Are you ready for the Margin Protection Program for Dairy Producers (MPP)?

farmdoc WEBINARS

Dr. Phil Cardoso, DVM, PhD
Dairy Research and Extension
cardoso2@illinois.edu

John Newton
University of Illinois
jcnewt@illinois.edu

University of Illinois at Urbana-Champaign

Are you ready for the MPP?

Looking at IOFC and Dairy Efficiency

Dr. Phil Cardoso, DVM, PhD
Dairy Research and Extension
cardoso2@illinois.edu

University of Illinois at Urbana-Champaign

Dry Matter Intake Calculations

- 1 lb DMI = 2 lb milk (Jersey) or 2 ½ lb milk (Holstein)
- DMI = (0.018 X BW) + (0.3 X lb 4% FCM)

Dry Matter Intake Calculations

BW: 1500 lbs.
Milk: 85 lbs.
Milk fat: 3.5%

- 1 lb DMI = 2 lb milk (Jersey) or 2 ½ lb milk (Holstein)
- DMI = (0.018 X BW) + (0.3 X lb 4% FCM)

Dry Matter Intake Calculations

BW: 1500 lbs.
Milk: 85 lbs.
Milk fat: 3.5%

- 1 lb DMI = 2 lb milk (Jersey) or 2 ½ lb milk (Holstein)
- DMI = (0.018 X BW) + (0.3 X lb 4% FCM)= (27) + (??) =

Dry Matter Intake Calculations

BW: 1500 lbs.
Milk: 85 lbs.
Milk fat: 3.5%

- 1 lb DMI = 2 lb milk (Jersey) or 2 ½ lb milk (Holstein)
- DMI = (0.018 X BW) + (0.3 X lb 4% FCM)= (27) + (??) =
- lb 4%FCM = (0.4 X lb milk) + (lb fat X 15)= (34) + (??? X 15)

Dry Matter Intake Calculations

BW: 1500 lbs.
Milk: 85 lbs.
Milk fat: 3.5%

- 1 lb DMI = 2 lb milk (Jersey) or 2 ½ lb milk (Holstein)
- DMI = (0.018 X BW) + (0.3 X lb 4% FCM)= (27) + (??) =
- lb 4%FCM = (0.4 X lb milk) + (lb fat X 15)= (34) + (??? X 15)
- lb of fat = lb milk X % milk fat = (85 X 3.5%)= 2.97 lbs.

Dry Matter Intake Calculations

BW: 1500 lbs.
Milk: 85 lbs.
Milk fat: 3.5%

- 1 lb DMI = 2 lb milk (Jersey) or 2 ½ lb milk (Holstein)
- DMI = (0.018 X BW) + (0.3 X lb 4% FCM)= (27) + (??) =
- lb 4%FCM = (0.4 X lb milk) + (lb fat X 15)= (34) + (2.97 X 15) = 78.55 lbs.
- lb of fat = lb milk X % milk fat = (85 X 3.5%)= 2.97 lbs.

Dry Matter Intake Calculations

BW: 1500 lbs.
Milk: 85 lbs.
Milk fat: 3.5%

- 1 lb DMI = 2 lb milk (Jersey) or 2 ½ lb milk (Holstein)
- DMI = (0.018 X BW) + (0.3 X lb 4% FCM)= (27) + (0.3 X 78.55) = **50.5 lbs.**
- lb 4%FCM = (0.4 X lb milk) + (lb fat X 15)= (34) + (2.97 X 15) = 78.55 lbs.
- lb of fat = lb milk X % milk fat = (85 X 3.5%)= 2.97 lbs.

Feed Efficiency or Dairy Efficiency (DE)

- Lb of milk per lb of DMI
- **Lb of FCM per lb of DMI**
- Lb of ECM per lb of DMI
- Lb of ECM per lb DMI per lactation
- Lb of ECM per lb DMI over lifetime
- Lb of milk solids per acre (ha)
- Lb of milk solids per lb of NE of DMI
- Lb of milk nitrogen per lb of nitrogen consumed
- Lb of milk solids per unit of carbon dioxide output
- **$ of ECM per $ of DMI**
- Residual feed intake (RFI; negative is better)

University of Illinois Guidelines for DE

Group	Days in Milk	DE (FCM/DMI)
High Group, mature cows	< 90	> 1.7
High Group, 1st Lactation	< 90	> 1.6
Low Group	> 200	> 1.3
One group TMR herds	150 to 225	> 1.5
Fresh cows	< 21	< 1.5
Problem herds/groups	150 to 200	< 1.3

Does higher DE = higher profitability?

IOFC = Income Over Feed Costs

- **allows you to see how much income you put at risk by making a feeding change.**

IOFC = Income Over Feed Costs

- **allows you to see how much income you put at risk by making a feeding change.**

- **it doesn't take into account the health and reproductive benefits of certain feeds.**

IOFC = Income Over Feed Costs

- **allows you to see how much income you put at risk by making a feeding change.**

- **it doesn't take into account the health and reproductive benefits of certain feeds.**

Your cow/herd IOFC ?

Dairy Focus Toolbox

Dairy Focus Toolbox - Dairy Efficiency

Input Values in Orange Boxes
Output Values in Blue Boxes

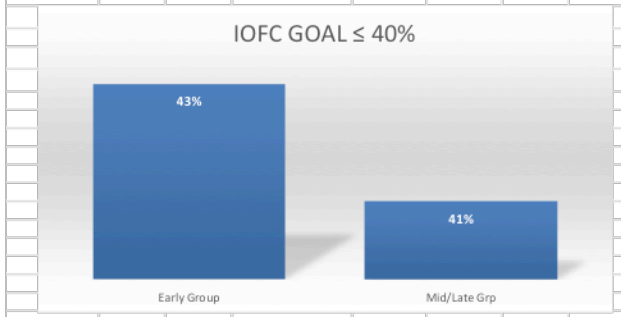
"Example based on Federal Order 32 announced pricing"

	Price/cwt
Fat	$1.7672
Protein	$3.5390
OS	$0.3826
Basis	$2.00
Hauling	-$1.00
Promotion	$0.15
Quality	$1.62
Total	$2.77

*if needed	TMR	
Cost cow $/day	$ 7.55	7.6
DMI lb	52	
$ / DM lb	$ 0.1452	0.1452

	Early Lactation	
	Early Group	
Milk Yield	80.000	
Fat %	3.50%	
lb of fat	2.8	
Protein %	3.10%	
lb of Protein	2.48	
OS %	5.70%	
lb of OS	4.56	
DMI	52	
$ / DM lb	$0.1452	
$ / cow / day	$17.69	
$ / cwt	$22.11	
ECM IOFC	$10.135	43%

	Mid/Late Lactation	
	Mid/Late Grp	
Milk Yield	65.000	
Fat %	3.70%	
lb of fat	2.405	
Protein %	3.15%	
lb of Protein	2.0475	
OS %	5.70%	
lb of OS	3.705	
DMI	50	
$ / DM lb	$0.1200	
$ / cow / da	$14.71	
$ / cwt	$22.64	
ECM IOFC	$8.714	41%



*Adapted from Mark Tegeler (Diamond V)

Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) +

Milk yield	85
fat%	3.90%
protein %	3.20%
energy corrected milk	90.308

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16

Milk yield	85
fat%	3.90%
fat corrected milk	89.75

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15

Milk yield	85
fat%	3.90%
fat corrected milk	83.73

Dairy Efficiency

Formula Dairy Efficiency (DE) = lbs of 3.5 FCM / Dry Matte

FCM	89.75
DMI	55
DE	1.63

	A	B	C	D	E	F	G	H	I	J	K	L
3	**9/1/2014**					Herd Average DMI:		47.03				
4												
5	**Lot 1**	Cows	DIM	AVG.	Call Wt.	Lbs FED	Feed DM	% Error	Refusal	**Refusal DM**	DM Intake	Per Cow
6	8/24/2014	55	203		6100	6150	45.00%	0.82%	130.00	45%	2709.00	49.25
7	8/25/2014	55	204	78.9	6200	6440	45.00%	3.87%	250.00	45%	2785.50	50.65
8	8/26/2014	55	205		6200	6300	45.00%	1.61%	560.00	45%	2583.00	46.96
9	8/27/2014	55	206		7000	6750	45.00%	-3.57%	220.00	45%	2938.50	53.43
10	8/28/2014	54	198	76.4	6200	6320	45.00%	1.94%	220.00	45%	2745.00	50.83
11	8/29/2014	54	199	75.1	6200	6450	45.00%	4.03%	200.00	45%	2812.50	52.08
12	8/30/2014	54	200	73.3	6200	6420	45.00%	3.55%	150.00	45%	2821.50	52.25
13	**Average**	**55**	**202**	**75.9**		**6404**		**0.02**	**247**		**2770.71**	**50.78**
14												
15	**Lot 3**	Cows	DIM	AVG.	Call Wt.	Lbs FED		% Error	Refusal	**DM**	DM Intake	Per Cow
16	8/24/2014	89	214		9000	9100	45.00%	1.11%	160.00	45%	4023.00	45.20
17	8/25/2014	89	215	72.4	9200	9320	45.00%	1.30%	450.00	45%	3991.50	44.85
18	8/26/2014	89	216		9100	9320	45.00%	2.42%	600.00	45%	3924.00	44.09
19	8/27/2014	89	217		8840	8930	45.00%	1.02%	420.00	45%	3829.50	43.03
20	8/28/2014	88	216	67.6	9000	9100	45.00%	1.11%	310.00	45%	3955.50	44.95
21	8/29/2014	88	217	65.9	9000	9040	45.00%	0.44%	250.00	45%	3955.50	44.95
22	8/30/2014	88	218	65.2	9100	9180	45.00%	0.88%	200.00	45%	4041.00	45.92
23	**Average**	**89**	**216**	**67.8**		**9141.43**		**0.01**	**341**		**3960.00**	**44.71**

Dairy Focus Toolbox - Dairy Efficiency

UNIVERSITY OF ILLINOIS EXTENSION 100 investing in You

Input Values in Orange Boxes
Output Values in Blue Boxes

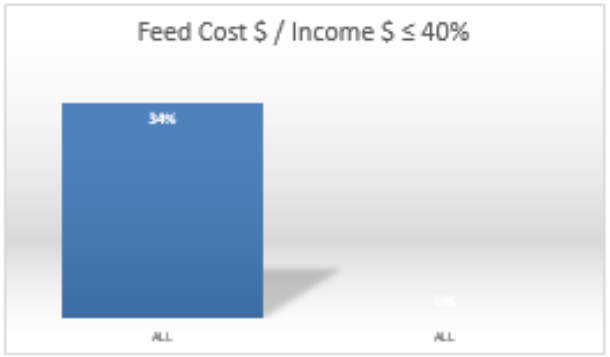
"Example based on Federal Order 32 announced pricing"

	Price/cwt
Fat	$2.6349
Protein	$3.9000
OS	$0.5046
Basis	
Hauling	-$0.70
Promotion	-$0.15
Quality	$1.58
Total	$0.73

Blended	TMR
Cost cow $/d	$ 6.47
DMI lb	47
$/DM lb	####

Herd	
Group:	ALL
Milk Yield	75.000
Fat %	3.50%
lb of fat	2.625
Protein %	2.90%
lb of Protein	2.175
OS %	5.70%
lb of OS	4.275
DMI	47
$/DM lb	$0.1314
$/ cow / day	$18.10
$/ cwt	$24.14
ECM10FC	#### 34%

Additive?	
Group:	ALL
Milk Yield	
Fat %	
lb of fat	0
Protein %	
lb of Prote	0
OS %	5.70%
lb of OS	0
DMI	
$/DM lb	
$/ cow / da	$0.00
$/ cwt	#DIV/0!
ECM10FC	#### #DIV/0!



Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yield	75	
fat%	3.50%	
protein %	2.90%	
energy corrected	####	86.3

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

Milk yield	75
fat%	3.50%
fat corrected milk	74.32

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yield	75
fat%	3.50%
fat corrected milk	69.38

Dairy Efficiency

Formula Dairy Efficiency (DE) = lbs of 3.5 FCM / Dry Matter Intake

FCM	74.32
DMI	47
DE	1.58

University of Illinois Guidelines for DE

Group	Days in Mill	DE
High Group, mature cows	<90	>1.7
High Group, 1rt Lactation	<90	>1.6
Low Group	>200	>1.3
One group TMR herds	150 to 225	>1.5
Fresh cows	<21	<1.5
Problem herds/groups	150 to 200	<1.3

www.dairyfocus.illinois.edu

Scenario 1

Dairy Focus Toolbox - Dairy Efficiency

Input Values in Orange Boxes
Output Values in Blue Boxes

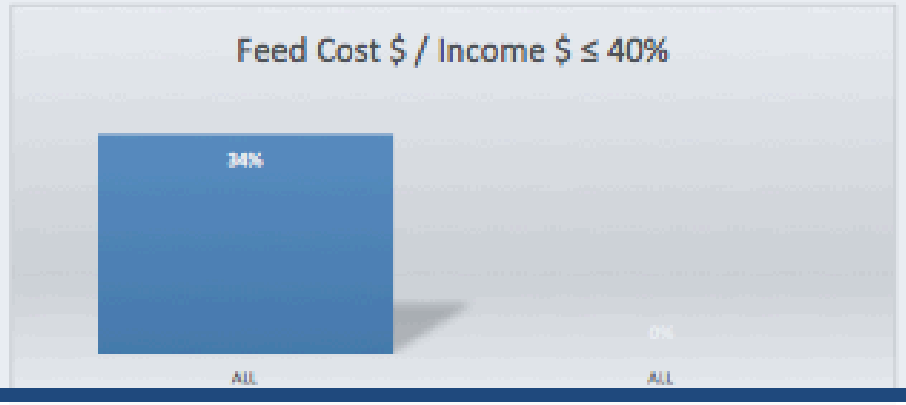
"Example based on Federal Order 32 announced pricing"

	Price/cwt
Fat	$2.6349
Protein	$3.5000
OS	$0.5046
Basis	
Hauling	-$0.70
Promotion	-$0.15
Quality	$1.58
Total	$0.73

	TMR
Cost cow $/day	$ 6.47
DMI lb	47
$ / DM lb	$ 0.1377

Herd	
Group:	ALL
Milk Yield	75.000
Fat %	3.50%
lb of fat	2.625
Protein %	2.90%
lb of Protein	2.175
OS %	5.70%
lb of OS	4.275
DMI	47
$ / DM lb	$0.1314
$ / cow / day	$18.10
$ / cwt	$24.14
ECM IOFC	$11.928 34%

Additive?	
Group:	ALL
Milk Yield	
Fat %	
lb of fat	0
Protein %	
lb of Protein	0
OS %	5.70%
lb of OS	0
DMI	
$ / DM lb	
$ / cow / day	$0.00
$ / cwt	#DIV/0!
ECM IOFC	$0.000 #DIV/0!



UNIVERSITY OF ILLINOIS EXTENSION
100 years investing in You

Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yield	75
fat%	3.50%
protein %	2.90%
energy corrected milk	74.179

86.3

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

Milk yield	75
fat%	3.50%
fat corrected milk	74.32

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yield	75
fat%	3.50%
fat corrected milk	69.38

Dairy Efficiency

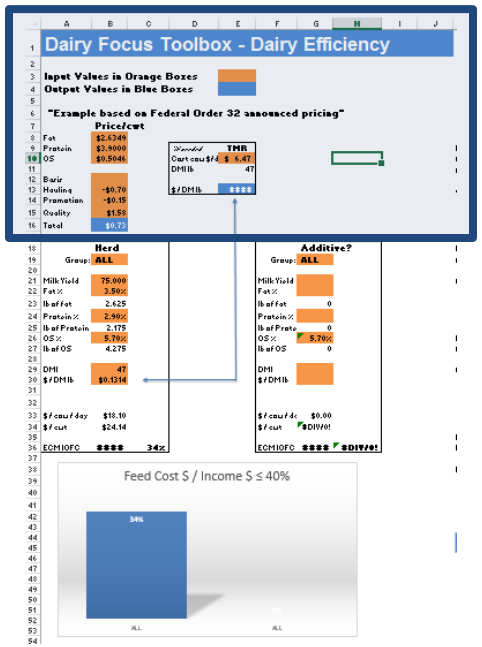
Formula Dairy Efficiency (DE) = lbs of 3.5 FCM / Dry Matter Intake

FCM	74.32
DMI	47
DE	1.58

University of Illinois Guidelines for DE

Group	Days in Milk	DE
High Group, mature cows	< 90	> 1.7
High Group, 1st Lactation	< 90	> 1.6
Low Group	> 200	> 1.3
One group TMR herds	150 to 225	> 1.5
Fresh cows	< 21	< 1.5
Problem herds/groups	150 to 200	< 1.3

www.dairyfocus.illinois.edu



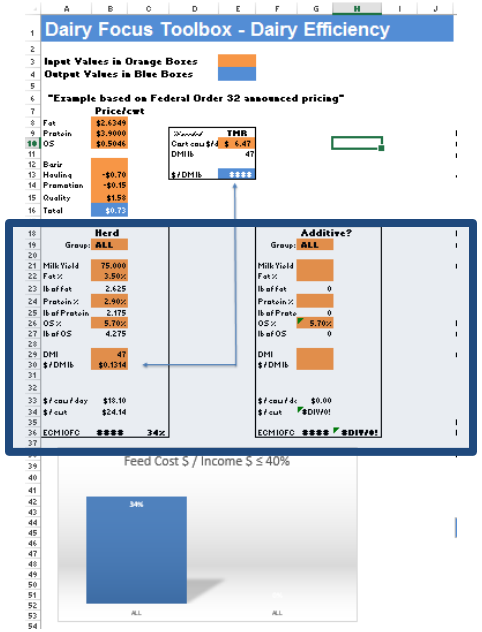
Dairy Focus Toolbox - Dairy Efficiency

Input Values in Orange Boxes
Output Values in Blue Boxes

"Example based on Federal Order 32 announced pricing"

	Price/cwt
Fat	$2.6349
Protein	$3.9000
OS	$0.5046
Basis	
Hauling	-$0.70
Promotion	-$0.15
Quality	$1.58
Total	$0.73

*if needed	TMR
Cost cow $/da	$ 6.47
DMI lb	47
$ / DM lb	$0.1377

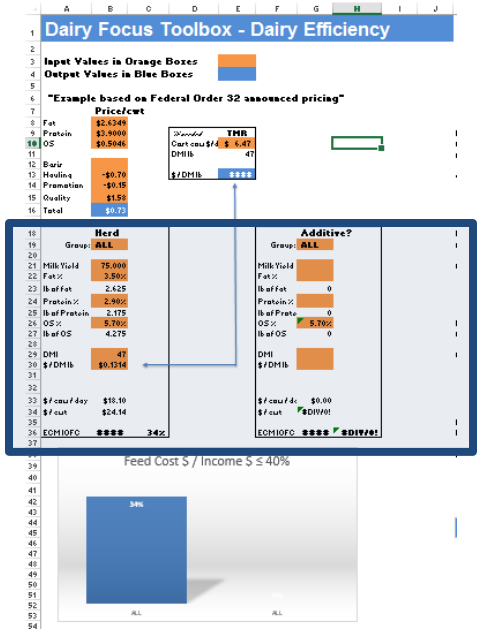


Herd

Group:	ALL	
Milk Yield	75.000	
Fat %	3.50%	
lb of fat	2.625	
Protein %	2.90%	
lb of Protein	2.175	
OS %	5.70%	
lb of OS	4.275	
DMI	47	
$ / DM lb	$0.1377	
$ / cow / day	$18.10	
$ / cwt	$24.14	
ECM IOFC	**$11.632**	**36%**

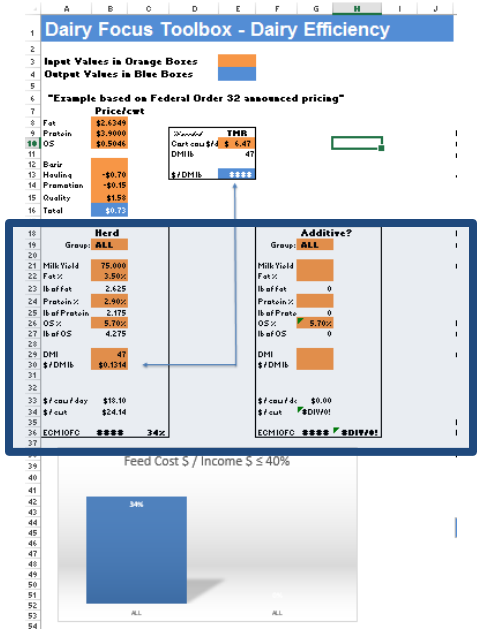
Additive?

Group:	ALL
Milk Yield	
Fat %	
lb of fat	0
Protein %	
lb of Protein	0
OS %	5.70%
lb of OS	0
DMI	
$ / DM lb	
$ / cow / da	$0.00
$ / cwt	#DIV/0!
ECM IOFC	**$0.000** **#DIV/0!**



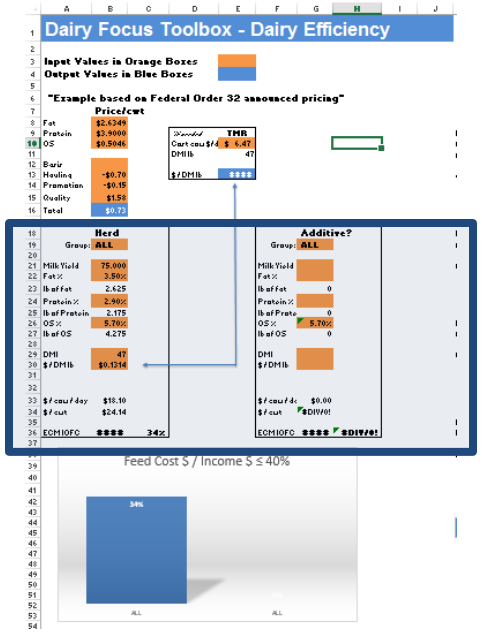
Herd		
Group:	ALL	
Milk Yield	75.000	
Fat %	3.50%	
lb of fat	2.625	
Protein %	2.90%	
lb of Protein	2.175	
OS %	5.70%	
lb of OS	4.275	
DMI	47	
$ / DM lb	$0.1377	
$ / cow / day	$18.10	
$ / cwt	$24.14	
ECM IOFC	**$11.632**	**36%**

Additive?		
Group:	ALL	
Milk Yield	81.000	
Fat %	3.50%	
lb of fat	2.835	
Protein %	2.90%	
lb of Protein	2.349	
OS %	5.70%	
lb of OS	4.617	
DMI	50	
$ / DM lb	$0.1377	
$ / cow / day	$19.55	
$ / cwt	$24.14	
ECM IOFC	**$12.667**	**35%**



Herd		
Group:	ALL	
Milk Yield	75.000	
Fat %	3.50%	
lb of fat	2.625	
Protein %	2.90%	
lb of Protein	2.175	
OS %	5.70%	
lb of OS	4.275	
DMI	47	
$ / DM lb	$0.1377	
$ / cow / day	$18.10	
$ / cwt	$24.14	
ECM IOFC	**$11.632**	**36%**

Additive?		
Group:	ALL	
Milk Yield	81.000	
Fat %	3.50%	
lb of fat	2.835	
Protein %	2.90%	
lb of Protein	2.349	
OS %	5.70%	
lb of OS	4.617	
DMI	50	
$ / DM lb	$0.1377	
$ / cow / day	$19.55	
$ / cwt	$24.14	
ECM IOFC	**$12.667**	**35%**



Herd			Additive?	
Group:	ALL		Group:	ALL
Milk Yield	75.000		Milk Yield	81.000
Fat %	3.50%		Fat %	3.50%
lb of fat	2.625		lb of fat	2.835
Protein %	2.90%		Protein %	2.90%
lb of Protein	2.175		lb of Protein	2.349
OS %	5.70%		OS %	5.70%
lb of OS	4.275		lb of OS	4.617
DMI	47		DMI	50
$ / DM lb	$0.1377		$ / DM lb	$0.1377
$ / cow / day	$18.10		$ / cow / day	$19.55
$ / cwt	$24.14		$ / cwt	$24.14
ECM IOFC	**$11.632**	36%	ECM IOFC	**$12.667**	35%

Dairy Focus Toolbox - Dairy Efficiency

Input Values in Orange Boxes
Output Values in Blue Boxes

"Example based on Federal Order 32 announced pricing"

Price/cwt

Fat	$2.6349
Protein	$3.9000
OS	$0.5046
Barn	
Hauling	-$0.70
Promotion	-$0.15
Quality	$1.58
Total	$0.73

TMR	
Cost cwt $/d	$ 6.47
DMI lb	47
$/DMlb	####

Herd

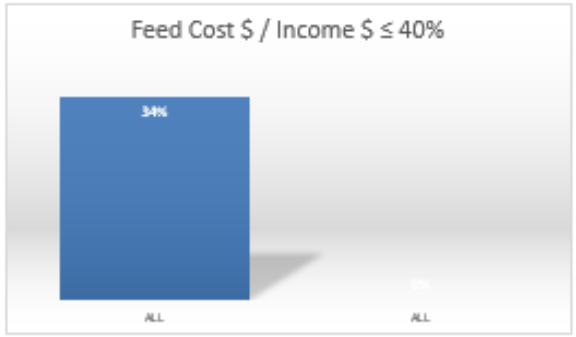
Group: ALL

Milk Yield	75.000
Fat %	3.50%
lb of fat	2.625
Protein %	2.90%
lb of Protein	2.175
OS %	5.70%
lb of OS	4.275
DMI	47
$/DMlb	$0.1314
$/cow/day	$18.10
$/cwt	$24.14
ECM10FC	#### 34%

Additive?

Group: ALL

Milk Yield	
Fat %	
lb of fat	0
Protein %	
lb of Prote	0
OS %	5.70%
lb of OS	0
DMI	
$/DMlb	
$/cow/d	$0.00
$/cwt	#DIV/0!
ECM10FC	#### #DIV/0!



UNIVERSITY OF ILLINOIS EXTENSION 100 YEARS investing in You

Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yiel	75
fat%	3.50%
protein %	2.90%
energy corrected	#### 86.3

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

Milk yiel	75
fat%	3.50%
fat corrected milk	74.32

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yiel	75
fat%	3.50%
fat corrected milk	69.38

Dairy Efficiency

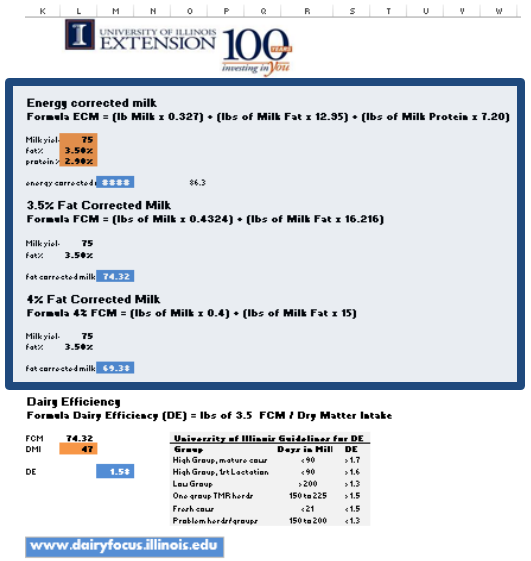
Formula Dairy Efficiency (DE) = lbs of 3.5 FCM / Dry Matter Intake

FCM	74.32
DMI	47
DE	1.58

University of Illinois Guidelines for DE

Group	Days in Mil	DE
High Group, mature cows	<90	>1.7
High Group, 1rt Lactation	<90	>1.6
Low Group	>200	>1.3
One group TMR herds	150 to 225	>1.5
Fresh cows	<21	<1.5
Problem herds/groups	150 to 200	<1.3

www.dairyfocus.illinois.edu



Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yield	75
fat%	3.50%
protein %	2.90%

energy corrected mil 74.179

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

Milk yield	75
fat%	3.50%

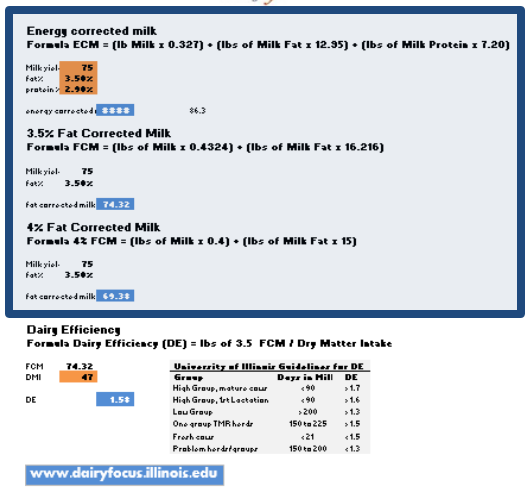
fat corrected milk 74.32

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yield	75
fat%	3.50%

fat corrected milk 69.38



Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yield	75
fat%	3.50%
protein %	2.90%
energy corrected mil	74.179

Milk yield	81
fat%	3.50%
protein %	2.90%
energy corrected mil	80.113

3.5% Fat Corrected Milk

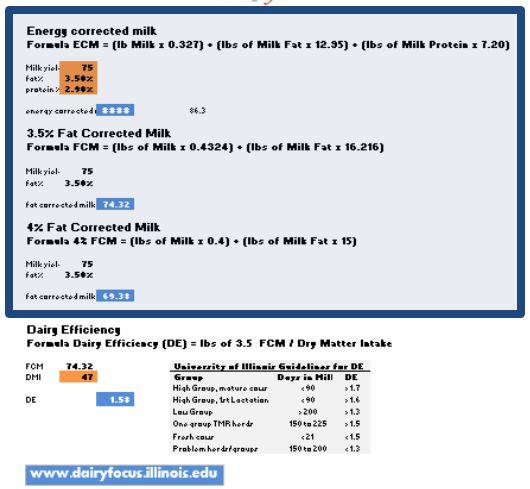
Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

Milk yield	75
fat%	3.50%
fat corrected milk	74.32

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yield	75
fat%	3.50%
fat corrected milk	69.38



Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yield	75
fat%	3.50%
protein %	2.90%
energy corrected mil	74.179

Milk yield	81
fat%	3.50%
protein %	2.90%
energy corrected mil	80.113

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

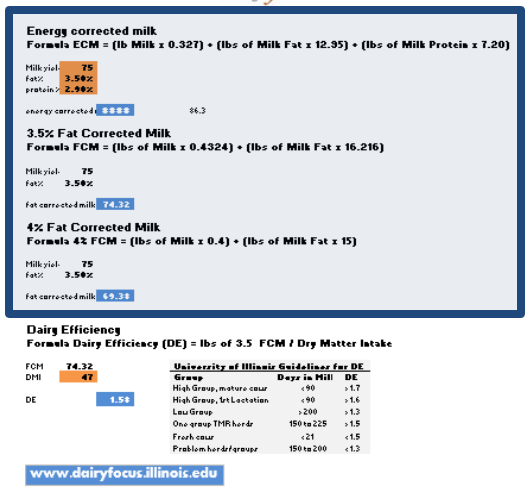
Milk yield	75
fat%	3.50%
fat corrected milk	74.32

Milk yield	81
fat%	3.50%
fat corrected milk	80.27

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yield	75
fat%	3.50%
fat corrected milk	69.38



Dairy Efficiency
Formula Dairy Efficiency (DE) = lbs of 3.5 FCM / Dry Matter Intake

FCM	74.32
DMI	47
DE	1.58

University of Illinois Guidelines for DE

Group	Days in Mil	DE
High Group, mature cows	<90	>1.7
High Group, 1st Lactation	<90	>1.6
Low Group	>200	>1.3
One group TMR herds	150 to 225	>1.5
Fresh cows	<21	<1.5
Problem herd/groups	150 to 200	<1.3

www.dairyfocus.illinois.edu

Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yield	75
fat%	3.50%
protein %	2.90%
energy corrected mil	74.179

Milk yield	81
fat%	3.50%
protein %	2.90%
energy corrected mil	80.113

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

Milk yield	75
fat%	3.50%
fat corrected milk	74.32

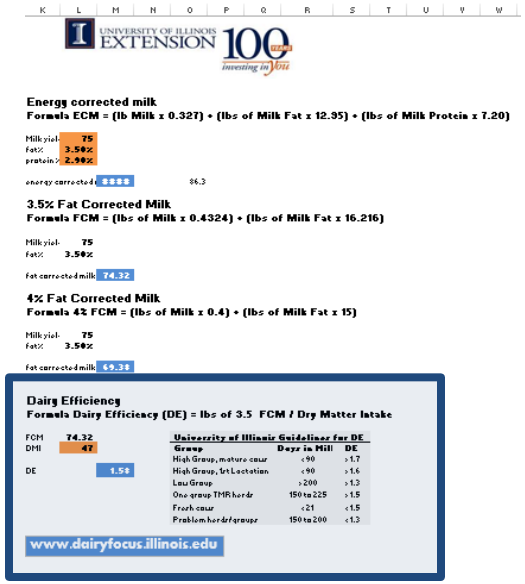
Milk yield	81
fat%	3.50%
fat corrected milk	80.27

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yield	75
fat%	3.50%
fat corrected milk	69.38

Milk yield	81
fat%	3.50%
fat corrected milk	74.93



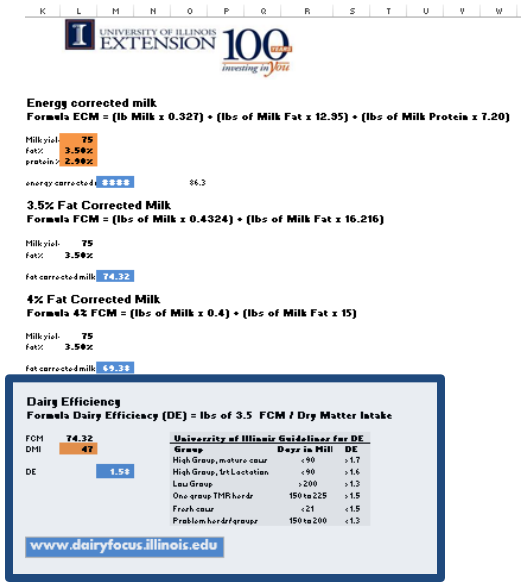
Dairy Efficiency

Formula Dairy Efficiency (DE) = lbs of 3.5 FCM / Dry Matter Intake

FCM	74.32
DMI	47
DE	1.58

University of Illinois Guidelines for DE

Group	Days in Milk	DE
High Group, mature cows	< 90	> 1.7
High Group, 1st Lactation	< 90	> 1.6
Low Group	> 200	> 1.3
One group TMR herds	150 to 225	> 1.5
Fresh cows	< 21	< 1.5
Problem herds/groups	150 to 200	< 1.3



Dairy Efficiency

Formula Dairy Efficiency (DE) = lbs of 3.5 FCM / Dry Matter Intake

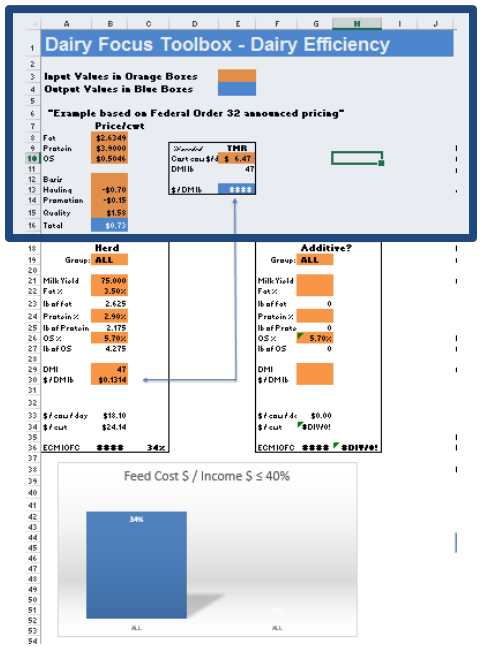
FCM	74.32
DMI	47
DE	1.58

FCM	80.27
DMI	50
DE	1.61

University of Illinois Guidelines for DE

Group	Days in Milk	DE
High Group, mature cows	< 90	> 1.7
High Group, 1st Lactation	< 90	> 1.6
Low Group	> 200	> 1.3
One group TMR herds	150 to 225	> 1.5
Fresh cows	< 21	< 1.5
Problem herds/groups	150 to 200	< 1.3

Scenario 2



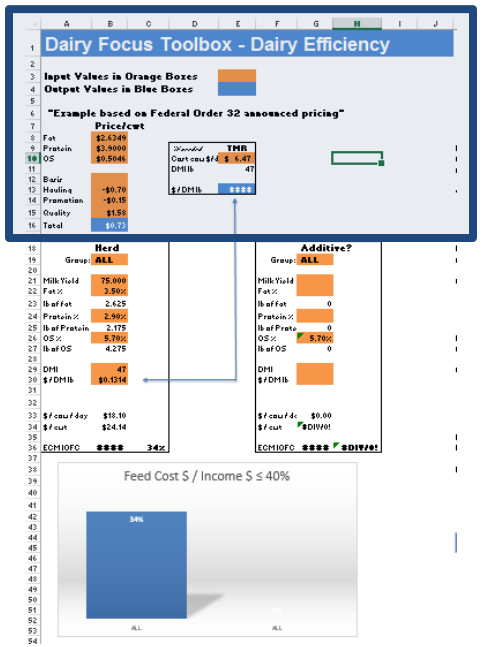
Dairy Focus Toolbox - Dairy Efficiency

Input Values in Orange Boxes
Output Values in Blue Boxes

"Example based on Federal Order 32 announced pricing"

	Price/cwt
Fat	$2.6349
Protein	$3.9000
OS	$0.5046
Basis	
Hauling	-$0.70
Promotion	-$0.15
Quality	$1.58
Total	$0.73

*if needed	TMR
Cost cow $/da	$ 6.47
DMI lb	47
$ / DM lb	$0.1377



Dairy Focus Toolbox - Dairy Efficiency

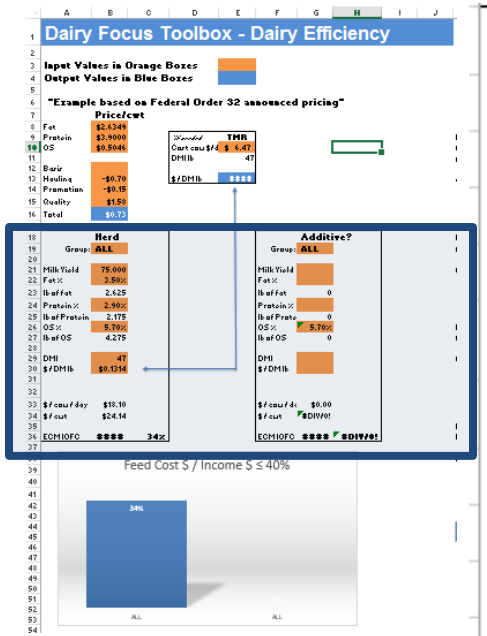
Input Values in Orange Boxes
Output Values in Blue Boxes

"Example based on Federal Order 32 announced pricing"

	Price/cwt
Fat	$2.6349
Protein	$3.9000
OS	$0.5046
Basis	
Hauling	-$0.70
Promotion	-$0.15
Quality	$1.58
Total	$0.73

*if needed	TMR
Cost cow $/da	$ 6.47
DMI lb	47
$ / DM lb	$0.1377

*if needed	TMR
Cost cow $/day	$ 6.50
DMI lb	47
$ / DM lb	$0.1383

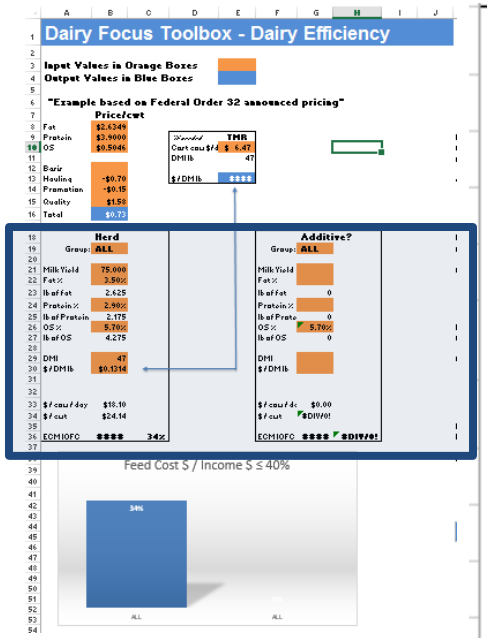


Herd

Group:	ALL	
Milk Yield	75.000	
Fat %	3.50%	
lb of fat	2.625	
Protein %	2.90%	
lb of Protein	2.175	
OS %	5.70%	
lb of OS	4.275	
DMI	47	
$ / DM lb	$0.1377	
$ / cow / day	$18.10	
$ / cwt	$24.14	
ECM IOFC	**$11.632**	**36%**

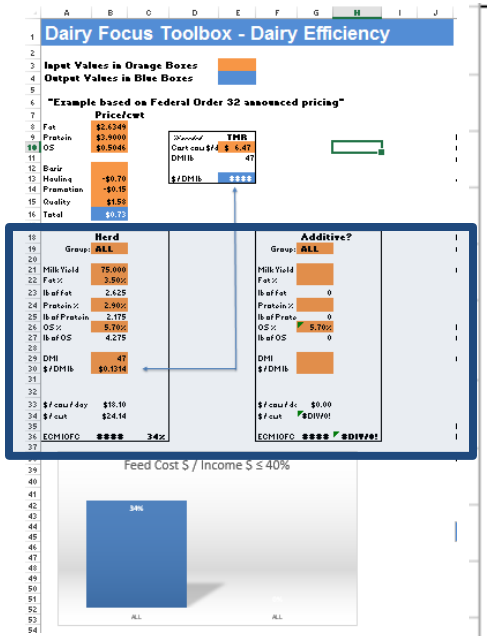
Additive?

Group:	ALL	
Milk Yield	75.000	
Fat %	3.50%	
lb of fat	2.625	
Protein %	3.10%	
lb of Protein	2.325	
OS %	5.70%	
lb of OS	4.275	
DMI	47	
$ / DM lb	$0.1383	
$ / cow / day	$18.69	
$ / cwt	$24.92	
ECM IOFC	**$12.189**	**35%**



Herd	Group: ALL	
Milk Yield	75.000	
Fat %	3.50%	
lb of fat	2.625	
Protein %	2.90%	
lb of Protein	2.175	
OS %	5.70%	
lb of OS	4.275	
DMI	47	
$ / DM lb	$0.1377	
$ / cow / day	$18.10	
$ / cwt	$24.14	
ECM IOFC	**$11.632**	**36%**

Additive?	Group: ALL	
Milk Yield	75.000	
Fat %	3.50%	
lb of fat	2.625	
Protein %	3.10%	
lb of Protein	2.325	
OS %	5.70%	
lb of OS	4.275	
DMI	47	
$ / DM lb	$0.1383	
$ / cow / day	$18.69	
$ / cwt	$24.92	
ECM IOFC	**$12.189**	**35%**



Herd	Group: ALL	Additive?	Group: ALL
Milk Yield	75.000	Milk Yield	75.000
Fat %	3.50%	Fat %	3.50%
lb of fat	2.625	lb of fat	2.625
Protein %	2.90%	Protein %	3.10%
lb of Protein	2.175	lb of Protein	2.325
OS %	5.70%	OS %	5.70%
lb of OS	4.275	lb of OS	4.275
DMI	47	DMI	47
$ / DM lb	$0.1377	$ / DM lb	$0.1383
$ / cow / day	$18.10	$ / cow / day	$18.69
$ / cwt	$24.14	$ / cwt	$24.92
ECM IOFC	**$11.632** 36%	ECM IOFC	**$12.189** 35%

Dairy Focus Toolbox - Dairy Efficiency

Input Values in Orange Boxes
Output Values in Blue Boxes

"Example based on Federal Order 32 announced pricing"

Price/cwt

Fat	$2.6349
Protein	$3.9000
OS	$0.5046
Barn	
Hauling	-$0.70
Promotion	-$0.15
Quality	$1.58
Total	$0.73

TMR	
Cost cwt $/d	$ 6.47
DMI lb	47
$/DMlb	####

Herd

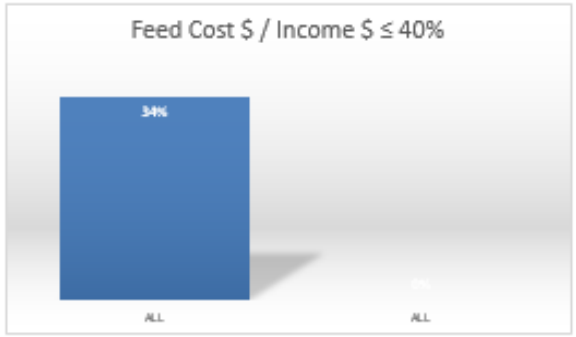
Group: ALL

Milk Yield	75.000
Fat %	3.50%
lb of fat	2.625
Protein %	2.90%
lb of Protein	2.175
OS %	5.70%
lb of OS	4.275
DMI	47
$/DMlb	$0.1314
$/cow/day	$18.10
$/cwt	$24.14
ECM10FC	#### 34%

Additive?

Group: ALL

Milk Yield	
Fat %	
lb of fat	0
Protein %	
lb of Prote	0
OS %	5.70%
lb of OS	0
DMI	
$/DMlb	
$/cow/d	$0.00
$/cwt	#DIV/0!
ECM10FC	#### #DIV/0!



UNIVERSITY OF ILLINOIS EXTENSION 100 YEARS investing in You

Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yiel	75
fat%	3.50%
protein %	2.90%
energy corrected	#### 86.3

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

Milk yiel	75
fat%	3.50%
fat corrected milk	74.32

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yiel	75
fat%	3.50%
fat corrected milk	69.38

Dairy Efficiency

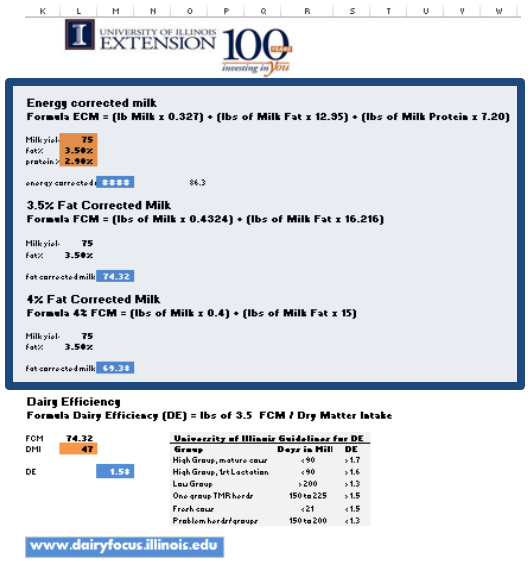
Formula Dairy Efficiency (DE) = lbs of 3.5 FCM / Dry Matter Intake

FCM	74.32
DMI	47
DE	1.58

University of Illinois Guidelines for DE

Group	Days in Mil	DE
High Group, mature cows	<90	>1.7
High Group, 1rt Lactation	<90	>1.6
Low Group	>200	>1.3
One group TMR herds	150 to 225	>1.5
Fresh cows	<21	<1.5
Problem herds/groups	150 to 200	<1.3

www.dairyfocus.illinois.edu



Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yield	75
fat%	3.50%
protein %	2.90%

energy corrected mil 74.179

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

Milk yield	75
fat%	3.50%

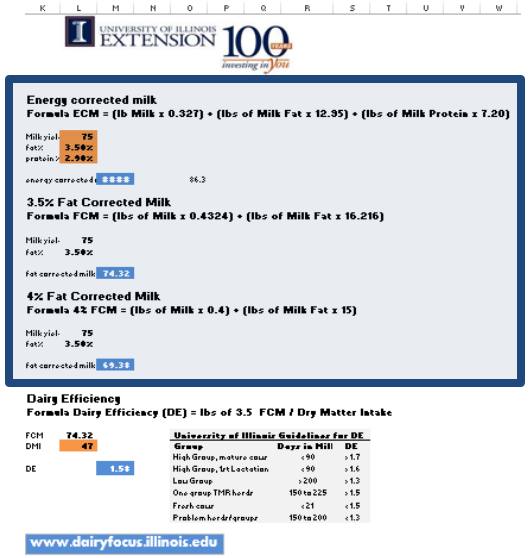
fat corrected milk 74.32

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yield	75
fat%	3.50%

fat corrected milk 69.38



Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yield	75
fat%	3.50%
protein %	2.90%

energy corrected milk **74.179**

Milk yield	75
fat%	3.50%
protein %	3.10%

energy corrected milk **75.259**

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

Milk yield	75
fat%	3.50%

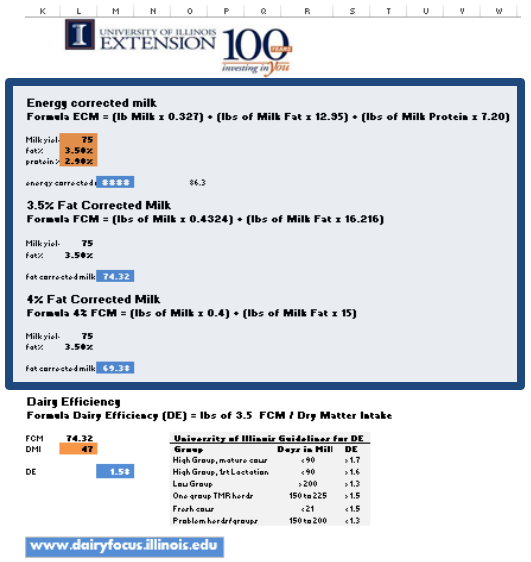
fat corrected milk **74.32**

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yield	75
fat%	3.50%

fat corrected milk **69.38**



Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yield	75
fat%	3.50%
protein %	2.90%
energy corrected mil	74.179

Milk yield	75
fat%	3.50%
protein %	3.10%
energy corrected mil	75.259

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

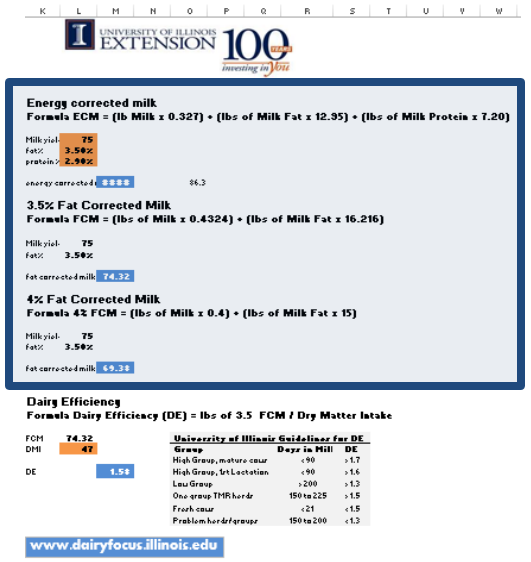
Milk yield	75
fat%	3.50%
fat corrected milk	74.32

Milk yield	75
fat%	3.50%
fat corrected milk	74.32

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yield	75
fat%	3.50%
fat corrected milk	69.38



Energy corrected milk

Formula ECM = (lb Milk x 0.327) + (lbs of Milk Fat x 12.95) + (lbs of Milk Protein x 7.20)

Milk yield	75
fat%	3.50%
protein %	2.90%
energy corrected mil	74.179

Milk yield	75
fat%	3.50%
protein %	3.10%
energy corrected mil	75.259

3.5% Fat Corrected Milk

Formula FCM = (lbs of Milk x 0.4324) + (lbs of Milk Fat x 16.216)

Milk yield	75
fat%	3.50%
fat corrected milk	74.32

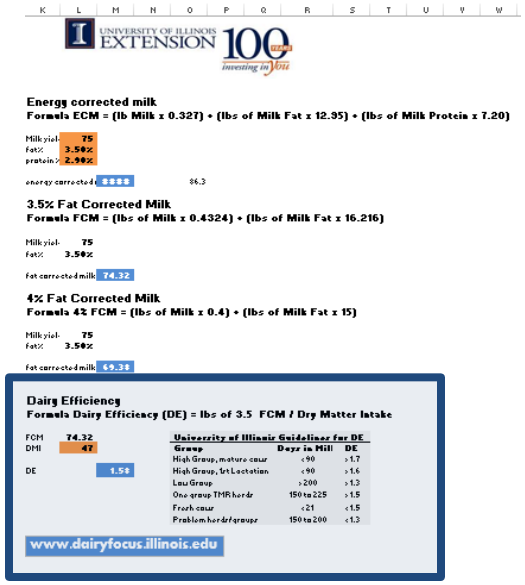
Milk yield	75
fat%	3.50%
fat corrected milk	74.32

4% Fat Corrected Milk

Formula 4% FCM = (lbs of Milk x 0.4) + (lbs of Milk Fat x 15)

Milk yield	75
fat%	3.50%
fat corrected milk	69.38

Milk yield	75
fat%	3.50%
fat corrected milk	69.38



Dairy Efficiency

Formula Dairy Efficiency (DE) = lbs of 3.5 FCM / Dry Matter Intake

FCM	74.32
DMI	47
DE	1.58

University of Illinois Guidelines for DE

Group	Days in Milk	DE
High Group, mature cows	< 90	> 1.7
High Group, 1st Lactation	< 90	> 1.6
Low Group	> 200	> 1.3
One group TMR herds	150 to 225	> 1.5
Fresh cows	< 21	< 1.5
Problem herds/groups	150 to 200	< 1.3

www.dairyfocus.illinois.edu

Margin Protection Program (MPP)
ONLINE DECISION TOOL

John Newton
University of Illinois
217-333-1051
jcnewt@illinois.edu
@New10_AgEcon

farmdoc WEBINARS

Tool Access

Use the tool at www.fsa.usda.gov/mpptool

Educational material www.dairymarkets.org/MPP

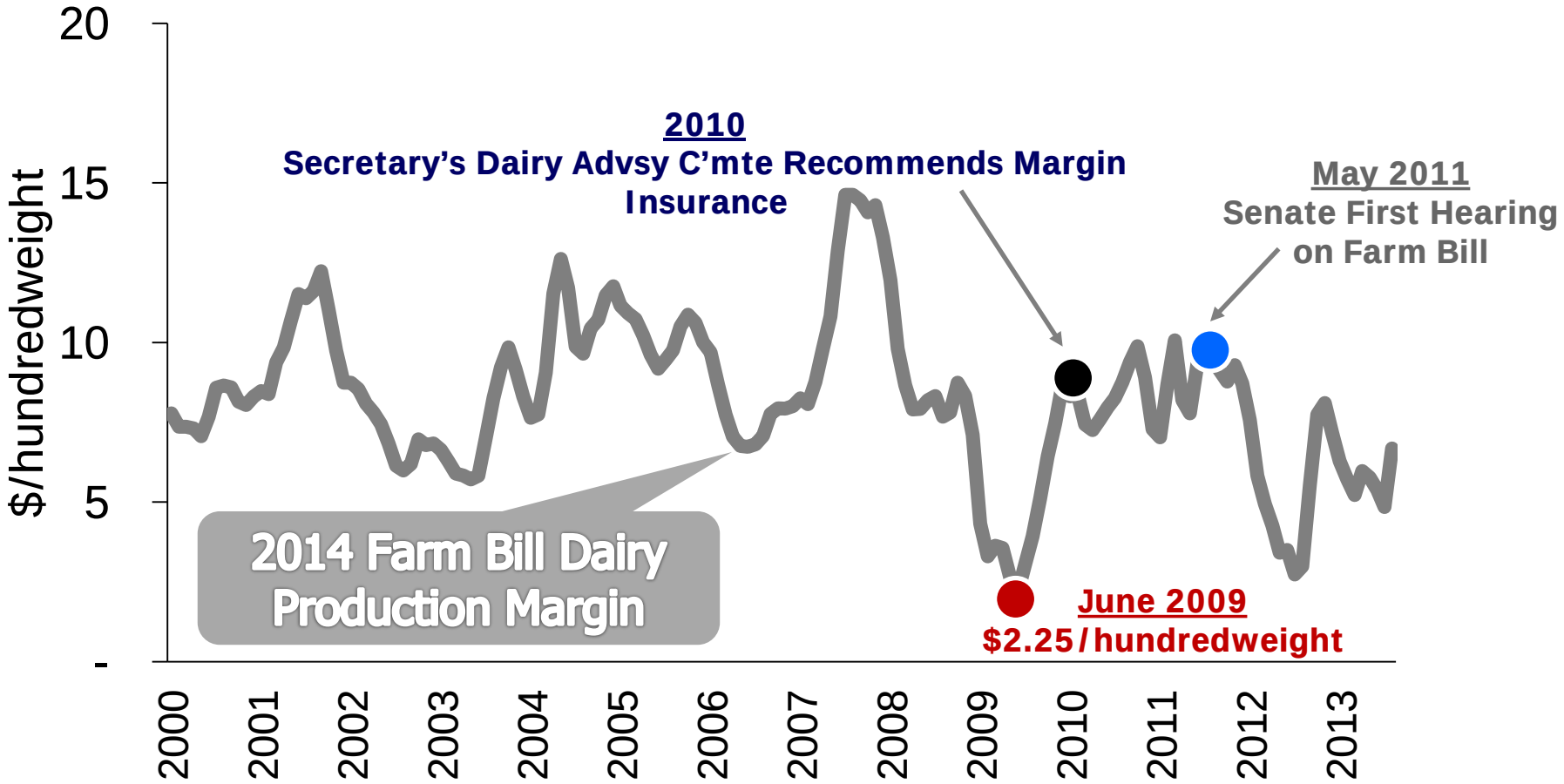
Questions

Please submit questions during the presentation

farmdoc WEBINARS

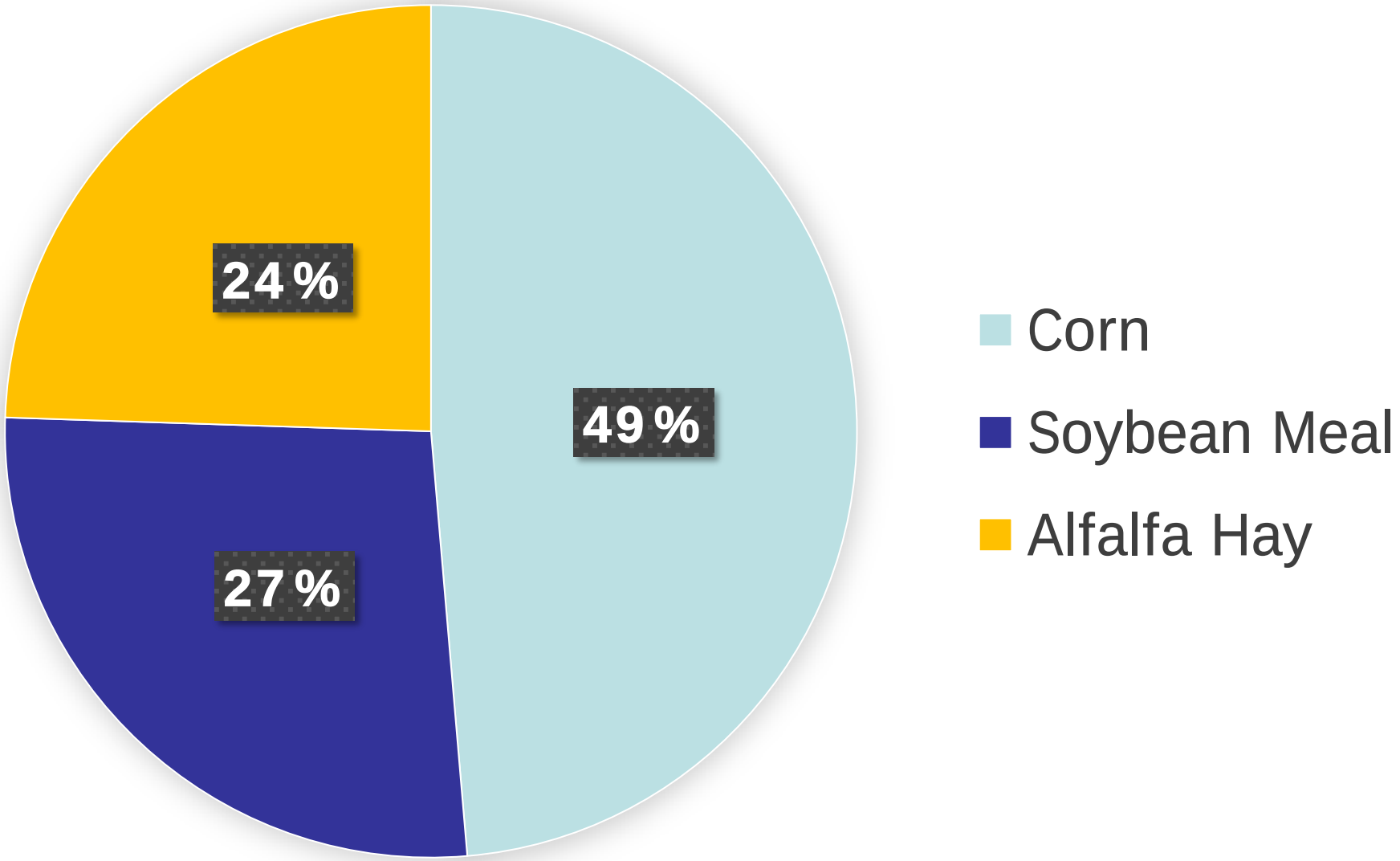
Income Over Feed Costs

Margin = U.S. All-Milk Price –
[NASS Corn Price x 1.0728 + AMS SBM x 0.00735 + NASS Alfalfa x 0.0137]

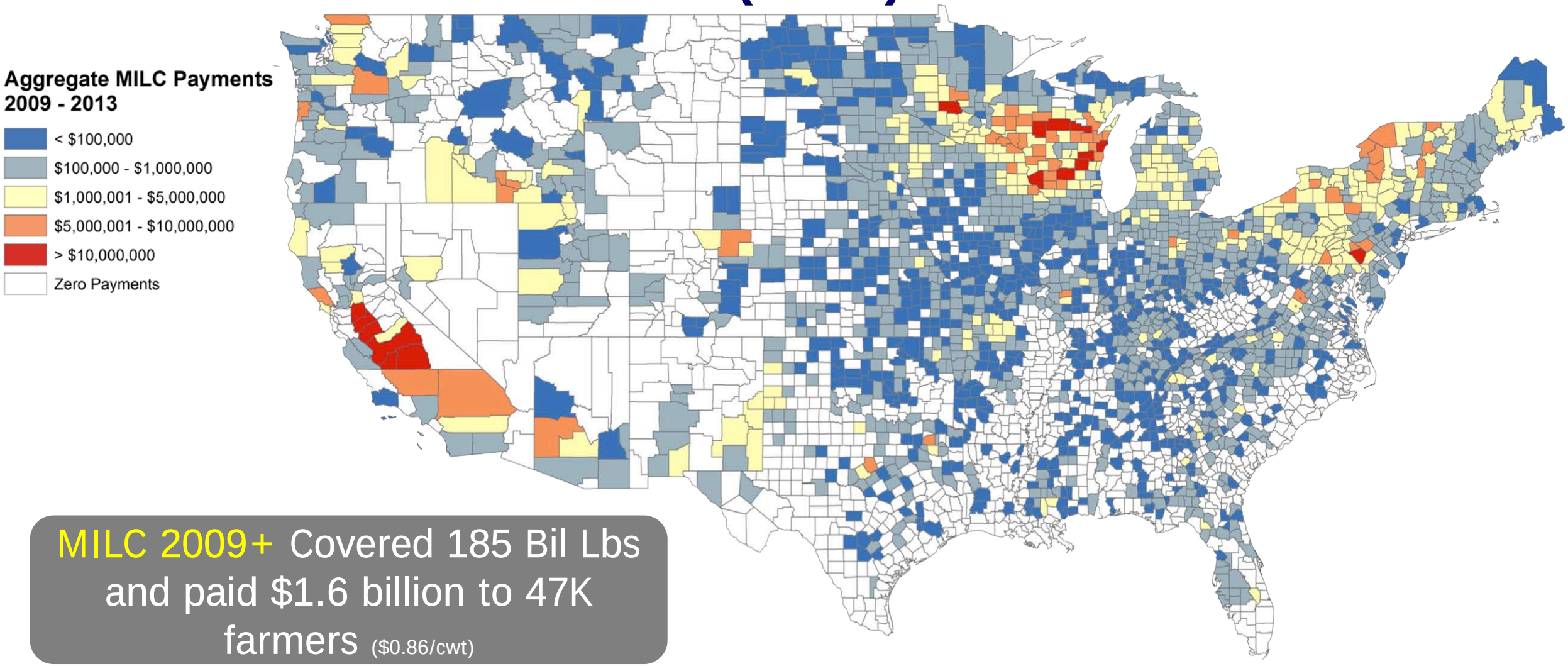


Source: USDA National Agricultural Statistics Service and Agricultural Marketing Service

Contribution to the MPP Ration



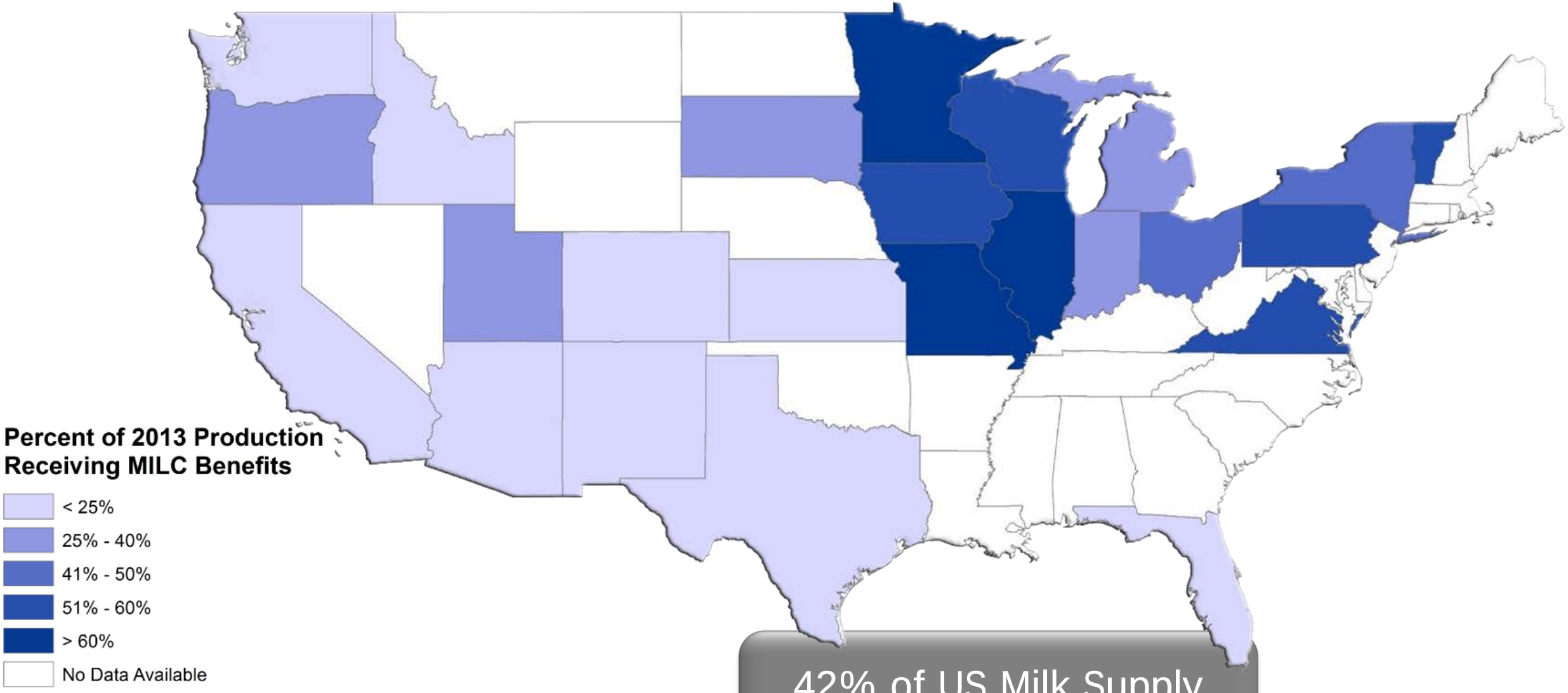
Did Dairy Have a Safety Net?
Milk Income Loss Contract (MILC)



MILC 2009+ Covered 185 Bil Lbs and paid $1.6 billion to 47K farmers ($0.86/cwt)

2.985 Million Pound Benefit Cap

Benefit Concentration in MILC



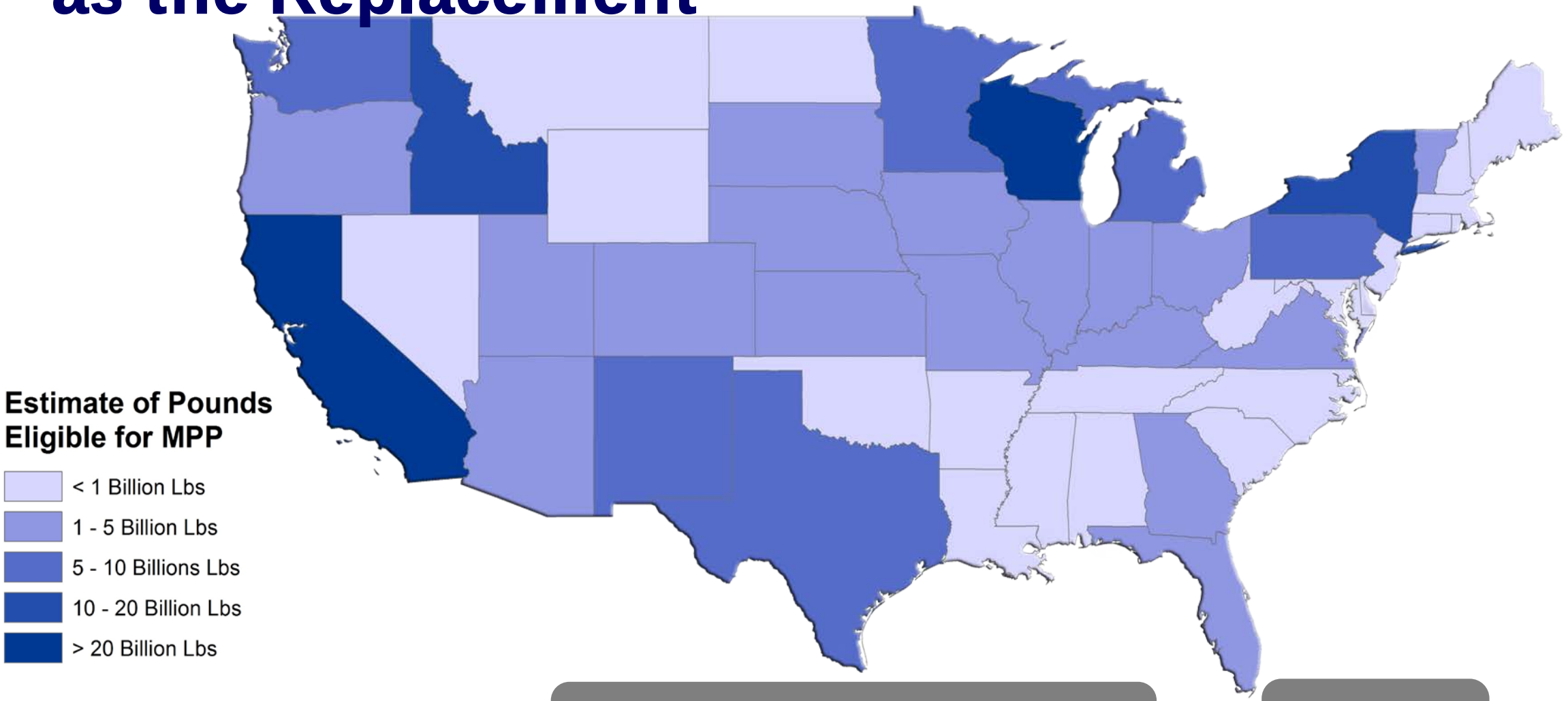
42% of US Milk Supply Covered by MILC

farmdoc WEBINARS

MPP: How it Works

- Voluntary program designed to protect dairymen from downturns in the dairy margin
  - Makes payments when US dairy margin falls below the farmer-selected coverage option
  - Price floors available from $4 to $8 hundredweight
  - Can cover 25% to 90% of production
  - Farm operators pay $100 administrative fee and premiums based on farmer-selected coverage
  - Consecutive 2-month average margins determine indemnity: Jan/Feb, ..., Nov/Dec
  - No eligibility constraints (income or production)

Margin Protection Program (MPP) as the Replacement

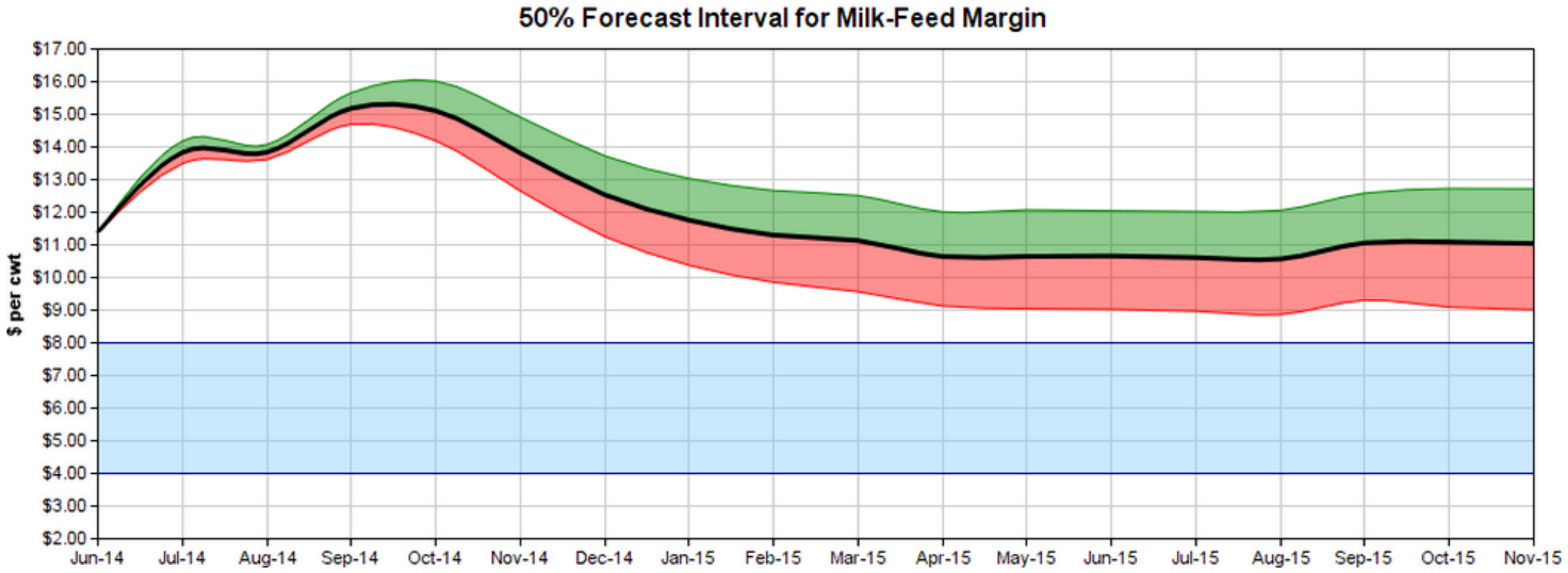


Farms Can Cover:
Max(2011,2012,2013) Milk Lbs.

182 Billion Lbs

farmdoc WEBINARS

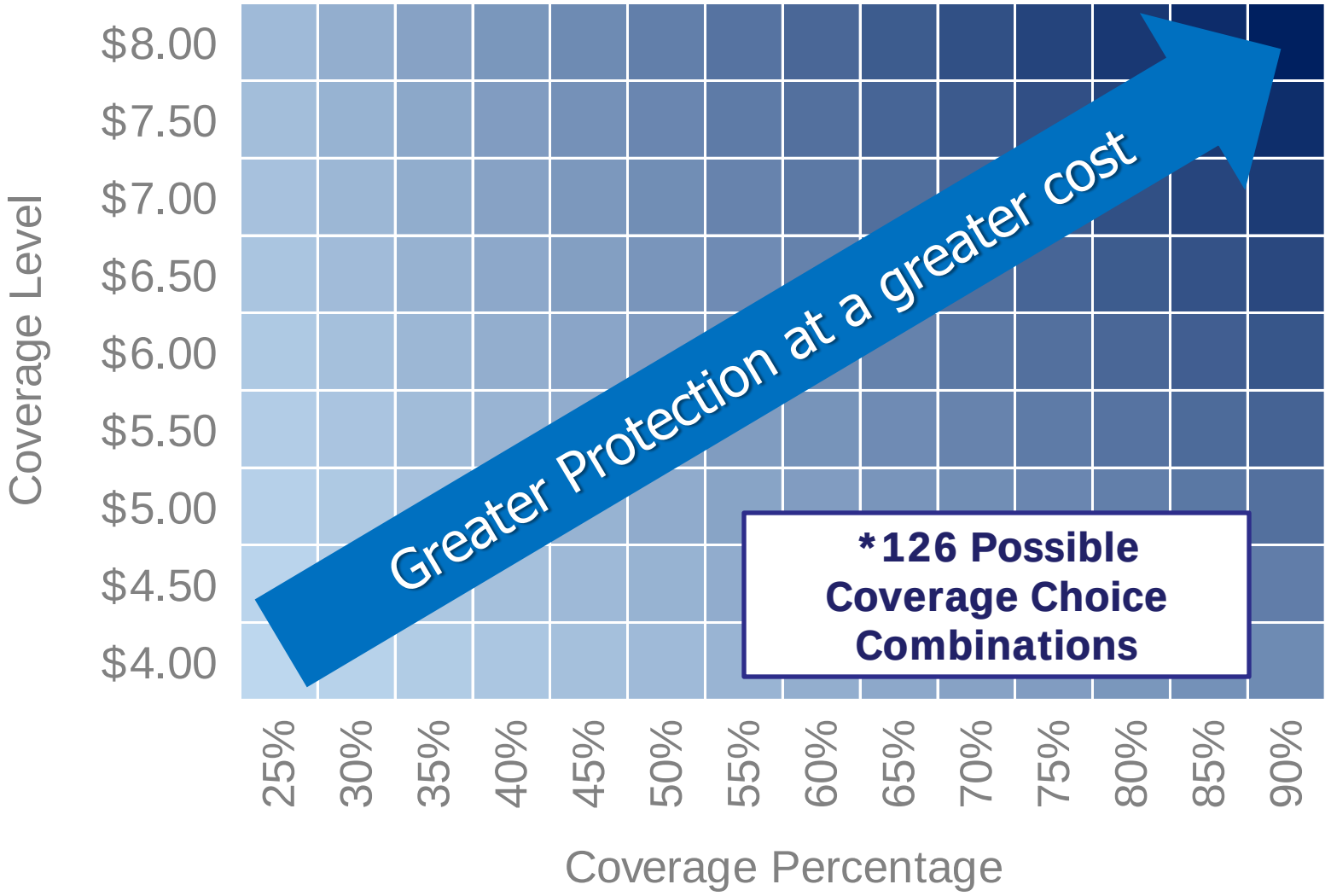
MPP: A New Way to Think About a Government Safety Net



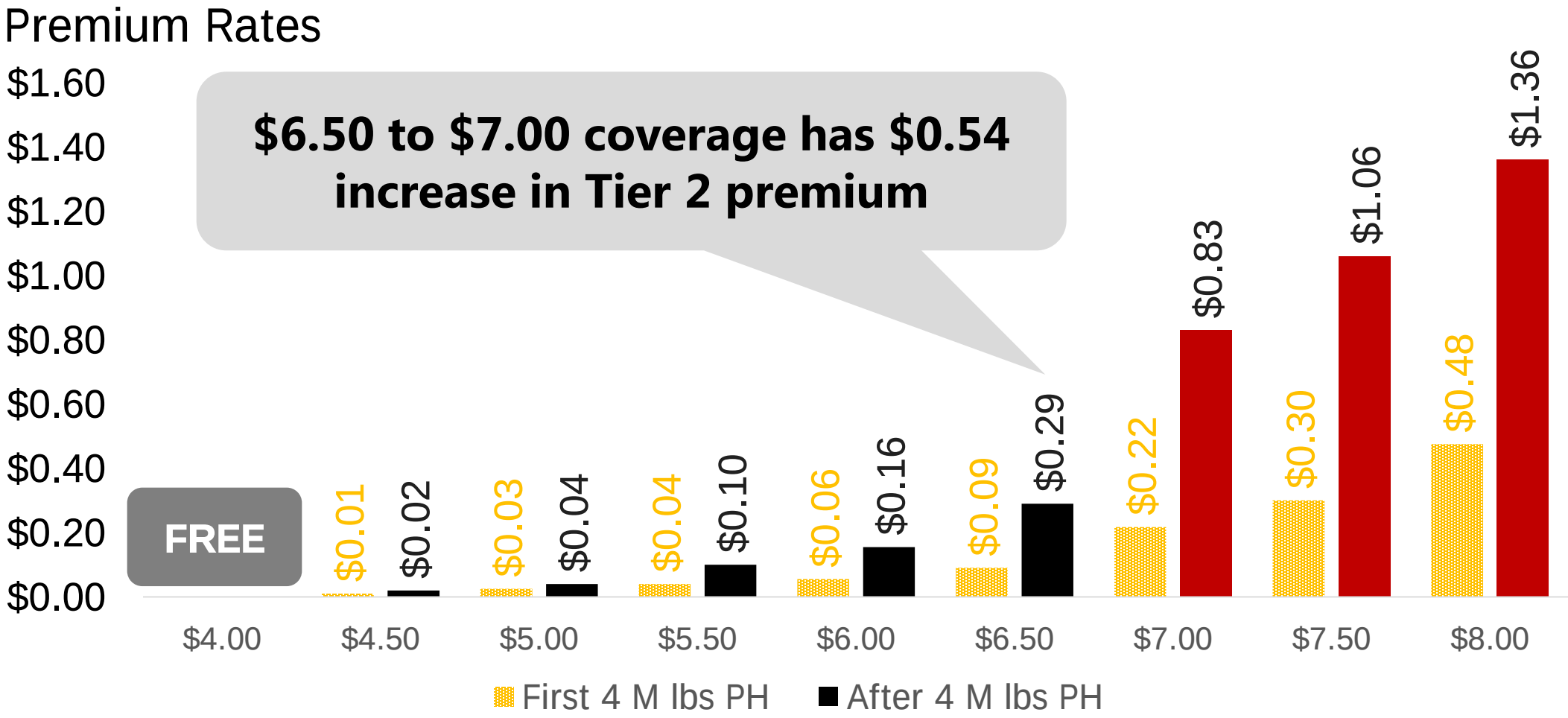
Key farmers decisions:

1) How much milk to protect (25% to 90%)
2) What margin level to protect ($4 to $8)

Coverage Options*



Premium Rates May Alter Participation Incentives



Tier 1: First 4MM #s / Tier 2: After 4MM #s

MPP: USDA Funded Producer Decision Education Project

Margin Protection Program (MPP)

ONLINE DECISION TOOL

Including the LGM-Dairy Analyzer ©

DMaP Dairy Markets and Policy

WISCONSIN UNIVERSITY OF WISCONSIN–MADISON

ILLINOIS UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

MICHIGAN STATE UNIVERSITY

PENNSTATE

UNIVERSITY OF MINNESOTA

CORNELL UNIVERSITY FOUNDED A.D. 1865

THE OHIO STATE UNIVERSITY

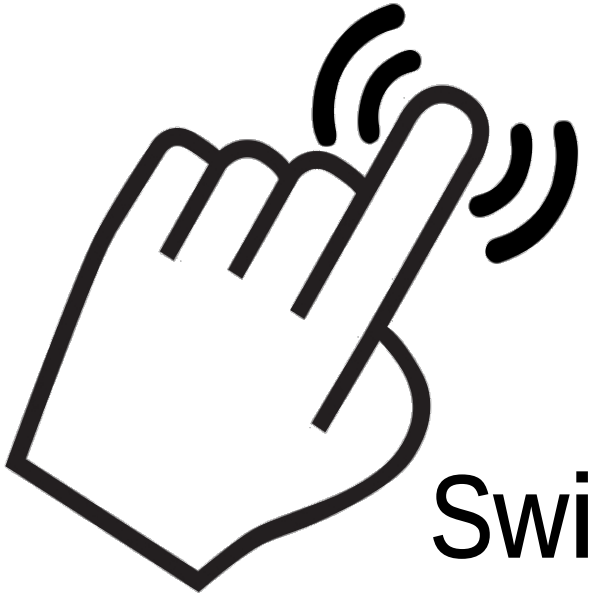
8 Extension Economists

---

7 Land Grant Institutions

farmdoc WEBINARS

Easy Cross-Program Comparison



ONE CLICK

Switch between the MPP-Dairy Tool & the “Award Winning” LGM-Dairy Analyzer©

Built With Farmers in Mind

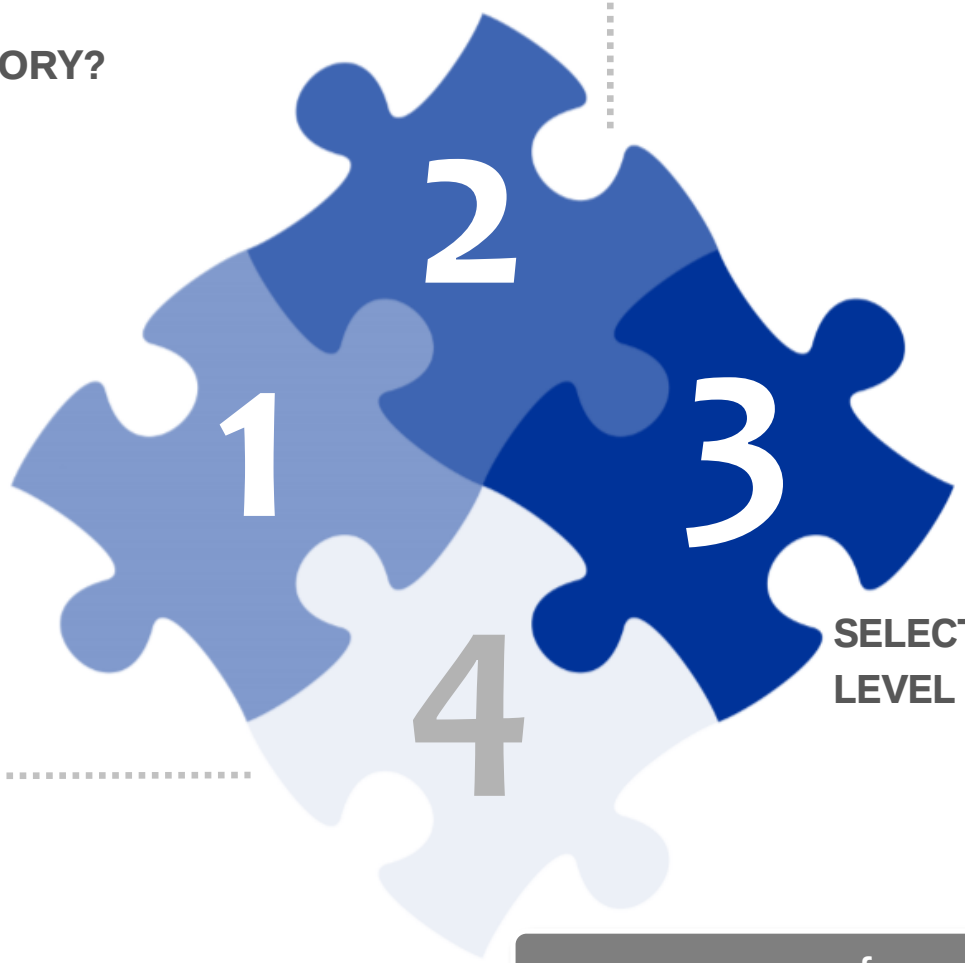
Only one data point needed

Farm's Milk Production History

4 Steps of the Decision Tool

WHAT IS YOUR PRODUCTION HISTORY?

EVALUATE MPP MARGIN FORECAST



SELECT A COVERAGE LEVEL & PERCENTAGE

PRINT ENROLLMENT FORMS ONLINE

www.fsa.usda.gov/mpptool

Windows PC, iOS, & Android

WORKS WITH ALL ELECTRONIC DEVICES

All calculations are performed in the cloud to maximize efficiency.

Secure and 100% Free

DATA SECURITY

Farmer Data is Not Collected

100% Free
24/7 Access

Always Available & Free to Use

www.fsa.usda.gov/mpptool

Online Educational Material

Find videos, PowerPoints, printed material, and links to other Farm Bill decision tools online.

www.dairymarkets.org/MPP

Margin Protection Program (MPP)
ONLINE DECISION TOOL

Demonstration

farmdoc WEBINARS

www.fsa.usda.gov/mpptool

Questions?

Please continue to submit questions during this part of the webinar

John Newton
jcnewt@Illinois.edu

@New10_AgEcon

Visit the ‘Downloads’ page at farmdoc.illinois.edu/webinars