OWNERSHIP COSTS \$115.45

TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS \$510.58

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OWNERSHIP & OPERATING COST  
YIELD IN POUNDS

YIELD	617.50	712.50	950.00	1187.50	1282.50
PER UNIT BREAKEVEN PRICE	\$0.70	\$0.61	\$0.46	\$0.37	\$0.34

NOT INCLUDED IN THIS REPORT ARE CHARGES FOR LAND, RISK, OVERHEAD LABOR, OTHER OVERHEAD, CROP INSURANCE, REAL ESTATE TAXES, AND MGT.

SENSITIVITY ANALYSIS:

EFFECTS OF A 20% VARIATION IN SPECIFIED INPUT COSTS ON  
PER UNIT BREAKEVEN PRICES.

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9006  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

RESOURCE OR INPUT	-20% DEVIATION	BASE COST PAGE 3	+20% DEVIATION
(A)	(B)	(D)	(F)
DRY OR GINNING (COMMERCIAL)	\$60.80	\$76.00	\$91.20
DEPRECIATION	\$53.71	\$67.14	\$80.57
REPAIRS	\$43.71	\$54.64	\$65.57
FERTILIZER	\$33.71	\$42.14	\$50.57
INSECTICIDE	\$32.30	\$40.37	\$48.44
OWNERSHIP INTEREST	\$31.63	\$39.54	\$47.45
AERIAL APPLI. (CUSTOM HIRE)	\$27.40	\$34.25	\$41.10
HIRED LABOR	\$24.91	\$31.14	\$37.36
MACHINERY FUEL & OIL	\$14.15	\$17.69	\$21.22
INTEREST ON OP. CAP.	\$13.31	\$16.64	\$19.96
HERBICIDE	\$11.84	\$14.80	\$17.76
DEFOLIANT	\$11.60	\$14.50	\$17.40
MISCELLANEOUS	\$11.20	\$14.00	\$16.80
FUNGICIDE	\$9.23	\$11.54	\$13.85
SEED	\$7.18	\$8.98	\$10.77
FARM TAXES	\$5.61	\$7.01	\$8.42
IRRIGATION FUEL & OIL	\$5.18	\$6.48	\$7.77
LIME + APPLICATION	\$5.18	\$6.47	\$7.76
SPREAD (CUSTOM HIRE)	\$4.40	\$5.50	\$6.60
FARM INSURANCE	\$1.40	\$1.75	\$2.10
CROP INSURANCE PREM.			
CROP MKT. & COM. STORAGE			
DRYING FUEL			
FINANCIAL SERVICES			
HAUL (CUSTOM HIRE)			
LAND CHARGE			
LEASE PAYMENTS			
MACHINE HIRE			
MANAGEMENT			
OVERHEAD			
UTILITIES			

TOTAL SPECIFIED COST/ACRE      \$408.46      \$510.58      \$612.69

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

	YIELD	BREAKEVEN PRICE (1/- SEE PAGE 5)		
-35% OF BASE YIELD	617.50	\$0.56	\$0.70	\$0.84
-25% OF BASE YIELD	712.50	\$0.49	\$0.61	\$0.73
BASE YIELD	950.00	\$0.37	\$0.46	\$0.55
+25% OF BASE YIELD	1187.50	\$0.29	\$0.37	\$0.44
+35% OF BASE YIELD	1282.50	\$0.27	\$0.34	\$0.41

ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9006  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

1/ SEED VALUES AND GINNING CHARGES VARY BY LOCATION. THIS ANALYSIS ASSUMES THAT SEED VALUES COVER GINNING CHARGES; THEREFORE, COSTS AND RETURNS SHOWN BELOW ARE ADJUSTED ACCORDINGLY.

- 20% DEVIATION FROM BASE COSTS: \$347.66 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	617.50	712.50	950.00	1187.50	1282.50	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$131.55)	(\$98.30)	(\$15.18)	\$67.95	\$101.19
	\$0.45	(\$72.88)	(\$30.61)	\$75.07	\$180.76	\$223.03
BASE PRICE =	\$0.54	(\$14.22)	\$37.08	\$165.32	\$293.57	\$344.87
	\$0.64	\$44.44	\$104.77	\$255.57	\$406.38	\$466.71
	\$0.73	\$103.10	\$172.45	\$345.82	\$519.20	\$588.54

BASE COSTS: \$434.58 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	617.50	712.50	950.00	1187.50	1282.50	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$218.46)	(\$185.21)	(\$102.09)	(\$18.97)	\$14.27
	\$0.45	(\$159.80)	(\$117.53)	(\$11.84)	\$93.84	\$136.11
BASE PRICE =	\$0.54	(\$101.14)	(\$49.84)	\$78.41	\$206.65	\$257.95
	\$0.64	(\$42.48)	\$17.85	\$168.66	\$319.46	\$379.79
	\$0.73	\$16.19	\$85.54	\$258.91	\$432.28	\$501.62

+ 20% DEVIATION FROM BASE COSTS: \$521.49 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	617.50	712.50	950.00	1187.50	1282.50	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$305.38)	(\$272.13)	(\$189.01)	(\$105.89)	(\$72.65)
	\$0.45	(\$246.72)	(\$204.45)	(\$98.76)	\$6.92	\$49.19
BASE PRICE =	\$0.54	(\$188.06)	(\$136.76)	(\$8.51)	\$119.73	\$171.03
	\$0.64	(\$129.39)	(\$69.07)	\$81.74	\$232.54	\$292.87
	\$0.73	(\$70.73)	(\$1.38)	\$171.99	\$345.36	\$414.70

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9006  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MACHINERY COST

OPER- ATION NO.	DATE	OPERATION	WIDTH (FEET)	HORSE POWER PTO	PERFORMANCE RATE (AC/HR)	TIMES OVER (NO.)	OPERATING COST				OWNERSHIP COST		TOTAL COST (M)
							REPAIRS & MAINTENANCE	FUEL, OIL & LUB	DEPRE- CIATION	INTEREST	TAXES & INSURANCE		
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	
1	12	STALK CUTTER	15.0	140.0	7.727	1.000	\$1.68	\$0.79	\$1.29	\$0.94	\$0.21	\$4.91	
2	3	SUBSOIL	15.0	200.0	4.364	1.000	\$2.46	\$2.00	\$2.72	\$2.24	\$0.51	\$9.93	
3	3	DISK, MC 9.0" SPACING	26.7	175.0	11.638	1.000	\$1.16	\$0.66	\$1.34	\$0.97	\$0.22	\$4.34	
4	3	LAND FLOAT	16.0	175.0	7.273	1.000	\$1.45	\$1.05	\$1.27	\$1.15	\$0.26	\$5.17	
5	4	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
6	4	DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06	
7	4	DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06	
8	5	TRIPLE K	26.7	175.0	11.638	1.000	\$1.25	\$0.66	\$1.28	\$1.00	\$0.23	\$4.40	
	5	SPRAYER, SADDLE MTD BC	26.7	0.0	11.638	1.000	\$0.13	\$0.00	\$0.31	\$0.17	\$0.04	\$0.64	
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15	
9	5	PLNTR (SPLIT BOX) 8 ROW @ 38"	25.3	175.0	8.981	1.000	\$2.12	\$0.85	\$2.29	\$1.19	\$0.27	\$6.72	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5	SPRAYER, SADDLE MTD BC	25.3	0.0	8.981	1.000	\$0.16	\$0.00	\$0.40	\$0.22	\$0.05	\$0.82	
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15	
10	5	ROW CULTIVATOR 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
11	6	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
12	6	ROW CULTIVATOR 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.040	\$0.04	\$0.03	\$0.02	\$0.01	\$0.00	\$0.10	
13	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
14	6	ROW CULTIVATOR 8 ROW @ 38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.040	\$0.04	\$0.03	\$0.02	\$0.01	\$0.00	\$0.10	
15	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
16	7	INSECT SCOUTING	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
17	7	HAND CHOP OR SPOT SPRAY	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
18	7	FURROW IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
19	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9006  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
1								0.00%	\$0.00		\$0.64	\$5.56
2								0.00%	\$0.00		\$1.14	\$11.07
3								0.00%	\$0.00		\$0.43	\$4.77
4								0.00%	\$0.00		\$0.68	\$5.86
5	CSTM AP FERT GRND (DRY)		ACRE	\$2.500	1.000			100.00%	\$2.50		\$0.00	\$2.50
	NITROGEN (ACTUAL N)		POUND	\$0.256	45.000			100.00%	\$11.52		\$0.00	\$11.52
	PHOSPHATE (MATERIAL)	0-46-0	POUND	\$0.094	50.000			100.00%	\$4.70		\$0.00	\$4.70
	POTASH (MATERIAL)	0-0-60	POUND	\$0.080	80.000			100.00%	\$6.40		\$0.00	\$6.40
6								0.00%	\$0.00		\$0.37	\$3.43
7								0.00%	\$0.00		\$0.37	\$3.43
8								0.00%	\$0.00		\$0.53	\$4.94
	PROWL	4EC	PINT	\$2.837	1.250	38	18	47.37%	\$1.68		\$0.00	\$2.32
								0.00%	\$0.00		\$0.00	\$0.15
9	COTTON SEED		POUND	\$0.561	16.000			100.00%	\$8.98		\$1.06	\$16.76
	TEMIK	15G	POUND	\$2.652	3.000			100.00%	\$7.96		\$0.00	\$7.96
	TERRACHLOR SX	GRAN	POUND	\$1.154	10.000			100.00%	\$11.54		\$0.00	\$11.54
	COTORAN	4L	PINT	\$5.794	1.600	38	18	47.37%	\$4.39		\$0.00	\$5.22
								0.00%	\$0.00		\$0.00	\$0.15
10								0.00%	\$0.00		\$0.77	\$5.81
11	CSTM AP FERT GRND (LIQUID)		ACRE	\$3.000	1.000			100.00%	\$3.00		\$0.00	\$3.00
	NITROGEN (ACTUAL N)		POUND	\$0.217	45.000			100.00%	\$9.77		\$0.00	\$9.77
12								0.00%	\$0.00		\$0.97	\$6.01
	COTORAN	4L	PINT	\$5.794	1.600	38	16	42.11%	\$3.90		\$0.00	\$4.71
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.10
13	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
14								0.00%	\$0.00		\$0.97	\$6.01
	BLADLEX	4L	PINT	\$2.481	1.500	38	16	42.11%	\$1.57		\$0.00	\$2.38
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.10
15	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	DIMETHOATE	2.67EC	PINT	\$2.125	0.600			100.00%	\$1.28		\$0.00	\$1.28
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
16	COTTON INSECT SCOUTING		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
17	HAND CHOP OR SPOT SPRAY		ACRE	\$10.000	1.000			100.00%	\$10.00		\$0.00	\$10.00
18	FURROW IRRIGATION		AC IN	\$1.740	3.000			100.00%	\$5.22	\$7.50	\$0.00	\$12.72
19	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9006  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MACHINERY COST

OPER- ATION NO. (A)	DATE (B)	OPERATION (C)	WIDTH (FEET) (D)	HORSE POWER PTO (E)	PERFORMANCE RATE (AC/HR) (F)	TIMES OVER (NO.) (G)	OPERATING COST			OWNERSHIP COST			TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)		
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
20	7	FURROW IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
24	8	FURROW IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
25	8	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
29	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
30	9	COTTON PICKER, FIRST PICK	6.3	114.0	1.496	1.000	\$20.36	\$4.01	\$23.02	\$9.74	\$2.21	\$59.34	\$59.34
	9	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91	\$0.91
	9	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91	\$0.91
31	10	COTTON PICKER, SCRAPPING	6.3	114.0	2.302	1.000	\$13.24	\$2.60	\$14.96	\$6.33	\$1.44	\$38.57	\$38.57
	10	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91	\$0.91
	10	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91	\$0.91
32	11	GINNING	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33	11	LIME + APP. (5 YR AVE.)	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
		SPECIFIED INTEREST											
TOTAL SPECIFIED COSTS							\$52.19	\$17.69	\$56.33	\$29.06	\$6.60	\$161.86	

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9006  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: FURROW

MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
20	FURROW IRRIGATION		AC IN	\$1.740	3.000			100.00%	\$5.22	\$7.50	\$0.00	\$12.72
21	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	DIMETHOATE	2.67EC	PINT	\$2.125	0.600			100.00%	\$1.28		\$0.00	\$1.28
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
22	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
23	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LORSBAN	4#/GAL	PINT	\$4.605	0.400			100.00%	\$1.84		\$0.00	\$1.84
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
24	FURROW IRRIGATION		AC IN	\$1.740	3.000			100.00%	\$5.22	\$7.50	\$0.00	\$12.72
25	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
26	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LORSBAN	4#/GAL	PINT	\$4.605	0.400			100.00%	\$1.84		\$0.00	\$1.84
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
27	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
28	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	PREP	6#/GAL	PINT	\$6.136	1.000			100.00%	\$6.14		\$0.00	\$6.14
	DEF/FOLEX	6EC	PINT	\$3.347	1.000			100.00%	\$3.35		\$0.00	\$3.35
29	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	DEF/FOLEX	6EC	PINT	\$3.347	1.500			100.00%	\$5.02		\$0.00	\$5.02
30								0.00%	\$0.00		\$9.99	\$69.32
								0.00%	\$0.00		\$0.00	\$0.91
								0.00%	\$0.00		\$0.00	\$0.91
31								0.00%	\$0.00		\$6.49	\$45.06
								0.00%	\$0.00		\$0.00	\$0.91
								0.00%	\$0.00		\$0.00	\$0.91
32	GINNING (LINT BASIS)		POUND	\$0.080	950.000			100.00%	\$76.00		\$0.00	\$76.00
33	LIME + APP. (5 YR AVE.)		ACRE	\$6.470	1.000			100.00%	\$6.47		\$0.00	\$6.47

\$284.20 \$22.50 \$24.41 \$510.58

## LIST OF PUBLICATIONS FOR ESTIMATING 1990 PRODUCTION COSTS

<u>ECONOMIC SUMMARY</u>	<u>ETB</u>	<u>DESCRIPTION</u>
AG-2-10-89	ETB 71	Oats, Loamy Soils, Arkansas
AG-3-10-89	ETB 72	Wheat, Loamy Soils, Arkansas
AG-4-10-89	ETB 73	Wheat, Clay Soils, Arkansas
AG-5-10-89	ETB 75	Rapeseed (Canola), Loamy Soils, Arkansas
AG-6-10-89	ETB 76	Soybeans, Loamy Soils, Arkansas
AG-7-10-89	ETB 77	Soybeans, Loamy Soils, Furrow Irrigation, Arkansas
AG-8-10-89	ETB 78	Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
AG-9-10-89	ETB 79	Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-10-10-89	ETB 80	Soybeans, Drilled, Loamy Soils, Arkansas
AG-11-10-89	ETB 81	Soybeans, Following Wheat, Loamy Soils, Arkansas
AG-12-10-89	ETB 82	Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-13-10-89	ETB 83	Soybeans, Clay Soils, Arkansas
AG-14-10-89	ETB 84	Soybeans, Clay Soils, Center Pivot Irrigation, Non-Towable, 130 Acres, Arkansas
AG-15-10-89	ETB 85	Soybeans, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-16-10-89	ETB 86	Soybeans, No-Till, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-17-10-89	ETB 87	Rice, Long Grain, Midseason Variety (Newbonnet), Silt Loam Soils, Eastern Arkansas
AG-18-10-89	ETB 88	Rice, Long Grain, Very Short Season Variety (Tebonnet), Silt Loam Soils, Eastern Arkansas
AG-19-10-89	ETB 89	Rice, Long Grain, Semi-dwarf Variety (Lemont), Silt Loam Soils, Eastern Arkansas
AG-20-10-89	ETB 90	Rice, Medium Grain, Short Season Variety (Mars), Silt Loam Soils, Eastern Arkansas
AG-21-10-89	ETB 91	Rice, Long Grain, Midseason Variety (Newbonnet), Clay Soils, Eastern Arkansas
AG-22-10-89	ETB 92	Rice, Long Grain, Midseason Variety (Newbonnet), Grand Prairie Soils, Grand Prairie Region, Arkansas
AG-23-10-89	ETB 93	Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
AG-24-10-89	ETB 94	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-25-10-89	ETB 95	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-26-10-89	ETB 96	Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-27-10-89	ETB 97	Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-28-10-89	ETB 98	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
AG-29-10-89	ETB 99	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
AG-30-10-89	ETB 100	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-31-10-89	ETB 101	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-32-10-89	ETB 102	Corn, Loamy Soils, Flood Irrigation, Arkansas
AG-33-10-89	ETB 103	Corn, Loamy Soils, Furrow Irrigation, Arkansas
AG-34-10-89	ETB 104	Grain Sorghum, Loamy Soils, Arkansas
AG-35-10-89	ETB 105	Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
AG-36-10-89	ETB 106	Grain Sorghum, Clay Soils, Arkansas
AG-37-10-89	ETB 107	Grain Sorghum, Clay Soils, Flood Irrigation, Arkansas

INFORMATION PRESENTED IN THIS DOCUMENT IS PREPARED SOLELY AS A GENERAL GUIDE AND IS NOT INTENDED TO RECOGNIZE OR PREDICT THE COSTS AND RETURNS FROM ANY ONE PARTICULAR FARM OR RANCH OPERATION

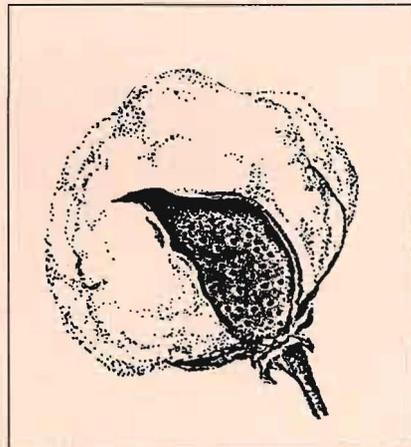
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**ESTIMATING 1990 PRODUCTION  
COSTS IN ARKANSAS**

**EXTENSION TECHNICAL BULLETIN NO. 99**

**COTTON**

**LOAMY SOILS, SOLID PLANTED,  
CENTER PIVOT IRRIGATION, 130 ACRES,  
NORTH OF I-40, EASTERN ARKANSAS**



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AGRICULTURAL ECONOMICS SECTION**

# ESTIMATING PRODUCTION COSTS IN ARKANSAS

## INTRODUCTION

Estimating Production Costs is an Extension Technical Bulletin prepared by the Agricultural Economics Section within the University of Arkansas Cooperative Extension Service. The authors are Economists specializing in management and finance of the farm business.

The primary purpose of this analysis is to provide a systematic procedure for estimating specified costs associated with producing a defined enterprise. Costs are first developed for each field operation and then aggregated by input item. This publication has seven major parts: A written discussion, page 2; a summary of specified operating and ownership costs, page 3; a sensitivity analysis, page 4; returns above total specified costs at various yield, price, and cost combinations, page 5; a sequential listing of field operations, pages 6 and 7.

## SPECIFIED OPERATING AND OWNERSHIP COSTS

Specified operating and ownership costs for this particular enterprise, location, soil type, and irrigation method are located on page 3. The specified operating costs are derived from the sequential listing of operations presented on pages 6 and 7. Breakeven prices for total specified operating costs are given for a base yield and at deviations of 25 and 35 percent.

Total specified ownership costs and breakeven prices for total specified costs are also given on page 3. The depreciation and interest cost components represent an average cost allocated over the entire useful life of the machinery. Various financing arrangements and tax depreciation methods can produce costs that vary significantly from these estimates in a given year. The ability to estimate the actual cost is a complex economic procedure whereby cash accounting and economic costs may vary greatly.

## SENSITIVITY ANALYSIS

A sensitivity analysis is presented to provide a broader perspective from which an individual may analyze the specific situation budgeted. Since input prices and quantity may vary, costs are increased and decreased by 20 percent as shown on page 4. A per unit breakeven price is provided for a base yield and at yields of 25 and 35 percent above and below the base yield. These breakeven prices account for changes in costs due to yield differences, such as ginning.

## RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 5 are estimated enterprise returns above total specified costs at various yield, price, and cost combinations. *Not included in these returns are charges for land, risk, overhead labor, other overhead, crop insurance, real estate taxes, and management.*

## SEQUENCE OF OPERATIONS

A sequential listing of each operation performed for this enterprise is given on pages 6 and 7. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

### ACKNOWLEDGEMENTS EXTENSION COTTON COMMITTEE

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THE MENTION OF ANY COMMERCIAL PRODUCT IN THIS ANALYSIS DOES NOT IMPLY ITS ENDORSEMENT BY THE UNITED STATES DEPARTMENT OF AGRICULTURE OR THE UNIVERSITY OF ARKANSAS COOPERATIVE EXTENSION SERVICE OVER OTHER PRODUCTS NOT NAMED, NOR DOES THE OMISSION IMPLY THAT THEY ARE NOT SATISFACTORY.

**SPECIFIED OPERATING COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATED COST
SEED	\$8.98	
FERTILIZER	\$42.14	
LIME + APPLICATION	\$6.47	
HERBICIDE	\$14.80	
FUNGICIDE	\$11.54	
INSECTICIDE	\$40.37	
DEFOLIANT	\$14.50	
AERIAL APPLICATION	\$34.25	
MACHINERY:		
FUEL, OIL, LUBRICANTS	\$16.64	
REPAIRS	\$50.74	
LABOR	\$23.73	
IRRIGATION:		
FUEL, OIL, LUBRICANTS	\$6.94	
REPAIRS	\$5.81	
IRRIGATION LABOR	\$1.04	
CUSTOM SPREAD	\$5.50	
CUSTOM HAUL	\$0.00	
CUSTOM DRY OR GINNING	\$76.00	
MISCELLANEOUS	\$14.00	
CROP INSURANCE PREMIUM		
OTHER		
INTEREST ON OP. CAP.	\$16.36	

TOTAL SPECIFIED OPERATING COSTS \$389.80

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OPERATING COST YIELD IN POUNDS

	617.50	712.50	950.00	1187.50	1282.50
	\$0.51	\$0.44	\$0.33	\$0.26	\$0.24

BREAKEVEN PRICES REFLECT A COTTONSEED CREDIT AGAINST GINNING CHARGES.

**SPECIFIED OWNERSHIP COSTS**

RESOURCE OR INPUT	PER ACRE COST	YOUR ESTIMATE
TRACTORS:		
DEPRECIATION	\$8.79	
INTEREST	\$7.25	
EQUIPMENT:		
DEPRECIATION	\$7.70	
INTEREST	\$4.43	
SPECIAL EQUIPMENT:		
DEPRECIATION	\$38.57	
INTEREST	\$16.23	
MISCELLANEOUS:		
DEPRECIATION	\$0.00	
INTEREST	\$0.00	
IRRIGATION:		
DEPRECIATION	\$26.49	
INTEREST	\$22.58	
TAXES & INSURANCE	\$11.48	
INTEREST	\$1.26	
OVERHEAD LABOR		
OTHER OVERHEAD		
LAND & PROPERTY TAX		
MANAGEMENT		

TOTAL SPECIFIED OWNERSHIP COSTS \$144.78

TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS \$534.58

PER UNIT BREAKEVEN PRICE, TOTAL SPECIFIED OWNERSHIP & OPERATING COST YIELD IN POUNDS

	617.50	712.50	950.00	1187.50	1282.50
	\$0.74	\$0.64	\$0.48	\$0.39	\$0.36

NOT INCLUDED IN THIS REPORT ARE CHARGES FOR LAND, RISK, OVERHEAD LABOR, OTHER OVERHEAD, CROP INSURANCE, REAL ESTATE TAXES, AND MGT.

SENSITIVITY ANALYSIS:

EFFECTS OF A 20% VARIATION IN SPECIFIED INPUT COSTS ON  
PER UNIT BREAKEVEN PRICES.

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9007  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES

RESOURCE OR INPUT	-20% DEVIATION	BASE COST PAGE 3	+20% DEVIATION
(A)	(B)	(D)	(F)
DEPRECIATION	\$65.23	\$81.54	\$97.85
DRY OR GINNING (COMMERCIAL)	\$60.80	\$76.00	\$91.20
REPAIRS	\$45.24	\$56.55	\$67.85
OWNERSHIP INTEREST	\$41.41	\$51.76	\$62.11
FERTILIZER	\$33.71	\$42.14	\$50.57
INSECTICIDE	\$32.30	\$40.37	\$48.44
AERIAL APPLI. (CUSTOM HIRE)	\$27.40	\$34.25	\$41.10
HIRED LABOR	\$19.81	\$24.77	\$29.72
MACHINERY FUEL & OIL	\$13.31	\$16.64	\$19.96
INTEREST ON OP. CAP.	\$13.09	\$16.36	\$19.63
HERBICIDE	\$11.84	\$14.80	\$17.76
DEFOLIANT	\$11.60	\$14.50	\$17.40
MISCELLANEOUS	\$11.20	\$14.00	\$16.80
FUNGICIDE	\$9.23	\$11.54	\$13.85
FARM TAXES	\$7.34	\$9.18	\$11.02
SEED	\$7.18	\$8.98	\$10.77
IRRIGATION FUEL & OIL	\$5.55	\$6.94	\$8.33
LIME + APPLICATION	\$5.18	\$6.47	\$7.76
SPREAD (CUSTOM HIRE)	\$4.40	\$5.50	\$6.60
FARM INSURANCE	\$1.84	\$2.30	\$2.75
CROP INSURANCE PREM.			
CROP MKT. & COM. STORAGE			
DRYING FUEL			
FINANCIAL SERVICES			
HAUL (CUSTOM HIRE)			
LAND CHARGE			
LEASE PAYMENTS			
MACHINE HIRE			
MANAGEMENT			
OVERHEAD			
UTILITIES			

TOTAL SPECIFIED COST/ACRE      \$427.66      \$534.58      \$641.49

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

	YIELD	BREAKEVEN PRICE (1/- SEE PAGE 5)		
-35% OF BASE YIELD	617.50	\$0.59	\$0.74	\$0.89
-25% OF BASE YIELD	712.50	\$0.51	\$0.64	\$0.77
BASE YIELD	950.00	\$0.39	\$0.48	\$0.58
+25% OF BASE YIELD	1187.50	\$0.31	\$0.39	\$0.46
+35% OF BASE YIELD	1282.50	\$0.29	\$0.36	\$0.43

ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9007  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES

1/ SEED VALUES AND GINNING CHARGES VARY BY LOCATION. THIS ANALYSIS ASSUMES THAT SEED VALUES COVER GINNING CHARGES; THEREFORE, COSTS AND RETURNS SHOWN BELOW ARE ADJUSTED ACCORDINGLY.

- 20% DEVIATION FROM BASE COSTS: \$366.86 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	617.50	712.50	950.00	1187.50	1282.50	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$150.74)	(\$117.50)	(\$34.38)	\$48.75	\$81.99
	\$0.45	(\$92.08)	(\$49.81)	\$55.87	\$161.56	\$203.83
BASE PRICE =	\$0.54	(\$33.42)	\$17.88	\$146.12	\$274.37	\$325.67
	\$0.64	\$25.24	\$85.57	\$236.37	\$387.18	\$447.51
	\$0.73	\$83.91	\$153.25	\$326.62	\$500.00	\$569.34

BASE COSTS: \$458.58 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	617.50	712.50	950.00	1187.50	1282.50	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$242.46)	(\$209.21)	(\$126.09)	(\$42.97)	(\$9.73)
	\$0.45	(\$183.80)	(\$141.53)	(\$35.84)	\$69.84	\$112.11
BASE PRICE =	\$0.54	(\$125.14)	(\$73.84)	\$54.41	\$182.65	\$233.95
	\$0.64	(\$66.47)	(\$6.15)	\$144.66	\$295.46	\$355.79
	\$0.73	(\$7.81)	\$61.54	\$234.91	\$408.28	\$477.62

+ 20% DEVIATION FROM BASE COSTS: \$550.29 PER ACRE

PRODUCER PRICE ESTIMATES	YIELD IN POUNDS					
	617.50	712.50	950.00	1187.50	1282.50	
	-35%	-25%	BASE YIELD	+25%	+35%	
	- - - - - RETURNS PER ACRE - - - - -					
	\$0.35	(\$334.18)	(\$300.93)	(\$217.81)	(\$134.69)	(\$101.45)
	\$0.45	(\$275.52)	(\$233.24)	(\$127.56)	(\$21.88)	\$20.39
BASE PRICE =	\$0.54	(\$216.85)	(\$165.56)	(\$37.31)	\$90.93	\$142.23
	\$0.64	(\$158.19)	(\$97.87)	\$52.94	\$203.74	\$264.07
	\$0.73	(\$99.53)	(\$30.18)	\$143.19	\$316.56	\$385.90

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9007  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES

MACHINERY COST

OPER- ATION NO. (A)	DATE (B)	OPERATION (C)	WIDTH (FEET) (D)	HORSE POWER PTO (E)	PERFORMANCE RATE (AC/HR) (F)	TIMES OVER (NO.) (G)	OPERATING COST			OWNERSHIP COST			TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)		
1	12	STALK CUTTER	15.0	140.0	7.727	1.000	\$1.68	\$0.79	\$1.29	\$0.94	\$0.21	\$4.91	
2	3	SUBSOIL	15.0	200.0	4.364	1.000	\$2.46	\$2.00	\$2.72	\$2.24	\$0.51	\$9.93	
3	3	DISK, MC 9.0" SPACING	26.7	175.0	11.638	1.000	\$1.16	\$0.66	\$1.34	\$0.97	\$0.22	\$4.34	
4	4	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	4		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
5	4	DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06	
6	4	DISK BEDDER, 8 ROW @ 38"	25.3	175.0	13.509	1.000	\$0.86	\$0.56	\$0.84	\$0.65	\$0.15	\$3.06	
7	5	TRIPLE K	26.7	175.0	11.638	1.000	\$1.25	\$0.66	\$1.28	\$1.00	\$0.23	\$4.40	
	5	SPRAYER, SADDLE MTD BC	26.7	0.0	11.638	1.000	\$0.13	\$0.00	\$0.31	\$0.17	\$0.04	\$0.64	
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15	
8	5	PLNTR (SPLIT BOX) 8 R@38"	25.3	175.0	8.981	1.000	\$2.12	\$0.85	\$2.29	\$1.19	\$0.27	\$6.72	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	5	SPRAYER, SADDLE MTD BC	25.3	0.0	8.981	1.000	\$0.16	\$0.00	\$0.40	\$0.22	\$0.05	\$0.82	
	5	PICKUP, WATER TANK	20.0	170.0	8.485	0.060	\$0.06	\$0.05	\$0.03	\$0.01	\$0.00	\$0.15	
9	5	ROW CULTIVATOR 8 ROW @38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
10	6	APPLY FERTILIZER	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
11	6	ROW CULTIVATOR 8 ROW @38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.040	\$0.04	\$0.03	\$0.02	\$0.01	\$0.00	\$0.10	
12	6	CSTM APP AIR	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
13	6	ROW CULTIVATOR 8 ROW @38"	25.3	140.0	6.448	1.000	\$1.50	\$0.95	\$1.37	\$1.00	\$0.23	\$5.04	
	6	DIRECTED SPRAYER	25.3	0.0	6.448	1.000	\$0.16	\$0.00	\$0.39	\$0.21	\$0.05	\$0.81	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6	PICKUP, WATER TANK	20.0	170.0	8.485	0.040	\$0.04	\$0.03	\$0.02	\$0.01	\$0.00	\$0.10	
14	6	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	6		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
15	7	INSECT SCOUTING	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
16	7	HAND CHOP OR SPOT SPRAY	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
17	7	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
18	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9007  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES  
 MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
1								0.00%	\$0.00		\$0.64	\$5.56
2								0.00%	\$0.00		\$1.14	\$11.07
3								0.00%	\$0.00		\$0.43	\$4.77
4	CSTM AP FERT GRND (DRY)		ACRE	\$2.500	1.000			100.00%	\$2.50		\$0.00	\$2.50
	NITROGEN (ACTUAL N)		POUND	\$0.256	45.000			100.00%	\$11.52		\$0.00	\$11.52
	PHOSPHATE (MATERIAL)	0-46-0	POUND	\$0.094	50.000			100.00%	\$4.70		\$0.00	\$4.70
	POTASH (MATERIAL)	0-0-60	POUND	\$0.080	80.000			100.00%	\$6.40		\$0.00	\$6.40
5								0.00%	\$0.00		\$0.37	\$3.43
6								0.00%	\$0.00		\$0.37	\$3.43
7								0.00%	\$0.00		\$0.53	\$4.94
	PROWL	4EC	PINT	\$2.837	1.250	38	18	47.37%	\$1.68		\$0.00	\$2.32
								0.00%	\$0.00		\$0.00	\$0.15
8	COTTON SEED		POUND	\$0.561	16.000			100.00%	\$8.98		\$1.06	\$16.76
	TEMIK	15G	POUND	\$2.652	3.000			100.00%	\$7.96		\$0.00	\$7.96
	TERRACHLOR SX	GRAN	POUND	\$1.154	10.000			100.00%	\$11.54		\$0.00	\$11.54
	COTORAN	4L	PINT	\$5.794	1.600	38	18	47.37%	\$4.39		\$0.00	\$5.22
								0.00%	\$0.00		\$0.00	\$0.15
9								0.00%	\$0.00		\$0.77	\$5.81
10	CSTM AP FERT GRND (LIQUID)		ACRE	\$3.000	1.000			100.00%	\$3.00		\$0.00	\$3.00
	NITROGEN (ACTUAL N)		POUND	\$0.217	45.000			100.00%	\$9.77		\$0.00	\$9.77
11								0.00%	\$0.00		\$0.97	\$6.01
	COTORAN	4L	PINT	\$5.794	1.600	38	16	42.11%	\$3.90		\$0.00	\$4.71
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.10
12	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
13								0.00%	\$0.00		\$0.97	\$6.01
	BLADEX	4L	PINT	\$2.481	1.500	38	16	42.11%	\$1.57		\$0.00	\$2.38
	MSMA	6.6#	PINT	\$1.596	2.424	38	16	42.11%	\$1.63		\$0.00	\$1.63
								0.00%	\$0.00		\$0.00	\$0.10
14	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	DIMETHOATE	2.67EC	PINT	\$2.125	0.600			100.00%	\$1.28		\$0.00	\$1.28
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
15	COTTON INSECT SCOUTING		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
16	HAND CHOP OR SPOT SPRAY		ACRE	\$10.000	1.000			100.00%	\$10.00		\$0.00	\$10.00
17	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
18	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77

SEQUENCE OF OPERATIONS

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9007  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES

MACHINERY COST

OPER- ATION NO. (A)	DATE (B)	OPERATION (C)	WIDTH (FEET) (D)	HORSE POWER PTO (E)	PERFORMANCE RATE (AC/HR) (F)	TIMES OVER (NO.) (G)	OPERATING COST		OWNERSHIP COST			TOTAL COST (M)
							REPAIRS & MAINTENANCE (H)	FUEL, OIL & LUB (I)	DEPRE- CIATION (J)	INTEREST (K)	TAXES & INSURANCE (L)	
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
19	7	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
20	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
21	7	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	7		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
23	8	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
24	8	APPLY INSECTICIDE	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
25	8	CENTER PIVOT IRRIGATION	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
26	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
27	8	APPLY INSECT. & FOLIAR N.	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	8		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
28	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
29	9	APPLY DEFOLIANT	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	9		0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
30	9	COTTON PICKER, FIRST PICK	6.3	114.0	1.496	1.000	\$20.36	\$4.01	\$23.02	\$9.74	\$2.21	\$59.34
	9	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91
	9	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91
31	10	COTTON PICKER, SCRAPPING	6.3	114.0	2.302	1.000	\$13.24	\$2.60	\$14.96	\$6.33	\$1.44	\$38.57
	10	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91
	10	COTTON TRAILER	20.0	170.0	8.485	0.300	\$0.36	\$0.24	\$0.20	\$0.09	\$0.02	\$0.91
32	11	GINNING	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
33	11	LIME + APP. (5 YR AVE.)	0.0	0.0	0.000	1.000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
SPECIFIED INTEREST												
TOTAL SPECIFIED COSTS							\$50.74	\$16.64	\$55.06	\$27.91	\$6.34	\$156.69

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: COTTON, SOLID PLANTED  
 ENTERPRISE FILE NO.: COT9007  
 LOCATION: EASTERN ARKANSAS, NORTH OF I-40  
 SOILS TYPE: LOAMY  
 IRRIGATION METHOD: CENTER PIVOT, 130 ACRES  
 MATERIAL AND/OR MISCELLANEOUS

OPER- ATION NO. (A)	CHEMICAL TRADE NAME OR ITEM (B)	FORMU- LATION (UNIT) (C)	UNIT RATE (MEASURE) (D)	PRICE PER UNIT (E)	PRODUCT RATE (ACRE) (F)	ROW WIDTH (INCHES) (G)	BAND WIDTH (INCHES) (H)	PERCENT COVERED (I)	OPER- ATING COST (J)	OWNER- SHIP COST (K)	LABOR COST (L)	TOTAL SPECIFIED COST (M)
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
19	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
20	CSTM AP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	DIMETHOATE	2.67EC	PINT	\$2.125	0.600			100.00%	\$1.28		\$0.00	\$1.28
	NITROGEN (ACTUAL N)		POUND	\$0.285	1.100			100.00%	\$0.31		\$0.00	\$0.31
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
21	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
22	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LORSBAN	4#/GAL	PINT	\$4.605	0.400			100.00%	\$1.84		\$0.00	\$1.84
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
23	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
24	CSTM APP AIR 3 GAL		ACRE	\$2.750	1.000			100.00%	\$2.75		\$0.00	\$2.75
	GUTHION	2L	PINT	\$2.765	1.000			100.00%	\$2.77		\$0.00	\$2.77
	SOLUBOR	20%	POUND	\$0.581	1.000			100.00%	\$0.58		\$0.00	\$0.58
25	CENTER PIVOT IRRIGATION		AC IN	\$2.758	1.250			100.00%	\$3.45	\$13.55	\$0.00	\$17.00
26	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	LORSBAN	4#/GAL	PINT	\$4.605	0.400			100.00%	\$1.84		\$0.00	\$1.84
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
27	CSTM AP AIR 5 GAL		ACRE	\$3.250	1.000			100.00%	\$3.25		\$0.00	\$3.25
	PYRETHROID		MED RATE	\$4.118	1.000			100.00%	\$4.12		\$0.00	\$4.12
	NITROGEN (ACTUAL N)		POUND	\$0.285	6.600			100.00%	\$1.88		\$0.00	\$1.88
28	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	PREP	6#/GAL	PINT	\$6.136	1.000			100.00%	\$6.14		\$0.00	\$6.14
	DEF/FOLEX	6EC	PINT	\$3.347	1.000			100.00%	\$3.35		\$0.00	\$3.35
29	CSTM AP AIR DEFOLIANT		ACRE	\$4.000	1.000			100.00%	\$4.00		\$0.00	\$4.00
	DEF/FOLEX	6EC	PINT	\$3.347	1.500			100.00%	\$5.02		\$0.00	\$5.02
30								0.00%	\$0.00		\$9.99	\$69.32
								0.00%	\$0.00		\$0.00	\$0.91
								0.00%	\$0.00		\$0.00	\$0.91
31								0.00%	\$0.00		\$6.49	\$45.06
								0.00%	\$0.00		\$0.00	\$0.91
								0.00%	\$0.00		\$0.00	\$0.91
32	GINNING (LINT BASIS)		POUND	\$0.080	950.000			100.00%	\$76.00		\$0.00	\$76.00
33	LIME + APP. (5 YR AVE.)		ACRE	\$6.470	1.000			100.00%	\$6.47		\$0.00	\$6.47
											\$17.62	
									\$282.34	\$54.20	\$23.73	\$534.58

## LIST OF PUBLICATIONS FOR ESTIMATING 1990 PRODUCTION COSTS

<u>ECONOMIC SUMMARY</u>	<u>ETB</u>	<u>DESCRIPTION</u>
AG-2-10-89	ETB 71	Oats, Loamy Soils, Arkansas
AG-3-10-89	ETB 72	Wheat, Loamy Soils, Arkansas
AG-4-10-89	ETB 73	Wheat, Clay Soils, Arkansas
AG-5-10-89	ETB 75	Rapeseed (Canola), Loamy Soils, Arkansas
AG-6-10-89	ETB 76	Soybeans, Loamy Soils, Arkansas
AG-7-10-89	ETB 77	Soybeans, Loamy Soils, Furrow Irrigation, Arkansas
AG-8-10-89	ETB 78	Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
AG-9-10-89	ETB 79	Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-10-10-89	ETB 80	Soybeans, Drilled, Loamy Soils, Arkansas
AG-11-10-89	ETB 81	Soybeans, Following Wheat, Loamy Soils, Arkansas
AG-12-10-89	ETB 82	Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
AG-13-10-89	ETB 83	Soybeans, Clay Soils, Arkansas
AG-14-10-89	ETB 84	Soybeans, Clay Soils, Center Pivot Irrigation, Non-Towable, 130 Acres, Arkansas
AG-15-10-89	ETB 85	Soybeans, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-16-10-89	ETB 86	Soybeans, No-Till, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
AG-17-10-89	ETB 87	Rice, Long Grain, Midseason Variety (Newbonnet), Silt Loam Soils, Eastern Arkansas
AG-18-10-89	ETB 88	Rice, Long Grain, Very Short Season Variety (Tebonnet), Silt Loam Soils, Eastern Arkansas
AG-19-10-89	ETB 89	Rice, Long Grain, Semi-dwarf Variety (Lemont), Silt Loam Soils, Eastern Arkansas
AG-20-10-89	ETB 90	Rice, Medium Grain, Short Season Variety (Mars), Silt Loam Soils, Eastern Arkansas
AG-21-10-89	ETB 91	Rice, Long Grain, Midseason Variety (Newbonnet), Clay Soils, Eastern Arkansas
AG-22-10-89	ETB 92	Rice, Long Grain, Midseason Variety (Newbonnet), Grand Prairie Soils, Grand Prairie Region, Arkansas
AG-23-10-89	ETB 93	Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
AG-24-10-89	ETB 94	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-25-10-89	ETB 95	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-26-10-89	ETB 96	Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-27-10-89	ETB 97	Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
AG-28-10-89	ETB 98	Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
AG-29-10-89	ETB 99	Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
AG-30-10-89	ETB 100	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
AG-31-10-89	ETB 101	Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
AG-32-10-89	ETB 102	Corn, Loamy Soils, Flood Irrigation, Arkansas
AG-33-10-89	ETB 103	Corn, Loamy Soils, Furrow Irrigation, Arkansas
AG-34-10-89	ETB 104	Grain Sorghum, Loamy Soils, Arkansas
AG-35-10-89	ETB 105	Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
AG-36-10-89	ETB 106	Grain Sorghum, Clay Soils, Arkansas
AG-37-10-89	ETB 107	Grain Sorghum, Clay Soils, Flood Irrigation, Arkansas

INFORMATION PRESENTED IN THIS DOCUMENT IS PREPARED SOLELY AS A GENERAL GUIDE AND IS NOT INTENDED TO RECOGNIZE OR PREDICT THE COSTS AND RETURNS FROM ANY ONE PARTICULAR FARM OR RANCH OPERATION

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