

FARM BUSINESS MANAGEMENT ANALYSIS

A Program for Missouri Farmers



Agriculture Today



Risk Management
"Financial Snapshots"
Breakeven Analysis
Cash Flows
Balance Sheets
Cost Variances
Marketing Plans
Financial Ratios

FBMA Evolved from



- Veteran's Education Programs
- Adult Education Programs thru DESE
- Balanced Farming Program
- Missouri Loose-leaf Record Book
- Missouri Young Farmers Record Book
- Missouri Farm Business Record Book
- Manual 75

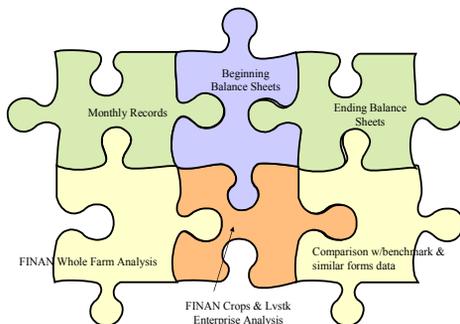
FBMA Rationale



Designed to assist farmers in:

- ✓ Establishing and maintaining a good and defensible farm business accounting system.
- ✓ Using data from the farm records to do a financial analysis of the farm business.
- ✓ Compare financial and production data from the farm business to benchmark and comparative data from similar groups of farms. Utilize the comparisons to make profitable adjustments in the farm business.

FBMA Puzzle

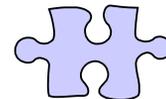


Monthly Records

Instructor/Enrollee selects an accounting system to track expenses/receipts and enterprise information

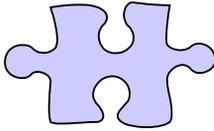
– Options:

- Missouri Farm Business Record Book
- Quicken
- PC Mars
- Others



Beginning Balance Sheet- FinPack

- Instructor/Enrollee build beginning cost and market balance sheets in FinPack.



Jan C. Winemont
Owner, Winemont
New Balance Farm, University of Missouri-FFAR

Balance Sheet January 31, 2021
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FINPACK

CURRENT FARM ASSETS		CURRENT FARM LIABILITIES	
Value	Market	Value	Market
Cash & checking account	1,075	Farm account interest	88
Prepaid expenses & supplies (2021)	1,700	Farm accounts payable & current payables (2021)	567
Inventory items	5,750	Overhead loan	1,000
Accounts receivable (2021)	-	Current Loans (2021)	1,000
Other current assets	-	Other farm: P&I loans	1,000
Current Loans (2021)	10,000	Government crop loans	20,000
Over 12 months	10,000	Prepaid for other 12 months or more liabilities	20,000
12-24 months	10,000		
25-36 months	10,000		
37-60 months	10,000		
Over 60 months	10,000		
Total Current Assets	27,525	Total Current Liabilities	21,885
INTERMEDIATE FARM ASSETS		INTERMEDIATE FARM LIABILITIES (2021)	
Value	Market	Value	Market
Real Estate (2021)	100,000	Other farm: P&I loans	1,000
Other Real Estate	100,000	Government crop loans	20,000
Land (2021)	100,000	Prepaid for other 12 months or more liabilities	20,000
Other Land	100,000		
Buildings (2021)	100,000		
Other Buildings	100,000		
Equipment (2021)	100,000		
Other Equipment	100,000		
Investments (2021)	100,000		
Other Investments	100,000		
Total Intermediate Assets	400,000	Total Intermediate Liabilities	19,000
LONG TERM FARM ASSETS		LONG TERM FARM LIABILITIES (2021)	
Value	Market	Value	Market
Land (2021)	100,000	Other farm: P&I loans	1,000
Other Land	100,000	Government crop loans	20,000
Buildings (2021)	100,000	Prepaid for other 12 months or more liabilities	20,000
Other Buildings	100,000		
Equipment (2021)	100,000		
Other Equipment	100,000		
Investments (2021)	100,000		
Other Investments	100,000		
Total Long Term Assets	400,000	Total Long Term Liabilities	40,000
TOTAL ASSETS (2021)	875,525	TOTAL LIABILITIES (2021)	80,885

Jan C. Winemont
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Schedule B: Prepaid Expenses and Supplies

Quantity	Unit	Value
-	-	4,750
-	-	2,250
Total prepaid expenses and supplies		7,250

Schedule H: Livestock Held For Sale

Livestock	Description	Number	Average Weight	Unit	Value
Red Cattle	"	100	1000lb/head		750
Total livestock held for sale					750

Schedule D: Accounts Receivable

Quantity	Unit	Value
-	-	9,750
Total accounts receivable		9,750

Schedule G: Crops and Feed

Crop	Description	Quantity	Unit	Value
Corn Stage	148	bu		11,610
AF Midstage	762	bu		56,230
Feed Corn	8,829	bu		19,458
Alfalfa Hay	192	ton		2,750
Total crops held for sale or feed				89,218

Schedule I: Other Intermediate Assets

Quantity	Unit	Value
-	-	19,458
Total other intermediate assets		19,458

Schedule E: Current Farm Loans

Current Farm Loan	Interest Rate	Principal Balance	Account	Normal P&I	Fixed Due P&I	Month Due	Final Due	Principal Due	Interest Due
Cur. loan - FIB-4 Cur	7.00 %	5,177	91	-	-	-	-	5,177	-
Total current loans		5,177	91	-	-	-	-	5,177	-

Schedule F: Intermediate Farm Liabilities

Intermediate Farm Liability	Interest Rate	Principal Balance	Account	Normal P&I	Fixed Due P&I	Month Due	Final Due	Principal Due	Interest Due
Eloan	4.00 %	8,000	-	300	-	12	-	8,300	-
FIB-2	7.50 %	32,175	-	2,200	-	multiple	2007	4,096	27,219
FIB-1	7.00 %	50,571	-	1,427	-	multiple	2016	14,716	35,425
King's Moor	8.00 %	5,131	-	1,275	-	multiple	2007	853	4,278
GMG Truck Loan	7.25 %	4,408	-	2,812	-	multiple	2014	2,229	2,509
Total intermediate farm liabilities		100,715	-	28,014	-	-	22,214	19,491	-

Schedule G: Long Term Farm Liabilities

Long Term Farm Liability	Interest Rate	Principal Balance	Account	Normal P&I	Fixed Due P&I	Month Due	Final Due	Principal Due	Lg Term Interest Due
BAC	7.50 %	37,462	-	6,800	-	multiple	2016	2,270	58,114
S&B	6.00 %	8,011	573	1,568	-	multiple	2010	818	8,130
Total long term farm liabilities		45,473	573	8,368	-	-	3,088	63,242	-

Ending Balance Sheet-FinPack

- At end of year, Instructor/Enrollee build closing cost and market balance sheets in FinPack.



FINAN-Whole Farm Analysis

- At end of year, Instructor/Enrollee use summary information from the accounting system and the balance sheet information to complete a whole farm (financial) analysis for the year.



FINPACK

ACCURACY CHECKS

CASH FLOW CHECK

Beginning cash balance	3,674	Ending cash balance	1,273
Gross cash farm income	279,321	Total cash farm expense	191,472
Capital sales	-	Farm capital purchases	12,342
Nonfarm income	-	Nonfarm cap purchases	-
Money borrowed	8,430	Principal payments	30,708
Gifts and inheritances	-	Gifts, other outflows	-
Buy nonfarm savings	-	Ending nonfarm savings	-
Total cash inflows	284,047	Subtotal cash outflows	235,393
Apparent money used for family purposes	(H) 48,454		
Household capital purchases	(I) -		
Income tax and social security	(J) 8,635		
Apparent family living expense	(K) 38,819		
Family living expenses reported	(L) 38,819		
Discrepancy	(M) 0		

LIABILITIES CHECK

Beginning liabilities	(N) 287,180		
Money borrowed	(O) 8,430		
Principal payments	(P) 30,708		
Change in accounts payable	(Q) 541		
Change in deferred liabilities	(R) 4,475		
Ending liabilities calculated	(S) 289,890		
Ending liabilities reported	(T) 289,890		
Discrepancy	(U) 0		

INCOME STATEMENT

CASH FARM INCOME

	Quantity	Value	CASH FARM EXPENSE	
Sell Cakes	41 head	2,947	Seed	6,881
Milk	1,987,324 lb.	236,171	Fertilizer	6,362
Out breeding livestock		12,321	Crop chemicals	6,801
Direct & CC gift payments		8,524	Crop insurance	1,323
Livestock and payments		20,989	Drying fuel	194
Patronage dividends, cash		1,853	Crop misadventure	732
Other farm income		2,895	Prothioned feed	35,487
Gross cash farm income	279,321		Total cash farm expense	191,472
			Net cash farm income	87,849

INVENTORY CHANGES

	Orto & Feed	Market Livestock	Refrigerates & Other Income Items	Prepaid Expenses & Successes	Prepaid Expenses & Successes	Payables & Accruals	Yield
Ending inventory	68,218	700	8,790	7,056	1,188		
Beginning inventory	58,458	660	11,143	10,453	1,231		
Inventory change	(I) 9,760	100	-2,353	-3,397	-43		8,558
Net operating profit						(H) 96,907	

DEPRECIATION AND OTHER CAPITAL ADJUSTMENTS

	Breeding Livestock	Machinery & Vehicles	Buildings & Improvements	Other Assets	Total
Ending inventory	122,800	105,391	68,708	19,458	
Capital sales	(J) -	-	-	-	
Beginning inventory	118,458	104,382	68,167	18,880	
Capital purchases	(K) -	12,342	-	-	
Depreciation (exp. adj)	(L) 4,430	-11,733	-2,439	393	
Net farm income					(M) 88,738

(All information not shown)

PROFITABILITY

		Cost	Market
(J) Net farm income	(H)(K)	86,708	81,226
Labor and management earnings	(L-L)	71,449	63,671
Rate of return on farm assets	(O)(P)	16.1 %	11.4 %
Rate of return on farm equity	(Q)(R)	22.3 %	17.5 %
Operating profit margin	(U)(S)	28.7 %	26.5 %
Asset turnover rate	(S)(P)	56.0 %	43.1 %
(K) Change in market valuation		-	-5,483
(L) Interest on farm net worth	(R) (6%)	15,260	17,555
(M) Farm interest		13,814	13,814
(N) Value of operators labor & mgt		30,000	30,000
(O) Return on farm assets	(U)(M-N)	70,522	65,039
(P) Average farm assets		439,074	570,039
(Q) Return on farm equity	(U)(N)	56,708	51,226
(R) Average farm net worth		254,327	292,581
(S) Value of farm production		245,734	245,734

LIQUIDITY

		Cash	Accrual
Gross cash farm income	(I)	279,321	279,321
Inventory change-income items	(J)	-	12,500
(T) Gross farm expense	(I)	279,321	291,821
Cash farm income	(I)	191,472	191,472
Inventory change-expense items	(J)	-	3,442
(U) Total farm operating expense	(I)	191,472	194,914
Net farm operating income	(T)(U)	87,849	96,907
Nonfarm income	(V)	-	-
Family living & taxes paid	(I)	48,454	48,454
(V) Available for principal payments	(I)	39,395	48,453
Principal pymts on long term debt	(I)	2,930	2,930
(W) Available for intermediate debt	(I)	36,465	45,523
(X) Average intermediate debt		111,035	111,035
Yrs to turnover intermediate debt	(X)(W)	3.0	2.4
Term debt coverage ratio		143 %	167 %
Operating expense as % of income	(U)(T)	69 %	67 %
Interest as a % of income		5 %	5 %

SOLVENCY (Market)

	Begin	End
Total assets	575,946	590,932
Total liabilities	287,180	269,890
Net worth	288,766	321,042
Change in net worth		32,276
Current percent in debt	39 %	36 %
Current & intermediate pct in debt	33 %	26 %
Long term percent in debt	40 %	39 %
Nonfarm percent in debt	6 %	10 %
Total percent in debt	50 %	46 %

FINANCIAL STANDARDS MEASURES

	Begin	End
LIQUIDITY		
Current ratio	2.58	2.76
Working capital	45,318	55,987
SOLVENCY (Market)		
Farm debt to asset ratio	51 %	47 %
Farm equity to asset ratio	49 %	53 %
Farm debt to equity ratio	104 %	87 %
PROFITABILITY		
Rate of return on farm asset	16.1 %	11.4 %
Rate of return on farm equity	22.3 %	17.5 %
Operating profit margin	28.7 %	26.5 %
Net farm income	86,708	81,226
REPAYMENT CAPACITY		
Term debt coverage ratio	143 %	167 %
Capital replacement margin	15,826	24,884
EFFICIENCY		
Asset turnover rate (market)		43.1 %
Operating expense ratio		62.1 %
Depreciation expense ratio		3.5 %
Interest expense ratio		4.7 %
Net farm income ratio		29.7 %

COMPARATIVE TREND ANALYSIS

SITUATION	2000	2001	2002
Total crop acres	281	281	281
Crop acres owned	111	111	111
Crop acres cash rented	170	170	170
Crop acres share rented	-	-	-
Dairy Cows	84.0	89.0	93.0
No. of Dairy Replac sold	-	-	39
PROFITABILITY			
Gross cash farm income	240,575	297,289	279,321
Total cash farm expense	179,409	187,834	191,472
Net cash farm income	61,266	109,455	87,849
Net operating profit	73,496	109,718	96,907
Net farm income	61,335	93,665	85,708
Lbr & mgt earnings	51,515	81,089	71,449
Rate of ret on assets	12.0 %	18.7 %	16.1 %
LIQUIDITY (Accrual)			
Yrs to turnover int debt	4.7	2.0	2.4
Expense as a % of income	71 %	62 %	67 %
Interest as a % of income	7 %	5 %	5 %

COMPARATIVE BALANCE SHEETS (Year End at Cost)

ASSETS	1996	1997	1998	1999	2000	2001	2002
Total farm assets	306,083	318,238	386,995	402,471	412,805	431,077	447,070
Nonfarm assets	11,000	13,400	13,463	13,400	13,400	13,400	13,400
Total assets	317,083	331,638	400,429	415,871	426,205	444,477	460,470
LIABILITIES							
Total farm liabilities	233,822	232,125	262,152	239,065	228,640	195,877	173,616
Nonfarm liabilities	-	-	2,126	5,842	8,208	8,208	1,325
Total liabilities	233,822	232,125	264,278	245,707	229,699	196,796	174,941
Net worth	83,261	99,513	136,151	170,164	196,596	247,771	285,529
Net worth change		16,252	36,638	39,013	21,431	51,175	37,758

FINAN-Crop & Livestock Enterprise Analysis

- When whole farm analysis is good, production information is added and an enterprise analysis is added to the annual farm analysis.



CROP ENTERPRISE ANALYSIS

	Con Brents Cash Rent	Con Sillig Cash Rent	Attila Hay Brents Cash Rent	Con Owned Land	Con Sillig Owned Land	Attila Hay Owned Land	Attila Hay Owned Land
RETURNING							
Acres	80.80	29.90	59.00	16.00	26.00	55.30	11.70
Yield	bu	bu	bu	bu	bu	bu	bu
Total per acre	121.20	17.87	4.81	123.84	12.21	4.80	1.77
Share of production (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Value per unit	2.00	16.00	90.00	2.00	16.00	90.00	90.00
Total product value	242.37	307.32	432.27	248.80	311.54	432.25	159.00
Other net income	-	-	-	-	-	-	-
Gross return per acre	242.37	307.32	432.27	248.80	311.54	432.25	159.00
DIRECT EXPENSES							
Seed	35.03	38.63	-	35.03	38.63	-	37.83
Fertilizer	25.32	25.32	9.37	25.32	25.32	9.37	46.21
Total direct expenses	271.25	271.25	117.23	176.33	189.28	53.63	186.17
Return over direct expenses	21.12	36.11	315.24	75.54	145.33	382.22	41.83
OVERHEAD EXPENSES							
Head labor	16.79	17.27	16.43	16.79	17.27	16.43	16.11
Real estate taxes	-	-	-	5.95	5.95	5.95	5.95
Total overhead expenses	16.79	17.27	16.43	22.74	23.22	22.38	22.06
Total direct & overhead expenses	288.04	288.52	133.66	199.07	212.50	76.01	208.23
Net return per acre	-45.67	35.77	298.59	53.32	89.49	275.87	41.38
Labor & management charge	14.26	17.51	19.70	14.26	17.51	19.70	14.26
Net return over lbr & mgt	-27.42	18.26	278.89	2.36	47.87	256.17	27.12
Government payments	12.54	12.54	12.54	12.54	12.54	12.54	12.54
Net return with govt paym	-14.88	30.80	266.35	14.82	60.42	268.67	39.66
COST OF PRODUCTION PER UNIT							
Total direct expenses	1.62	12.37	23.36	1.43	9.80	15.00	65.76
Total dr & ovtl expenses	2.14	15.90	40.06	1.89	14.22	25.39	126.24
With labor & management	2.22	16.93	44.25	1.98	15.23	27.30	144.71
Less govt & other income	2.12	16.20	41.63	1.88	14.50	24.69	137.61
Est. labor hours per acre	3.88	6.36	7.16	3.88	6.36	7.16	5.07

(All information not shown)

LIVESTOCK ENTERPRISE ANALYSIS - Beef, Background Beef

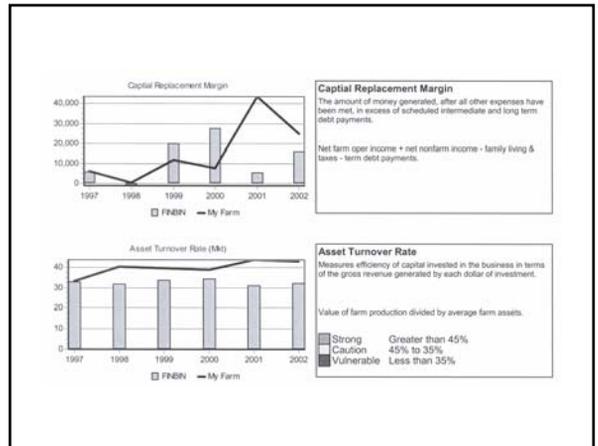
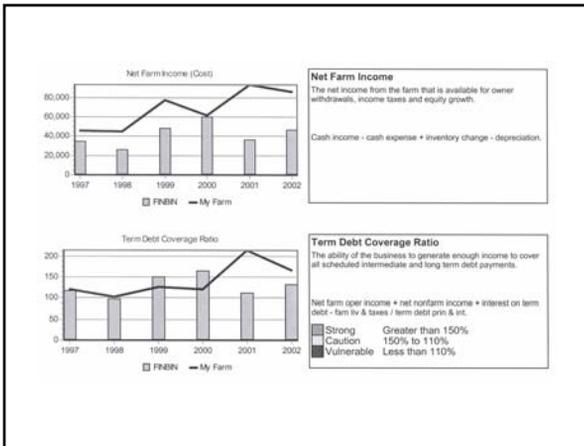
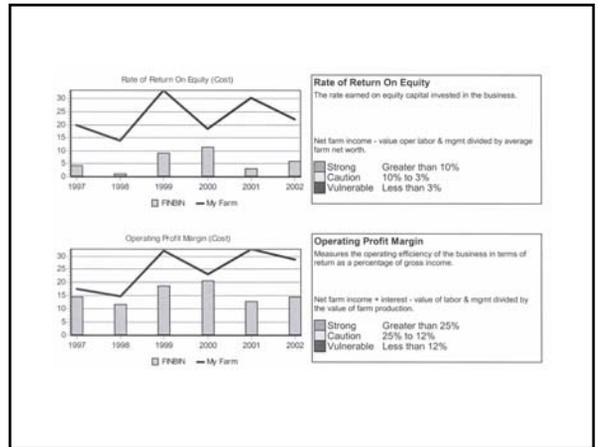
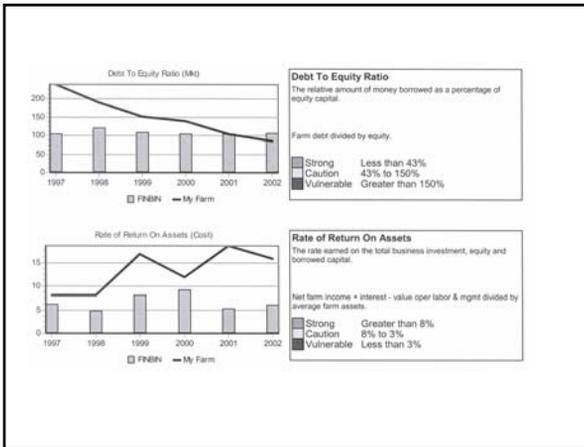
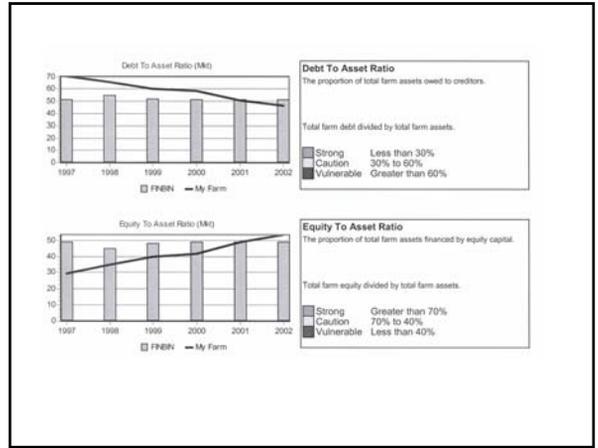
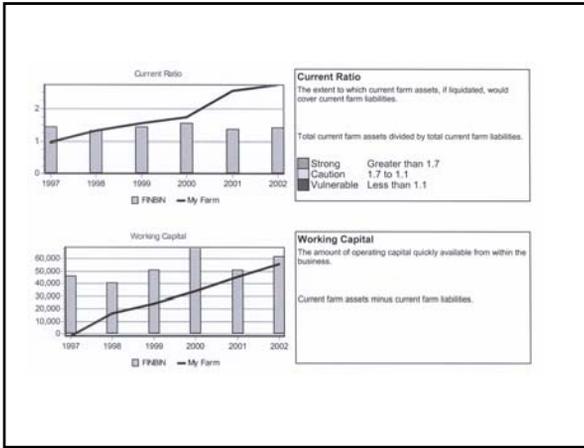
	Per Cwt Produced		Per Head		Enterprise Total	
	Quantity	Value	Quantity	Value	Quantity	Value
RETURNING						
Background Beef sold	187.20 bu	147.74	581.61 bu	443.23	342475.0 bu	270288
Background	3.20 bu	2.73	9.84 bu	8.20	4000.0 bu	9000
Loss purchased	-100.00 bu	-130.00	-452.38 bu	-458.79	-27852.0 bu	-248507
Inventory change	60.31 bu	42.75	180.84 bu	128.25	110341.0 bu	78010
Total production	149.81 bu	57.43	359.89 bu	172.89	182444.0 bu	105430
Other income	-	-	-	-	-	-
Gross return		57.43		172.89		105430
DIRECT EXPENSES						
Complete Ration	112.80 bu	6.08	337.81 bu	16.24	101.0 ton	11124
Hay, Mixed	109.32 bu	1.64	327.87 bu	4.92	100.0 ton	3000
Total direct expenses		46.73		146.20		89154
Return over direct expenses		8.90		28.69		16276
OVERHEAD EXPENSES						
Head labor		0.60		2.07		1303
Real estate taxes		0.05		0.15		82
Net return		-5.13		-13.29		-8284
Labor & management charge		9.90		29.24		18244
Net return over lbr & mgt		-14.88		-46.88		-27428
Est. labor hours per unit		0.88		2.64		1838
COST OF PRODUCE PER CWT SOLUTIONS						
Total direct expenses	74.17		750		Feed cost per cwt of gain	32.14
Total dr & ovtl expenses	81.66		510		Feed cost per head	96.42
With labor & management	89.93		3.9		Average purchase weight	360
With other revenue adjustments	85.93		0.89		Average sales weight	495
			4.90		Avg gain price / cwt	89.82
			5.88		Aug sales price / cwt	78.92

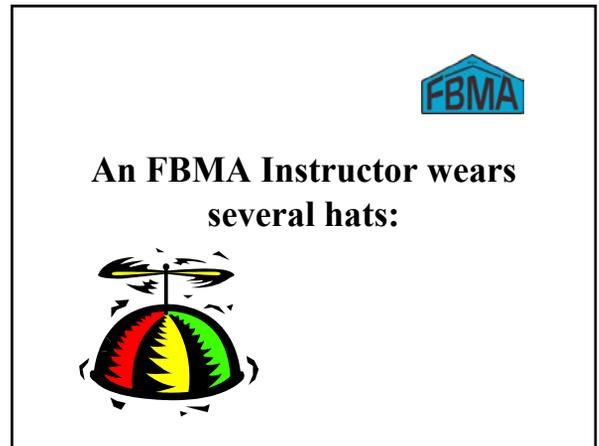
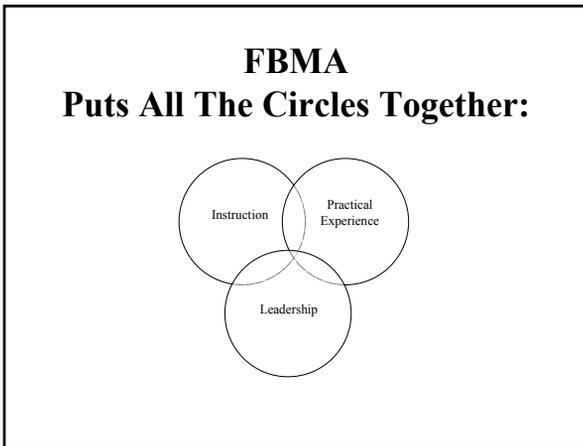
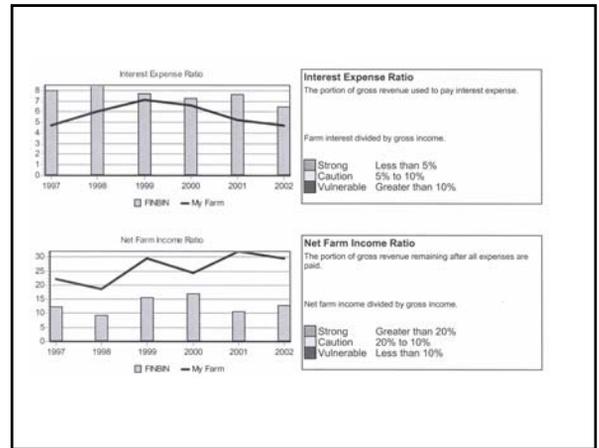
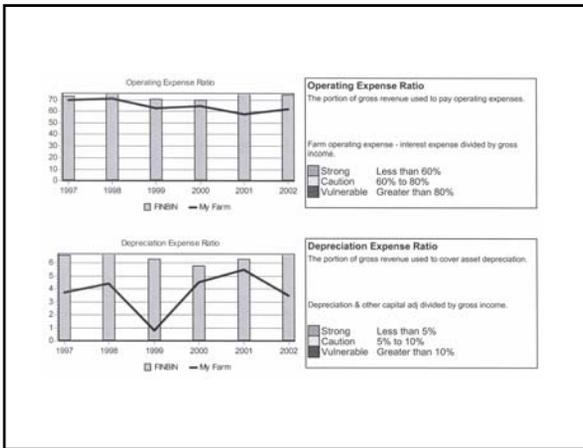
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Comparisons W/Benchmark & Similar Farm Data - RankEm

- The RankEm program is used to "measure" the enrollee's farm with other Missouri farms, farms with similar characteristics, and farms from a national database (FINBIN)







- Teaches Classes
 - Topics Meetings
 - In-Depth Classes

- Works with individual FBMA members:
 - Assist with establishing and maintaining records
 - Helps research and solve problems
 - Completes farm and enterprise analysis
 - Assists in tax estimation and management



- Advises the Young Farmer Chapter
 - Assists in planning meetings, fund-raisers & community service activities.
 - Attends and coordinates chapter involvement in state and national activities.

FBMA Instructor Guidelines

(Full-Time)



500 contact hours of instruction

125-300 hours-FBMA instruction

(25 hr/member)

125-300 hours-Classroom instruction

75 hours-Leadership (Young Farmers)

500 contact hours

	FBMA	Classroom Instruction	Leadership Development	
Minimum	5 business units= 125 contact hours	125 contact hours	75 hours	
Maximum	12 business units= 300 contact hours	300 contact hours	75 hours	
Example	5 business units= 125 contact hours	300 contact hours	75 hours	=500 contact hours
Example	6 business units= 150 contact hours	275 contact hours	75 hours	=500 contact hours
Example	7 business units= 175 contact hours	250 contact hours	75 hours	=500 contact hours
Example	8 business units= 200 contact hours	225 contact hours	75 hours	=500 contact hours
Example	9 business units= 225 contact hours	200 contact hours	75 hours	=500 contact hours
Example	10 business units= 250 contact hours	175 contact hours	75 hours	=500 contact hours
Example	11 business units= 275 contact hours	150 contact hours	75 hours	=500 contact hours
Example	12 business units= 300 contact hours	125 contact hours	75 hours	=500 contact hours

FBMA Curriculum Parts



- FBMA I – Establishing a Farm Accounting System
- FBMA II – Analyzing the Farm Business
- FBMA III – Adjusting the Farm Business

FBMA I Topics:



- Orientation to the Farm Business Management Analysis Program
- Introduction to Farm Accounting
- Recording Receipts and Expenditures
- Developing the Year's Cash Flow Summary

FBMA I Topics (continued) :



- Developing the Balance Sheets
 - Inventories of Machinery/Equipment
 - Inventories of Livestock, Crops, and Crop Supplies
 - Inventories of Real Estate and Non-Farm Assets
- Inventories of Short, Intermediate and Long Term Liabilities

FBMA I Topics *(continued)* :



- Keeping Enterprise (Cost and Profit Center) Records
- Developing Non-Farm and Family Living Records
- Completing a Whole Farm Financial Analysis (FINAN)

FBMA II Topics:



- Maximizing After-Tax Income
- Tax Management Strategies
- Planning Next Year's Livestock and Cropping Programs and Cash Flow (FINFLO)
- Analyzing the Financial Statement and Cash Flow

FBMA II Topics *(continued)* :



- Analyzing the Profit/Loss Statement
- Analyzing the Financial Statement and Cash Flow
- Analyzing Livestock Enterprises
- Analyzing Crop Enterprise
- Analyzing Machinery, Equipment, and Building Costs
- Utilizing Farm Credit
- Completing Whole Farm Financial and Enterprise Analysis

FBMA III Topics:



- Determining the Most Profitable Cropping System
- Determining the Most Profitable Livestock System
- Planning Income Tax Management
- Planning This Year's Cash Flow (FINFLO)
- Analyzing the Farm Business

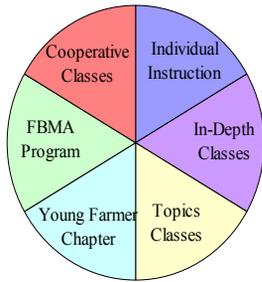
FBMA III Topics *(continued)* :



- Strategies for Lowering Operating Costs
- Strategies for Reducing Overhead Costs
- Evaluating Capital Investments to Increase Net Profit (FINLRB)
- Strategies for Increasing Labor Efficiency

What Can a Secondary Teacher Do?





Pick your pieces of the pie!

**Daryl Olvader, CEO
Farm Credit Services of Missouri**

On managing risk:

- Develop a current financial “snapshot” of your business.
- Conduct a “breakeven” analysis of your agricultural enterprise.
- Identify major cost variances which exceed industry standards or county averages.
- Develop a cash flow analysis to support cash and borrowing needs.
- Develop a marketing plan and stick to it.



**Farm Business Management
Analysis**

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