



Ag Decision Maker

A Business Newsletter for Agriculture

Vol. 10, No. 3 www.extension.iastate.edu/agdm January 2006



Farm machinery costs continue to rise

by William Edwards, Iowa State University Extension Economist,
(515) 294-6161, wedwards@iastate.edu

Ever since humankind went from hunting and gathering to cultivating plants for a stable food supply, people have been looking for ways to make the job easier. Pointed sticks and hoes gave way to implements pulled by oxen and mules. Animal power gave way to steam, gasoline and diesel powered equipment. Successive generations of farm machinery have offered increased capacity, comfort and reliability. Today's

behemoth tractors, planters and harvesters are part of an \$8 billion a year industry.

Modern farm machinery allows operators to produce and harvest more bushels in less time. Breakdowns are fewer and human fatigue is less. But all these features come at a price.

Trends

The data in Figure 1 show how machinery costs on Iowa farms have risen in the past 15 years. Fuel and repair costs have been fairly stable, except for a spike in 1997. Data for 2005 are not available yet, but higher energy costs will probably add at least \$10 per acre to total costs.

The biggest change since 1991 has been in depreciation and interest costs, which have increased more than 50 percent. Interest expense includes a

charge on equity investment in machinery as well as interest paid on machinery loans. Depreciation is calculated as ten percent of equipment inventory value, which is more realistic than using income tax schedule values. The data do not include equipment used primarily for livestock enterprises.

Although it is difficult to pinpoint the exact reasons for the increases, much of it has to do with the amount of capital tied up in farm equipment. Figure 2 shows the average investment in machinery per crop acre since 1991 for the same set of farms as in Figure 1. Rapid increases occurred in the early 1990s

continued on page 2

Handbook updates

For those of you subscribing to the handbook, the following updates are included.

Livestock Planning Prices

– B1-10 (1 page)

Change in Hog Prices by Two Week Period, 1995-2004

– B2-15

(1 page)

continued on page 6

Inside . . .

Reporting Conservation Security Program payments..... Page 4

Farm machinery costs continue to rise, continued from page 1

and again in the early 2000s, as farmers replaced equipment inventory. Sales of large farm tractors and combines in the United States in 2004 were up over 20 percent from the average from the previous 5 years, and sales in 2005 have been only slightly lower. Higher machinery prices reflect advances in technology as well as higher costs for steel and other components.

Machinery Costs and Farm Size

A common justification for increasing farm size is to spread machinery costs over more acres, thus reducing the cost per acre. Table 1 summarizes machinery costs on almost 2,000 Illinois crop farms in 2002. Farms were separated into groups, by number of tillable crop acres. Interest cost on

machinery investment could not be identified separately, so it is not included in the tabulation.

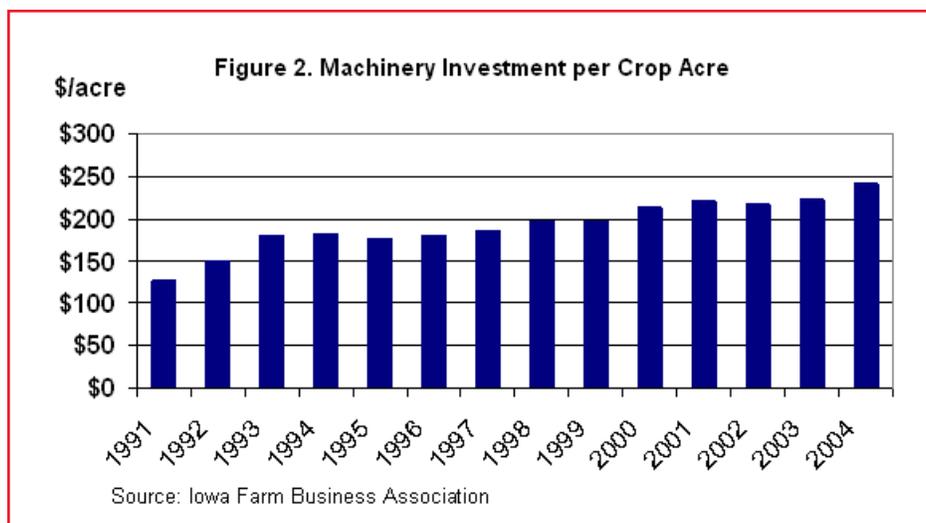
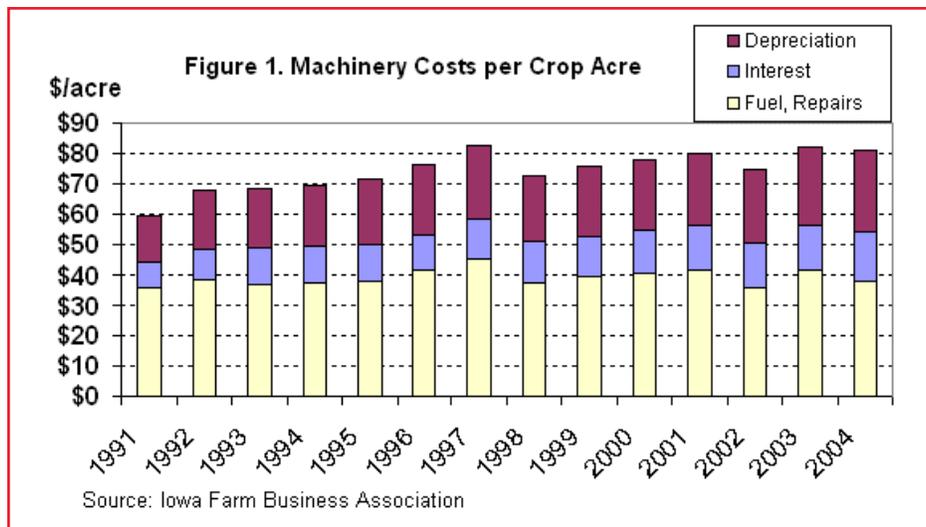
Total machinery cost per acre declined rapidly from the under 400 acre group to the 400 to 800 acre group, from \$81 per acre to only \$68. However, costs declined only another \$5 per acre for the next larger group, farms with 800 to 1,200 tillable acres. From that point costs remained nearly constant as farm size increased. Apparently, after about 1,000 tillable acres the purchase cost per unit of capacity remains relatively constant. At some point operators simply begin duplicating entire machinery sets rather than purchasing larger units. Smaller farms had the largest disadvantage in the repair costs category. They may be more

likely to purchase used machinery or keep units longer, resulting in higher repair and maintenance costs.

Controlling Machinery Costs

Keeping farm machinery costs in line is not easy. Fuel prices are very volatile some years. Major repairs may have to be performed without warning. New technology pushes up the list prices on new equipment. Nevertheless, good managers have learned to use some of the following strategies to try to keep their costs under control.

1. Use existing machinery to full capacity.
2. Utilize custom hire or rental plans for low-use equipment.



Farm machinery costs continue to rise, continued from page 2

3. Invest in used machinery when units in good condition are available.
4. Choose the lowest cost financing plan when purchasing machinery.
5. Own machinery jointly with other operators.
6. Keep equipment well maintained, do your own work when possible.
7. Perform custom work for other farmers or landowners.

Machinery Economics.” Each part of the course contains a discussion of the major points, examples and exercises, review questions, references for further study, and electronic spreadsheet files to help you analyze your own situation. The course is available over the Internet at www.extension.iastate.edu/ames/.

Electronic spreadsheets for calculating machinery costs, comparing financing alternatives, and analyzing other farm machinery decisions are also available on the Ag Decision Maker website, under Decision Tools (www.extension.iastate.edu/agdm/).

These strategies are discussed in detail in an Iowa State University home study course called “Farm

Table 1. Machinery Costs by Farm Size, \$ per Acre

Type of Cost	Number of Tillable Acres				
	Under 400	400 to 800	800 to 1,200	1,200 to 2,000	Over 2,000
Depreciation	\$36	\$33	\$32	\$32	\$33
Repairs	13	9	7	7	7
Fuel and oil	22	17	15	15	14
Machine hire	10	9	9	9	9
Total	\$81	\$68	\$63	\$63	\$63

Source: University of Illinois



Reporting Conservation Security Program payments

By Neil E. Harl, Charles F. Curtiss Distinguished Professor in Agriculture and Emeritus Professor of Economics, Iowa State University, Ames, Iowa. Member of the Iowa Bar, (515) 294-6354, harl@iastate.edu

Budget cuts could reduce the funding for conservation programs in the next federal fiscal year, but the long-term outlook is relatively bright for funds in support of conservation. Pressure from the World Trade Organization to cut trade-distorting commodity programs means that the agricultural sector will have to be stabilized with funding through other channels, notably conservation. Thus, conservation programs are expected to become increasingly important channels for government funds to the sector.

One of the problems in the conservation area is that neither the Congress nor the Internal Revenue Service has provided a clear roadmap on how conservation benefits are to be taxed. The assumption has been that income tax consequences of payments under the various conservation programs would be handled under existing federal law. Even the programs authorized by the 2002 farm bill are without guidance on how the benefits are to be taxed. Here's how it appears that the existing federal income tax rules apply to the Conservation Security Program.

Conservation Security Program

The Conservation Security Program (CSP) has been a high profile conservation program since its enactment in 2002. The program provides for three tiers of conservation practices for which payments may be received.

- A Tier I contract is to be for a period of five years and includes conservation practices appropriate for the agricultural operation that, at a minimum, address at least one "significant resource of concern for the enrolled portion of the agricultural operation at a level that meets the appropriate non-degradation standard" and covers "active management of the conservation

practices that are implemented or maintained under the conservation security contract." As for payments, Tier I contracts are eligible for payment of an amount equal to five percent of the "applicable base payment for land covered by the contracts", an amount not exceeding 75 percent (90 percent for a beginning farmer) of the average county costs of practices and an "enhanced payment" for additional enumerated practices. The annual payments to an individual or entity cannot exceed \$20,000 under a Tier I contract.

- A Tier II CSP contract is for a period of five to 10 years and is to include conservation practices appropriate for the agricultural operation that, at a minimum, address at least one significant resource of concern for the entire agricultural operation at a level that meets the appropriate non-degradation standard and covers active management of conservation practices that are implemented or maintained under the conservation security contract. Tier II payment for land covered by the "conservation security contract" can be paid. That's an amount not exceeding 75 percent (90 percent for beginning farmers) of the average county cost of adopting or maintaining practices and an enhanced payment for additional enumerated practices. The annual payments to an individual or entity cannot exceed \$35,000 under a Tier II contract.

- A Tier III contract is to be for a period of not less than five and not more than 10 years and includes conservation practices appropriate for addressing all resources of concern. Payments can be made equal to 15 percent of the "base payment for land covered by the conservation contract," up to 75 percent (90 percent for a

Reporting Conservation Security Program payments, continued from page 4

beginning farmer) of the average county cost of adopting or maintaining practices and an enhanced payment for additional enumerated practices. Annual payments to an individual or entity cannot exceed \$45,000 under a Tier III contract.

Expected income tax consequences

Although no official guidance has been published to date (and a recent unofficial USDA statement seems wide of the mark as to income tax consequences), here are the expected income tax consequences –

It is anticipated that cost-share payments for the adoption or maintenance of management and vegetative practices will not be excludible from income. The exclusion provision is limited to cost-sharing for “capital improvements.” If there are expenses associated with such practices, those may be deductible as soil and water conservation expenses if the taxpayer is “engaged in the business of farming.” That would be a problem for cash rent landlords. It’s also possible that the expenses incurred could be deducted as ordinary farm expenses for carrying on the trade or business of farming.

Cost-share payments for the adoption of land-based structural practices should be eligible for exclusion from income if the practice is a capital improvement. That’s an election and

those who don’t want to exclude the payments from income (for example, because it involves a 20-year recapture provision if the property is disposed of within that period) may elect out of the exclusion. Landlords, of all types, are eligible for the exclusion.

Annual payments otherwise should be treated as conservation reserve program payments have been handled --- as ordinary income and subject to social security tax. There’s still uncertainty over whether retired landowners would have to pay self-employment tax on the amounts received, based on two conflicting IRS rulings, one in 1988 and one in 2003. In a June 8, 2004 conference with the Commissioner and staff, the Commissioner provided assurance that an attempt would be made to harmonize the conflicting rulings. That has not occurred to date.

In conclusion

Several watersheds across the country have been approved for CSP contracts. More areas are expected to become eligible if funds are available. Guidance from IRS is critically important for those facing income tax reporting of payments under the program.

** Reprinted with permission from the November 18, 2005 issue of Agricultural Law Digest, Agricultural Law Press Publications, Eugene, Oregon. Footnotes not included.*

Updates, continued from page 1

2005 Suggested Closing Inventory Prices – C1-40 (2 pages)

Adapting Crop Share Agreements for Sustainable and Organic Agriculture – C2-31 (4 pages)

2005 Farmland Value Survey – C2-70 (4 pages)

Please add these files to your handbook and remove the out-of-date material.

Internet updates

The following updates have been added to www.extension.iastate.edu/agdm.

Idea Assessment and Business Development Process – C5-02 (3 pages)

What is an Entrepreneur? – C5-07 (2 pages)

Product Marketing Terms – C5-14 (6 pages)

Key Points in Writing a Business Plan – C5-69 (3 pages)

... and justice for all

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Many materials can be made available in alternative formats for ADA clients. To file a complaint of discrimination, write

USDA, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964. Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Stanley R. Johnson, director, Cooperative Extension Service, Iowa State University of Science and Technology, Ames, Iowa.

Permission to copy

Permission is given to reprint ISU Extension materials contained in this publication via copy machine or other copy technology, so long as the source (Ag Decision Maker Iowa State University Extension) is clearly identifiable and the appropriate author is properly credited.