Conservation Tillage – Economic Considerations

The overall economics of different tillage/production systems varies between regions, crops, individual farms and even between fields. Although savings in input costs may be significant for some systems, yields play a major factor in overall profitability. The two biggest economic factors, which may cause producers to consider conservation tillage systems such as no-till, are **labor and equipment savings**. When conservation tillage systems are applied there are fewer trips made compared to conventional or intensive tillage systems, resulting in fuel savings, less equipment, less equipment repairs, and less labor. As tillage is decreased, herbicides are more important for weed control. However, other than the cost of burndown herbicide, the overall cost for weed control is generally not any different between tillage systems. The Economic Research Service reports, "factors other than tillage that affect pest populations may have a greater impact on pesticide use than type of tillage."

	No-till	Conventional
Direct Costs		
Seed	$26	$25
Fertilizer	$72	$67
Pesticide	$32	$28
Field Operations	$56	$74
Total direct costs	$186	$194
Indirect Costs		
Land	$120	$120
Hauling	$13	$13
Drying	$23	$21
Interest	$13	$13
Total indirect costs	$169	$167
Total Costs	$355	$361
Total Yield	$160	$160
Price	2.45/bu	2.45/bu
Total Income	$392	$392
Profit	$37	$31
Although itemized costs may differ slightly, this budget indicates that overall costs between no-till and conventional tillage systems can be very similar.		

Figure 15: Sample crop budget for corn per acre

Reduced labor cost is a major factor in adopting no-till in some areas. As farms increase in size producers are looking for ways to farm these acres but without adding additional help or equipment. Conservation tillage facilitates expansion on larger acreages or allows operators to use the time savings for livestock operations, grain marketing, or off-farm employment. Machinery savings may also be substantial in a no-till system. If a producer is able to convert to a complete no-till system, then a long list of primary and secondary machinery is not needed. In addition, less maintenance is needed since the machinery is not being operated as many hours each year. Although the cost of no-till equipment is considerably less than comparable equipment required for conventional tillage, it makes further economical sense if the existing line of equipment is old and needs replacement.

Generally speaking no-till systems offer a slight to fairly significant reduction in input costs. If proper management of conservation tillage is used, yields are likely to be maintained, costs will decrease, an overall improvement in the efficiency of a farm operation will result and thus enhance profitability (Figure 15). In areas where moisture retention is improved, yield increases can be expected along with improved profits.