



IMPACT OF COMPONENTS ON MILK PRICE

PRO-DAIRY
Cornell University



Key Points

- Looking at milk price
- Range of component values
- Impact of change in % components
- Relationships to farm performance

Looking at Milk Price

- Net milk price received on farm key number
- Price can be broken down into different areas
 - Component value
 - PPD
 - Premiums
 - Deductions
 - Patronage
 - Futures

AVERAGE⁶ MILK INCOME AND MARKETING REPORT 101 Large Herd Dairy Farms, 2013

	Pounds	Percent	Price/Pound	Total	\$/Cwt of Milk
BASE FARM PRICE					
Butterfat	928,461	3.77%	\$1.67	\$1,546,607	\$ 6.28
Protein	763,641	3.10%	\$3.31	\$2,524,478	\$10.25
Solids	1,420,406	5.77%	\$0.40	\$571,607	\$ 2.32
Total Component Contribution					\$ 18.86
PPD	24,622,815			\$351,775	\$ 1.43
Base Farm Price					\$ 20.28
Premiums					
Quality				\$75,811	\$ 0.31
Volume				\$69,462	\$ 0.28
Market Premiums				\$151,489	\$ 0.62
Total Premiums					\$ 1.21
BASE FARM PRICE + PREMIUM					\$ 21.49

Deductions		
Promo	\$36,843	\$ 0.15
Hauling + Stop Charges.	\$160,726	\$ 0.65
Market Fees & Coop Dues	\$15,764	\$ 0.06
Total Deductions		\$ 0.87
BASE FARM PRICE + PREMIUMS – DEDUCTIONS		\$ 20.62
Marketing Programs		
Futures Contracts, Forward Contracting, Etc.	\$-7,124	\$ -0.03
Total Marketing Income		\$ -0.03
Patronage Dividends	\$53,488	\$ 0.22
NET PRICE RECEIVED ON FARM, ALL SOURCES		\$ 20.81
PPD - Hauling, per cwt., \$ per cwt.		\$ 0.78
PPD - Hauling + Market Premiums, per cwt., \$ per cwt.		\$ 1.39
Net Marketing Value (PPD + Total Premiums – Total Deductions), \$ per cwt.		\$ 1.77

Component Value

- Largest portion of the milk price
- All farms receive same price per pound of butterfat, protein, and other solids
- Influenced by % components
- Large range across farms

MILK PRICE INFORMATION BY QUINTILE⁷
 (Each Category Sorted Independently)
 101 Large Herd Dairy Farms, 2013

	Lowest Quintile	←	→	Highest Quintile	
Butterfat, %	3.61	3.73	3.78	3.85	4.03
Protein, %	2.99	3.07	3.11	3.15	3.22
Other Solids, %	5.71	5.74	5.76	5.78	5.84
Butterfat, \$ per Cwt.	6.02	6.21	6.30	6.41	6.69
Protein, \$ per Cwt.	9.88	10.14	10.27	10.39	10.67
Other solids, \$ per Cwt.	2.28	2.31	2.32	2.33	2.35
Total Component Value per Cwt.	\$ 18.36	\$ 18.66	\$ 18.85	\$ 19.05	\$ 19.64

- \$1.28 range in component value of milk check.
- Management can impact this number!
- Are you capturing all the milk price potential from components?

Dairy Profit Monitor – August 2014
70 Farms, 70 Pounds Milk per Cow per
Day or Greater

- Range in % Butterfat: 3.43 – 4.39
- Range in % Protein: 2.82 – 3.22
- Range in component value per cwt:
 \$21.88 - \$25.53
- A \$3.65 spread!

Impact of Changing % Components

- Increase % components of milk
- Per 100 pounds of milk, higher pounds of components
- Higher pounds of components X price per pound of components = higher component price per cwt. of milk
- As price per pound of components changes, impact on the milk price changes

Impact of % Butterfat on Component Value of Milk Price										
Change in Milk Price, Per Price Per Pound										
Price per Pound of Butterfat										
	\$1.10	\$1.30	\$1.50	\$1.70	\$1.90	\$2.10	\$2.30	\$2.50	\$2.70	\$2.90
% Butterfat										
3.40	3.74	4.42	5.10	5.78	6.46	7.14	7.82	8.50	9.18	9.86
3.45	3.80	4.49	5.18	5.87	6.56	7.25	7.94	8.63	9.32	10.01
3.50	3.85	4.55	5.25	5.95	6.65	7.35	8.05	8.75	9.45	10.15
3.55	3.91	4.62	5.33	6.04	6.75	7.46	8.17	8.88	9.59	10.30
3.60	3.96	4.68	5.40	6.12	6.84	7.56	8.28	9.00	9.72	10.44
3.65	4.02	4.75	5.48	6.21	6.94	7.67	8.40	9.13	9.86	10.59
3.70	4.07	4.81	5.55	6.29	7.03	7.77	8.51	9.25	9.99	10.73
3.75	4.13	4.88	5.63	6.38	7.13	7.88	8.63	9.38	10.13	10.88
3.80	4.18	4.94	5.70	6.46	7.22	7.98	8.74	9.50	10.26	11.02
3.85	4.24	5.01	5.78	6.55	7.32	8.09	8.86	9.63	10.40	11.17
3.90	4.29	5.07	5.85	6.63	7.41	8.19	8.97	9.75	10.53	11.31
3.95	4.35	5.14	5.93	6.72	7.51	8.30	9.09	9.88	10.67	11.46
4.00	4.40	5.20	6.00	6.80	7.60	8.40	9.20	10.00	10.80	11.60
4.05	4.46	5.27	6.08	6.89	7.70	8.51	9.32	10.13	10.94	11.75
4.10	4.51	5.33	6.15	6.97	7.79	8.61	9.43	10.25	11.07	11.89
\$ Per Point Increase	\$0.011	\$0.013	\$0.015	\$0.017	\$0.019	\$0.021	\$0.023	\$0.025	\$0.027	\$0.029

Impact of % Protein on Component Value of Milk Price										
Change in Milk Price, By Price per Pound										
% Protein	Price per Pound of Protein									
	\$1.60	\$1.80	\$2.00	\$2.20	\$2.40	\$2.60	\$2.80	\$3.00	\$3.20	\$3.40
2.80	4.48	5.04	5.60	6.16	6.72	7.28	7.84	8.40	8.96	9.52
2.83	4.53	5.09	5.66	6.23	6.79	7.36	7.92	8.49	9.06	9.62
2.86	4.58	5.15	5.72	6.29	6.86	7.44	8.01	8.58	9.15	9.72
2.89	4.62	5.20	5.78	6.36	6.94	7.51	8.09	8.67	9.25	9.83
2.92	4.67	5.26	5.84	6.42	7.01	7.59	8.18	8.76	9.34	9.93
2.95	4.72	5.31	5.90	6.49	7.08	7.67	8.26	8.85	9.44	10.03
2.98	4.77	5.36	5.96	6.56	7.15	7.75	8.34	8.94	9.54	10.13
3.01	4.82	5.42	6.02	6.62	7.22	7.83	8.43	9.03	9.63	10.23
3.04	4.86	5.47	6.08	6.69	7.30	7.90	8.51	9.12	9.73	10.34
3.07	4.91	5.53	6.14	6.75	7.37	7.98	8.60	9.21	9.82	10.44
3.10	4.96	5.58	6.20	6.82	7.44	8.06	8.68	9.30	9.92	10.54
3.13	5.01	5.63	6.26	6.89	7.51	8.14	8.76	9.39	10.02	10.64
3.16	5.06	5.69	6.32	6.95	7.58	8.22	8.85	9.48	10.11	10.74
3.19	5.10	5.74	6.38	7.02	7.66	8.29	8.93	9.57	10.21	10.85
3.22	5.15	5.80	6.44	7.08	7.73	8.37	9.02	9.66	10.30	10.95
\$ Per Point Increase	\$0.016	\$0.018	\$0.020	\$0.022	\$0.024	\$0.026	\$0.028	\$0.030	\$0.032	\$0.034

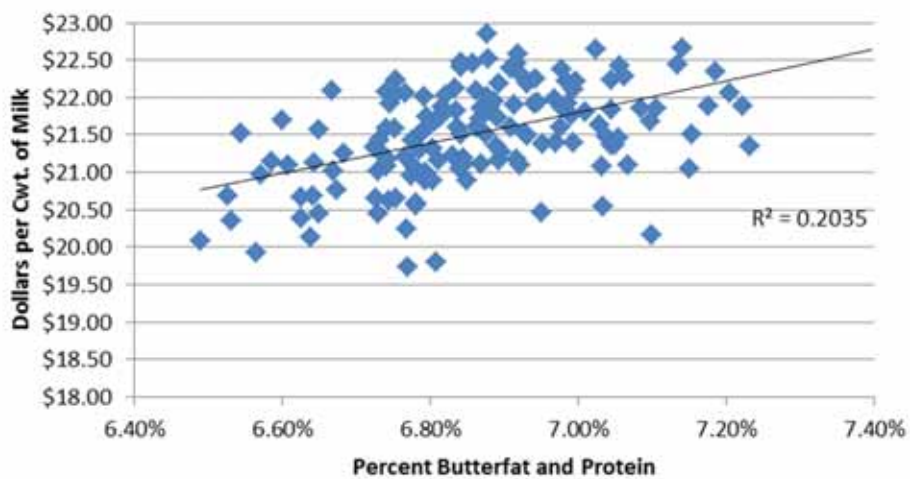
Impact on Profits?

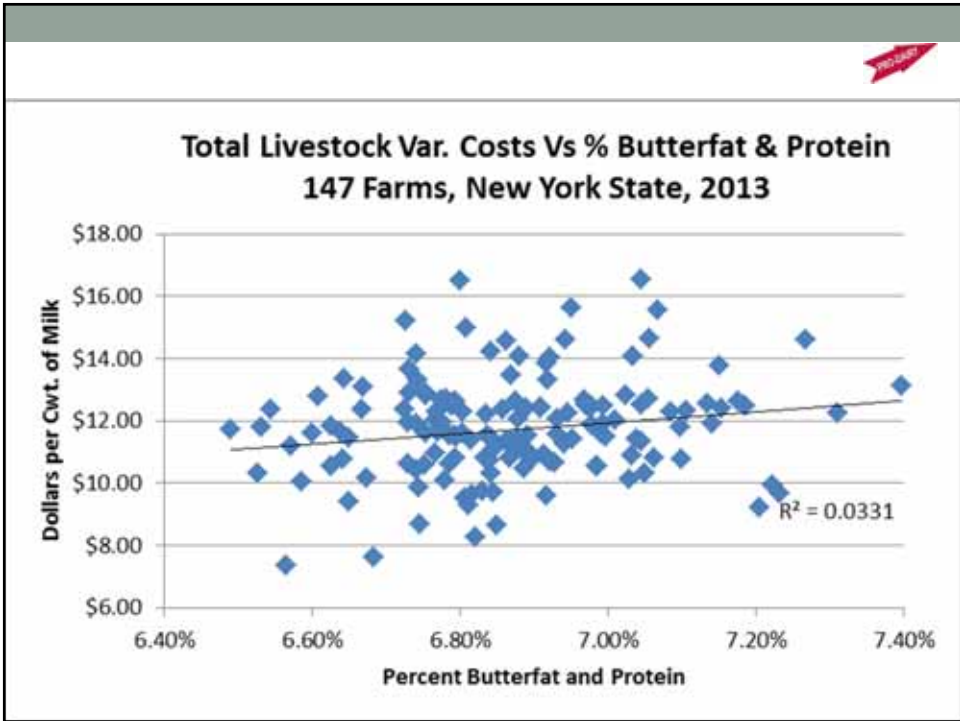
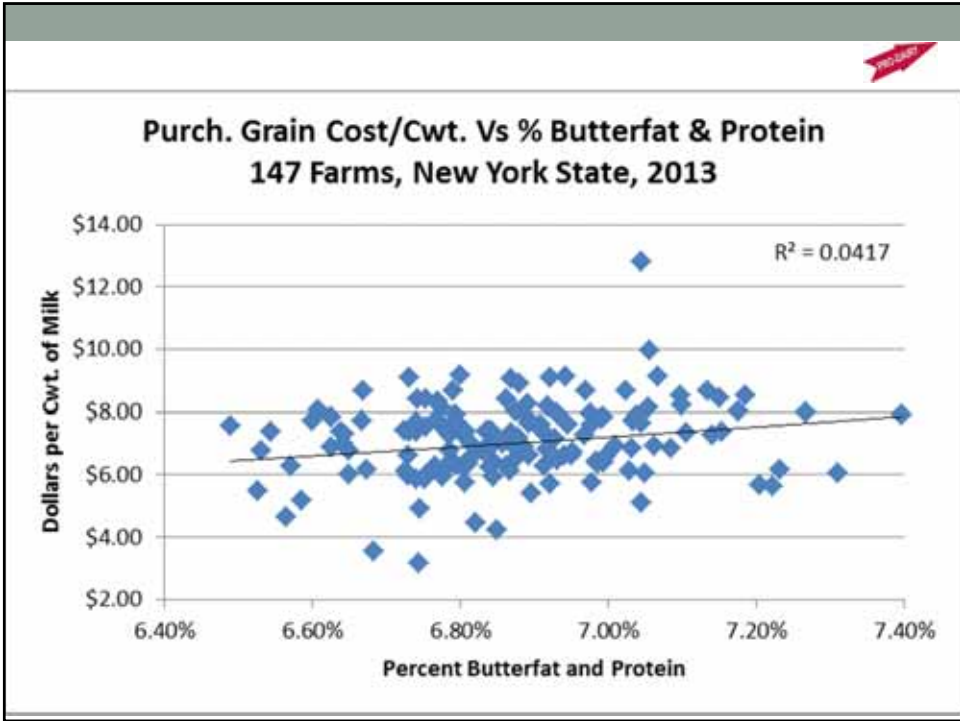
- Higher percent components lead to higher component value of milk check
- Does it lead to higher gross milk check?
- Does it cost more to get the higher components?
- Does the increase in costs to get the components offset the increase in milk price?
- Does higher percent components lead to higher profits?

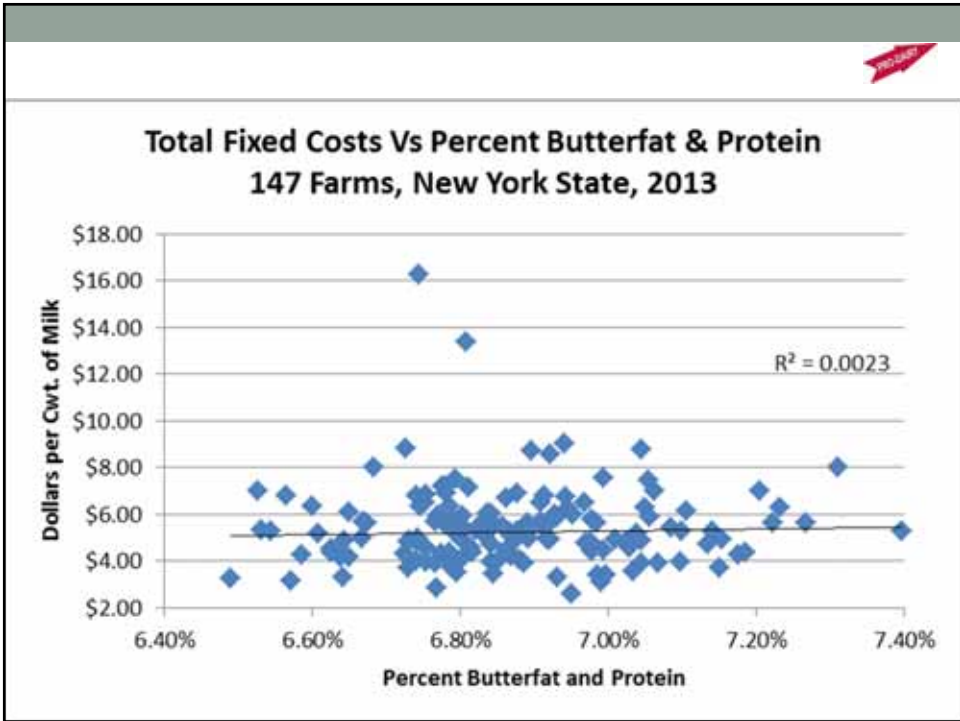
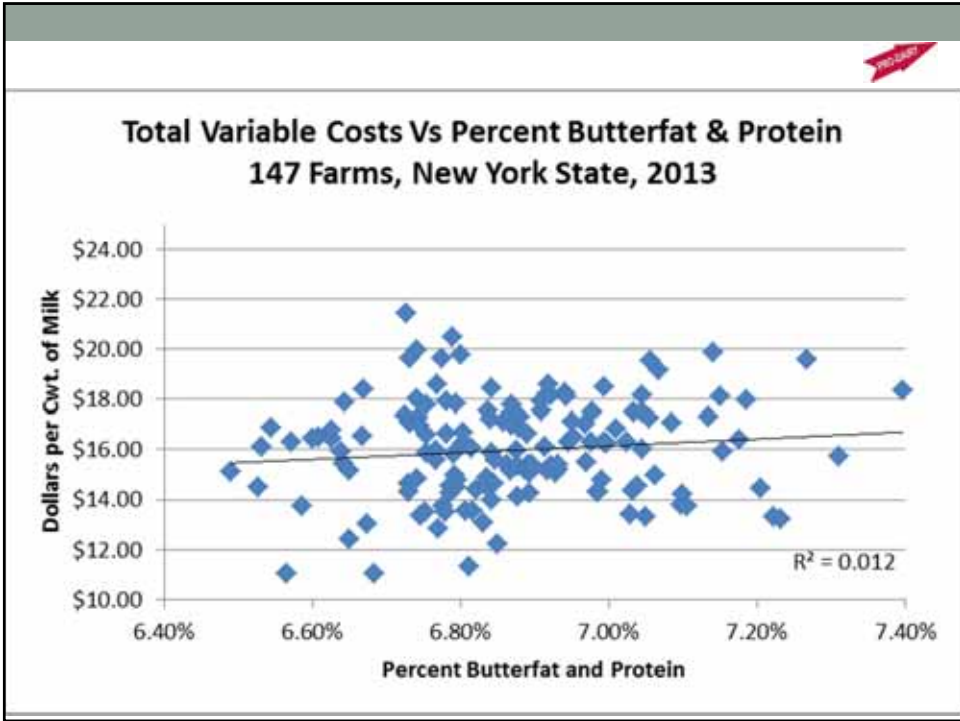
Looking at the Numbers

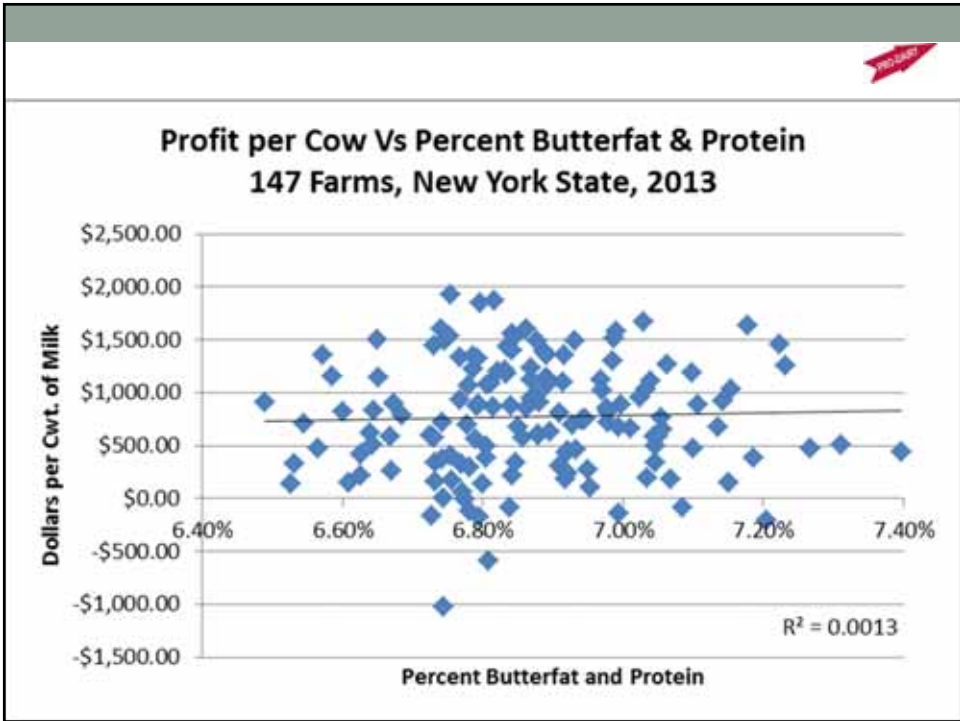
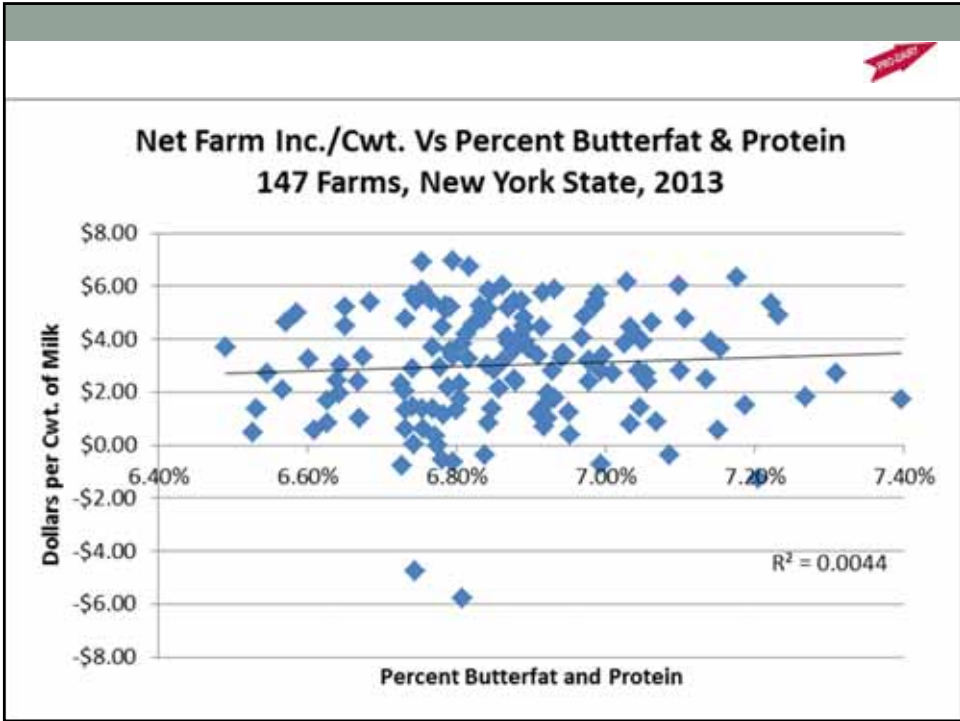
- 2013
- 147 farms that participated in Dairy Farm Business Summary Project
- Have component production data
- Majority of herds Holstein

Gross Milk Price Vs Percent Butterfat & Protein
147 Farms, New York State, 2013









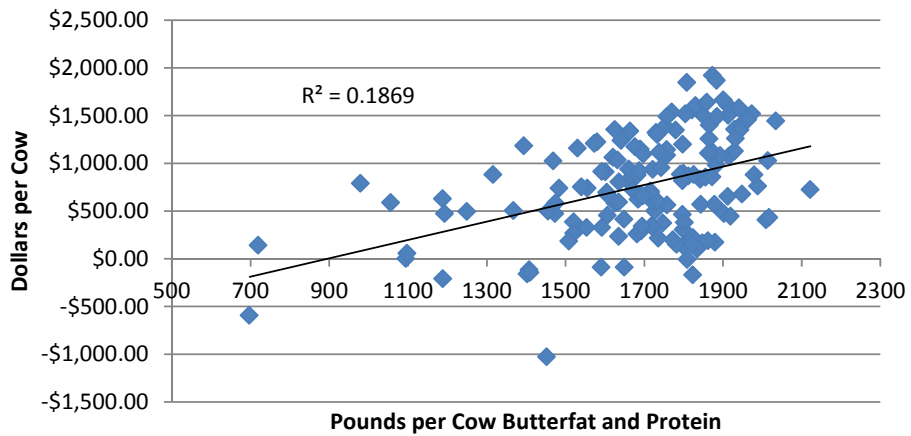
What Do the Graphs Mean

- Higher percent components lead to higher gross milk prices
- Purchased grain costs increase slightly with increased components
- All other costs essentially don't change with percent components
- However, no change in profit per cwt. or profit per cow – even with the higher milk price

Why no Change in Profit?

- Other things impacting profit
- Across farms, not looking at what happened within individual farms
- Total pounds of components vs percent components more important to profits
- Is one factor under management control that can increase milk price and increase pounds of components over time within a farm
- Improve profits within that farm

Net Farm Income per Cow Vs Pounds of Butterfat & Protein per Cow
147 Farms, New York State, 2013



- Questions?