Single Tower Towable Center Pivot, 5 Circle System Example
Estimating Annual Irrigation Operation Costs 3-10

Single tower towable pivot made up from a 210ft span and a 85ft. covering 8.5 acres on five circles with end gun, installed at a cost of $20,000. Additional tow location at a cost of $1,500 each with a well and power source cost of $18,000, Maybe either gas powered pivot with a 660 ft. hose and reel or 3 phase electric with buried pipe and wire. A standard procedure is outlined on page 7 of MSU Extension Bulletin E-2131, "Custom Work Rates in Michigan". The following would be modification of the DIRTI #5 pricing system.

Ownership Cost

Depreciation: (original cost - salvage value)/years of use
(Pivot cost + additional anchor points - salvage value)/10 years=
($20,000 + 6 * $1,500) - $7,500 /10 = ($20,000 +$9,000) - $7,500 /10 =$2,150

(well cost - salvage value) / 20 years =
($18,000 - $6,000) / 20 = $600
= $2,750

Interest: interest rate * average investment value
6.5% * (original cost + salvage value/2) =
Pivot and Install 6.5% * ($29,000 +$7,500 /2) = $1,186
Well 6.5% * ($18,000 +$6,000 /2) = $ 780
= $1,966

Repair: estimated to between 2 to 5% of original cost
Pivot and installation cost * 3% =
$29,000 * 3% = $870
well cost * 2% =
$18,000 * 2% = $ 360
= $1,230

Taxes: no personal property tax in Michigan
the addition irrigation equipment should not increase property taxes

Insurance: estimated at 0.5% * average investment value
0.5% * (original cost + salvage value/2) =
0.5% * ($20,000 +$9,000 /2) = $73
0.5% * ($18,000 +$6,000 /2) = $60
= $133

Total Ownership Cost = $2,750 + $1,966 + $1,230 + $133 = $6,079
$6,079 / 51 acres = $119.20 /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: use actual fuel or power bill is recommended estimated power cost:
$3.25/acre in. * 6 in. * 51 acres = $995 annually
Range of $1.80 to $5.50/acre in.

Labor cost: recommend use of actual labor bills
$1 * 6 acre in. * 51 acres = $306 annually
Range of $1 to $3.50/acre in.

Total Operating cost annually = $ 1,301, $ 1,301 / 51 acres = $25.51 /irrigated acre/year

Grand Total Estimated Annual Cost:

Annual Ownership Cost + Annual Operating cost
$119.20 /irrigated acre/year + $25.51 /irrigated acre/year = $ 144.71 /irrigated acre/year at 6"