



## Get into the fast lane

### Farm Analysis Solution Tools offer real-world farm management help.



**Editor's note:** Kent Vickre and Chuck Cagley write a tax and finance column for each issue of Pioneer GrowingPoint® magazine. Vickre is state coordinator of the Iowa Farm Business Association. Cagley is state coordinator of Illinois Farm Business Farm Management. They address issues that influence agribusiness success.



**G**ood farm management requires good farm management tools. A team of agricultural economists from the University of Illinois have combined their talents to develop a suite of agribusiness decision tools for farmers, landowners and agribusiness professionals.

Farm Analysis Solution Tools (FAST) consists of Microsoft® Excel-based spreadsheets, articles and other resources to help you make better farm management decisions. The spreadsheets, the primary feature of the FAST program, are designed to be user-friendly and save time and effort in organizing different areas of your business.

Each tool in the FAST toolbox falls into one of seven management areas: Financial Analysis, Investment Analysis, Loan Analysis, Farm Management, Grain Marketing and Management, Risk Management, and Yield and Land Database Utilities. These categories contain more than 50 spreadsheets that can assist you in several aspects of agricultural decision-making process.

#### Stay up to speed

The ideas for many of these spreadsheets come

from questions farm management field staffers encounter as they talk with farmers. FAST programs range from generation of income statements to calculation of crop insurance premiums, from loan amortization to grain inventory management and from cash flow budgeting to evaluating farm lease performance.

The FAST team provides periodic opportunities for training across Illinois and other parts of the country. With 45 laptops in its mobile lab, this hands-on training allows farmers to follow instructors as they demonstrate each program.

FAST training often focuses on seasonal questions. In spring, it looks at crop insurance and marketing decisions. In summer, it conducts financial analyses, including financial statement

preparation. Workshops in fall and winter look at farmland leases, budgeting and farm machinery purchase decisions.

#### Ways to get FAST

Farmers can access all the FAST spreadsheet tools from either of two sources. The FAST mailing service delivers the latest FAST spreadsheets to your door through quarterly mailings. Four times each year, you receive the latest FAST programs, in addition to all University of Illinois *farmdoc* proceedings. This includes the most recent Marketing Outlooks, Farm Economic Facts and Opinions, Financial Characteristics and Historic Tables, and Agricultural Law and Taxation Briefs.

The other source is the University of Illinois *farmdoc* Web site. You can download all FAST spreadsheets ([www.farmdoc.uiuc.edu/fasttools](http://www.farmdoc.uiuc.edu/fasttools)). Recent additions to software, updated spreadsheets, news and training opportunities are listed under the link for FAST Tools.

For questions, comments or additional information about FAST, please contact: Garrett Stoerger

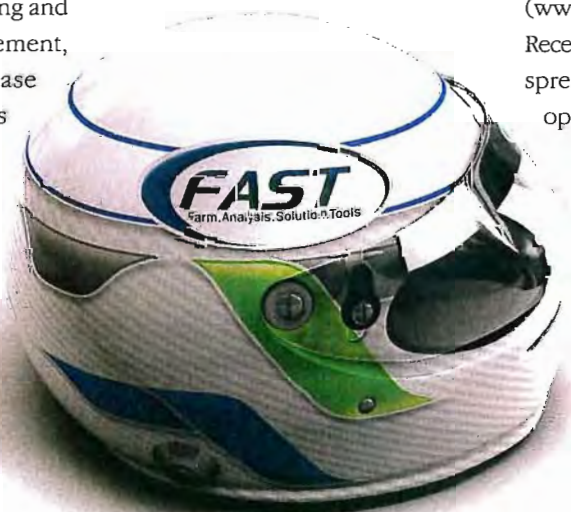
*FAST Coordinator*

Phone: 217-333-1817

Fax: 217-333-2312

E-mail:

[gstoerge@uiuc.edu](mailto:gstoerge@uiuc.edu)



## Some key financial ratios

Financial ratios provide a quick way to gauge agribusiness financial health. Too often farmers view these measurements as a benefit only for the lender.

In recent years, producers have improved the quality, comprehensiveness and accuracy of the records used to derive these ratios. We compliment farmers who now reconcile cash accounts and accrual accounting for changes in net worth. Perhaps computers have simplified the process or at least motivated more people toward reconciliation. They certainly allow producers to take a more comprehensive look at their businesses.

Many farmers now have more diversified sources of credit. It's more important than ever to use tools and procedures to help gather, compute and analyze information. Your lender may not be concerned about the overall best interests of your farm. Rather, they may simply be looking at their profitability on credit extended to you.

Paul Ellinger, associate professor of agricultural finance in the Department of Agricultural and Consumer Economics at the University of Illinois, has summarized a number of the key ratios and provided benchmarks to help identify concerns. (See accompanying table.) Compare these values with your operation. The green range is satisfactory, the yellow range suggests caution and red alerts you to problems.

Some 15 to 20 primary analysis ratios have emerged in part because more reliable data has become available. Note the ratios are divided into five analysis categories:

Repayment, Liquidity, Solvency, Profitability and Financial Efficiency

It's beyond the scope of this article to address all of the ratios, but here's one example. There is a growing use of repayment analysis now that more-accurate family living expense or withdrawal information is available. The term debt and lease coverage ratio is valuable for anyone working with significant term debt. Follow the calculation instructions closely. Add the following:

Net farm income from operations

+ Gross nonfarm revenue


+ Depreciation expense and interest on both term debts and capital leases

(-) Income tax expense

(-) Family living withdrawals.

Divide the above sum by scheduled annual principal and interest payments on term debt and capital leases. If your coverage is greater than 150 percent, you probably have good repayment capacity.

But it's important to look behind the numbers to see if the ratios truly reflect the capacity needed for the magnitude of the business. The difference between the adjusted income total above and the scheduled payments identifies your capacity for meeting the payments on new term debt. You should know this figure before making capital purchases with significant term debt financing.

The ratios can even be similar, but because of the magnitude of the business, someone with only a \$10,000 repayment capacity compared to \$50,000 may have a lot less flexibility to withstand problems. 

## Summary of Key Ratio Calculations and Benchmarks

Repayment Analysis	Calculation	Green	Yellow	Red
Term Debt and Lease Coverage Ratio	(NFIFO* + Gross Non-Farm Revenue + Depreciation Expense + Interest on Term Debts and Capital Leases) - Income Tax Expense - Family Living Withdrawals / Scheduled Annual Principal and Interest Payments on Term Debt and Capital Leases	>150%	110% to 150%	<110%
Debt Payment / Income Ratio	Scheduled Annual Principal and Interest Payments on Term Debt and Capital Leases / (NFIFO* + Gross Non-Farm Revenue + Depreciation Expense + Interest on Term Debts and Capital Leases)	<25%	25% to 50%	>50%
Liquidity Analysis	Calculation			
Current Ratio	Total Current Farm Assets / Total Current Farm Liabilities	> 1.50	1.00 to 1.50	< 1.00
Working Capital	Total Current Farm Assets - Total Current Farm Liabilities	Compare to business expenses, absolute amount depends on scope of operation		
Working Capital/VFP	Working Capital / Value of Farm Production	> 30%	10% to 30%	<10%
Solvency Analysis	Calculation			
Debt / Asset Ratio (mostly owned)	Total Farm Liabilities / Total Farm Assets	<20%	20% to 60%	>60%
Debt / Asset Ratio (mostly rented/leased)	Total Farm Liabilities / Total Farm Assets	<30%	30% to 70%	>70%
Equity / Asset Ratio (mostly owned)	Total Farm Equity / Total Farm Assets	>80%	40% to 80%	<40%
Equity / Asset Ratio (mostly rented/leased)	Total Farm Equity / Total Farm Assets	>70%	30% to 70%	<30%
Debt / Equity Ratio (mostly owned)	Total Farm Liabilities / Total Farm Equity	<25%	25% to 150%	>150%
Debt / Equity Ratio (mostly rented/leased)	Total Farm Liabilities / Total Farm Equity	<42%	42% to 230%	>230%
Profitability Analysis	Calculation			
Rate of Return on Farm Assets (ROA) (mostly owned)	(NFIFO* + Farm Interest Expense - Operator Management Fee) / Average Total Farm Assets	>5%	1% to 5%	<1%
Rate of Return on Farm Assets (ROA) (mostly rented / leased)	(NFIFO* + Farm Interest Expense - Operator Management Fee) / Average Total Farm Assets	>11%	3% to 11%	<3%
Rate of Return on Farm Equity (ROE)	(NFIFO* - Operator Management Fee) / Average Total Farm Equity	Look at trends and compare to other farm and non-farm investments		
Operating Profit Margin Ratio	(NFIFO* + Farm Interest Expense - Operator Management Fee) / VFP	>25%	10% to 25%	<10%
Financial Efficiency	Calculation			
Asset Turnover Ratio	VFP / Average Total Farm Assets	Depends heavily on type of operation and whether it is owned/leased		
Operating Expense / VFP Ratio (mostly owned)	Operating Expenses [excluding interest and depreciation] / VFP	<55%	55% to 65%	>65%
Operating Expense / VFP Ratio (mostly rented / leased)	Operating Expenses [excluding interest and depreciation] / VFP	<65%	65% to 75%	>75%
Depreciation Expense Ratio	Depreciation Expense / VFP	Compare to capital replacement and term debt repayment margin		
Interest Expense Ratio	Interest Expense / VFP	<10%	10% to 20%	>20%
Cash Rent Plus Interest Expense Ratio (mostly owned)	Cash Rent Plus Interest Expense / VFP	<15%	15% to 25%	>25%
Cash Rent Plus Interest Expense Ratio (mostly rented/leased)	Cash Rent Plus Interest Expense / VFP	<25%	25% to 35%	>35%
Net Farm Income From Operations Ratio	NFIFO* / VFP	>20%	10% to 20%	>5%

Modified from David Kohl, Northwest Farm Credit Services.

\* NFIFO = Net Farm Income From Operations excluding gains or losses from the disposal of farm capital assets

These are very general benchmarks. You should use Financial Characteristics of Illinois Farms for more detailed peer groups and the respective financial ratios ([www.farmlandoc.uiuc.edu/finance/](http://www.farmlandoc.uiuc.edu/finance/)).

Value of Farm Production (VFP) = Gross Revenue - Purchased Feed - Purchased Market Livestock