

### CASE STUDY III – INSTALLATION OF PIVOTS

A producer operates a 400 acre farm. The crop rotation is alfalfa for 5 or 6 years and 2 years of small grain. The operator uses soil test to determine need for fertilizers, and uses the pivots to fertilize, and now does split application of fertilizer.

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:

- Yield increase of 1 ton per acre
- Increased area – where ditches and borders were
- Less damage to equipment from borders and ditches
- Less weeds
- Less labor for irrigation (use to hire extra labor)
- Less time spent on land smoothing and seedbed preparation
- Savings of time and labor spent on ditch maintenance
- Water is now adequate for the crop, it was water short

#### Disadvantages:

- Pumping costs
- Pivot operation and maintenance costs
- Preventative maintenance of 1 to 2 days for pivots

ADDED COSTS (per acre)		ADDED RETURNS (per acre)	
Pumping costs	\$18.00	Increased yield	\$94.00
Ownership cost of pivot	\$18.05		
O&M (pivots & pumps)	\$12.01		
Total	\$48.06	Total	\$94.00

Increased return to operation =  $\$94.00 - \$48.06 = \$45.94$  per acre

Breakeven period (payback timeframe) = 3 ½ years

(Calculations based on a 214 ac under pivots)