

**ESTIMATING PRODUCTION COSTS
IN ARKANSAS**

EXTENSION TECHNICAL BULLETIN NO. 51

RICE

**SILT LOAM SOILS,
EASTERN ARKANSAS**



BY

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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 1; a summary of specified operating and ownership costs, page 2; a sensitivity analysis, page 3; returns above total specified costs at various yield, price, and cost combinations, page 4; a sequential listing of field operations, pages 5 and 6; and a list of all publications for estimating enterprise production costs for 1989 crops, page 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 2. The specified operating costs are derived from the sequential listing of operations presented on pages 5 and 6. 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 2. 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 3. 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 and drying.

RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 4 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 5 and 6. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

ACKNOWLEDGEMENTS EXTENSION RICE 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 | \$19.61 | |
| FERTILIZER | \$32.68 | |
| LIME + APPLICATION | \$0.00 | |
| HERBICIDE | \$18.61 | |
| FUNGICIDE | \$12.21 | |
| INSECTICIDE | \$0.00 | |
| DEFOLIANT | \$0.00 | |
| AERIAL APPLICATION | \$25.69 | |
| MACHINERY: | | |
| FUEL, OIL, LUBRICANTS | \$10.89 | |
| REPAIRS | \$18.99 | |
| LABOR | \$8.88 | |
| IRRIGATION: | | |
| FUEL, OIL, LUBRICANTS | \$21.82 | |
| REPAIRS | \$2.89 | |
| IRRIGATION LABOR | \$7.97 | |
| CUSTOM SPREAD | \$2.50 | |
| CUSTOM HAUL | \$19.60 | |
| CUSTOM DRY OR GINNING | \$45.72 | |
| MISCELLANEOUS | \$4.69 | |
| CROP INSURANCE PREMIUM | | |
| OTHER | | |
| INTEREST ON OP. CAP. | \$11.39 | |

TOTAL SPECIFIED OPERATING COSTS \$264.13

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

| YIELD | 74.75 | 86.25 | 115.00 | 143.75 | 155.25 |
|-------|--------|--------|--------|--------|--------|
| Price | \$3.22 | \$2.87 | \$2.30 | \$1.95 | \$1.85 |

SPECIFIED OWNERSHIP COSTS

| RESOURCE OR INPUT | PER ACRE COST | YOUR ESTIMATE |
|---------------------|---------------|---------------|
| TRACTORS: | | |
| DEPRECIATION | \$7.09 | |
| INTEREST | \$5.85 | |
| EQUIPMENT: | | |
| DEPRECIATION | \$4.65 | |
| INTEREST | \$3.31 | |
| SPECIAL EQUIPMENT: | | |
| DEPRECIATION | \$16.10 | |
| INTEREST | \$5.90 | |
| MISCELLANEOUS: | | |
| DEPRECIATION | \$0.00 | |
| INTEREST | \$0.00 | |
| IRRIGATION: | | |
| DEPRECIATION | \$8.17 | |
| INTEREST | \$7.53 | |
| TAXES & INSURANCE | \$5.14 | |
| INTEREST | \$0.56 | |
| OVERHEAD LABOR | | |
| OTHER OVERHEAD | | |
| LAND & PROPERTY TAX | | |
| MANAGEMENT | | |

TOTAL SPECIFIED OWNERSHIP COSTS \$64.31

TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS \$328.44

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

| YIELD | 74.75 | 86.25 | 115.00 | 143.75 | 155.25 |
|-------|--------|--------|--------|--------|--------|
| Price | \$4.08 | \$3.62 | \$2.86 | \$2.40 | \$2.27 |

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: RICE
 ENTERPRISE FILE NO.: RC8901
 LOCATION: EASTERN ARKANSAS
 SOILS TYPE: SILT LOAM
 IRRIGATION METHOD: FLOOD

| RESOURCE OR INPUT | -20% DEVIATION | BASE COST PAGE 2 | +20% DEVIATION |
|-----------------------------|-------------------|------------------------|-------------------|
| (A) | (B) | (D) | (F) |
| DRY OR GINNING (COMMERCIAL) | \$36.58 | \$45.72 | \$54.87 |
| DEPRECIATION | \$28.81 | \$36.02 | \$43.22 |
| FERTILIZER | \$26.14 | \$32.68 | \$39.22 |
| AERIAL APPLI. (CUSTOM HIRE) | \$20.55 | \$25.69 | \$30.83 |
| OWNERSHIP INTEREST | \$18.53 | \$23.16 | \$27.79 |
| REPAIRS | \$17.50 | \$21.88 | \$26.25 |
| IRRIGATION FUEL & OIL | \$17.45 | \$21.82 | \$26.18 |
| SEED | \$15.69 | \$19.61 | \$23.53 |
| HAUL (CUSTOM HIRE) | \$15.68 | \$19.60 | \$23.52 |
| HERBICIDE | \$14.89 | \$18.61 | \$22.33 |
| HIRED LABOR | \$13.48 | \$16.85 | \$20.22 |
| FUNGICIDE | \$9.77 | \$12.21 | \$14.65 |
| INTEREST ON OP. CAP. | \$9.11 | \$11.39 | \$13.66 |
| MACHINERY FUEL & OIL | \$8.71 | \$10.89 | \$13.07 |
| MISCELLANEOUS | \$3.75 | \$4.69 | \$5.63 |
| FARM TAXES | \$3.29 | \$4.11 | \$4.93 |
| SPREAD (CUSTOM HIRE) | \$2.00 | \$2.50 | \$3.00 |
| FARM INSURANCE | \$0.82 | \$1.03 | \$1.23 |
| CROP INSURANCE PREM. | | | |
| CROP MKT. & COM. STORAGE | | | |
| DEFOLIANT | | | |
| DRYING FUEL | | | |
| FINANCIAL SERVICES | | | |
| INSECTICIDE | | | |
| LAND CHARGE | | | |
| LEASE PAYMENTS | | | |
| LIME + APPLICATION | | | |
| MACHINE HIRE | | | |
| MANAGEMENT | | | |
| OVERHEAD | | | |
| UTILITIES | | | |

TOTAL SPECIFIED COST/ACRE \$262.75 \$328.44 \$394.12

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

| | YIELD | BREAKEVEN PRICE | | |
|--------------------|--------|-----------------|--------|--------|
| -35% OF BASE YIELD | 74.75 | \$3.27 | \$4.08 | \$4.90 |
| -25% OF BASE YIELD | 86.25 | \$2.89 | \$3.62 | \$4.34 |
| BASE YIELD | 115.00 | \$2.28 | \$2.86 | \$3.43 |
| +25% OF BASE YIELD | 143.75 | \$1.92 | \$2.40 | \$2.88 |
| +35% OF BASE YIELD | 155.25 | \$1.81 | \$2.27 | \$2.72 |

ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS

ENTERPRISE: RICE
 ENTERPRISE FILE NO.: RC8901
 LOCATION: EASTERN ARKANSAS
 SOILS TYPE: SILT LOAM
 IRRIGATION METHOD: FLOOD

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- 20% DEVIATION FROM BASE COSTS: \$262.75 PER ACRE

| PRODUCER PRICE ESTIMATES | YIELD IN BUSHEL | | | | | |
|--------------------------------|----------------------------|-----------|------------|-----------|----------|----------|
| | 74.75 | 86.25 | 115.00 | 143.75 | 155.25 | |
| | -35% | -25% | BASE YIELD | +25% | +35% | |
| | -----RETURNS PER ACRE----- | | | | | |
| | \$2.19 | (\$80.46) | (\$60.58) | (\$10.90) | \$38.78 | \$58.66 |
| | \$2.79 | (\$35.98) | (\$9.26) | \$57.53 | \$124.31 | \$151.03 |
| BASE PRICE = | \$3.38 | \$8.50 | \$42.06 | \$125.95 | \$209.85 | \$243.40 |
| | \$3.97 | \$52.60 | \$92.94 | \$193.80 | \$294.66 | \$335.00 |
| | \$4.56 | \$96.70 | \$143.83 | \$261.65 | \$379.47 | \$426.60 |

BASE COSTS: \$328.44 PER ACRE

| PRODUCER PRICE ESTIMATES | YIELD IN BUSHEL | | | | | |
|--------------------------------|----------------------------|------------|------------|-----------|-----------|-----------|
| | 74.75 | 86.25 | 115.00 | 143.75 | 155.25 | |
| | -35% | -25% | BASE YIELD | +25% | +35% | |
| | -----RETURNS PER ACRE----- | | | | | |
| | \$2.19 | (\$141.50) | (\$122.95) | (\$76.59) | (\$30.22) | (\$11.68) |
| | \$2.79 | (\$97.02) | (\$71.63) | (\$8.16) | \$55.31 | \$80.70 |
| BASE PRICE = | \$3.38 | (\$52.54) | (\$20.31) | \$60.26 | \$140.84 | \$173.07 |
| | \$3.97 | (\$8.44) | \$30.58 | \$128.11 | \$225.65 | \$264.67 |
| | \$4.56 | \$35.66 | \$81.46 | \$195.96 | \$310.46 | \$356.26 |

+ 20% DEVIATION FROM BASE COSTS: \$394.12 PER ACRE

| PRODUCER PRICE ESTIMATES | YIELD IN BUSHEL | | | | | |
|--------------------------------|----------------------------|------------|------------|------------|-----------|-----------|
| | 74.75 | 86.25 | 115.00 | 143.75 | 155.25 | |
| | -35% | -25% | BASE YIELD | +25% | +35% | |
| | -----RETURNS PER ACRE----- | | | | | |
| | \$2.19 | (\$202.53) | (\$185.32) | (\$142.27) | (\$99.23) | (\$82.01) |
| | \$2.79 | (\$158.06) | (\$134.00) | (\$73.85) | (\$13.70) | \$10.36 |
| BASE PRICE = | \$3.38 | (\$113.58) | (\$82.68) | (\$5.42) | \$71.83 | \$102.73 |
| | \$3.97 | (\$69.48) | (\$31.79) | \$62.43 | \$156.64 | \$194.33 |
| | \$4.56 | (\$25.38) | \$19.10 | \$130.28 | \$241.46 | \$285.93 |

SEQUENCE OF OPERATIONS

ENTERPRISE: RICE
 ENTERPRISE FILE NO.: RC8901
 LOCATION: EASTERN ARKANSAS
 SOILS TYPE: SILT LOAM
 IRRIGATION METHOD: FLOOD

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 | 11 | DISK, MC 9.0" SPACING | 27.0 | 190.0 | 11.782 | 1.000 | \$1.00 | \$0.70 | \$1.14 | \$0.83 | \$0.19 | \$3.86 | |
| 2 | 3 | DISK, MC 9.0" SPACING | 27.0 | 190.0 | 11.782 | 1.000 | \$1.00 | \$0.70 | \$1.14 | \$0.83 | \$0.19 | \$3.86 | |
| 3 | 3 | LAND FLOAT 16' X 56' | 16.0 | 190.0 | 7.273 | 2.000 | \$2.64 | \$2.28 | \$2.32 | \$2.11 | \$0.48 | \$9.83 | |
| 4 | 4 | CUSTOM APPLY FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| | 4 | FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 5 | 4 | FIELD CULTIVATOR | 25.5 | 190.0 | 9.891 | 1.000 | \$1.16 | \$0.84 | \$1.21 | \$0.92 | \$0.21 | \$4.33 | |
| 6 | 5 | BED CONDITIONER | 20.0 | 165.0 | 8.727 | 1.000 | \$1.12 | \$0.82 | \$1.11 | \$0.88 | \$0.20 | \$4.13 | |
| 7 | 5 | GRAIN DRILL | 20.0 | 140.0 | 8.145 | 1.000 | \$1.36 | \$0.75 | \$1.81 | \$1.17 | \$0.27 | \$5.36 | |
| 8 | 5 | ROLLER | 27.0 | 140.0 | 16.691 | 1.000 | \$0.41 | \$0.37 | \$0.66 | \$0.64 | \$0.15 | \$2.22 | |
| 9 | 5 | LASER SURVEY | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 10 | 5 | DITCHER | 3.0 | 140.0 | 0.436 | 0.010 | \$0.14 | \$0.14 | \$0.33 | \$0.22 | \$0.05 | \$0.87 | |
| 11 | 5 | LEVEE DISK | 9.0 | 165.0 | 4.800 | 0.300 | \$0.46 | \$0.45 | \$0.54 | \$0.40 | \$0.09 | \$1.94 | |
| 12 | 5 | LEVEE DISK/W BOX SEEDER | 9.0 | 165.0 | 4.800 | 0.100 | \$0.17 | \$0.15 | \$0.20 | \$0.15 | \$0.03 | \$0.70 | |
| 13 | 5 | INSTALL LEVEE GATES-BLADE | 8.0 | 100.0 | 1.745 | 0.050 | \$0.16 | \$0.14 | \$0.16 | \$0.15 | \$0.03 | \$0.64 | |
| 14 | 5 | LEVEE GATES (PLASTIC) | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 15 | 5 | APPLY HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| | 5 | HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 16 | 6 | APPLY FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| | 6 | FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 17 | 6 | APPLY HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| | 6 | HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 18 | 6 | IRRIGATION | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 19 | 7 | APPLY HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| | 7 | HERBICIDE | 0.0 | 0.0 | 0.000 | 0.100 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 20 | 7 | APPLY FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| | 7 | FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 21 | 7 | APPLY FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| | 7 | FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 22 | 7 | APPLY FUNGICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| | 7 | FUNGICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 23 | 7 | IRRIGATION | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 24 | 8 | IRRIGATION | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 25 | 9 | COMBINE, 4WD, RICE | 20.0 | 165.0 | 3.055 | 1.000 | \$8.28 | \$2.59 | \$16.10 | \$5.90 | \$1.34 | \$34.21 | |
| 26 | 9 | GRAIN BUGGY, 350 BU. | 8.3 | 165.0 | 4.024 | 0.373 | \$0.79 | \$0.67 | \$0.75 | \$0.62 | \$0.14 | \$2.97 | |
| 27 | 9 | CUSTOM HAULING | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 28 | 9 | CUSTOM DRYING | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| 29 | 10 | LEVEE DISK | 9.0 | 165.0 | 4.800 | 0.200 | \$0.31 | \$0.30 | \$0.36 | \$0.27 | \$0.06 | \$1.30 | |
| | 0 | | 0.0 | 0.0 | 0.000 | 0.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | |
| SPECIFIED INTEREST | | | | | | | | | | | | | |
| TOTAL SPECIFIED COSTS | | | | | | | \$18.99 | \$10.89 | \$27.84 | \$15.06 | \$3.42 | \$76.21 | |

SEQUENCE OF OPERATIONS (CONTINUED)

ENTERPRISE: RICE
 ENTERPRISE FILE NO.: RC8901
 LOCATION: EASTERN ARKANSAS
 SOILS TYPE: SILT LOAM
 IRRIGATION METHOD: FLOOD

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 | | \$0.42 | \$4.28 |
| 2 | | | | | | | | 0.00% | \$0.00 | | \$0.42 | \$4.28 |
| 3 | | | | | | | | 0.00% | \$0.00 | | \$1.37 | \$11.20 |
| 4 | CSTM AP FERT BY GRND POTASH | | ACRE | \$2.500 | 1.000 | | | 100.00% | \$2.50 | | \$0.00 | \$2.50 |
| | | 0-0-60 | POUND | \$0.079 | 100.000 | | | 100.00% | \$7.90 | | \$0.00 | \$7.90 |
| 5 | | | | | | | | 0.00% | \$0.00 | | \$0.50 | \$4.84 |
| 6 | | | | | | | | 0.00% | \$0.00 | | \$0.57 | \$4.70 |
| 7 | RICE SEED | | BUSHEL | \$7.750 | 2.300 | | | 100.00% | \$17.83 | | \$1.17 | \$24.35 |
| 8 | | | | | | | | 0.00% | \$0.00 | | \$0.30 | \$2.52 |
| 9 | CSTM LASER SURVEY | | ACRE | \$2.500 | 1.000 | | | 100.00% | \$2.50 | | \$0.00 | \$2.50 |
| 10 | | | | | | | | 0.00% | \$0.00 | | \$0.11 | \$0.99 |
| 11 | | | | | | | | 0.00% | \$0.00 | | \$0.31 | \$2.25 |
| 12 | RICE SEED | | BUSHEL | \$7.750 | 2.300 | | | 100.00% | \$1.78 | | \$0.20 | \$2.68 |
| 13 | | | | | | | | 0.00% | \$0.00 | | \$0.62 | \$1.26 |
| 14 | LEVEE GATES (PLASTIC) | | ACRE | \$0.440 | 1.000 | | | 100.00% | \$0.44 | | \$0.00 | \$0.44 |
| 15 | CSTM AP PROP. BY AIR PROPANIL | | ACRE | \$4.000 | 1.000 | | | 100.00% | \$4.00 | | \$0.00 | \$4.00 |
| | | 4LB/GAL | PINT | \$1.533 | 6.000 | | | 100.00% | \$9.20 | | \$0.00 | \$9.20 |
| 16 | CSTM AP FERT. BY AIR UREA | | POUND | \$0.0375 | 165.000 | | | 100.00% | \$6.19 | | \$0.00 | \$6.19 |
| | | 46% | POUND | \$0.084 | 165.000 | | | 100.00% | \$13.86 | | \$0.00 | \$13.86 |
| 17 | CSTM AP PROP. BY AIR PROPANIL | | ACRE | \$4.000 | 1.000 | | | 100.00% | \$4.00 | | \$0.00 | \$4.00 |
| | | 4LB/GAL | PINT | \$1.533 | 6.000 | | | 100.00% | \$9.20 | | \$0.00 | \$9.20 |
| 18 | FLOOD IRRIGATION | | AC-IN. | \$1.021 | 10.000 | | | 100.00% | \$10.21 | \$5.44 | \$0.00 | \$15.65 |
| 19 | CSTM LEVEE SPRAYER 2,4-D | | ACRE | \$1.750 | 1.000 | | | 100.00% | \$1.75 | | \$0.00 | \$1.75 |
| | | 4LB/GAL | PINT | \$1.081 | 2.000 | | | 100.00% | \$0.22 | | \$0.00 | \$0.22 |
| 20 | CSTM AP FERT. BY AIR UREA | | ACRE | \$3.750 | 1.000 | | | 100.00% | \$3.75 | | \$0.00 | \$3.75 |
| | | 46% | POUND | \$0.084 | 65.000 | | | 100.00% | \$5.46 | | \$0.00 | \$5.46 |
| 21 | CSTM AP FERT. BY AIR UREA | | ACRE | \$3.750 | 1.000 | | | 100.00% | \$3.75 | | \$0.00 | \$3.75 |
| | | 46% | POUND | \$0.084 | 65.000 | | | 100.00% | \$5.46 | | \$0.00 | \$5.46 |
| 22 | CSTM AP FUNG. BY AIR BENLATE | | ACRE | \$4.000 | 1.000 | | | 100.00% | \$4.00 | | \$0.00 | \$4.00 |
| | | 50 WP | POUND | 12.208 | 1.000 | | | 100.00% | \$12.21 | | \$0.00 | \$12.21 |
| 23 | FLOOD IRRIGATION | | AC-IN. | \$1.021 | 12.000 | | | 100.00% | \$12.25 | \$6.53 | \$0.00 | \$18.78 |
| 24 | FLOOD IRRIGATION | | AC-IN. | \$1.021 | 10.000 | | | 100.00% | \$10.21 | \$5.44 | \$0.00 | \$15.65 |
| 25 | | | | | | | | 0.00% | \$0.00 | | \$1.63 | \$35.84 |
| 26 | | | | | | | | 0.00% | \$0.00 | | \$1.04 | \$4.00 |
| 27 | CUSTOM HAULING | | BUSHEL | \$0.150 | 130.640 | | | 100.00% | \$19.60 | | \$0.00 | \$19.60 |
| 28 | CUSTOM DRYING | | BUSHEL | \$0.350 | 130.640 | | | 100.00% | \$45.72 | | \$0.00 | \$45.72 |
| 29 | | | | | | | | 0.00% | \$0.00 | | \$0.21 | \$1.50 |
| | | | | | | | | 0.00% | \$0.00 | | \$0.00 | \$0.00 |
| | | | | | | | | | | | | \$11.95 |
| | | | | | | | | | \$213.98 | \$17.42 | \$8.88 | \$328.44 |

LIST OF PUBLICATIONS FOR ESTIMATING PRODUCTION COSTS

- ETB 36 - Estimating Farm Machinery Costs in Arkansas, May 1988
- ETB 37 - Wheat, Loamy Soils, Arkansas
- ETB 38 - Wheat, Clay Soils, Arkansas
- ETB 39 - Oats, Loamy Soils, Arkansas
- ETB 40 - Soybeans, Loamy Soils, Arkansas
- ETB 41 - Soybeans, Loamy Soils, Furrow Irrigation, Arkansas
- ETB 42 - Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
- ETB 43 - Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
- ETB 44 - Soybeans, Drilled, Loamy Soils, Arkansas
- ETB 45 - Soybeans, Following Wheat, Loamy Soils, Arkansas
- ETB 46 - Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
- ETB 47 - Soybeans, Clay Soils, Arkansas
- ETB 48 - Soybeans, Clay Soils, Center Pivot Irrigation, Non-Towable, 130 acres, Arkansas
- ETB 49 - Soybeans, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
- ETB 50 - Soybeans, No-Till, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
- ETB 51 - Rice, Silt Loam Soils, Eastern Arkansas
- ETB 52 - Rice, Clay Soils, Eastern Arkansas
- ETB 53 - Rice, Grand Prairie Soils, Grand Prairie Region, Arkansas
- ETB 54 - Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
- ETB 55 - Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
- ETB 56 - Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
- ETB 57 - Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
- ETB 58 - Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
- ETB 59 - Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
- ETB 60 - Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
- ETB 61 - Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
- ETB 62 - Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
- ETB 63 - Corn, Loamy Soils, Flood Irrigation, Arkansas
- ETB 64 - Corn, Loamy Soils, Furrow Irrigation, Arkansas
- ETB 65 - Grain Sorghum, Loamy Soils, Arkansas
- ETB 66 - Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
- ETB 67 - Grain Sorghum, Clay Soils, Arkansas
- ETB 68 - 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 PRODUCTION COSTS
IN ARKANSAS**

EXTENSION TECHNICAL BULLETIN NO. 52

RICE

**CLAY SOILS,
EASTERN ARKANSAS**



BY

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EXTENSION ECONOMISTS - MANAGEMENT

**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 1; a summary of specified operating and ownership costs, page 2; a sensitivity analysis, page 3; returns above total specified costs at various yield, price, and cost combinations, page 4; a sequential listing of field operations, pages 5 and 6; and a list of all publications for estimating enterprise production costs for 1989 crops, page 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 2. The specified operating costs are derived from the sequential listing of operations presented on pages 5 and 6. 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 2. 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 3. 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 and drying.

RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 4 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 5 and 6. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

ACKNOWLEDGEMENTS EXTENSION RICE 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 | \$23.02 | |
| FERTILIZER | \$24.78 | |
| LIME + APPLICATION | \$0.00 | |
| HERBICIDE | \$33.72 | |
| FUNGICIDE | \$12.21 | |
| INSECTICIDE | \$0.00 | |
| DEFOLIANT | \$0.00 | |
| AERIAL APPLICATION | \$25.19 | |
| MACHINERY: | | |
| FUEL, OIL, LUBRICANTS | \$11.32 | |
| REPAIRS | \$19.49 | |
| LABOR | \$9.20 | |
| IRRIGATION: | | |
| FUEL, OIL, LUBRICANTS | \$28.63 | |
| REPAIRS | \$2.89 | |
| IRRIGATION LABOR | \$10.46 | |
| CUSTOM SPREAD | \$0.00 | |
| CUSTOM HAUL | \$19.60 | |
| CUSTOM DRY OR GINNING | \$45.72 | |
| MISCELLANEOUS | \$4.69 | |
| CROP INSURANCE PREMIUM | | |
| OTHER | | |
| INTEREST ON OP. CAP. | \$12.39 | |
| TOTAL SPECIFIED OPERATING COSTS | \$283.30 | |

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

| | | | | |
|--------|--------|--------|--------|--------|
| 74.75 | 86.25 | 115.00 | 143.75 | 155.25 |
| \$3.48 | \$3.09 | \$2.46 | \$2.09 | \$1.97 |

SPECIFIED OWNERSHIP COSTS

| RESOURCE OR INPUT | PER ACRE COST | YOUR ESTIMATE |
|--|-----------------|---------------|
| TRACTORS: | | |
| DEPRECIATION | \$7.45 | |
| INTEREST | \$6.14 | |
| EQUIPMENT: | | |
| DEPRECIATION | \$4.81 | |
| INTEREST | \$3.41 | |
| SPECIAL EQUIPMENT: | | |
| DEPRECIATION | \$16.10 | |
| INTEREST | \$5.90 | |
| MISCELLANEOUS: | | |
| DEPRECIATION | \$0.00 | |
| INTEREST | \$0.00 | |
| IRRIGATION: | | |
| DEPRECIATION | \$8.17 | |
| INTEREST | \$7.53 | |
| TAXES & INSURANCE | \$5.22 | |
| INTEREST | \$0.57 | |
| OVERHEAD LABOR | | |
| OTHER OVERHEAD | | |
| LAND & PROPERTY TAX | | |
| MANAGEMENT | | |
| TOTAL SPECIFIED OWNERSHIP COSTS | \$65.31 | |
| TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS | \$348.61 | |

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

| | | | | |
|--------|--------|--------|--------|--------|
| 74.75 | 86.25 | 115.00 | 143.75 | 155.25 |
| \$4.35 | \$3.85 | \$3.03 | \$2.54 | \$2.40 |

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: RICE
 ENTERPRISE FILE NO.: RC8902
 LOCATION: EASTERN ARKANSAS
 SOILS TYPE: CLAY
 IRRIGATION METHOD: FLOOD

| RESOURCE OR INPUT | -20% DEVIATION | BASE COST PAGE 2 | +20% DEVIATION |
|-----------------------------|-------------------|------------------------|-------------------|
| (A) | (B) | (D) | (F) |
| DRY OR GINNING (COMMERCIAL) | \$36.58 | \$45.72 | \$54.87 |
| DEPRECIATION | \$29.22 | \$36.53 | \$43.83 |
| HERBICIDE | \$26.98 | \$33.72 | \$40.46 |
| IRRIGATION FUEL & OIL | \$22.91 | \$28.63 | \$34.36 |
| AERIAL APPLI. (CUSTOM HIRE) | \$20.15 | \$25.19 | \$30.22 |
| FERTILIZER | \$19.82 | \$24.78 | \$29.74 |
| OWNERSHIP INTEREST | \$18.85 | \$23.56 | \$28.27 |
| SEED | \$18.41 | \$23.02 | \$27.62 |
| REPAIRS | \$17.90 | \$22.38 | \$26.85 |
| HIRED LABOR | \$15.73 | \$19.66 | \$23.59 |
| HAUL (CUSTOM HIRE) | \$15.68 | \$19.60 | \$23.52 |
| INTEREST ON OP. CAP. | \$9.91 | \$12.39 | \$14.86 |
| FUNGICIDE | \$9.77 | \$12.21 | \$14.65 |
| MACHINERY FUEL & OIL | \$9.06 | \$11.32 | \$13.59 |
| MISCELLANEOUS | \$3.75 | \$4.69 | \$5.63 |
| FARM TAXES | \$3.34 | \$4.18 | \$5.01 |
| FARM INSURANCE | \$0.84 | \$1.04 | \$1.25 |
| CROP INSURANCE PREM. | | | |
| CROP MKT. & COM. STORAGE | | | |
| DEFOLIANT | | | |
| DRYING FUEL | | | |
| FINANCIAL SERVICES | | | |
| INSECTICIDE | | | |
| LAND CHARGE | | | |
| LEASE PAYMENTS | | | |
| LIME + APPLICATION | | | |
| MACHINE HIRE | | | |
| MANAGEMENT | | | |
| OVERHEAD | | | |
| SPREAD (CUSTOM HIRE) | | | |
| UTILITIES | | | |

TOTAL SPECIFIED COST/ACRE \$278.89 \$348.61 \$418.33

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

| | YIELD | BREAKEVEN PRICE | | |
|--------------------|--------|-----------------|--------|--------|
| -35% OF BASE YIELD | 74.75 | \$3.48 | \$4.35 | \$5.22 |
| -25% OF BASE YIELD | 86.25 | \$3.08 | \$3.85 | \$4.62 |
| BASE YIELD | 115.00 | \$2.43 | \$3.03 | \$3.64 |
| +25% OF BASE YIELD | 143.75 | \$2.03 | \$2.54 | \$3.05 |
| +35% OF BASE YIELD | 155.25 | \$1.92 | \$2.40 | \$2.87 |

ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS

ENTERPRISE: RICE
 ENTERPRISE FILE NO.: RC8902
 LOCATION: EASTERN ARKANSAS
 SOILS TYPE: CLAY
 IRRIGATION METHOD: FLOOD

=====

- 20% DEVIATION FROM BASE COSTS: \$278.89 PER ACRE

| PRODUCER PRICE ESTIMATES ----- | YIELD IN BUSHELS | | | | |
|---|------------------------------|-----------|------------|----------|----------|
| | 74.75 | 86.25 | 115.00 | 143.75 | 155.25 |
| | -35% | -25% | BASE YIELD | +25% | +35% |
| | ----- RETURNS PER ACRE ----- | | | | |
| \$2.19 | (\$96.59) | (\$76.72) | (\$27.04) | \$22.64 | \$42.52 |
| \$2.79 | (\$52.12) | (\$25.40) | \$41.39 | \$108.18 | \$134.89 |
| BASE PRICE = \$3.38 | (\$7.64) | \$25.92 | \$109.81 | \$193.71 | \$227.26 |
| \$3.97 | \$36.46 | \$76.80 | \$177.66 | \$278.52 | \$318.86 |
| \$4.56 | \$80.56 | \$127.69 | \$245.51 | \$363.33 | \$410.46 |

BASE COSTS: \$348.61 PER ACRE

| PRODUCER PRICE ESTIMATES ----- | YIELD IN BUSHELS | | | | |
|---|------------------------------|------------|------------|-----------|-----------|
| | 74.75 | 86.25 | 115.00 | 143.75 | 155.25 |
| | -35% | -25% | BASE YIELD | +25% | +35% |
| | ----- RETURNS PER ACRE ----- | | | | |
| \$2.19 | (\$161.67) | (\$143.12) | (\$96.76) | (\$50.40) | (\$31.85) |
| \$2.79 | (\$117.19) | (\$91.81) | (\$28.34) | \$35.13 | \$60.52 |
| BASE PRICE = \$3.38 | (\$72.72) | (\$40.49) | \$40.09 | \$120.66 | \$152.89 |
| \$3.97 | (\$28.61) | \$10.40 | \$107.94 | \$205.48 | \$244.49 |
| \$4.56 | \$15.49 | \$61.29 | \$175.79 | \$290.29 | \$336.09 |

+ 20% DEVIATION FROM BASE COSTS: \$418.33 PER ACRE

| PRODUCER PRICE ESTIMATES ----- | YIELD IN BUSHELS | | | | |
|---|------------------------------|------------|------------|------------|------------|
| | 74.75 | 86.25 | 115.00 | 143.75 | 155.25 |
| | -35% | -25% | BASE YIELD | +25% | +35% |
| | ----- RETURNS PER ACRE ----- | | | | |
| \$2.19 | (\$226.74) | (\$209.53) | (\$166.48) | (\$123.44) | (\$106.22) |
| \$2.79 | (\$182.27) | (\$158.21) | (\$98.06) | (\$37.91) | (\$13.85) |
| BASE PRICE = \$3.38 | (\$137.79) | (\$106.89) | (\$29.63) | \$47.62 | \$78.52 |
| \$3.97 | (\$93.69) | (\$56.00) | \$38.22 | \$132.44 | \$170.12 |
| \$4.56 | (\$49.59) | (\$5.11) | \$106.07 | \$217.25 | \$261.72 |

=====

SEQUENCE OF OPERATIONS

ENTERPRISE: RICE
 ENTERPRISE FILE NO.: RC8902
 LOCATION: EASTERN ARKANSAS
 SOILS TYPE: CLAY
 IRRIGATION METHOD: FLOOD

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 | | 11 DISK, HC 11.0" SPACING | 16.0 | 190.0 | 6.982 | 1.000 | \$1.62 | \$1.19 | \$1.79 | \$1.31 | \$0.30 | \$6.21 |
| 2 | | 3 DISK, LC 7.25" SPACING | 25.3 | 165.0 | 11.018 | 1.000 | \$0.89 | \$0.65 | \$1.00 | \$0.73 | \$0.17 | \$3.43 |
| 3 | | 3 LAND FLOAT 16' X 56' | 16.0 | 190.0 | 7.273 | 2.000 | \$2.64 | \$2.28 | \$2.32 | \$2.11 | \$0.48 | \$9.83 |
| 4 | | 4 FIELD CULTIVATOR | 25.5 | 190.0 | 9.891 | 1.000 | \$1.16 | \$0.84 | \$1.21 | \$0.92 | \$0.21 | \$4.33 |
| 5 | | 5 BED CONDITIONER | 20.0 | 165.0 | 8.727 | 1.000 | \$1.12 | \$0.82 | \$1.11 | \$0.88 | \$0.20 | \$4.13 |
| 6 | | 5 GRAIN DRILL | 20.0 | 140.0 | 8.145 | 1.000 | \$1.36 | \$0.75 | \$1.81 | \$1.17 | \$0.27 | \$5.36 |
| 7 | | 5 ROLLER | 27.0 | 140.0 | 16.691 | 1.000 | \$0.41 | \$0.37 | \$0.66 | \$0.64 | \$0.15 | \$2.22 |
| 8 | | 5 LASER SURVEY | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 9 | | 5 DITCHER, REAR MTD. POWER | 3.0 | 140.0 | 0.436 | 0.010 | \$0.14 | \$0.14 | \$0.33 | \$0.22 | \$0.05 | \$0.87 |
| 10 | | 5 LEVEE DISK | 9.0 | 165.0 | 4.800 | 0.300 | \$0.46 | \$0.45 | \$0.54 | \$0.40 | \$0.09 | \$1.94 |
| 11 | | 5 LEVEE DISK/W BOX SEEDER | 9.0 | 165.0 | 4.800 | 0.100 | \$0.17 | \$0.15 | \$0.20 | \$0.15 | \$0.03 | \$0.70 |
| 12 | | 5 INSTALL LEVEE GATES-BLADE | 8.0 | 100.0 | 1.745 | 0.050 | \$0.16 | \$0.14 | \$0.16 | \$0.15 | \$0.03 | \$0.64 |
| 13 | | 5 LEVEE GATES (PLASTIC) | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 14 | | 5 APPLY HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 5 HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 15 | | 6 APPLY FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 6 FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 16 | | 6 IRRIGATION | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 17 | | 6 APPLY HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 6 HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 18 | | 7 APPLY HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 7 HERBICIDE | 0.0 | 0.0 | 0.000 | 0.100 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 19 | | 7 APPLY FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 7 FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 20 | | 7 APPLY FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 7 FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 21 | | 7 APPLY FUNGICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 7 FUNGICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 22 | | 7 IRRIGATION | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 23 | | 8 IRRIGATION | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 24 | | 9 COMBINE, 4WD, RICE | 20.0 | 165.0 | 3.055 | 1.000 | \$8.28 | \$2.59 | \$16.10 | \$5.90 | \$1.34 | \$34.21 |
| 25 | | 9 GRAIN BUGGY, 350 BU. | 8.3 | 165.0 | 4.024 | 0.373 | \$0.79 | \$0.67 | \$0.75 | \$0.62 | \$0.14 | \$2.97 |
| 26 | | 9 CUSTOM HAULING | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 27 | | 9 CUSTOM DRYING | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 28 | | 10 LEVEE DISK | 9.0 | 165.0 | 4.800 | 0.200 | \$0.31 | \$0.30 | \$0.36 | \$0.27 | \$0.06 | \$1.30 |
| | 0 | | 0.0 | 0.0 | 0.000 | 0.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | 0 | | 0.0 | 0.0 | 0.000 | 0.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | 0 | | 0.0 | 0.0 | 0.000 | 0.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| SPECIFIED INTEREST | | | | | | | | | | | | |
| TOTAL SPECIFIED COSTS | | | | | | | \$19.49 | \$11.32 | \$28.35 | \$15.45 | \$3.51 | \$78.13 |

**LIST OF PUBLICATIONS FOR
ESTIMATING PRODUCTION COSTS**

- ETB 36 - Estimating Farm Machinery Costs in Arkansas, May 1988
- ETB 37 - Wheat, Loamy Soils, Arkansas
- ETB 38 - Wheat, Clay Soils, Arkansas
- ETB 39 - Oats, Loamy Soils, Arkansas
- ETB 40 - Soybeans, Loamy Soils, Arkansas
- ETB 41 - Soybeans, Loamy Soils, Furrow Irrigation, Arkansas
- ETB 42 - Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
- ETB 43 - Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
- ETB 44 - Soybeans, Drilled, Loamy Soils, Arkansas
- ETB 45 - Soybeans, Following Wheat, Loamy Soils, Arkansas
- ETB 46 - Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
- ETB 47 - Soybeans, Clay Soils, Arkansas
- ETB 48 - Soybeans, Clay Soils, Center Pivot Irrigation, Non-Towable, 130 acres, Arkansas
- ETB 49 - Soybeans, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
- ETB 50 - Soybeans, No-Till, Following Wheat, Loamy Soils, Flood Irrigation, Arkansas
- ETB 51 - Rice, Silt Loam Soils, Eastern Arkansas
- ETB 52 - Rice, Clay Soils, Eastern Arkansas
- ETB 53 - Rice, Grand Prairie Soils, Grand Prairie Region, Arkansas
- ETB 54 - Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
- ETB 55 - Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
- ETB 56 - Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
- ETB 57 - Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
- ETB 58 - Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
- ETB 59 - Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
- ETB 60 - Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
- ETB 61 - Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
- ETB 62 - Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
- ETB 63 - Corn, Loamy Soils, Flood Irrigation, Arkansas
- ETB 64 - Corn, Loamy Soils, Furrow Irrigation, Arkansas
- ETB 65 - Grain Sorghum, Loamy Soils, Arkansas
- ETB 66 - Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
- ETB 67 - Grain Sorghum, Clay Soils, Arkansas
- ETB 68 - 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.

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**ESTIMATING PRODUCTION COSTS
IN ARKANSAS**

EXTENSION TECHNICAL BULLETIN NO. 53

RICE

**GRAND PRAIRIE SOILS,
GRAND PRAIRIE REGION**



BY

**CLYDE A. STUART
JERRY DON CLARK, JR.
BILLY E. HERRINGTON, JR.
TONY E. WINDHAM
ROBERT E. COATS, JR.**

EXTENSION ECONOMISTS - MANAGEMENT

**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 1; a summary of specified operating and ownership costs, page 2; a sensitivity analysis, page 3; returns above total specified costs at various yield, price, and cost combinations, page 4; a sequential listing of field operations, pages 5 and 6; and a list of all publications for estimating enterprise production costs for 1989 crops, page 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 2. The specified operating costs are derived from the sequential listing of operations presented on pages 5 and 6. 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 2. 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 3. 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 and drying.

RETURNS ABOVE TOTAL SPECIFIED COSTS

Presented on page 4 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 5 and 6. These operations provide the foundation on which the economic analysis is based. Note the specified costs associated with each field operation.

ACKNOWLEDGEMENTS EXTENSION RICE COMMITTEE

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| Bobby A. Huey, Chairman | Ford L. Baldwin |
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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 | \$19.61 | |
| FERTILIZER | \$24.78 | |
| LIME + APPLICATION | \$0.00 | |
| HERBICIDE | \$18.61 | |
| FUNGICIDE | \$12.21 | |
| INSECTICIDE | \$0.00 | |
| DEFOLIANT | \$0.00 | |
| AERIAL APPLICATION | \$25.69 | |
| MACHINERY: | | |
| FUEL, OIL, LUBRICANTS | \$10.92 | |
| REPAIRS | \$19.03 | |
| LABOR | \$8.93 | |
| IRRIGATION: | | |
| FUEL, OIL, LUBRICANTS | \$32.82 | |
| REPAIRS | \$4.21 | |
| IRRIGATION LABOR | \$6.47 | |
| CUSTOM SPREAD | \$0.00 | |
| CUSTOM HAUL | \$20.45 | |
| CUSTOM DRY OR GINNING | \$47.71 | |
| MISCELLANEOUS | \$4.69 | |
| CROP INSURANCE PREMIUM | | |
| OTHER | | |
| INTEREST ON OP. CAP. | \$11.46 | |

TOTAL SPECIFIED OPERATING COSTS \$267.59

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

| | 78.00 | 90.00 | 120.00 | 150.00 | 162.00 |
|--|--------|--------|--------|--------|--------|
| | \$3.12 | \$2.78 | \$2.23 | \$1.90 | \$1.80 |

SPECIFIED OWNERSHIP COSTS

| RESOURCE OR INPUT | PER ACRE COST | YOUR ESTIMATE |
|---------------------|---------------|---------------|
| TRACTORS: | | |
| DEPRECIATION | \$7.12 | |
| INTEREST | \$5.87 | |
| EQUIPMENT: | | |
| DEPRECIATION | \$4.66 | |
| INTEREST | \$3.32 | |
| SPECIAL EQUIPMENT: | | |
| DEPRECIATION | \$16.10 | |
| INTEREST | \$5.90 | |
| MISCELLANEOUS: | | |
| DEPRECIATION | \$0.00 | |
| INTEREST | \$0.00 | |
| IRRIGATION: | | |
| DEPRECIATION | \$11.96 | |
| INTEREST | \$11.09 | |
| TAXES & INSURANCE | \$5.95 | |
| INTEREST | \$0.65 | |
| OVERHEAD LABOR | | |
| OTHER OVERHEAD | | |
| LAND & PROPERTY TAX | | |
| MANAGEMENT | | |

TOTAL SPECIFIED OWNERSHIP COSTS \$72.61

TOTAL SPECIFIED OPERATING AND OWNERSHIP COSTS \$340.20

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

| | 78.00 | 90.00 | 120.00 | 150.00 | 162.00 |
|--|--------|--------|--------|--------|--------|
| | \$4.05 | \$3.59 | \$2.84 | \$2.38 | \$2.25 |

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: RICE
ENTERPRISE FILE NO.: RC8903
LOCATION: GRAND PRAIRIE REGION
SOILS TYPE: GRAND PRAIRIE
IRRIGATION METHOD: FLOOD

| RESOURCE OR INPUT | -20% DEVIATION | BASE COST PAGE 2 | +20% DEVIATION |
|-----------------------------|-------------------|------------------------|-------------------|
| (A) | (B) | (D) | (F) |
| DRY OR GINNING (COMMERCIAL) | \$38.17 | \$47.71 | \$57.25 |
| DEPRECIATION | \$31.87 | \$39.83 | \$47.80 |
| IRRIGATION FUEL & OIL | \$26.26 | \$32.82 | \$39.39 |
| OWNERSHIP INTEREST | \$21.47 | \$26.83 | \$32.20 |
| AERIAL APPLI. (CUSTOM HIRE) | \$20.55 | \$25.69 | \$30.83 |
| FERTILIZER | \$19.82 | \$24.78 | \$29.74 |
| REPAIRS | \$18.59 | \$23.23 | \$27.88 |
| HAUL (CUSTOM HIRE) | \$16.36 | \$20.45 | \$24.54 |
| SEED | \$15.69 | \$19.61 | \$23.53 |
| HERBICIDE | \$14.89 | \$18.61 | \$22.33 |
| HIRED LABOR | \$12.32 | \$15.41 | \$18.49 |
| FUNGICIDE | \$9.77 | \$12.21 | \$14.65 |
| INTEREST ON OP. CAP. | \$9.17 | \$11.46 | \$13.76 |
| MACHINERY FUEL & OIL | \$8.74 | \$10.92 | \$13.10 |
| FARM TAXES | \$3.81 | \$4.76 | \$5.71 |
| MISCELLANEOUS | \$3.75 | \$4.69 | \$5.63 |
| FARM INSURANCE | \$0.95 | \$1.19 | \$1.43 |
| CROP INSURANCE PREM. | | | |
| CROP MKT. & COM. STORAGE | | | |
| DEFOLIANT | | | |
| DRYING FUEL | | | |
| FINANCIAL SERVICES | | | |
| INSECTICIDE | | | |
| LAND CHARGE | | | |
| LEASE PAYMENTS | | | |
| LIME + APPLICATION | | | |
| MACHINE HIRE | | | |
| MANAGEMENT | | | |
| OVERHEAD | | | |
| SPREAD (CUSTOM HIRE) | | | |
| UTILITIES | | | |

TOTAL SPECIFIED COST/ACRE \$272.16 \$340.20 \$408.24

PER UNIT BREAKEVEN PRICE--TOTAL SPECIFIED COSTS

| | YIELD | BREAKEVEN PRICE | | |
|--------------------|--------|-----------------|--------|--------|
| -35% OF BASE YIELD | 78.00 | \$3.24 | \$4.05 | \$4.86 |
| -25% OF BASE YIELD | 90.00 | \$2.87 | \$3.59 | \$4.31 |
| BASE YIELD | 120.00 | \$2.27 | \$2.84 | \$3.40 |
| +25% OF BASE YIELD | 150.00 | \$1.91 | \$2.38 | \$2.86 |
| +35% OF BASE YIELD | 162.00 | \$1.80 | \$2.25 | \$2.70 |

ESTIMATED ENTERPRISE RETURNS ABOVE TOTAL SPECIFIED COSTS

ENTERPRISE: RICE
 ENTERPRISE FILE NO.: RC8903
 LOCATION: GRAND PRAIRIE REGION
 SOILS TYPE: GRAND PRAIRIE
 IRRIGATION METHOD: FLOOD

- 20% DEVIATION FROM BASE COSTS: \$272.16 PER ACRE

| PRODUCER PRICE ESTIMATES | YIELD IN BUSHEL | | | | | |
|--------------------------|--------------------------------------|-----------|------------|----------|----------|----------|
| | 78.00 | 90.00 | 120.00 | 150.00 | 162.00 | |
| | -35% | -25% | BASE YIELD | +25% | +35% | |
| | - - - - - RETURNS PER ACRE - - - - - | | | | | |
| | \$2.19 | (\$81.94) | (\$61.21) | (\$9.36) | \$42.48 | \$63.22 |
| | \$2.79 | (\$35.53) | (\$7.66) | \$62.04 | \$131.73 | \$159.61 |
| BASE PRICE = | \$3.38 | \$10.88 | \$45.89 | \$133.44 | \$220.98 | \$256.00 |
| | \$3.97 | \$56.90 | \$98.99 | \$204.24 | \$309.48 | \$351.58 |
| | \$4.56 | \$102.92 | \$152.09 | \$275.04 | \$397.98 | \$447.16 |

BASE COSTS: \$340.20 PER ACRE

| PRODUCER PRICE ESTIMATES | YIELD IN BUSHEL | | | | | |
|--------------------------|--------------------------------------|------------|------------|-----------|-----------|----------|
| | 78.00 | 90.00 | 120.00 | 150.00 | 162.00 | |
| | -35% | -25% | BASE YIELD | +25% | +35% | |
| | - - - - - RETURNS PER ACRE - - - - - | | | | | |
| | \$2.19 | (\$145.13) | (\$125.78) | (\$77.40) | (\$29.02) | (\$9.67) |
| | \$2.79 | (\$98.72) | (\$72.23) | (\$6.00) | \$60.23 | \$86.72 |
| BASE PRICE = | \$3.38 | (\$52.31) | (\$18.68) | \$65.40 | \$149.48 | \$183.11 |
| | \$3.97 | (\$6.29) | \$34.42 | \$136.20 | \$237.98 | \$278.69 |
| | \$4.56 | \$39.73 | \$87.52 | \$207.00 | \$326.48 | \$374.27 |

+ 20% DEVIATION FROM BASE COSTS: \$408.24 PER ACRE

| PRODUCER PRICE ESTIMATES | YIELD IN BUSHEL | | | | | |
|--------------------------|--------------------------------------|------------|------------|------------|------------|-----------|
| | 78.00 | 90.00 | 120.00 | 150.00 | 162.00 | |
| | -35% | -25% | BASE YIELD | +25% | +35% | |
| | - - - - - RETURNS PER ACRE - - - - - | | | | | |
| | \$2.19 | (\$208.32) | (\$190.36) | (\$145.44) | (\$100.53) | (\$82.56) |
| | \$2.79 | (\$161.91) | (\$136.81) | (\$74.04) | (\$11.28) | \$13.83 |
| BASE PRICE = | \$3.38 | (\$115.50) | (\$83.26) | (\$2.64) | \$77.97 | \$110.22 |
| | \$3.97 | (\$69.48) | (\$30.16) | \$68.16 | \$166.47 | \$205.80 |
| | \$4.56 | (\$23.46) | \$22.94 | \$138.96 | \$254.97 | \$301.38 |

SEQUENCE OF OPERATIONS

ENTERPRISE: RICE
 ENTERPRISE FILE NO.: RC8903
 LOCATION: GRAND PRAIRIE REGION
 SOILS TYPE: GRAND PRAIRIE
 IRRIGATION METHOD: FLOOD

MACHINERY COST

| OPER- ATION NO. | 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 | 11 | DISK, MC 9.0" SPACING | 27.0 | 190.0 | 11.782 | 1.000 | \$1.00 | \$0.70 | \$1.14 | \$0.83 | \$0.19 | \$3.86 |
| 2 | 3 | DISK, MC 9.0" SPACING | 27.0 | 190.0 | 11.782 | 1.000 | \$1.00 | \$0.70 | \$1.14 | \$0.83 | \$0.19 | \$3.86 |
| 3 | 3 | LAND FLOAT 16' X 56' | 16.0 | 190.0 | 7.273 | 2.000 | \$2.64 | \$2.28 | \$2.32 | \$2.11 | \$0.48 | \$9.83 |
| 4 | 4 | FIELD CULTIVATOR | 25.5 | 190.0 | 9.891 | 1.000 | \$1.16 | \$0.84 | \$1.21 | \$0.92 | \$0.21 | \$4.33 |
| 5 | 5 | BED CONDITIONER | 20.0 | 165.0 | 8.727 | 1.000 | \$1.12 | \$0.82 | \$1.11 | \$0.88 | \$0.20 | \$4.13 |
| 6 | 5 | GRAIN DRILL | 20.0 | 140.0 | 8.145 | 1.000 | \$1.36 | \$0.75 | \$1.81 | \$1.17 | \$0.27 | \$5.36 |
| 7 | 5 | ROLLER | 27.0 | 140.0 | 16.691 | 1.000 | \$0.41 | \$0.37 | \$0.66 | \$0.64 | \$0.15 | \$2.22 |
| 8 | 5 | LASER SURVEY | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 9 | 5 | DITCHER, REAR MTD. POWER | 3.0 | 140.0 | 0.436 | 0.010 | \$0.14 | \$0.14 | \$0.33 | \$0.22 | \$0.05 | \$0.87 |
| 10 | 5 | LEVEE DISK | 9.0 | 165.0 | 4.800 | 0.300 | \$0.46 | \$0.45 | \$0.54 | \$0.40 | \$0.09 | \$1.94 |
| 11 | 5 | LEVEE DISK/W BOX SEEDER | 9.0 | 165.0 | 4.800 | 0.100 | \$0.17 | \$0.15 | \$0.20 | \$0.15 | \$0.03 | \$0.70 |
| 12 | 5 | INSTALL LEVEE GATES-BLADE | 8.0 | 100.0 | 1.745 | 0.050 | \$0.16 | \$0.14 | \$0.16 | \$0.15 | \$0.03 | \$0.64 |
| 13 | 5 | LEVEE GATES (PLASTIC) | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 14 | 5 | APPLY HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 5 HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 15 | 5 | APPLY HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 5 HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 16 | 5 | APPLY FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 5 FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 17 | 5 | IRRIGATION | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 18 | 6 | IRRIGATION | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 19 | 7 | APPLY HERBICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 7 HERBICIDE | 0.0 | 0.0 | 0.000 | 0.100 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 20 | 7 | APPLY FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 7 FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 21 | 7 | APPLY FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 7 FERTILIZER | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 22 | 7 | APPLY FUNGICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | | 7 FUNGICIDE | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 23 | 7 | IRRIGATION | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 24 | 8 | IRRIGATION | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 25 | 9 | COMBINE, 4WD, RICE | 20.0 | 165.0 | 3.055 | 1.000 | \$8.28 | \$2.59 | \$16.10 | \$5.90 | \$1.34 | \$34.21 |
| 26 | 9 | GRAIN BUGGY, 350 BU. | 8.3 | 165.0 | 4.024 | 0.390 | \$0.82 | \$0.70 | \$0.78 | \$0.65 | \$0.15 | \$3.10 |
| 27 | 9 | CUSTOM HAULING | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 28 | 9 | CUSTOM DRYING | 0.0 | 0.0 | 0.000 | 1.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 29 | 10 | LEVEE DISK | 9.0 | 165.0 | 4.800 | 0.200 | \$0.31 | \$0.30 | \$0.36 | \$0.27 | \$0.06 | \$1.30 |
| | 0 | | 0.0 | 0.0 | 0.000 | 0.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| | 0 | | 0.0 | 0.0 | 0.000 | 0.000 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| SPECIFIED INTEREST | | | | | | | | | | | | |
| TOTAL SPECIFIED COSTS | | | | | | | \$19.03 | \$10.92 | \$27.88 | \$15.09 | \$3.43 | \$76.35 |

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- ETB 42 - Soybeans, In Rice Rotation, Loamy Soils, Flood Irrigation, Arkansas
- ETB 43 - Soybeans, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
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- ETB 45 - Soybeans, Following Wheat, Loamy Soils, Arkansas
- ETB 46 - Soybeans, Following Wheat, Loamy Soils, Center Pivot Irrigation, Towable, 260 Acres, Arkansas
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- ETB 51 - Rice, Silt Loam Soils, Eastern Arkansas
- ETB 52 - Rice, Clay Soils, Eastern Arkansas
- ETB 53 - Rice, Grand Prairie Soils, Grand Prairie Region, Arkansas
- ETB 54 - Cotton, Loamy Soils, Solid Planted, South of I-40, Eastern Arkansas
- ETB 55 - Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, South of I-40, Eastern Arkansas
- ETB 56 - Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
- ETB 57 - Cotton, Loamy Soils, Solid Planted, North of I-40, Eastern Arkansas
- ETB 58 - Cotton, Clay Soils, Solid Planted, North of I-40, Eastern Arkansas
- ETB 59 - Cotton, Loamy Soils, Solid Planted, Furrow Irrigation, North of I-40, Eastern Arkansas
- ETB 60 - Cotton, Loamy Soils, Solid Planted, Center Pivot Irrigation, 130 Acres, North of I-40, Eastern Arkansas
- ETB 61 - Cotton, Loamy Soils, Narrow 2x1 Skip Row, Furrow Irrigation, South of I-40, Eastern Arkansas
- ETB 62 - Cotton, Loamy Soils, Narrow 2x1 Skip Row, Center Pivot Irrigation, 130 Acres, South of I-40, Eastern Arkansas
- ETB 63 - Corn, Loamy Soils, Flood Irrigation, Arkansas
- ETB 64 - Corn, Loamy Soils, Furrow Irrigation, Arkansas
- ETB 65 - Grain Sorghum, Loamy Soils, Arkansas
- ETB 66 - Grain Sorghum, Loamy Soils, Flood Irrigation, Arkansas
- ETB 67 - Grain Sorghum, Clay Soils, Arkansas
- ETB 68 - 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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