

MICROCOMPUTER CROP COST AND RETURN GENERATOR

BUDGET AREA..... DRY CIMARRON AREA, UNION COUN Projected 201:  
FARM SIZE..... 80.00 ACRES  
IRRIGATION TYPE..... FLOOD  
NUMBER OF CROPS..... 2

VERSION 1.0

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TABLE 1. Acreage Summary, Union County, Projected 2013.

| BUDGET AREA..... DRY CIMARRON AREA, UNION COUNTY |                  |                |              |
|--|------------------|----------------|--------------|
| FARM SIZE.....                                   | 80 ACRES         |                |              |
| IRRIGATION TYPE.....                             | FLOOD            |                |              |
| NUMBER OF CROPS...                               | 2                |                |              |
| WATER USE  |                  |                |              |
| ACREAGE SUMMARY:                                 | LAND USE (ACRES) | AC.IN. PER AC. | TOTAL AC.IN. |
| ALFALFA ESTABLISHMENT                            | 4                | 4.5            | 18           |
| ALFALFA  | 40               | 24             | 960          |
| NATIVE GRASS                                     | 40               | 18             | 720          |
| TOTAL  | 84               |                | 1,698        |
| ACRE FEET PER ACRE OF WATER RIGHTS               |                  |                | 1.68         |

TABLE 2. Basic cost information for Dry Cimarron area, Union County, Projected 2013.

| Item                            |                            |   |
|---------------------------------|----------------------------|---|
| Labor Wage Rate:                |                            |   |
| Equipment operators             | \$/hour                    | \$8.55                                  |
| General & Irrigators            | \$/hour                    | \$7.50                                  |
| Purchased Inputs:               |                            |   |
| Seed:                           |                            |   |
| Alfalfa                         | \$/pound                   | \$6.50                                  |
| Natural gas                     | \$/MCF                     | \$4.00                                  |
| Diesel fuel                     | \$/gallon                  | \$3.00                                  |
| Gasoline                        | \$/gallon                  | \$3.80                                  |
| Electricity                     | cents/KwHr                 | 7.94                                    |
| LP Gas                          | \$/gallon                  | \$2.80                                  |
| Baling Wire                     | \$/pound                   | \$0.91                                  |
| Employee Liability Insurance    | \$/ \$1,000 wages          | \$20.00                                 |
| Employee Benefits               | percent/wages              | 18.00%                                  |
| Labor Downtime                  | percent                    | 25.00%                                  |
| Financial Rates:                |                            |   |
| Operating Capital Interest Rate | percent                    | 5.00%                                   |
| Land Interest Rate              | percent                    | 5.00%                                   |
| Equipment Interest Rate         | percent                    | 5.00%                                   |
| Real Interest Rate              | percent                    | 3.00%                                   |
| Land Taxes                      | \$27.00 /acre (full value) | \$0.23                                  |
| Personal Property Tax Rate      | -NR<br>- R                 | \$/ \$1,000 (Assessed Value)<br>\$28.63 |
| Supervision Factors             |                            |   |
| Field Crop-Irrigation           | \$/labor hour              | \$1.00                                  |
| Field Crop-Equipment & General  | \$/labor hour              | \$0.50                                  |
| Management Rate                 | percent                    | 7.00%                                   |

TABLE 3. Overhead cost information for the Dry Cimarron area, Projected 2013.

| Item                               |                           |          |
|------------------------------------|---------------------------|----------|
| Electricity (Domestic & Shop)      | \$121.00 per month        | \$1,452  |
| Telephone                          | \$96.80 per month         | \$1,162  |
| Accounting & Legal                 |                           | \$545    |
| Misc. Supplies & Hand Tools        |                           | \$895    |
| Pickup and Auto                    |                           |          |
| miles                              | 12,463 @ \$0.500 per mile | \$6,232  |
| Insurance                          |                           |          |
| - general liability (non-employee) |                           | \$1,162  |
| - fire/theft                       |                           | \$756    |
| Property Taxes                     |                           |          |
| - other than land & machinery      |                           | \$6,010  |
| Building repairs and maintenance   |                           | \$575    |
| Dues, fees, publications           |                           | \$290    |
| Farmstead Equipment                |                           | \$91     |
| Total                              |                           | \$19,169 |
| Total per planted acre             |                           | \$239.61 |



TABLE 4. Pumping costs and data for irrigation wells, Dry Cimarron area, Union County, Projected 2013.

| INPUT DATA               |                |
|--------------------------|----------------|
| DEPTH CHARACTERISTICS:   |                |
| STATIC                   | 50             |
| DRAW DOWN                | 15             |
| TOTAL HEAD               | 65             |
| CASING                   | 75             |
| GALLONS PER MINUTE (GPM) | 900            |
| WORK HORSEPOWER          | 15             |
| EFFICIENCY FACTOR:       |                |
| ELECTRICITY              | 0.540          |
| NATURAL GAS              | 0.154          |
| LP GAS                   | 0.154          |
| DIESEL                   | 0.180          |
| FUEL COST PER UNIT:      |                |
| ELECTRICITY              | 7.94 CENTS/kWh |
| NATURAL GAS              | \$4.00 \$/MCF  |
| LP GAS                   | \$2.80 \$/GAL  |
| DIESEL                   | \$3.00 \$/GAL  |
| FUEL PUMPING COSTS       |                |
| ELECTRIC WELL:           |                |
| COST PER HOUR            | \$1.65         |
| COST PER ACRE INCH       | \$0.83         |
| NATURAL GAS WELL:        |                |
| COST PER HOUR            | \$1.10         |
| COST PER ACRE INCH       | \$0.55         |
| LP GAS WELL:             |                |
| COST PER HOUR            | \$7.47         |
| COST PER ACRE INCH       | \$3.75         |
| DIESEL WELL:             |                |
| COST PER HOUR            | \$5.00         |
| COST PER ACRE INCH       | \$2.51         |

TABLE 5. Equipment summary for an 80 acre part-time flood-irrigated farm, Dry Cimarron area, Union County, Projected 2013.

| EQUIPMENT         | ITEM & SIZE | ANNUAL HOURS OF USE | NUMBER | TOTAL VALUE | VARIABLE COSTS       |         |                  |               | FIXED COSTS  |        |              |
|-------------------|-------------|---------------------|--------|-------------|----------------------|---------|------------------|---------------|--------------|--------|--------------|
|                   |             |                     |        |             | FUEL, OIL, LUBRICANT | REPAIR  | FUEL, OIL PER HR | REPAIR PER HR | DEPRECIATION | TAXES  | TOTAL PER HR |
| TRACTOR           | 40 HP       | 142                 | 1      | \$7,000     | \$1,599              | \$154   | \$11.22          | \$1.08        | \$360        | \$75   | \$3.05       |
| MOWER             |             | 74                  | 1      | \$1,300     | \$27                 | \$0.36  | \$0.36           | \$1.30        | \$11         | \$1.30 |              |
| BALER             | 2 WIRE      | 42                  | 1      | \$1,600     | \$6                  | \$0.15  | \$0.15           | \$385         | \$32         | \$9.93 |              |
| RAKE              |             | 24                  | 1      | \$1,550     | \$10                 | \$0.43  | \$0.43           | \$155         | \$13         | \$7.00 |              |
| CHISEL (BORROWED) | 7 PT        | 1                   | 1      | \$0         | \$0                  | \$0.00  | \$0              | \$0           | \$0          | \$0.00 |              |
| DISC (BORROWED)   | 12 FT       | 1                   | 1      | \$0         | \$0                  | \$0.00  | \$0              | \$0           | \$0          | \$0.00 |              |
| DRILL (BORROWED)  | 10 FT       | 1                   | 1      | \$0         | \$0                  | \$0.00  | \$0              | \$0           | \$0          | \$0.00 |              |
| TRUCK             | 2.5 TON     | 244                 | 1      | \$13,500    | \$4,650              | \$2,028 | \$19.06          | \$8.31        | \$2,750      | \$113  | \$11.53      |
| BALE LOADER       |             | 244                 | 1      | \$2,550     | \$166                | \$0.68  | \$0.68           | \$255         | \$21         | \$1.13 |              |
| ELECTRIC WELL     |             | 282                 | 1      | \$11,500    | \$465                | \$0     | \$1.65           | \$0.00        | \$920        | \$96   | \$3.61       |
|                   |             |                     |        | \$39,000    | \$6,714              | \$2,391 |                  |               | \$4,905      | \$361  |              |

| EQUIPMENT LIST    |         |           |            |            |            |           |            |           |             |       |                  |  |
|-------------------|---------|-----------|------------|------------|------------|-----------|------------|-----------|-------------|-------|------------------|--|
| ITEM              |         | NEW VALUE | USED VALUE | YEARS LIFE | EQUIP CODE | MAX HOURS | FUEL UNTHR | LUBE COEF | ACCLM HOURS | AGE   | INTEREST EXPENSE |  |
| TRACTOR           | 40 HP   | 17975.00  | 7000.00    | 50.00      | 1.00       | 800.00    | 3.40       | 0.10      | 2137.20     | 15.00 | 449.38           |  |
| MOWER             |         | 2600.00   | 1300.00    | 20.00      | 6.00       | 300.00    | 0.00       | 0.00      | 1110.00     | 15.00 | 65.00            |  |
| BALER             | 2 WIRE  | 7700.00   | 1600.00    | 20.00      | 2.00       | 500.00    | 0.00       | 0.00      | 756.00      | 18.00 | 192.50           |  |
| RAKE              |         | 3100.00   | 1550.00    | 20.00      | 6.00       | 500.00    | 0.00       | 0.00      | 360.00      | 15.00 | 77.50            |  |
| CHISEL (BORROWED) | 7 PT    | 0.00      | 0.00       | 15.00      | 3.00       | 300.00    | 0.00       | 0.00      | 13.60       | 17.00 | 0.00             |  |
| DISC (BORROWED)   | 12 FT   | 0.00      | 0.00       | 15.00      | 3.00       | 300.00    | 0.00       | 0.00      | 11.56       | 17.00 | 0.00             |  |
| DRILL (BORROWED)  | 10 FT   | 0.00      | 0.00       | 10.00      | 8.00       | 300.00    | 0.00       | 0.00      | 16.00       | 16.00 | 0.00             |  |
| TRUCK             | 2.5 TON | 27000.00  | 13500.00   | 10.00      | 5.00       | 800.00    | 6.05       | 0.05      | 2684.00     | 11.00 | 675.00           |  |
| BALE LOADER       |         | 5100.00   | 2550.00    | 20.00      | 3.00       | 300.00    | 0.00       | 0.00      | 3660.00     | 15.00 | 127.50           |  |
| ELECTRIC WELL     |         | 23000.00  | 11500.00   | 25.00      | 0.00       | 8742.00   | 0.00       | 0.00      | 4224.27     | 15.00 | 575.00           |  |

INTEREST PRORATION

| ALFALFA HAY | NATIVE GRASS HAY |
|-------------|------------------|
| 1.96        | 4.42             |
| 0.00        | 0.65             |
| 0.00        | 1.93             |
| 0.00        | 0.78             |
| 0.00        | 0.00             |
| 0.00        | 0.00             |
| 0.00        | 4.43             |
| 0.00        | 0.64             |
| 0.00        | 6.16             |
| 1.96        | 19.19            |

USAGE LIST

| ALFALFA EST. | ALFALFA HAY | NATIVE GRASS HAY | PER ACRE TOTALS |
|--------------|-------------|------------------|-----------------|
| 0.62         | 2.10        | 1.40             | 4.12            |
| 0.00         | 1.11        | 0.74             | 1.85            |
| 0.00         | 0.63        | 0.42             | 1.05            |
| 0.00         | 0.36        | 0.24             | 0.60            |
| 0.00         | 0.00        | 0.00             | 0.00            |
| 0.17         | 0.00        | 0.00             | 0.17            |
| 0.25         | 0.00        | 0.25             | 0.25            |
| 0.00         | 4.50        | 1.60             | 6.10            |
| 0.00         | 4.5         | 1.6              | 6.10            |
| 0.00         | 4.02        | 3.02             | 7.04            |

| ALFALFA ESTABLISHMENT | ACRES: | 4              | PUMP WATER: |       |
|-----------------------|--------|----------------|-------------|-------|
|                       |        | ACCOMPLISHMENT |             |       |
|                       |        | POWER          | TIMES       |       |
| MACHINE               | UNTR   | OVER           | RATE        | TOTAL |
| CHISEL                | 40 HP  | 1.00           | 0.20        | 0.20  |
| DISC                  | 40 HP  | 1.00           | 0.17        | 0.17  |
| DRILL                 | 40 HP  | 1.00           | 0.25        | 0.25  |
| DITCH MAINTENANCE     |        | 1.00           | 0.50        | 0.50  |
| IRRIGATE (1X)         |        |                |             | 0.00  |

| ALFALFA HAY       | ACRES:     | 40             | PUMP WATER: | 8.00  |
|-------------------|------------|----------------|-------------|-------|
|                   |            | ACCOMPLISHMENT |             |       |
|                   |            | POWER          | TIMES       |       |
| MACHINE           | UNTR       | OVER           | RATE        | TOTAL |
| DITCH MAINTENANCE |            | 8.00           | 0.50        | 0.5   |
| IRRIGATE (3X)     |            |                |             | 4.02  |
| MOWER (3X)        | 40 HP      | 3.00           | 0.37        | 1.11  |
| RAKE (3X)         | 40 HP      | 3.00           | 0.12        | 0.36  |
| BALER (3X)        | 40 HP      | 3.00           | 0.21        | 0.63  |
| HAUL (3X)         | 1 TON TRUC | 3.00           | 1.50        | 4.50  |

| NATIVE GRASS HAY  | ACRES:     | 40             | PUMP WATER: | 6.00  |
|-------------------|------------|----------------|-------------|-------|
|                   |            | ACCOMPLISHMENT |             |       |
|                   |            | POWER          | TIMES       |       |
| MACHINE           | UNTR       | OVER           | RATE        | TOTAL |
| DITCH MAINTENANCE |            | 5.00           | 0.50        | 0.5   |
| IRRIGATE (5X)     |            |                |             | 3.02  |
| MOWER (2X)        | 40 HP      | 2.00           | 0.37        | 0.74  |
| RAKE (2X)         | 40 HP      | 2.00           | 0.12        | 0.24  |
| BALER, 1-TON (2X) | 40 HP      | 2.00           | 0.21        | 0.42  |
| HAUL (2X)         | 1 TN TRUCK | 2.00           | 0.80        | 1.60  |

ANNUAL REPAIR COSTS AS A PERCENT OF NEW VALUE

| Hours of Use | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        |
|--------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 0            | 0.000060 | 0.000020 | 0.000620 | 0.000020 | 0.000080 | 0.000140 | 0.000040 | 0.000240 | 0.000200 |
| 50           | 0.000060 | 0.000020 | 0.000620 | 0.000020 | 0.000080 | 0.000140 | 0.000040 | 0.000240 | 0.000200 |
| 100          | 0.000060 | 0.000020 | 0.000620 | 0.000020 | 0.000080 | 0.000140 | 0.000040 | 0.000240 | 0.000200 |
| 200          | 0.000030 | 0.000030 | 0.000430 | 0.000040 | 0.000180 | 0.000260 | 0.000110 | 0.000510 | 0.000260 |
| 300          | 0.000030 | 0.000050 | 0.000390 | 0.000060 | 0.000230 | 0.000310 | 0.000140 | 0.000630 | 0.000400 |
| 400          | 0.000030 | 0.000060 | 0.000370 | 0.000090 | 0.000260 | 0.000340 | 0.000150 | 0.000710 | 0.000450 |
| 500          | 0.000030 | 0.000070 | 0.000360 | 0.000100 | 0.000280 | 0.000370 | 0.000170 | 0.000800 | 0.000630 |
| 600          | 0.000030 | 0.000090 | 0.000340 | 0.000120 | 0.000310 | 0.000390 | 0.000190 | 0.000880 | 0.000630 |
| 700          | 0.000030 | 0.000100 | 0.000340 | 0.000130 | 0.000330 | 0.000410 | 0.000200 | 0.000910 | 0.000660 |
| 800          | 0.000030 | 0.000110 | 0.000320 | 0.000150 | 0.000350 | 0.000430 | 0.000210 | 0.000980 | 0.000690 |
| 900          | 0.000030 | 0.000120 | 0.000320 | 0.000160 | 0.000370 | 0.000450 | 0.000220 | 0.001020 | 0.000690 |
| 1000         | 0.000090 | 0.000130 | 0.000310 | 0.000180 | 0.000380 | 0.000460 | 0.000230 | 0.001070 | 0.000630 |
| 1200         | 0.000045 | 0.000145 | 0.000305 | 0.000205 | 0.000405 | 0.000480 | 0.000245 | 0.001135 | 0.000710 |
| 1400         | 0.000045 | 0.000170 | 0.000300 | 0.000230 | 0.000435 | 0.000510 | 0.000240 | 0.001280 | 0.000785 |
| 1500         | 0.000150 | 0.000170 | 0.000300 | 0.000230 | 0.000435 | 0.000510 | 0.000240 | 0.001280 | 0.000785 |
| 1600         | 0.000150 | 0.000180 | 0.000285 | 0.000255 | 0.000465 | 0.000525 | 0.000135 | 0.001235 | 0.000805 |
| 1800         | 0.000075 | 0.000170 | 0.000285 | 0.000285 | 0.000465 | 0.000550 | 0.000295 |          |          |
| 2000         | 0.000110 | 0.000265 | 0.000280 | 0.000305 | 0.000505 | 0.000565 | 0.000310 |          |          |
| 2500         | 0.000056 |          |          |          |          |          |          |          |          |
| 3000         | 0.000070 |          |          |          |          |          |          |          |          |
| 3500         | 0.000082 |          |          |          |          |          |          |          |          |
| 4000         | 0.000096 |          |          |          |          |          |          |          |          |
| 4500         | 0.000108 |          |          |          |          |          |          |          |          |
| 5000         | 0.000122 |          |          |          |          |          |          |          |          |
| 5500         | 0.000136 |          |          |          |          |          |          |          |          |
| 6000         | 0.000148 |          |          |          |          |          |          |          |          |
| 6500         | 0.000162 |          |          |          |          |          |          |          |          |
| 7000         | 0.000176 |          |          |          |          |          |          |          |          |
| 7500         | 0.000188 |          |          |          |          |          |          |          |          |
| 8000         | 0.000204 |          |          |          |          |          |          |          |          |

\* Based on unpublished data of D. R. Hunt, Department of Agricultural Engineering, University of Illinois.

\*\* Based on "Agricultural Machinery Data" in Agricultural Engineers Yearbook, 1985.

Codes

- 1 tractors
- 2 balers, combines, forage harvesters, windrowers, pickups
- 3 rotary hoes, disks, moldboard plows, chisels, field cultivators
- 4 harrows, wagons, floats, roto buck, drag, roller, water furrow, bed shaper
- 5 balerwagons, cotton pickers, cotton strippers, com pickers
- 6 corn heads, forage equipment, rotary mowers, stalk choppers, feed wagons, farm trucks
- 7 rakes, cutterbar mowers
- 8 baler w engine, manure spreader
- 9 planters, drills, seeding equipment, mounted sprayers
- 9 fertilizer distributing equipment

TABLE 6. Alfalfa establishment, flood-irrigated, budgeted per acre costs and returns for an 80 acre part-time farm, Dry Cimarron area, Union County, Projected 2013.  
Planting dates: August 15 - September 15

| ITEM                            | PRICE         | QUANTITY               | PURCHASED<br>INPUTS |         |                |         |               | TOTAL    |
|---------------------------------|---------------|------------------------|---------------------|---------|----------------|---------|---------------|----------|
| <u>PURCHASED INPUTS</u>         |               |                        |                     |         |                |         |               |          |
| SEED                            | \$6.50        | 18 LBS                 | \$117.00            |         |                |         |               | \$117.00 |
| CANAL WATER                     |               | 5 AC. IN.              |                     |         |                |         |               |          |
| SUBTOTAL                        |               |                        | \$117.00            |         |                |         |               | \$117.00 |
| <u>PREHARVEST OPERATIONS</u>    |               |                        |                     |         |                |         |               |          |
|                                 | POWER<br>UNIT | ACCOMPLISHMENT<br>RATE | PURCHASED<br>INPUTS | LABOR   | FUEL &<br>LUBE | REPAIRS | FIXED<br>COST | TOTAL    |
| CHISEL                          | 40 HP         | 0.20 HR                |                     | \$1.71  | \$2.24         | \$0.22  | \$0.61        | \$4.78   |
| DISC                            | 40 HP         | 0.17 HR                |                     | \$1.45  | \$1.91         | \$0.18  | \$0.52        | \$4.06   |
| DRILL                           | 40 HP         | 0.25 HR                |                     | \$2.14  | \$2.81         | \$0.27  | \$0.76        | \$5.97   |
| DITCH MAINTENANCE               |               | 0.50 HR                |                     | \$4.28  |                |         |               | \$4.28   |
| IRRIGATE (1X)                   |               | 0.75 HR                |                     | \$5.63  |                |         |               | \$5.63   |
| SUBTOTAL                        |               | 1.87 HR                |                     | \$15.20 | \$6.96         | \$0.67  | \$1.89        | \$24.72  |
| <u>OVERHEAD EXPENSES</u>        |               |                        |                     |         |                |         |               |          |
| DOWNTIME                        |               | 0.16 HR                |                     | \$1.33  |                |         |               | \$1.33   |
| EMPLOYEE BENEFITS               |               |                        |                     | \$2.74  |                |         |               | \$2.74   |
| INSURANCE                       |               |                        | \$0.30              |         |                |         |               | \$0.30   |
| SUPERVISION AND MANAGEMENT      |               |                        |                     | \$10.98 |                |         |               | \$10.98  |
| SUBTOTAL                        |               | 0.16 HR                | \$0.30              | \$15.04 |                |         |               | \$15.35  |
| <u>TOTAL OPERATING EXPENSES</u> |               | 2.03 HR                | \$117.30            | \$30.24 | \$6.96         | \$0.67  | \$1.89        | \$157.06 |

TABLE 7. Alfalfa hay, flood-irrigated, budgeted per acre costs and returns for an 80 acre part-time farm, Dry Cimarron area, Union County, Projected 2013.  
Harvesting dates: May 15 - September 15

| ITEM   | PRICE       | YIELD               |                  |                 |                 |                 |                | TOTAL           |
|--|-------------|---------------------|------------------|-----------------|-----------------|-----------------|----------------|-----------------|
| <b>GROSS RETURNS</b>                           |             |                     |                  |                 |                 |                 |                |                 |
| ALFALFA HAY                                    | \$245.00    | 4.00 TONS (STACKED) |                  |                 |                 |                 |                | \$980.00        |
| GRAZING  | \$15.00     | 1.00 ACRE           |                  |                 |                 |                 |                | \$15.00         |
| <b>TOTAL</b>                                   |             |                     |                  |                 |                 |                 |                | <b>\$995.00</b> |
| <b>PURCHASED INPUTS</b>                        |             |                     |                  |                 |                 |                 |                |                 |
| PURCHASED INPUTS                               | PRICE       | QUANTITY            | PURCHASED INPUTS |                 |                 |                 | FIXED COST     | TOTAL           |
| LIVESTOCK FAC & EQUIP ESTABLISHMENT: Principal |             | 10.00 YEARS         |                  |                 |                 |                 | \$4.00         | \$4.00          |
| : Interest                                     |             |                     |                  |                 |                 |                 | \$15.71        | \$15.71         |
| BALING WIRE                                    | \$0.91      | 34.28 LBS           | \$31.19          |                 |                 |                 | \$4.58         | \$4.58          |
| CANAL WATER                                    |             | 16.00 AC. IN.       | \$5.00           |                 |                 |                 |                | \$31.19         |
| PUMP WATER*                                    |             | 8.00 AC. IN.        |                  |                 |                 |                 |                | \$5.00          |
| <b>SUBTOTAL</b>                                |             |                     | <b>\$36.19</b>   |                 |                 |                 | <b>\$24.28</b> | <b>\$60.48</b>  |
| <b>PREHARVEST OPERATIONS</b>                   |             |                     |                  |                 |                 |                 |                |                 |
| PREHARVEST OPERATIONS                          | POWER UNIT  | ACCOMPLISHMENT RATE | PURCHASED INPUTS | LABOR           | FUEL & LUBE     | REPAIRS         | FIXED COST     | TOTAL           |
| DITCH MAINTENANCE                              |             | 0.50 HR             |                  | \$4.28          |                 |                 |                | \$4.28          |
| IRRIGATE (8X)                                  |             | 4.00 HR             |                  | \$30.00         | \$6.64          | \$0.00          | \$14.51        | \$51.15         |
| <b>SUBTOTAL</b>                                |             |                     | <b>4.50 HR</b>   | <b>\$34.28</b>  | <b>\$6.64</b>   | <b>\$0.00</b>   | <b>\$14.51</b> | <b>\$55.43</b>  |
| <b>HARVEST OPERATIONS</b>                      |             |                     |                  |                 |                 |                 |                |                 |
| MOWER (3X)                                     | 40 HP       | 1.11 HR             |                  | \$9.49          | \$12.45         | \$1.60          | \$5.50         | \$29.04         |
| RAKE (3X)                                      | 40 HP       | 0.36 HR             |                  | \$3.08          | \$4.04          | \$0.54          | \$3.62         | \$11.28         |
| BALER (3X)                                     | 40 HP       | 0.63 HR             |                  | \$5.39          | \$7.07          | \$0.78          | \$8.18         | \$21.41         |
| HAUL (3X)                                      | 1 TON TRUCK | 4.50 HR             |                  | \$38.48         | \$85.76         | \$37.46         | \$56.97        | \$218.66        |
| <b>SUBTOTAL</b>                                |             |                     | <b>6.60 HR</b>   | <b>\$56.43</b>  | <b>\$109.32</b> | <b>\$40.38</b>  | <b>\$74.26</b> | <b>\$280.39</b> |
| <b>OVERHEAD EXPENSES</b>                       |             |                     |                  |                 |                 |                 |                |                 |
| DOWNTIME                                       |             | 1.65 HR             |                  | \$14.11         |                 |                 |                | \$14.11         |
| EMPLOYEE BENEFITS                              |             |                     |                  | \$16.33         |                 |                 |                | \$16.33         |
| INSURANCE                                      |             |                     | \$1.81           |                 |                 |                 |                | \$1.81          |
| LAND TAXES                                     |             |                     |                  |                 |                 |                 | \$0.23         | \$0.23          |
| SUPERVISION AND MANAGEMENT                     |             |                     |                  | \$76.95         |                 |                 |                | \$76.95         |
| OTHER EXPENSES                                 |             |                     | \$239.61         |                 |                 |                 |                | \$239.61        |
| <b>SUBTOTAL</b>                                |             |                     | <b>1.65 HR</b>   | <b>\$241.42</b> | <b>\$107.38</b> |                 | <b>\$0.23</b>  | <b>\$349.03</b> |
| <b>TOTAL OPERATING EXPENSES</b>                |             |                     | <b>12.75 HR</b>  | <b>\$277.62</b> | <b>\$198.09</b> | <b>\$115.96</b> | <b>\$40.38</b> | <b>\$745.33</b> |
| <b>NET OPERATING PROFIT</b>                    |             |                     |                  |                 |                 |                 |                | <b>\$249.67</b> |
| INTEREST ON OPERATING CAPITAL                  |             | ( \$32.23 @ 5.00% ) |                  |                 |                 |                 |                | \$1.61          |
| INTEREST ON EQUIPMENT INVESTMENT               |             |                     |                  |                 |                 |                 |                | \$1.96          |
| <b>RETURN TO LAND AND RISK</b>                 |             |                     |                  |                 |                 |                 |                | <b>\$246.10</b> |

\* Pump water costs are shown under irrigation in the preharvest operations section.

**BUDGET SUMMARY**

|                               |          |          |   |
|-------------------------------|----------|----------|---|
| GROSS RETURN                  |          | \$995.00 |   |
| VARIABLE OPERATING EXPENSES   | \$433.96 |          |   |
| RETURN OVER VARIABLE EXPENSES |          | \$561.04 | (GROSS MARGIN)                          |
| FIXED EXPENSES                | \$113.28 |          |   |
| NET FARM INCOME               |          | \$447.76 | (RETURN TO CAPITAL, LABOR, LAND & RISK) |
| LABOR AND MANAGEMENT COST     | \$198.09 |          |   |
| NET OPERATING PROFIT          |          | \$249.67 | (RETURN TO CAPITAL, LAND & RISK)        |
| CAPITAL COSTS                 | \$3.57   |          |   |
| RETURN TO LAND AND RISK       |          | \$246.10 |   |

TABLE 8. Native grass hay, flood-irrigated, budgeted per acre costs and returns for an 80 acre part-time farm, Dry Cimarron area, Union County, Projected 2013.  
Harvesting dates: July 20 - September 15

| ITEM                             | PRICE      | YIELD               |                  |                |                |                |                | TOTAL             |         |
|----------------------------------|------------|---------------------|------------------|----------------|----------------|----------------|----------------|-------------------|---------|
| <b>GROSS RETURNS</b>             |            |                     |                  |                |                |                |                |                   |         |
| HAY                              | \$220.00   | 1.50 TONS (STACKED) |                  |                |                |                |                | \$330.00          |         |
| GRAZING                          | \$13.00    | 1.00 ACRE           |                  |                |                |                |                | \$13.00           |         |
| <b>TOTAL</b>                     |            |                     |                  |                |                |                |                | <b>\$343.00</b>   |         |
| <b>PURCHASED INPUTS</b>          |            |                     |                  |                |                |                |                |                   |         |
| PURCHASED INPUTS                 | PRICE      | QUANTITY            | PURCHASED INPUTS |                |                |                | FIXED COST     | TOTAL             |         |
| LIVESTOCK FAC & EQUIP            |            |                     |                  |                |                |                | \$4.00         | \$4.00            |         |
| BALING WIRE                      | \$0.91     | 13 LBS              | \$11.70          |                |                |                |                | \$11.70           |         |
| CANAL WATER                      |            | 12 AC. IN.          | \$5.00           |                |                |                |                | \$5.00            |         |
| PUMP WATER*                      |            | 6 AC. IN.           |                  |                |                |                |                |                   |         |
| <b>SUBTOTAL</b>                  |            |                     | <b>\$16.70</b>   |                |                |                | <b>\$4.00</b>  | <b>\$20.70</b>    |         |
| <b>PREHARVEST OPERATIONS</b>     |            |                     |                  |                |                |                |                |                   |         |
| PREHARVEST OPERATIONS            | POWER UNIT | ACCOMPLISHMENT RATE | PURCHASED INPUTS | LABOR          | FUEL & LUBE    | REPAIRS        | FIXED COST     | TOTAL             |         |
| DITCH MAINTENANCE                |            | 0.50 HR             |                  | \$4.28         |                |                |                | \$4.28            |         |
| IRRIGATE (5X)                    |            | 2.50 HR             |                  | \$21.38        | \$4.98         | \$0.00         | \$10.88        | \$37.24           |         |
| <b>SUBTOTAL</b>                  |            | <b>3.00 HR</b>      |                  | <b>\$25.65</b> | <b>\$4.98</b>  | <b>\$0.00</b>  | <b>\$10.88</b> | <b>\$41.52</b>    |         |
| <b>HARVEST OPERATIONS</b>        |            |                     |                  |                |                |                |                |                   |         |
| MOWER (2X)                       | 40 HP      | 0.74 HR             |                  | \$6.33         | \$8.30         | \$1.07         | \$3.66         | \$19.36           |         |
| RAKE (2X)                        | 40 HP      | 0.24 HR             |                  | \$2.05         | \$2.69         | \$0.36         | \$2.41         | \$7.52            |         |
| BALER, 1-TON (2X)                | 40 HP      | 0.42 HR             |                  | \$3.59         | \$4.71         | \$0.52         | \$5.45         | \$14.27           |         |
| HAUL (2X)                        | TRUCK      | 1.60 HR             |                  | \$13.68        | \$30.49        | \$13.32        | \$20.25        | \$77.75           |         |
| <b>SUBTOTAL</b>                  |            | <b>3.00 HR</b>      | <b>\$0.00</b>    | <b>\$25.65</b> | <b>\$46.20</b> | <b>\$15.27</b> | <b>\$31.78</b> | <b>\$118.90</b>   |         |
| <b>OVERHEAD EXPENSES</b>         |            |                     |                  |                |                |                |                |                   |         |
| DOWNTIME                         |            | 0.75 HR             |                  | \$6.41         |                |                |                | \$6.41            |         |
| EMPLOYEE BENEFITS                |            |                     |                  | \$9.23         |                |                |                | \$9.23            |         |
| INSURANCE                        |            |                     | \$1.03           |                |                |                |                | \$1.03            |         |
| LAND TAXES                       |            |                     |                  |                |                |                | \$0.23         | \$0.23            |         |
| SUPERVISION AND MANAGEMENT       |            |                     |                  | \$25.51        |                |                |                | \$25.51           |         |
| OTHER EXPENSES                   |            |                     | \$239.61         |                |                |                |                | \$239.61          |         |
| <b>SUBTOTAL</b>                  |            | <b>0.75 HR</b>      | <b>\$240.64</b>  | <b>\$41.16</b> |                |                | <b>\$0.23</b>  | <b>\$282.02</b>   |         |
| <b>TOTAL OPERATING EXPENSES</b>  |            | <b>3.75 HR</b>      | <b>\$257.33</b>  | <b>\$92.46</b> | <b>\$51.18</b> | <b>\$15.27</b> | <b>\$46.89</b> | <b>\$463.13</b>   |         |
| <b>NET OPERATING PROFIT</b>      |            |                     |                  |                |                |                |                | <b>(\$120.13)</b> |         |
| INTEREST ON OPERATING CAPITAL    |            | (                   | \$14.72          | @              | 5.00%          | )              |                | \$0.74            |         |
| INTEREST ON EQUIPMENT INVESTMENT |            |                     |                  |                |                |                |                |                   | \$19.19 |
| <b>RETURN TO LAND AND RISK</b>   |            |                     |                  |                |                |                |                | <b>(\$140.06)</b> |         |

\* Pump water costs are shown under irrigation in the preharvest operations section.

**BUDGET SUMMARY**

|                               |          |            |   |
|-------------------------------|----------|------------|---|
| GROSS RETURN                  |          | \$343.00   |   |
| VARIABLE OPERATING EXPENSES   | \$323.78 |            |   |
| RETURN OVER VARIABLE EXPENSES |          | \$19.22    | (GROSS MARGIN)                          |
| FIXED EXPENSES                | \$46.89  |            |   |
| NET FARM INCOME               |          | (\$27.67)  | (RETURN TO CAPITAL, LABOR, LAND & RISK) |
| LABOR AND MANAGEMENT COST     | \$92.46  |            |   |
| NET OPERATING PROFIT          |          | (\$120.13) | (RETURN TO CAPITAL, LAND & RISK)        |
| CAPITAL COSTS                 | \$19.92  |            |   |
| RETURN TO LAND AND RISK       |          | (\$140.06) |   |

TABLE 9. Summary of per acre costs and returns for an 80 acre part-time farm, Dry Cimarron area, Union County, Projected 2013.

|                                  | ALFALFA<br>ESTABLISHMENT | ALFALFA<br>HAY | NATIVE<br>GRASS HAY |
|----------------------------------|--------------------------|----------------|---------------------|
|                                  |                          | TONS           | TONS                |
| PRIMARY YIELD                    |                          | 4.00           | 1.50                |
| PRIMARY PRICE                    |                          | \$245.00       | \$220.00            |
| GOVERNMENT PAYMENTS              |                          | \$0.00         | \$0.00              |
| SECOND INCOME                    |                          | \$15.00        | \$13.00             |
| GROSS RETURN                     |                          | \$995.00       | \$343.00            |
| CASH OPERATING EXPENSES          |                          |                |                     |
| SEED                             | \$117.00                 |                |                     |
| FERTILIZER                       |                          |                |                     |
| CHEMICALS                        |                          |                |                     |
| CROP INSURANCE                   |                          |                |                     |
| OTHER PURCHASED INPUTS           |                          | \$31.19        | \$11.70             |
| CANAL WATER                      |                          | \$5.00         | \$5.00              |
| FUEL, OIL & LUBRICANTS-EQUIPMENT | \$6.96                   | \$109.32       | \$46.20             |
| FUEL-IRRIGATION                  |                          | \$6.64         | \$4.98              |
| REPAIRS                          | \$0.67                   | \$40.38        | \$15.27             |
| CUSTOM CHARGES                   |                          |                |                     |
| LAND TAXES                       |                          | \$0.23         | \$0.23              |
| OTHER EXPENSES                   | \$0.30                   | \$241.42       | \$240.64            |
| TOTAL CASH EXPENSES              | \$124.93                 | \$434.19       | \$324.01            |
| RETURN OVER CASH EXPENSES        | (\$124.93)               | \$560.81       | \$18.99             |
| FIXED EXPENSES                   | \$1.89                   | \$113.05       | \$46.67             |
| TOTAL EXPENSES                   | \$126.82                 | \$547.24       | \$370.67            |
| NET FARM INCOME                  | (\$126.82)               | \$447.76       | (\$27.67)           |
| LABOR AND MANAGEMENT COSTS       | \$30.24                  | \$198.09       | \$92.46             |
| NET OPERATING PROFIT             | (\$157.06)               | \$249.67       | (\$120.13)          |
| CAPITAL COSTS                    |                          |                |                     |
| INTEREST ON OPERATING CAPITAL    |                          | \$1.61         | \$0.74              |
| INTEREST ON EQUIPMENT INVESTMENT |                          | \$1.96         | \$19.19             |
| TOTAL CAPITAL COSTS              | \$0.00                   | \$3.57         | \$19.92             |
| RETURN TO LAND AND RISK          | (\$157.06)               | \$246.10       | (\$140.06)          |

TABLE 10. Whole farm summary, Union County,  
Projected 2013.

|                                  |          |                 |
|----------------------------------|----------|-----------------|
| GROSS RETURNS                    |          |                 |
| ALFALFA HAY                      | 40 ACRES |                 |
| CROP                             |          | \$39,200        |
| GRAZING                          |          | \$600           |
| NATIVE GRASS HAY                 | 40 ACRES |                 |
| CROP                             |          | \$13,200        |
| GRAZING                          |          | \$520           |
| GROSS RETURN                     |          | <u>\$53,520</u> |
| CASH OPERATING EXPENSES          |          |                 |
| SEED                             |          | \$468           |
| FERTILIZER                       |          | \$0             |
| CHEMICALS                        |          | \$0             |
| CROP INSURANCE                   |          | \$0             |
| OTHER PURCHASED INPUTS           |          | \$1,716         |
| CANAL WATER                      |          | \$400           |
| FUEL, OIL & LUBRICANTS-EQUIPMENT |          | \$6,249         |
| FUEL-IRRIGATION                  |          | \$465           |
| REPAIRS                          |          | \$2,229         |
| CUSTOM CHARGES                   |          | \$0             |
| LAND TAXES                       |          | \$18            |
| OTHER EXPENSES                   |          | \$19,284        |
| TOTAL CASH EXPENSES              |          | <u>\$30,828</u> |
| RETURN OVER CASH EXPENSES        |          | \$22,692        |
| FIXED EXPENSES                   |          | \$5,768         |
| TOTAL EXPENSES                   |          | \$36,596        |
| NET FARM INCOME                  |          | \$16,924        |
| LABOR AND MANAGEMENT COSTS       |          | \$11,743        |
| NET OPERATING PROFIT             |          | \$5,181         |
| CAPITAL COSTS                    |          |                 |
| INTEREST ON OPERATING CAPITAL    |          | \$94            |
| INTEREST ON EQUIPMENT INVESTMENT |          | \$846           |
| TOTAL CAPITAL COSTS              |          | <u>\$940</u>    |
| RETURN TO LAND AND RISK          |          | <u>\$4,242</u>  |

| LAND VALUE  | RETURN TO RISK* | RETURN ON INVESTMENT** |
|-------------|-----------------|------------------------|
| \$200 /ACRE | \$3,762         | 9.42%                  |
| \$350 /ACRE | \$3,402         | 7.73%                  |
| \$500 /ACRE | \$3,042         | 6.56%                  |

\* RETURN TO LAND AND RISK MINUS (INTEREST RATE TIMES LAND VALUE TIMES ACREAGE)

\*\* NET OPERATING PROFIT DIVIDED BY (MACHINERY AND EQUIPMENT VALUE PLUS LAND VALUE)