FARM BUSINESS MANAGEMENT

FARM ECONOMICS Facts & Opinions

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PER ACRE MACHINERY COSTS AND VALUES ON ILLINOIS FARMS, 2003

Summaries of Illinois Farm Business Farm Management (FBFM) records indicate that power costs on Illinois grain farms average $59.39 per tillable acre in 2003. Power costs are composed of utilities ($4.85), repairs ($15.73), machine hire and leases ($8.53), fuel and oil ($9.65), light vehicle ($2.19) and depreciation ($18.44).

In 2003, FBFM changed depreciation methods. Prior to 2003, tax depreciation was used to determine machinery depreciation. Because tax law now allows large write-offs in the year of purchase, economic depreciation was adopted in 2003. Depreciation of a particular machine is determined using a ten-year 125% declining balance with a salvage value of $0. Bonus depreciation or expense elections claimed for tax purposes are not included in economic depreciation. For 2003, the switch in depreciation methods lowered depreciation costs by about $10 per acre.

Farm Size and Power Costs

Average power cost for farms with less than 500 acres is $67 per acre (see Table 1). Power costs average lower for larger farm sizes.

Average power costs do not trend upward or downward for size categories above 500 acres. The lowest average power cost is $54 per acre for farms between 1,501 and 2,000 acres. Larger farm sizes have slightly higher power costs of $58 per acre for the 2,001 to 3,500 acre category and $60 per acre for the more than 3,501 acre size category.

Statistical tests indicate that there is no significant difference in average power costs for farm sizes above 500 acres. This occurs because there are large variations in power costs across farms in a size category.

Table 1. Power Costs on Illinois FBFM Grain Farms, 2003.

Tillable acres	Power Costs
	($ per acre)
Less than 500	$67
501 to 750	60
751 to 1,000	59
1,001 to 1,500	56
1,501 to 2,000	54
2,001 to 3,500	58
More than 3,501	60

Source: Illinois FBFM Association

Power Costs and Profitability

Lower power costs tend to lead to higher profitability. In this paper, profitability is measured by per acre management returns. Management returns equal revenue minus expenses, with expenses including costs for unpaid labor and equity capital invested in the operation.

Table 2. Management Returns for Ranges of Power Costs, Illinois FBFM Grain Farms, 2003.

Power Cost Category	Management Return
	($/acre)
Less than $45	$59
$46 to $55	43
$56 to $65	28
$66 to $75	24
$76 to $85	27
More than $85	-16

Source: Illinois FBFM Association

Farms that have power costs less than $45 per tillable acre average management returns of $59 per acre (see Table 2). As power costs increase, average management returns decrease. For power cost categories between $46 and $85 per acre, management returns are in the $20 per acre range. For farms with power costs above $85 per acre, management returns average -$16 per acre

In general, a strong link exists between power costs and management returns. Farms that have lower power costs tend to have higher profits. Controlling costs, including power costs, is a key in increasing farm profitability.

Machinery Values

Average fair market values for grain farms enrolled in FBFM are shown in Table 3. In general, fair market values decrease as tillable acres increase. Farms with less than 500 acres have an average value of $310 per tillable. Farms with over 3,501 acres average $210 per acre in machinery value

Averages in Table 3 do not demonstrate the variability of machinery values within a tillable acre class. Market values can range from a low of $100 per acre up to $500 per acre.

Table 3. Fair Market Value for Machinery, Illinois FBFM Grain Farms, 2003.

Tillable acres	Fair Market Value	
	Total	Per Acre
Less than 500	$115,000	$310
501 to 750	174,000	280
751 to 1,000	243,000	280
1,001 to 1,500	301,000	250
1,501 to 2,000	413,000	240
2,001 to 3,500	552,000	220
More than 3,501	857,000	210

Source: Illinois FBFM Association

Acknowledgments

The author would like to acknowledge that data used in this study comes from the local Farm Business Farm Management (FBFM) Associations across the State of Illinois. Without their cooperation, information as comprehensive and accurate as this would not be available for educational purposes. FBFM, which consists of 6,000 plus farmers and 62 professional field staff, is a not-for-profit organization available to all farm operators in Illinois. FBFM field staff provides on-farm counsel with computerized recordkeeping, farm financial management, business entity planning and income tax management. For more information, please contact the State FBFM Office located at the University of Illinois Department of Agricultural and Consumer Economics at 217-333-5511 or visit the FBFM website at www.fbfm.org.

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