FARM BUSINESS MANAGEMENT

FARM ECONOMICS Facts & Opinions

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Machinery Cost Estimates for 2006

Periodically, staff members within the Department of Agricultural and Consumer Economics estimate the costs of completing field, forage, and harvesting operations on Illinois farms. Per hour costs of operating tractors are also available. Estimates were updated in July 2006 and are available in the management section of *farmdoc* (http://www.farmdoc.uiuc.edu/manage/machinery/machinery_summary.html). These estimates serve as useful guidelines in assisting farm operators in determining what to charge for custom farming operations. Actual costs will vary across farms. In particular, higher use tends to lower the per acre costs of operations. Whenever possible, it is recommended that operators calculate their own costs based on their set of equipment and factors influencing their costs, such as repair costs, acres farmed, etc.

Estimated costs for most operations are higher in 2006 than in 2005, the last time machinery costs were estimated. Table 1 shows 2005 estimated costs, 2006 estimated costs, and percent increases from 2005 to 2006 for selected field and harvest operations. For these operations, machinery costs are between 11 and 44% higher in 2006 than in 2005.

Table 1. Comparison of Machinery Cost Estimates in 2005 and 2006.

Operation	Year		Percent Increase
	2005	2006	
	$ per acre		
Chisel plow	10.70	13.40	25%
Combine (corn)	31.10	34.50	11%
Combine (soybeans)	26.30	29.20	11%
Field cultivator	6.20	8.90	44%
Planter	8.30	9.50	14%
Tandem disk	8.20	9.80	20%

Three factors contributed to the increase. First, the diesel fuel price was estimated at $1.50 per gallon in 2005. In 2006, a $2.50 per gallon fuel price was used, which is a 67% increase over the 2005 price. For planting, the fuel price increase caused a $.60 per acre increase in total machinery costs. For corn combining, the fuel price increase added $.40 to costs per acre. New, larger equipment is more fuel efficient and requires less fuel per acre than smaller, older equipment. Thus, increases or decreases in the cost of diesel fuel have less of an effect on machinery costs per acre than it did several years ago. But, it still is a significant factor when calculating machinery costs.

Second, list prices for new equipment were higher in 2006 than in 2005. For example, the list price of the planter used to estimate 2006 costs was 9% higher than the 2005 price, the tandem disk price was up 15% and the combine price was up 11%. Machinery costs are calculated assuming that new equipment is purchased and held for 10 years (7 years for combines). Higher equipment prices contribute to higher depreciation and interest costs.

Third, the interest rate used in calculating costs was increased from 7% in 2005 to 7.5% in 2006. A higher interest rate increases the cost of equipment ownership. While the interest rate was not increased

substantially, it resulted in a minor increase in costs.

Combining is the single machinery operation that contributes the most to machinery costs per acre. Combining costs can vary significantly based on the number of acres per year the combine is used on. The combining costs listed in Table 1 were based on a 6-row corn head and 20' grain platform each used on 700 acres (1,400 total acres). Costs for a 305 horsepower combine with an 8-row corn head and 30' grain platform covering 2,400 total acres (1,200 corn acres and 1,200 soybean acres) is estimated at $26.80 per acre for corn and $21.20 per acre for soybeans. Table 3 in the Machinery Cost Estimates: Harvesting publication on *farmdoc* (http://www.farmdoc.uiuc.edu/manage/machinery/machinery_harvest.html) gives estimated costs for three sizes of combines for difference acreage ranges.

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