

**IRRIGATION COST SPREADSHEET**

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**Type: Center Pivot, 1,000 foot system, electricity powered**

**BRIEF DESCRIPTION:**

1000 ft sprinkler system plus end gun. Full circle covers 81 acres. Power source is commercially supplied electricity. Adequate water requires drilling a new well. Well capacity of 600 GPM is required. System operates 65.5 hours to apply 1 acre inch of water.

Enter effective acreage covered ==> **81** acres  
 Enter hours required to apply 1 acre inch ==> **65.5** hours

**INVESTMENT COST**

| Item                          | Unit | Quantity | Cost/unit   | Total            | Per Acre          |
|-------------------------------|------|----------|-------------|------------------|-------------------|
| Power service                 |      | 1        | \$2,000.00  | \$2,000          | \$24.69           |
| 8" PVC pipe and fittings      | Feet | 1,000    | \$7.20      | \$7,200          | \$88.89           |
| Sprinkler System (5 towers)   |      | 1        | \$52,543.00 | \$52,543         | \$648.68          |
| Pump motor, 40 HP             |      | 1        | \$15,000.00 | \$15,000         | \$185.19          |
| Well                          |      | 1        | \$27,500.00 | \$27,500         | \$339.51          |
| <b>Total investment cost:</b> |      |          |             | <b>\$104,243</b> | <b>\$1,286.95</b> |

**ANNUAL FIXED COSTS**

| Item  | Investment Cost  | Salvage Value | Useful Life Years | Depreciation <sup>1</sup> | Interest <sup>2</sup> | Tax & Ins <sup>2</sup> | Total DITI      | Total Per Acre  |
|---|------------------|---------------|-------------------|---------------------------|-----------------------|------------------------|-----------------|-----------------|
| Enter interest and property tax + insurance rate, as a percentage of value==> |                  |               |                   |                           | 8.50%                 | 1.40%                  |                 |                 |
| Power service   | \$2,000          | \$0.00        | 10                | \$200.00                  | \$85.00               | \$14.00                | \$299           | \$3.69          |
| 8" PVC pipe and fittings  | \$7,200          | \$0.00        | 20                | \$360.00                  | \$306.00              | \$50.40                | \$716           | \$8.84          |
| Sprinkler System (5 towers)   | \$52,543         | \$0.00        | 20                | \$2,627.15                | \$2,233.08            | \$367.80               | \$5,228         | \$64.54         |
| Pump motor, 40 HP   | \$15,000         | \$0.00        | 20                | \$750.00                  | \$637.50              | \$105.00               | \$1,493         | \$18.43         |
| Well  | \$27,500         | \$0.00        | 20                | \$1,375.00                | \$1,168.75            | \$192.50               | \$2,736         | \$33.78         |
| <b>Total Fixed Cost</b>   | <b>\$104,243</b> |               |                   | <b>\$5,312.15</b>         | <b>\$4,430.33</b>     | <b>\$729.70</b>        | <b>\$10,472</b> | <b>\$129.29</b> |

**ANNUAL OPERATING COST**

| Item                                  | Hours per acre inch | Rated Horse Power  | Fuel Use KWH/HP/hr | Fuel Cost \$/KWH | Acre inches applied <sup>3</sup> | Total           | Total Per Acre  |
|---------------------------------------|---------------------|--------------------|--------------------|------------------|----------------------------------|-----------------|-----------------|
| <b>Fuel</b>                           |                     |                    |                    |                  |                                  |                 |                 |
| Electricity                           | 65.5                | 40                 | 0.746              | \$0.085          | 5.0                              | \$831           | \$10.26         |
| <b>Repairs and Maintenance</b>        | <b>Initial Cost</b> | <b>Cost Factor</b> |                    |                  |                                  |                 |                 |
| Power service                         | \$2,000             | 0.00%              |                    |                  |                                  | \$0             | \$0.00          |
| 8" PVC pipe and fittings              | \$7,200             | 0.00%              |                    |                  |                                  | \$0             | \$0.00          |
| Sprinkler System (5 towers)           | \$52,543            | 0.50%              |                    |                  |                                  | \$263           | \$3.24          |
| Pump motor, 40 HP                     | \$15,000            | 2.00%              |                    |                  |                                  | \$300           | \$3.70          |
| Well                                  | \$27,500            | 0.00%              |                    |                  |                                  | \$0             | \$0.00          |
| <b>Labor</b>                          | <b>Hours</b>        | <b>Cost/hour</b>   |                    |                  |                                  |                 |                 |
| Labor                                 | 1.5                 | \$9.03             |                    |                  |                                  | \$14            | \$0.17          |
| <b>Total operating cost</b>           |                     |                    |                    |                  |                                  | <b>\$1,407</b>  | <b>\$17.37</b>  |
| <b>TOTAL ANNUAL COST</b>              |                     |                    |                    |                  |                                  | <b>Total</b>    | <b>Per Acre</b> |
| <b>Total Fixed and Operating Cost</b> |                     |                    |                    |                  |                                  | <b>\$11,879</b> | <b>\$146.66</b> |

<sup>1</sup> Depreciation = (Initial cost - Salvage value) / years of life

<sup>2</sup> Based on the average investment = (Initial cost + Salvage value) / 2 multiplied by the indicated percentage rate

<sup>3</sup> The number of irrigation events likely will vary from 3 to 9 per season. A total application of five acre inches is used in this budget.

Costs estimates and the spreadsheet were developed by:

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