

Indiana Small Farms  
Conference 2013

# Farm Record Keeping and Financial Analysis

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## Opening discussion question

- What is the best reason for a small farmer to keep records?

## Why keep farm records?

### *Reasons:*

- ➔ Regulatory/institutional compliance
  - Government Farm Programs
  - Organic Certification
  - Income Tax Reporting
  - Employee/payroll records/Form I-9
- ➔ Assist in obtaining loans/resources
- ➔ To protect ourselves/our families
- ➔ Obtain planning information
- ➔ Keeping score

## Information on Indiana regulations

- ➔ Purdue Extension Publication EC-733
  - Licensing, Regulatory, and tax Requirements for Indiana Businesses: A Checklist Guide for New Businesses
  - <http://www.agecon.purdue.edu/newventures/var/EC733.pdf>

## Production Records

### CROP SUMMARY

Field Crops	Acres	Yield Per Acre	Total Yield	Lime Applied Per Acre	Fertilizer	
					Analysis	Amount/ Acre
Cotton						
Peanuts						
Tobacco						
Corn						
Soybeans						
Vegetable Crops						
Squash						
Tomatoes						
Pepper						
Beans						
Corn						
Collards						
Cabbage						

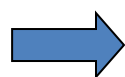
Purdue Extension Publication PPP-18, Crop Production Recordkeeping  
<http://www.ppp.purdue.edu/Pubs/PPP-18.pdf>

## Production Records

### LIVESTOCK SUMMARY

Kind	Number Jan. 1	Number Dec. 31	Number Bought	Number Born	Number Died	Number for Home Use

## Objectives of good farm records?



Provide useful information

- Complete
- Accurate
- Consistent
- Timely



Provide information that is used

- Keep it simpler, whenever possible

## How to start?

- ➔ Develop/organize a filing system
  - see suggested farm filing index
- ➔ Learn rules and regulations
- ➔ Establish routines
  - standard operating procedures
  - internal controls
- ➔ Consider safety and security of records: backups & storing offsite



## Farm accounting is different

- Farmers are predominantly cash income tax basis taxpayers
- Farmers are not required to follow Generally Accepted Accounting Principles (GAAP) when preparing financial statements
- Farmers don't generally distinguish between financial and managerial accounting
  - Payroll records and production records are good examples where we need more than dollar amounts

## Options in financial accounting systems for farms

- ➔ Cash versus accrual
- ➔ Single versus double entry accounting
- ➔ Manual (paper) versus computer

# Getting started with financial records

- ✓ **Learn about your record keeping system before starting to use it.**
- ✓ **Develop a habit of keeping the record system up to date from day one.**
- ✓ **Do most business through a bank account and make notes on checks, receipts, and deposit slips.**
- ✓ **Use a separate checking account for the business versus family and for separate business entities.**

## Best record keeping practices

They  
should  
Include:

- ❖ Record transactions in chronological order
- ❖ Reconcile bank statement with checkbook and record keeping system monthly
- ❖ Periodically, at least annually at year-end, take inventory (physical count and valuation)
- ❖ A depreciation schedule
- ❖ A net worth statement/balance sheet at least once a year on the same date every year, year after year
- ❖ An accrual-adjusted income statement to determine net profit or loss
- ❖ A projected monthly cash flow statement to start each new year

## Purdue Monthly Cash Flow Budget

CASH FLOW BUDGET	Last Year 2009	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	Projection 2010
<b>Cash Receipts</b>														
Crop Sales	\$950,000					\$300,000	\$300,000				\$220,000	\$180,000	\$180,000	\$1,180,000
Livestock Sales	\$0													\$0
Government Payments	\$9,800							\$9,800						\$9,800
Other	\$30,000						\$16,000	\$16,000						\$32,000
<b>Total Cash Receipts</b>	<b>\$989,800</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$300,000</b>	<b>\$316,000</b>	<b>\$25,800</b>	<b>\$0</b>	<b>\$0</b>	<b>\$220,000</b>	<b>\$180,000</b>	<b>\$180,000</b>	<b>\$1,221,800</b>
<b>Cash Disbursements</b>														
Seed	\$85,000			\$31,167									\$62,333	\$93,500
Fertilizer	\$120,500				\$32,535							\$97,605		\$130,140
Chemicals	\$52,000					\$17,680	\$17,680	\$17,680						\$53,040
Lime	\$0													\$0
Crop Insurance	\$35,400	\$37,170												\$37,170
Purchased Feed	\$0													\$0
Fuel & Utilities	\$42,750	\$3,776	\$3,776	\$3,776	\$3,776	\$3,776	\$3,776	\$3,776	\$3,776	\$3,776	\$3,776	\$3,776	\$3,776	\$45,315
Labor	\$36,000	\$2,000	\$2,000	\$2,000	\$4,000	\$4,000	\$2,000	\$2,000	\$2,000	\$5,000	\$5,000	\$5,000	\$2,000	\$37,000
Machinery & Equipment	\$54,775	\$4,702	\$4,702	\$4,702	\$4,702	\$4,702	\$4,702	\$4,702	\$4,702	\$4,702	\$4,702	\$4,702	\$4,702	\$56,418
Building Expenses	\$9,900						\$3,234	\$3,234	\$3,234					\$9,702
Property Taxes	\$8,200				\$4,100						\$4,100			\$8,200
Insurance	\$9,100						\$4,732						\$4,732	\$9,464
Cash Rent	\$316,000			\$158,000									\$158,000	\$316,000
Miscellaneous	\$11,000	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$833	\$10,000
Family Living Expense Withdrawals	\$40,000	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$3,500	\$42,000
Machinery & Equipment Purchases	\$17,520				\$35,000									\$35,000
Land & Building Purchases	\$0													\$0
<b>Total Cash Disbursements</b>	<b>\$838,145</b>	<b>\$51,981</b>	<b>\$14,811</b>	<b>\$203,978</b>	<b>\$88,446</b>	<b>\$34,491</b>	<b>\$40,457</b>	<b>\$35,725</b>	<b>\$18,045</b>	<b>\$17,811</b>	<b>\$21,911</b>	<b>\$115,416</b>	<b>\$239,876</b>	<b>\$882,949</b>
<b>Net Cash Flow (+/-)</b>	<b>\$151,655</b>	<b>(\$51,981)</b>	<b>(\$14,811)</b>	<b>(\$203,978)</b>	<b>(\$88,446)</b>	<b>\$265,509</b>	<b>\$275,543</b>	<b>(\$9,925)</b>	<b>(\$18,045)</b>	<b>(\$17,811)</b>	<b>\$198,089</b>	<b>\$64,584</b>	<b>(\$59,876)</b>	<b>\$338,851</b>
<i>Beginning Cash Balance</i>	\$50,000	\$98,436	\$46,455	(\$39,040)	(\$243,018)	(\$331,464)	(\$76,485)	\$199,058	\$189,132	\$171,087	\$142,396	\$340,485	\$394,538	\$98,436
<i>Net Cash Flow (+/-)</i>	\$151,655	(\$51,981)	(\$14,811)	(\$203,978)	(\$88,446)	\$265,509	\$275,543	(\$9,925)	(\$18,045)	(\$17,811)	\$198,089	\$64,584	(\$59,876)	\$338,851
<i>Line of Credit Draws</i>	\$0													\$0
<b>Debt Repayment Capacity</b>	<b>\$201,655</b>	<b>\$46,455</b>	<b>\$31,643</b>	<b>(\$243,018)</b>	<b>(\$331,464)</b>	<b>(\$65,955)</b>	<b>\$199,058</b>	<b>\$189,132</b>	<b>\$171,087</b>	<b>\$153,276</b>	<b>\$340,485</b>	<b>\$405,069</b>	<b>\$334,662</b>	<b>\$437,286</b>
<b>Debt Obligations (P&amp;I)</b>														
Equipment Note	\$21,061					\$10,531						\$10,531		\$21,061
Farmland Mortgage	\$70,683		\$70,683											\$70,683
Building Loan	\$11,475								\$10,880					\$10,880
Operating Line of Credit	\$0													\$0
<b>Total Debt Obligations</b>	<b>\$103,219</b>	<b>\$0</b>	<b>\$70,683</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,531</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,880</b>	<b>\$0</b>	<b>\$10,531</b>	<b>\$0</b>	<b>\$102,624</b>
<b>Ending Cash Balance</b>	<b>\$98,436</b>	<b>\$46,455</b>	<b>(\$39,040)</b>	<b>(\$243,018)</b>	<b>(\$331,464)</b>	<b>(\$76,485)</b>	<b>\$199,058</b>	<b>\$189,132</b>	<b>\$171,087</b>	<b>\$142,396</b>	<b>\$340,485</b>	<b>\$394,538</b>	<b>\$334,662</b>	<b>\$334,662</b>

# Finding the manual or computerized accounting system for your farm

- ➔ Agricultural Software Directory
  - <http://www.agric.gov.ab.ca/app68/agsoft>
  - Quickbooks – double entry
  - Quicken – single entry
- ➔ Manual Account Books
  - Purdue Farm Record Book
  - <http://agecon.okstate.edu/farmbook/>

# Ag Software Directory

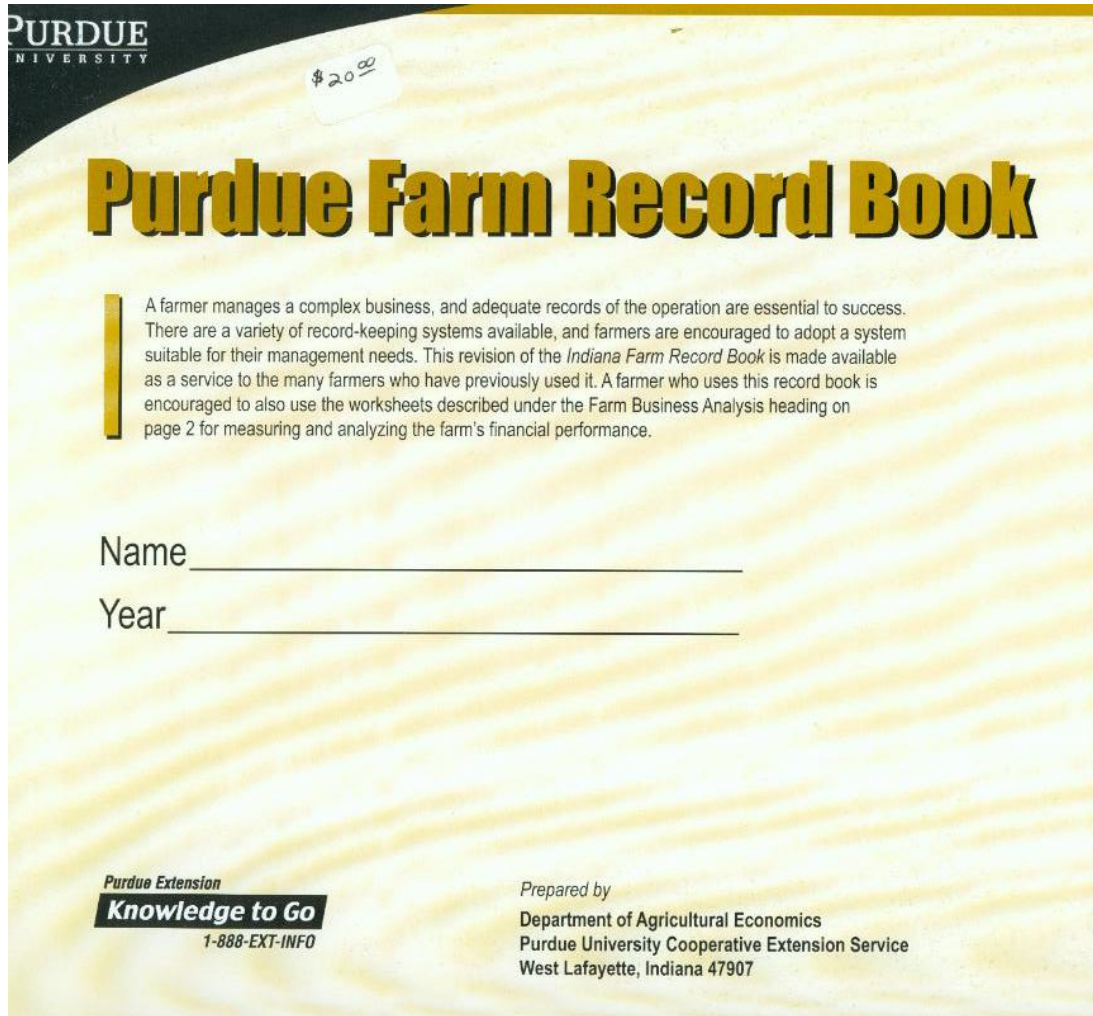
- <http://www.agric.gov.ab.ca/app68/agsoft>
- Agro-electronics
- Communications
- Decision Aids
- Financial Record Keeping
- Nutrition /Ratio/Fertilizer
- Physical Record Keeping

## Farm Management Information Systems

- Do not expect to find one computerized system that will record all of the farm management information that you need.
  - Farm specific accounting packages have tried to move in this direction as a way to differentiate from the small business accounting systems like Quickbooks
  - True Enterprise Resource Planning (ERP) systems are just beginning to be considered for Ag



# Farm Records



**PURDUE**  
UNIVERSITY

\$20.00

## Purdue Farm Record Book

A farmer manages a complex business, and adequate records of the operation are essential to success. There are a variety of record-keeping systems available, and farmers are encouraged to adopt a system suitable for their management needs. This revision of the *Indiana Farm Record Book* is made available as a service to the many farmers who have previously used it. A farmer who uses this record book is encouraged to also use the worksheets described under the Farm Business Analysis heading on page 2 for measuring and analyzing the farm's financial performance.

Name \_\_\_\_\_

Year \_\_\_\_\_

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**PURDUE EXTENSION**

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## Sample Farm Record Book Cash Receipts

CASH FARM INCOME - EXAMPLE

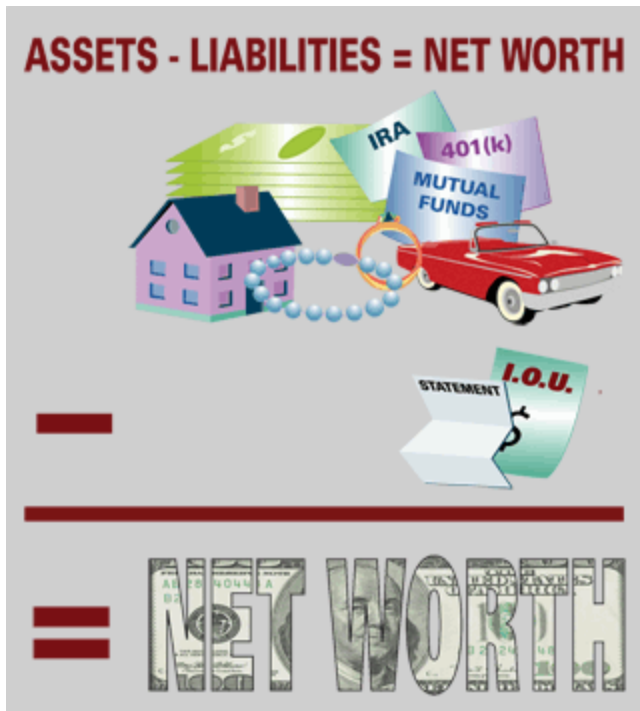
				1	2	3	4	5	6	7	8	
				Crops						Livestock Products		
Date	Num	Sold To	Total Income	OATS						Dairy	Other	
1	5/29	19	Bunge Corporation 371 bu Oats @ \$2.00 bu	742	00	742	00					
...												
...												
25	7/11	56	Brown Livestock Sales 32 calves (av 450# @ \$0.43 lb)	6,192	00							
<b>TOTALS</b>				<b>6,934</b>	<b>00</b>	<b>742</b>	<b>00</b>					

CASH FARM INCOME - EXAMPLE (CONTINUED)

		9	10	11	12	13	14	15	16	17	18	19
		Resale of Purchased Livestock	Livestock				Other Farm Income				Capital Sales	
			Raised Cattle and Calves	Hogs / Sheep	Poultry	Other	Other				Equipment	Breeding Livestock
1												
...												
...												
25	Raised		6,192	00								
			<b>6,192</b>	<b>00</b>								

# Financial Analysis

## Net Worth Statement



- **Assets** – everything that you *own or are owed*
- **Liabilities** – everything that you *owe*
- Also known as ***Balance Sheet***

# Financial Analysis

## Balance Sheet (Market Value)

Widmar Farms

As of 12/31/09

<b>ASSETS</b>		<b>LIABILITIES</b>	
<b>Current Assets</b>		<b>Current Liabilities</b>	
Cash	\$ 2,000.00	Accrued Interest	\$ 1,000.00
Hedging Account	\$ 5,000.00	Operating Line of Credit	\$ 12,000.00
Corn Inventory	\$ 50,000.00	Current Portion of LT Debt	\$ 22,000.00
Prepaid Expenses	\$ 14,000.00	<b>Total Current Liabilities</b>	<b>\$ 35,000.00</b>
Supplies	\$ 4,000.00		
<b>Total Current Assets</b>	<b>\$ 75,000.00</b>	<b>Non-Current Liabilities</b>	
		Equipment Loan	\$ 24,000.00
<b>Non-Current Assets</b>		Farm Mortgage	\$ 86,000.00
Equipment & Vehicles	\$ 85,000.00	<b>Total Non-Current Liabilities</b>	<b>\$ 110,000.00</b>
Buildings	\$ 100,000.00		
Farmland	\$ 275,000.00	<b>TOTAL LIABILITIES</b>	<b>\$ 145,000.00</b>
<b>Total Non-Current Assets</b>	<b>\$ 460,000.00</b>		
		<b>OWNER EQUITY = NET WORTH</b>	
		Contributed Capital	\$ 50,000.00
		Retained Earnings	\$ 195,000.00
		Valuation Equity	\$ 145,000.00
		<b>Total Owner Equity</b>	<b>\$ 390,000.00</b>
<b>TOTAL ASSETS</b>	<b>\$ 535,000.00</b>	<b>TOTAL LIAB. &amp; OWNER EQUITY</b>	<b>\$ 535,000.00</b>

## Income Statement (Accrual-Adjusted)

Widmar Farms

For the Period 1/1/09 to 12/31/09

### Revenue

Corn Sales \$ 90,000

Soybeans Sales \$ 80,000

**Total Cash Revenue \$ 170,000**

+ (-) Change in Crop Inventory \$ 10,000

**Total Revenue \$ 180,000**

### Operating Expenses

Cash Rent \$ 50,000

Fertilizer & Chemicals \$ 26,000

Seed \$ -

Insurance \$ 2,000

Repairs \$ 2,000

Labor \$ 29,000

Depreciation \$ 12,000

Operating Interest \$ 2,000

**Total Cash Operating Expenses \$ 123,000**

+ (-) Change in Accrued Interest \$ (1,000)

(-) + Change in Prepaid Seed Expenses \$ 18,000

**Total Operating Expenses \$ 140,000**

**NET FARM INCOME FROM OPERATIONS \$ 40,000**

# Financial Analysis

**Statement of Cash Flows**  
**Barlow Farms**  
**for the year ended 12/31/2011**

**Financial**  
**Analysis**

**Net Cash Provided (Used) By Operating Activities**

Cash Farm Receipts from crop sales	\$	462,000
Cash farm receipts from livestock sales	\$	115,000
Cash operating expenditures for livestock	\$	(100,000)
Cash Operating Expenditures for crops	\$	(364,000)
Other cash interest paid	\$	(11,250)
Interest paid on mortgage	\$	(31,500)

**Net Cash Provided By Operating Activities**

**\$ 70,250**

**Net Cash Provided (Used) By Investing Activities**

Cash received from sprayer sale	\$	34,000
Cash downpayment on new shop building	\$	(75,000)
Amount financed on new shop building	\$	(100,000)

**Net Cash Used By Investing Activities**

**\$ (141,000)**

**Net Cash Provided (Used) By Financing Activities**

Amount borrowed on new shop building	\$	100,000
Credit line borrowing deposited in farm checking account	\$	250,000
Credit line principal repaid	\$	(274,000)
Mortgage principal repaid	\$	(50,000)
Owner withdrawals for family living expenses	\$	(79,000)

**Net Cash Used By Financing Activities**

**\$ (53,000)**

Net Decrease in Cash From Operating, Investing, and Financing Activities

**\$ (123,750)**

Cash, December 31, 2010

**\$ 119,465**

Cash, December 31, 2011

**\$ (4,285)**

# Farm Financial Analysis Tools

- Do commit to a thorough evaluation of your record information at least once a year
- Consider using financial analysis tools such as:
  - Purdue Financial Analysis Spreadsheet (free Excel-based download) <http://www.agecon.purdue.edu/files/EC712.xlsx>
  - FarmDoc Fast Tools (free Excel-based downloads) <http://www.farmdoc.illinois.edu/>
  - FINPACK (\$395) <http://www.cffm.umn.edu/FINPACK/>

**Schedule F Data**

**Taxable Year:**

2011

Cost of livestock sold (Schedule F, line 1d)	A	
Gross income (Schedule F, line 9)	B	\$ 370,125
Depreciation (Schedule F, line 14)	C	\$ 27,000
Mortgage interest (Schedule F, line 21a)	D	\$ 3,990
Other interest paid (Schedule F, line 21b)	E	\$ 21,110
Total expenses (Schedule F, line 33)	F	\$ 327,500

**Balance Sheet**

**Beginning**

**Ending**

		12/31/2011		12/31/2012
Balance sheet date				
Cash	G	\$ 5,000	M	\$ 10,000
Total current farm assets	H	\$ 120,000	N	\$ 200,000
Total current farm liabilities	I	\$ 97,000	O	\$ 112,540
Prepaid expenses	J		P	
Accrued interest	K	\$ 3,950	Q	\$ 840
Farm accounts payable and other accrued expenses	L	\$ 14,050	R	\$ 17,700
Total farm assets			S	\$ 638,000
Total farm liabilities			T	\$ 131,540
Owner equity [S-T]			U	\$ 506,460

**Miscellaneous Data**

Breeding stock sales (Form 4797)	V	\$ 1,225
Number of operators and employees (annual full-time equivalent)	W	1.5
Family living expenses & taxes (all families supported by the farm) <sup>1</sup>	X	\$ 65,000

**Net Farm Income**

Gross revenues [A+B+V+(N-M-P)-(H-G-J)]	Y	\$ 446,350
Operating expenses [A+F-C-(D+E)+(R-L)+(J-P)]	Z	\$ 279,050
EBITDA <sup>2</sup> [Y-Z]	AA	\$ 167,300
Interest expense [D+E+(Q-K)]	AB	\$ 21,990
Net farm income from operations <sup>3</sup> [AA-AB-C]	AC	\$ 118,310



## Worksheet 2. Financial Position and Performance Ratios <sup>1</sup>

	Your Farm	Benchmark	Strong/Weak
<b>Profitability</b>			
Return on Assets $[(AC+AB-X) \div S] * 100$	11.8%	7.5%	Strong
Return on Equity $[(AC-X) \div U] * 100$	10.5%	10.0%	Neutral
Operating Profit Margin Ratio $[(AC+AB-X) \div Y] * 100$	16.9%	20.0%	Weak
<b>Liquidity</b>			
Current Ratio [N/O]	1.78	2.00	Weak
Working Capital/Gross Revenues Ratio $[(N-O) \div Y] * 100$	19.6%	40.0%	Weak
<b>Solvency</b>			
Debt-to-Asset Ratio $[T \div S] * 100$	20.6%	25.0%	Strong
Debt-to-Equity Ratio $[T \div U] * 100$	26.0%	33.0%	Strong
<b>Financial Efficiency</b>			
Asset Turnover Ratio $[Y \div S] * 100$	70.0%	40.0%	Strong
Revenue per Full-Time Laborer	\$ 297,567	\$ 225,000	Strong
Operating Expense Ratio $[Z \div Y] * 100$	62.5%	60.0%	Neutral
Depreciation Expense Ratio $[C \div Y] * 100$	6.0%	10.0%	Strong
Interest Expense Ratio $[AB \div Y] * 100$	4.9%	5.0%	Neutral
Net Farm Income Ratio $[AC \div Y] * 100$	26.5%	25.0%	Neutral

<sup>1</sup> Alphabetical items in parentheses or brackets in the left-hand column refer to Worksheet 1.



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