FARM BUSINESS MANAGEMENT

FARM ECONOMICS Facts & Opinions

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April 17, 2001 **FEFO 01-09**

PER ACRE MACHINERY COSTS ON ILLINOIS GRAIN FARMS

Summaries of Illinois Farm Business Farm Management (FBFM) records indicate that machinery costs on central Illinois grain farms having high-productivity farmland averaged $58.41 per acre in 2000. These costs are composed of machinery repairs ($13.97 per acre), machine hire and leasing ($7.25), fuel and oil ($8.95), light vehicle ($1.57), and machinery depreciation ($26.67). Machinery costs in northern Illinois are higher, averaging $71 per acre. Machinery costs in southern Illinois average $62 per acre, slightly higher than costs in central Illinois.

Farm Size and Machinery Costs

Per acre machinery costs decline as farm size increases, as illustrated in the following table.

Per Acre Machinery Costs
Selected Farms in Illinois

Acres in Farm	Per Acre Machinery Costs
180 to 499	$76
500 to 799	70
800 to 1,199	67
1,200 to 1,999	65
2000 +	62

Source: Illinois Farm Business Farm Management

Most of the decline occurs between the smaller farm sizes. Machinery costs for the 180 to 499 acre class are $76 per acre. Costs are $70 per acre for the 500 to 799 acre class, a decline of $6 per acre from the 180 to 499 acre class. Costs decline between $2 and $3 per acre between the larger farm size classes. For example, costs decline $3 per acre between the 1,200 to 1,999 acre class and the 2,000 plus acre class.

Farm size offers some advantage in term of reducing machinery costs. However, the advantage is not large after a farm reaches an 800 acre size.

Differences in Machinery Costs

Within a farm size, per acre machinery costs can vary dramatically. To illustrate, the following table divides farms into profit categories. The high 1/3 category contains one-third of the farms with the highest profits while the low 1/3 category contains one-third of the farms with the lowest profits. For the 800 to 1,199 farm size category, the high 1/3 farms average $59 per acre in machinery costs while the low one-third farms average $77 per farm, a difference in costs of $18 per acre. Costs differences in this one size class are larger than differences between the averages for the 180 to 499 acre farm size and the 2000 plus acre farm size ($14 per acre (see previous table)).

Per Acre Machinery Costs by Profit Class
Selected Farms in Illinois

Acres in Farm	High 1/3	Low 1/3
180 to 499	$60	$95
500 to 799	66	81
800 to 1,199	59	77
1,200 to 1,999	65	66
2,000 +	54	68

Source: Illinois Farm Business Farm Management

Much of this difference is due to machinery management practices on farms. These practices then impact farm profitability. Differences in machinery costs consistently separate more profitable from less profitable farms. The above averages provide a gauge as to how well an individual farm is managing machinery costs.

Custom Farming and Machinery Costs

Currently, custom rate charges for complete tillage, planting, and harvesting average around $70 per acre. In Iowa, the average custom rate charged for corn in 2000 was $75 per acre for corn and $68 for soybeans.

Average custom rates are above the average per acre machinery costs for central Illinois ($58). Per acre machinery costs, however do not include a labor charge (estimated at $10 per acre) and an interest charge on the value of machinery (estimated at $18 per acre). Adding labor and interest charges to machinery costs yields $86 per acre, significantly above average custom rates. This suggests that “average” custom rates do not cover the full costs of machinery operation and ownership.

Some farmers undertake custom farming to spread machinery costs over more acres. This may be an appropriate strategy if excess machine capacity exists on a farm. However, per acre machinery costs over different farm sizes do not support this strategy. Per acre machinery costs for larger farm sizes do not decrease enough to cause this strategy to be profitable.

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