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MANAGING RISK AND PROFIT USING INCOME OVER FEED COSTS



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What **KEY** information should all producers know?

- Monthly Income Over Feed Costs (IOFC)
- Breakeven IOFC
- Ration and Crops (whole herd)
 - Feed Inventory
 - Purchased feed costs
 - Costs to produce on farm feeds
- Cash Flow Plan
 - Net margin needed/year/month
 - Class III breakeven price

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First part of equation – how well are feed costs being controlled for the lactating cows?

MONTHLY IOFC BREAKEVEN IOFC

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Monthly IOFC

- Income Over Feed Costs = $\text{Milk income/cow} - \text{Feed costs/cow}$
 - Measured in dollars per cow per day.
 - All-milk price x daily avg. milk prod/100 – daily feed cost
 - Example:
 - $\$19.59/\text{cwt} \times 80 \text{ lbs}/100 - \$5.90 = \$9.77 \text{ IOFC}/\text{cow}/\text{day}$
 - $\$11.90/\text{cwt} \times 80 \text{ lbs}/100 - \$5.25 = \$4.27 \text{ IOFC}/\text{cow}/\text{day}$
- Addresses only the lactating cows
- Good tool to determine if milk income in line with feed costs.

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College of Agricultural Sciences • Cooperative Extension

10-July-09

FEED PRICE LIST
compiled by Virginia Isler

Disclaimer: These prices were compiled using several sources. They should only be used when actual prices are not readily available.

MMG-mixed mainly grass
MML-mixed mainly legume

FEED NAME	DM %	\$/CWT		\$/TON	
		AS FED	DM	AS FED	DM
FORAGES					
Grass hay avg analysis	90.00	6.50	7.22	130.00	
Leg hay avg analysis	90.00	7.85	8.72	157.00	
MMG hay avg analysis	90.00	6.50	7.22	130.00	
MML hay avg analysis	90.00	6.75	7.50	135.00	
Grass sil avg analysis	39.00	2.82	7.22	56.33	
Leg sil avg analysis	45.00	3.93	8.72	78.50	
MMG sil avg analysis	40.00	2.89	7.22	57.78	
MML sil avg analysis	43.00	3.23	7.50	64.50	
Com sil UREA	34.00	2.01	5.90	40.15	
Com sil NEE	34.00	2.06	6.07	41.25	
Dec corn sil STUNT	30.00	1.63	5.42	32.50	
Dec corn sil GRTH	22.00	1.19	5.42	23.83	
SM gm sil avg anal	32.30	2.42	7.50	48.45	
SM gm sil boot	19.00	1.43	7.50	28.50	
Sor-Sud sil avg	30.00	2.25	7.50	45.00	
Grass part SPR	20.00	1.11	5.56	22.22	
Leg part spring	20.00	1.17	5.83	23.33	
MMG part spring	20.00	1.11	5.56	22.22	
MML part spring	20.00	1.17	5.83	23.33	

<http://www.das.psu.edu/research-extension/dairy>

IOFC

Market Approach

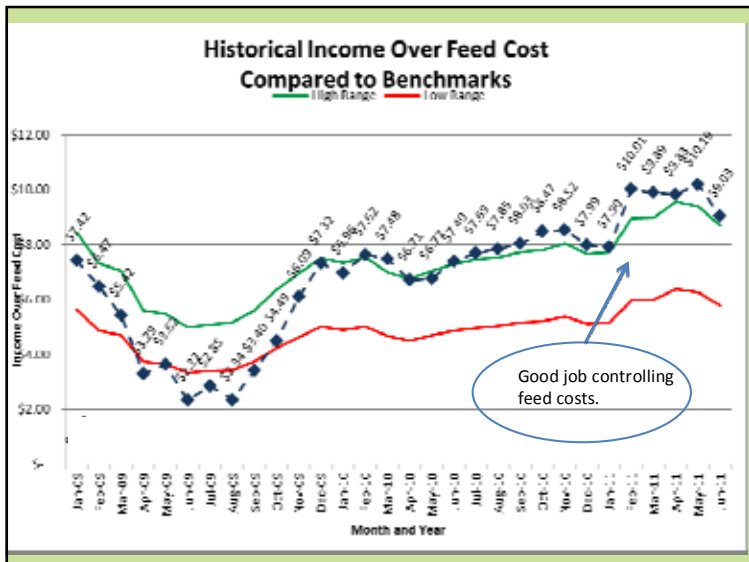
- How does IOFC look using market prices for home raised forages and feeds?

Dairy Herd Using IOFC w/Profit Team

Month and Year	Gross Milk Price/cwt	Milk income/cow	Feed cost/cow	IOFC	Average milk lbs	Benchmark Range	
						Low	High
MM/YYYY	\$19.00	\$14.25	\$ 6.00	\$8.25	75.0	\$ 5.70	\$ 8.55
Jan-09	\$20.65	\$14.08	\$5.66	\$7.42	69.2	\$ 5.63	\$ 8.45
Feb-09	\$19.14	\$12.17	\$5.70	\$6.47	63.6	\$ 4.87	\$ 7.30
Mar-09	\$17.89	\$11.74	\$5.32	\$5.42	65.6	\$ 4.70	\$ 7.05
Apr-09	\$13.49	\$9.34	\$5.05	\$3.29	69.2	\$ 3.74	\$ 6.54
May-09	\$13.05	\$9.11	\$5.49	\$3.62	69.8	\$ 3.64	\$ 6.54
Jun-09	\$12.71	\$8.29	\$5.97	\$2.32	65.2	\$ 3.32	\$ 6.32
Jul-09	\$12.81	\$8.49	\$5.54	\$2.95	65.3	\$ 3.39	\$ 6.39
Aug-09	\$13.22	\$8.89	\$5.24	\$3.34	64.0	\$ 3.43	\$ 6.33
Sep-09	\$14.13	\$9.33	\$5.33	\$3.40	66.0	\$ 3.73	\$ 6.58
Oct-09	\$15.44	\$10.58	\$5.09	\$4.49	68.4	\$ 4.23	\$ 6.35
Nov-09	\$16.68	\$11.56	\$5.47	\$6.09	69.3	\$ 4.62	\$ 6.94
Dec-09	\$17.92	\$12.51	\$5.19	\$7.32	69.8	\$ 5.01	\$ 7.51
Jan-10	\$17.29	\$12.21	\$5.25	\$6.96	70.6	\$ 4.89	\$ 7.49
Feb-10	\$17.75	\$12.55	\$4.93	\$7.62	70.9	\$ 5.00	\$ 7.50
Mar-10	\$16.64	\$11.66	\$4.58	\$7.48	70.5	\$ 4.66	\$ 7.46
Apr-10	\$15.93	\$11.23	\$4.52	\$6.71	70.5	\$ 4.49	\$ 7.49
May-10	\$16.65	\$11.75	\$4.98	\$6.77	70.6	\$ 4.70	\$ 7.50
Jun-10	\$17.49	\$12.16	\$4.76	\$7.40	69.5	\$ 4.87	\$ 7.30
Jul-10	\$17.60	\$12.44	\$4.75	\$7.69	70.7	\$ 4.97	\$ 7.46
Aug-10	\$17.49	\$12.57	\$4.72	\$7.85	71.9	\$ 5.03	\$ 7.54
Sep-10	\$18.39	\$13.90	\$4.82	\$8.03	70.6	\$ 5.16	\$ 7.74
Oct-10	\$18.18	\$13.02	\$4.55	\$8.47	71.6	\$ 5.21	\$ 7.81
Nov-10	\$19.05	\$13.43	\$4.91	\$8.50	70.5	\$ 5.37	\$ 8.06
Dec-10	\$18.51	\$12.77	\$4.78	\$7.99	69.0	\$ 5.11	\$ 7.46
Jan-11	\$18.14	\$12.88	\$4.98	\$7.90	71.0	\$ 5.15	\$ 7.73
Feb-11	\$19.08	\$14.90	\$4.89	\$10.01	74.2	\$ 5.96	\$ 8.94
Mar-11	\$20.14	\$14.97	\$5.08	\$9.89	73.6	\$ 5.99	\$ 8.98
Apr-11	\$21.54	\$16.94	\$5.11	\$9.83	74.0	\$ 6.38	\$ 9.56
May-11	\$22.05	\$16.86	\$5.47	\$10.19	71.0	\$ 6.27	\$ 9.40
Jun-11	\$23.17	\$14.46	\$5.43	\$9.53	69.3	\$ 5.78	\$ 8.87

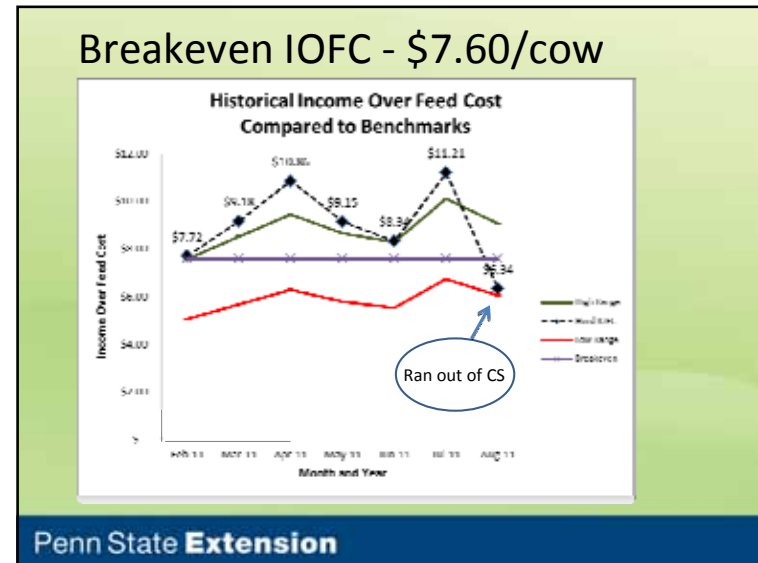
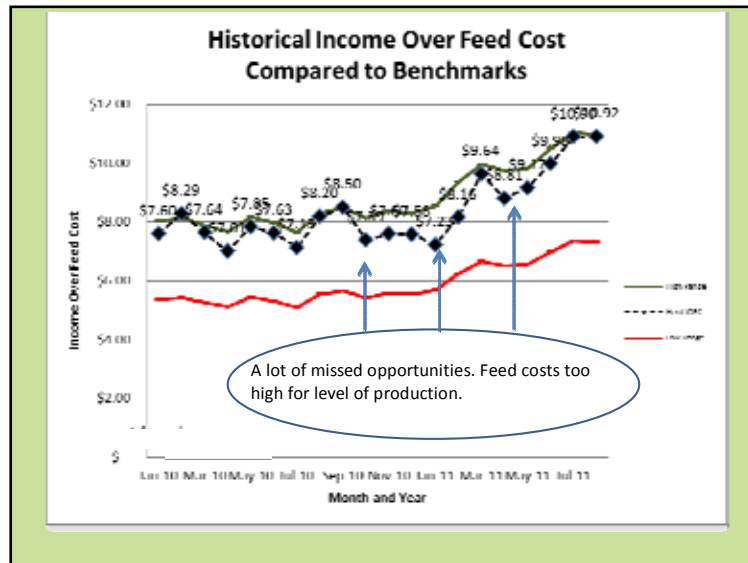
Low range - 60% of income going to feed costs

High range - 40% of income going to feed costs

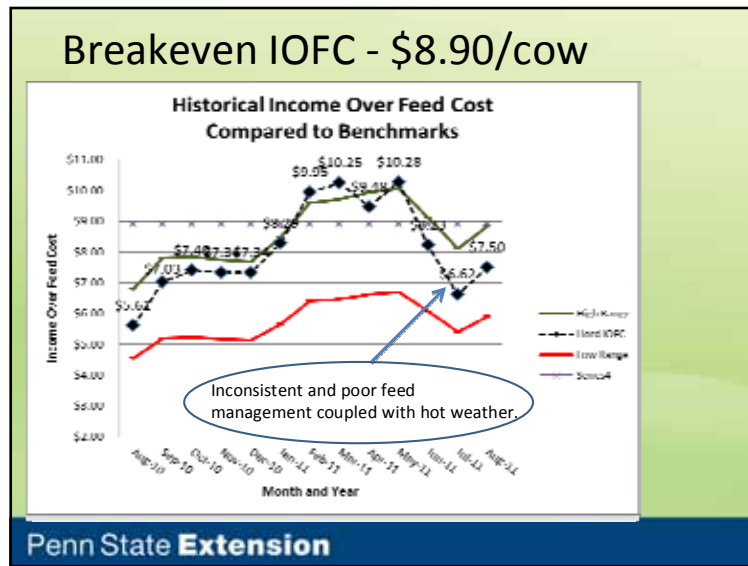


Dairy Herd Needing Help.....

Month and Year	Gross Milk Price/cwt	Milk income/cow	Feed cost/cow	IOFC	Average milk lbs	Benchmark Range	
						Low	High
MM/YYYY	\$19.00	\$14.25	\$ 6.00	\$8.25	75.0	\$ 5.70	\$ 8.55
Jan-10	\$17.71	\$13.37	\$5.77	\$7.60	75.5	\$ 5.35	\$ 8.02
Feb-10	\$17.79	\$13.56	\$5.27	\$8.29	76.2	\$ 5.43	\$ 8.14
Mar-10	\$16.87	\$13.16	\$5.52	\$7.64	78.0	\$ 5.26	\$ 7.90
Apr-10	\$16.11	\$12.79	\$5.78	\$7.01	79.4	\$ 5.12	\$ 7.67
May-10	\$16.81	\$13.60	\$5.75	\$7.85	80.9	\$ 5.44	\$ 8.16
Jun-10	\$17.21	\$13.29	\$5.66	\$7.63	77.2	\$ 5.32	\$ 7.98
Jul-10	\$17.36	\$12.74	\$5.61	\$7.13	73.4	\$ 5.09	\$ 7.64
Aug-10	\$18.35	\$13.84	\$5.64	\$8.20	75.4	\$ 5.54	\$ 8.31
Sep-10	\$19.40	\$14.18	\$5.68	\$8.50	73.1	\$ 5.67	\$ 8.51
Oct-10	\$19.72	\$13.57	\$6.18	\$7.39	68.8	\$ 5.43	\$ 8.14
Nov-10	\$19.42	\$13.98	\$6.38	\$7.60	72.0	\$ 5.59	\$ 8.39
Dec-10	\$18.00	\$13.86	\$6.28	\$7.58	77.0	\$ 5.54	\$ 8.32
Jan-11	\$18.03	\$14.24	\$7.01	\$7.23	79.0	\$ 5.69	\$ 8.54
Feb-11	\$19.89	\$15.63	\$7.47	\$8.16	78.6	\$ 6.25	\$ 9.38
Mar-11	\$21.73	\$16.62	\$6.98	\$9.64	76.5	\$ 6.65	\$ 9.97
Apr-11	\$20.86	\$16.27	\$7.46	\$8.81	78.0	\$ 6.51	\$ 9.76
May-11	\$20.56	\$16.37	\$7.20	\$9.17	79.6	\$ 6.55	\$ 9.82
Jun-11	\$21.58	\$17.50	\$7.52	\$9.96	81.1	\$ 7.00	\$ 10.50
Jul-11	\$22.50	\$18.41	\$7.51	\$10.90	81.8	\$ 7.37	\$ 11.05
Aug-11	\$23.13	\$18.30	\$7.38	\$10.92	79.1	\$ 7.32	\$ 10.98



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- Producers need to know what they are [feeding dry cows and heifers](#).
- Producers need to know what it is [costing to feed these animal groups](#).
- Producers need to know acreage and tonnage produced – thus [inventory](#).

Second part of equation – how good is the cropping program?

RATION AND CROPS

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What is my net milk margin/cwt?
 What is my break even Class III milk price/cwt?

CASH FLOW PLAN

Do the Annual Cash Flow with the end result of.....

What is needed to pay expenses (minus total milk cow feed and crop expenses per month).

Net Margin Needed per Year	\$	984,069
Net Margin Needed per Month	\$	82,006
Net Margin per CWT to Guarantee	\$	13.19 /CWT.
Income Over Feed Cost (IOFC) Breakeven	\$	9.49 /cow/day

\$9.49/ 71.9 lbs of milk = 13.19/cwt

PA Dairy Milk Margin



Source: Jim Dunn, PSU

Realistic Expectations for Total Cash Inflow – Plan for 2012

Timothy Witter - Rented Corn Acreag	Whole Farm	Per Cow	Dairy Total	Per CWT.	Feed Crop Total
Milk Price				\$ 19.41	
Total Cows				125	
Cows Milking				107	
Milk/Cow/Day		63.33			
Projected Milk Sales		19,788	\$ 480,189	2,473.483	
CASH INFLOWS					
Beginning cash balance	\$ 1,000		\$ 1,000		
Milk sales (gross)	\$ 480,189	\$ 3,842	\$ 480,189	\$ 19.41	
Patronage dividends (coop)	\$ 4,000				
Cull cow sales	\$ 14,400	\$ 115	\$ 14,400	\$ 0.58	
Bull calf sales	\$ 1,440	\$ 12	\$ 1,440	\$ 0.06	
Misc. dairy sales/income	\$ -	\$ -	\$ -	\$ -	
Govt dairy payments (MILC)	\$ -	\$ -	\$ -	\$ -	
Other govt. payments	\$ 2,200				
Crop sales	\$ -				
Custom work income	\$ -				
Other farm income	\$ 2,400				
TOTAL INFLOW	\$ 505,629	\$ 3,968	\$ 497,029	\$ 20.05	

1st Biggest Bottleneck

CASH OUTFLOWS			
Crop Direct Costs:			
Seed	\$ 12,110		\$ 12,110
Fertilizer	\$ 9,400		\$ 9,400
Chemical	\$ 6,600		\$ 6,600
Crop Custom Hire	\$ 28,574		\$ 28,574
	\$ 56,684		\$ 56,684
Purchased Feed Cost:			
Purchased Milking Cow Feed	\$ 125,926	\$ 1,007	\$ 125,926
Purchased Dry Cow & Heifer Feed	\$ 20,379	\$ 163	\$ 20,379
	\$ 146,305	\$ 1,170	\$ 146,305
Dairy Direct Expenses:			
Breeding & Registration	\$ 7,500	\$ 60	\$ 7,500
Veterinary & Medicine	\$ 15,000	\$ 120	\$ 15,000
bST	\$ -	\$ -	\$ -
Supplies	\$ 38,500	\$ 308	\$ 38,500
DHIA	\$ 3,500	\$ 28	\$ 3,500
Contract Heifer Raising	\$ -	\$ -	\$ -
Dairy Custom Hire	\$ 6,500	\$ 52	\$ 6,500
Milk Hauling	\$ 30,375	\$ 243	\$ 30,375
Milk Marketing	\$ -	\$ -	\$ -
Bedding	\$ 6,875	\$ 55	\$ 6,875
Total Direct Expenses	\$ 108,250	\$ 866	\$ 108,250

2nd biggest bottleneck

Expenses....

Major affect on breakeven numbers - you won't know the problem areas unless you see a cash flow plan.

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Related Operating Expenses (Overhead):			
Fuel and oil	\$ 5,500	\$ 37	\$ 4,681
Repairs	\$ 4,000	\$ 27	\$ 3,404
Hired labor, withholding, ins.	\$ -	\$ -	\$ -
Land rent	\$ 30,800	\$ -	\$ -
Machinery leases	\$ -	\$ -	\$ -
Building leases	\$ 16,200	\$ 130	\$ 16,200
Real estate taxes	\$ -	\$ -	\$ -
Farm insurance	\$ 1,550	\$ 11	\$ 1,319
Utilities	\$ 14,000	\$ 95	\$ 11,914
LGM Premium	\$ -	\$ -	\$ -
Dues and professional fees	\$ 1,700	\$ 12	\$ 1,447
Miscellaneous	\$ 3,000	\$ 20	\$ 2,553
Total Related Operating Expenses	\$ 76,750	\$ 332	\$ 41,517
Family Living/Owner Draw	\$ 42,000	\$ 286	\$ 35,742
Income Taxes	\$ -	\$ -	\$ -
Minimum ending balance	\$ 1,000	\$ -	\$ 1,000
TOTAL OUTFLOW	\$ 430,989	\$ 2,655	\$ 433,143
Operating Surplus	\$ 74,640	\$ 511	\$ 63,886
Capital Sales	\$ -		
Capital Purchases	\$ -		
New Borrowing	\$ -		
Loan Payments (Principal + Interest)	\$ 52,062	\$ 354	\$ 44,305
Cash Surplus or Deficit	\$ 22,578	\$ 157	\$ 19,581
Change in Cash Balance (Ending - Beg.)	\$ 21,578	\$ -	\$ 18,581

Expenses....

Major affect on breakeven numbers - you won't know the problem areas unless you see a cash flow plan.

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Numbers that producers can relate to.....

	Whole Farm	Dairy Only
Net Margin Needed per Year	\$ 236,943	\$ 239,940
Net Margin Needed per Month	\$ 19,745	\$ 19,995
Net Margin per CWT to Guarantee	\$ 9.63	\$ 9.75 /CWT.
Income Over Feed Cost (IOFC) Breakeven	\$ 6.07	\$ 6.14 /cow/day
Total Outflow	\$ 480,051	\$ 474,448
Minus Non-Milk Income	\$ 24,440	\$ 15,840
Total Outflow Covered by Milk Sales	\$ 455,611	\$ 458,608
CWT Milk Sold	24,605	24,605 CWT.
GROSS MILK PRICE BREAKEVEN	\$ 18.52	\$ 18.64 /CWT.
Basis to Use	\$ 2.50	\$ 2.50 /CWT.
Class III Breakeven Price	\$ 16.02	\$ 16.14 /CWT.

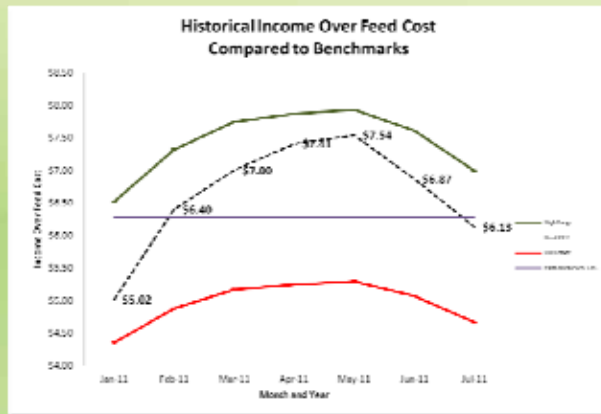
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Numbers that producers can relate to.....projection for 2012

	August's prices	Producer's prices
	Dairy Enterprise	
	Market	Cost
Feed Cost/Cow/Day	\$ 6.30	\$ 5.63
Milk Lbs Shipped	2,460,465	2,460,465
Number of Days in Shipment	365	365
Daily Milk Sold	6,741	6,741
Lbs Milk/Cow/Day	63.0	63.0
Gross Milk Price per CWT.	\$ 19.41	\$ 19.41
Milk Income per Cow/Day	\$ 12.23	\$ 12.23
Income Over Feed Cost - Current	\$ 5.93	\$ 6.60
Income Over Feed Cost - Breakeven	\$ 6.14	\$ 6.14
IOFC Current Compared to Breakeven	\$ (0.21)	\$ 0.46

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Farm's current status for 2011



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What are some management strategies to control IOFC?

1. Let nutritionist know your breakeven IOFC.
2. Optimize forage quality and quantity and home-raised feeds (consistency).
 - Double/triple cropping
 - Corn/soybeans/canola?
3. Cow comfort/grouping strategies
4. Precision feeding
 - High forage/high corn silage diets
 - Control protein and phosphorus levels

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What are some management strategies to control inventory?

1. Monitor inventory
2. Have the purchased grains for all animals itemized on invoices.
 - Know the price/ton for purchased feeds.
3. Know your tonnage and acreage for each crop.
4. Figure the cost of producing home raised forages and grains.

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What are some strategies to take control of risk management?

1. What is the net margin/cwt (per year or month)
2. What is the breakeven Class III price?
3. What is the breakeven gross milk price?

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Conclusion

- Know the BIG PICTURE
 - Only way to help your clientele make SMART decisions
- Focusing on one part of the picture will result in lost income
 - i.e. Price of a single ingredient

What can be done?

- Dairy Extension can work with you to help your clients do their cash flow plan.
- If you can get them to attend a workshop – Extension will work with them so they leave that day with a finished cash flow plan.

January 2012:

- 24 – Lancaster County: Penn State Cooperative Extension Office - Closed
- 25 – Bradford County: Edgewood Restaurant, Troy
- 27 – Berks County: Blue Mountain Family Restaurant, Shartlesville
- 31 – Centre County: Visitor's Center, State College

February 2012:

- 2 – Cambria County: Keystone Restaurant, Munster
- 3 – Lebanon County: Penn State Cooperative Extension Office
- 14 – Huntingdon County: Penn State Cooperative Extension Office
- 16 – Cumberland County: Penn State Cooperative Extension Office
- 22 – Crawford County: Holiday Inn Express, Meadville
- 23 – Fayette County: Farm Credit Office, New Stanton
- 28 – Somerset County: Penn State Cooperative Extension Office

March 2012:

- 7 – Blair County: Penn State Cooperative Extension Office
- 13 – Franklin County: Hoss's Steak and Sea House, Chambersburg

Questions?

