

Indiana Small Farms
Conference 2013

Farm Record Keeping and Financial Analysis

Alan Miller

Farm Business Management Specialist

March 1, 2013

Opening discussion question

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



Why keep farm records?

Reasons:

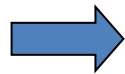


Regulatory/institutional compliance

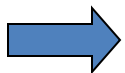
- Government Farm Programs
- Organic Certification
- Income Tax Reporting
- Employee/payroll records/Form I-9



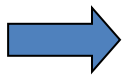
Assist in obtaining loans/resources



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

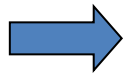
Kind	Number Jan. 1	Number Dec. 31	Number Bought	Number Born	Number Died	Number for Home Use

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
Cash Receipts														
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
Total Cash Receipts	\$989,800	\$0	\$0	\$0	\$0	\$300,000	\$316,000	\$25,800	\$0	\$0	\$220,000	\$180,000	\$180,000	\$1,221,800
Cash Disbursements														
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
Total Cash Disbursements	\$838,145	\$51,981	\$14,811	\$203,978	\$88,446	\$34,491	\$40,457	\$35,725	\$18,045	\$17,811	\$21,911	\$115,416	\$239,876	\$882,949
Net Cash Flow (+/-)	\$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>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
Debt Repayment Capacity	\$201,655	\$46,455	\$31,643	(\$243,018)	(\$331,464)	(\$65,955)	\$199,058	\$189,132	\$171,087	\$153,276	\$340,485	\$405,069	\$334,662	\$437,286
Debt Obligations (P&I)														
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
Total Debt Obligations	\$103,219	\$0	\$70,683	\$0	\$0	\$10,531	\$0	\$0	\$0	\$10,880	\$0	\$10,531	\$0	\$102,624
Ending Cash Balance	\$98,436	\$46,455	(\$39,040)	(\$243,018)	(\$331,464)	(\$76,485)	\$199,058	\$189,132	\$171,087	\$142,396	\$340,485	\$394,538	\$334,662	\$334,662

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 _____

Purdue Extension
Knowledge to Go
1-888-EXT-INFO

Prepared by
Department of Agricultural Economics
Purdue University Cooperative Extension Service
West Lafayette, Indiana 47907

PURDUE EXTENSION
Revised 11/09 EC-6-20

Contents

Instructions	ii-2
Farm Identification and Income Tax Notes	3
Farm Acreage	4
Crop Production	5
Inventories	6-8
Sale of Depreciable Items	9
Livestock Receipts	10-15
Sale of Purchased Items	16-17
Egg Receipts	18
Dairy Product Receipts	19
Other Farm Receipts	20-29
Commodity Credit Corporation Activities	30
Futures Accounts	31
Farm Expenses	32-71
Farm Expense Summary and Cash Flow Projection	72-73
Purchase of Depreciable Items	74
Depreciation	75-83
Labor Costs – Regular Employees	84
Labor Costs – Part Time Labor	85
Nonfarm Business Records	86
Insurance Record and Accounts Receivable	87
Loans Payable Records	88-89
Farm Credit Summary	90
Balance Sheet Information and Summaries	91-94
Livestock Breeding and Production Record	95
Notes	96

Sample Farm Record Book Cash Receipts

CASH FARM INCOME - EXAMPLE

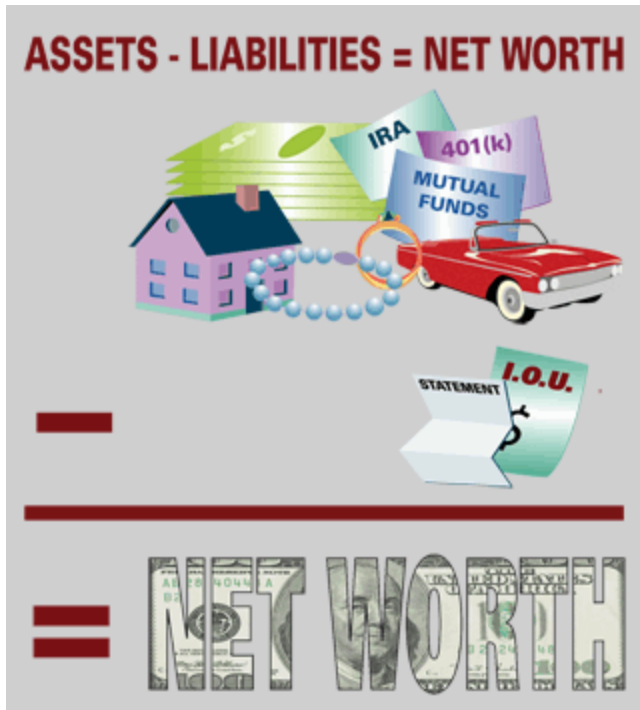
				1	2	3	4	5	6	7	8	
				Crops						Livestock Products		
Date	Num	Sold To	Total Income	OATS						Dairy	Other	
1	5/29	19	Bunge Corporation 371 bu Oats @ \$2.00 bu	742	00	742	00					
...												
...												
25	7/11	56	Brown Livestock Sales 32 calves (av 450# @ \$0.43 lb)	6,192	00							
TOTALS				6,934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

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								
			6,192	00								

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

ASSETS		LIABILITIES	
Current Assets		Current Liabilities	
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	Total Current Liabilities	\$ 35,000.00
Supplies	\$ 4,000.00		
Total Current Assets	\$ 75,000.00	Non-Current Liabilities	
		Equipment Loan	\$ 24,000.00
Non-Current Assets		Farm Mortgage	\$ 86,000.00
Equipment & Vehicles	\$ 85,000.00	Total Non-Current Liabilities	\$ 110,000.00
Buildings	\$ 100,000.00		
Farmland	\$ 275,000.00	TOTAL LIABILITIES	\$ 145,000.00
Total Non-Current Assets	\$ 460,000.00		
		OWNER EQUITY = NET WORTH	
		Contributed Capital	\$ 50,000.00
		Retained Earnings	\$ 195,000.00
		Valuation Equity	\$ 145,000.00
		Total Owner Equity	\$ 390,000.00
TOTAL ASSETS	\$ 535,000.00	TOTAL LIAB. & OWNER EQUITY	\$ 535,000.00

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) ¹	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 ² [Y-Z]	AA	\$ 167,300
Interest expense [D+E+(Q-K)]	AB	\$ 21,990
Net farm income from operations ³ [AA-AB-C]	AC	\$ 118,310

Worksheet 2. Financial Position and Performance Ratios ¹

	Your Farm	Benchmark	Strong/Weak
Profitability			
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
Liquidity			
Current Ratio [N/O]	1.78	2.00	Weak
Working Capital/Gross Revenues Ratio $[(N-O) \div Y] * 100$	19.6%	40.0%	Weak
Solvency			
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
Financial Efficiency			
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

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



Contact Information

Alan Miller

Farm Business Management Specialist

Purdue University

Agricultural Economics Department

millerwa@purdue.edu

765-494-4203