Irrigation Water Supply Example
Estimating Annual Irrigation Operation Costs

Calculated for a theoretical irrigation water supply with an estimated original total cost of $32,000. Cost may be a combination of well, pump, underground piping and electrical panel. Costs were spread over a 132 irrigated acre for the example.

Ownership Cost

Depreciation (well cost - salvage value)/20 years =
($32,000 - 12,000)/20 = $1,000

Interest: interest rate * average investment value
7.0% * (original cost + salvage value/2) =
7.0% * ($32,000 + $12,000/2) = $ 22,000
7.0% * $ 21,000 = $1,540

Repair: estimated to between 2 to 5% of original cost
well cost * 2% =
$32,000 * 2% = $640

Taxes: no personal property tax in Michigan
the additional irrigation equipment should not increase property taxes. Indiana personal property tax estimated at 1%. $21,000 * 1% = $210 not shown in calculation

Insurance: estimated at 0.5% * Average Investment Value
0.5% * (original cost + salvage value/2)
0.5% * ($32,000 + $12,000/2) = $ 22,000
0.5% * ($ 21,000) = $110

Total Ownership Cost = $1,000+ $1,540 + $640+ $110 = $3,290
$3,290/132 acres = $24.92/irrigated acre/year

Operating Cost (per acre) or total actual annual cost
These costs are best handled annually calculated using actual costs at the end of season.

Power cost:
$3.50/acre inch * 7 inches* 132 acres = $3,234 annually
$2 to $7.50/acre inch range

Total Operating cost annually = $ 3,234 annually

Grand Total Estimated Annual Cost = $3,290 + $3,234 = $6,524
$6,524/132 acres = $49.42/acre at 7"

The example water supply has a $3,290 total ownership cost and a $3,234 operating cost annually. The per acre value are $24.92/irrigated acre/year and $49.42/acre at 7" assuming 132 acres of irrigation coverage.