CASE STUDY – INSTALLATION OF PIVOTS

A producer operates a 740-acre farming operation with an alfalfa, malt barley, oat hay rotation.

After installing pivots and several years of operation to judge the results, the operator has been able to verify both the advantages and disadvantages of the conversion from contour ditch with tubes to pivots.

Advantages:

- A yield increase of 20 to 30% over the whole rotation
- Fewer weeds – the ditches and borders are no longer harboring weeds
- Now able to make full run with machinery – not starting and stopping for ditches
- With not bouncing through ditches not breaking front ends and PTO's on equipment
- Reduced labor cost – use to use two full time farm laborers with the associated costs (four wheelers, boots, meals, wages, etc.) now does the irrigation alone
- Maintenance costs have decreased (11,000 hours on one pivot with repairs of $400, which works out to 4 cents per hour of operation).
- More time for irrigation water management and pest management (using pivots for fertigation)
- Has combined minimum tillage with pivots (chiseling is faster – and therefore saves time)

Disadvantages:

- Capital outlay for installation
- Increased pumping costs (3 pivots on electric, 1 on diesel)
- Increased costs for fertilizers and pesticides
- Increased maintenance labor on pivots (change oil, lube, service on motors and pumps)
- Increased energy costs of $16/acre

ADDED COSTS (per acre)		ADDED RETURNS (per acre)	
Increased harvest cost	$12.60	Increased yield	$42.30
Increased electric costs	$16.00	Decreased labor costs	$98.28
Ownership cost of pivot	$30.09		
O&M (pivot and pump)	$14.47		
Total	$73.16	Total	$140.58

Increased return to operation = $68 per acre

Breakeven period (payback timeframe) = 5 years

(Calculations based on 60 acre pivot)

April 4, 2001