Situation and Outlook for the U.S. Dairy Industry

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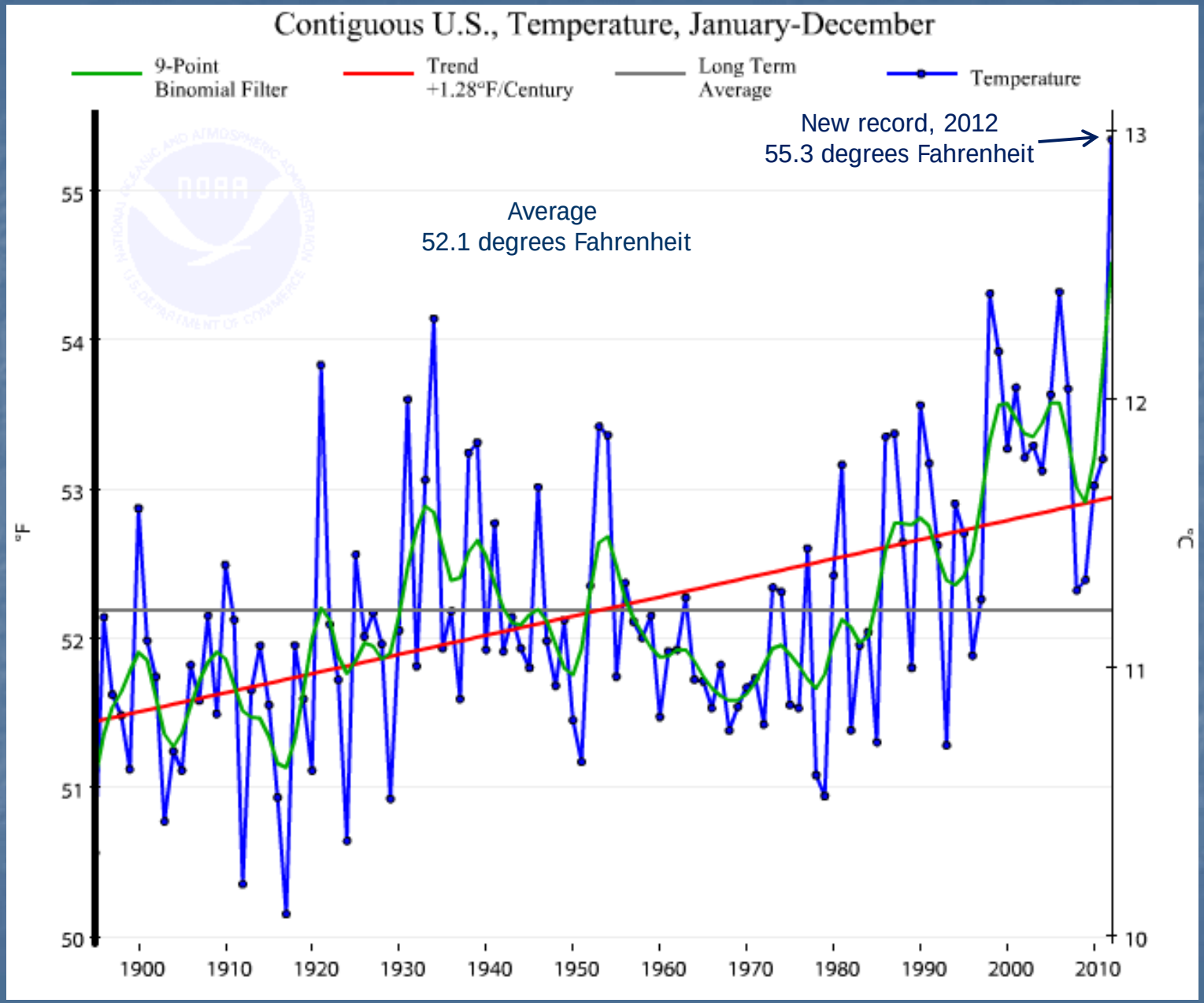
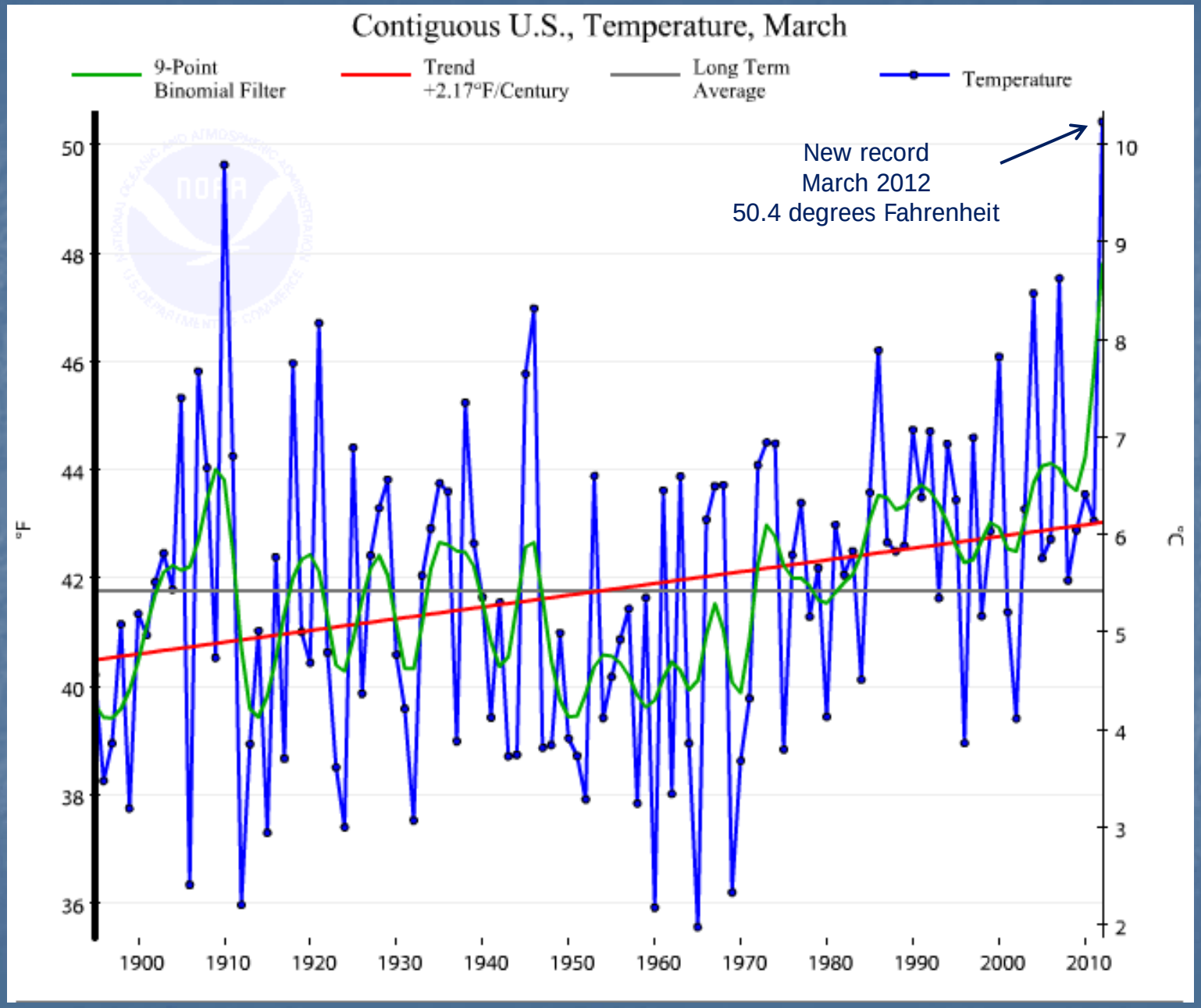
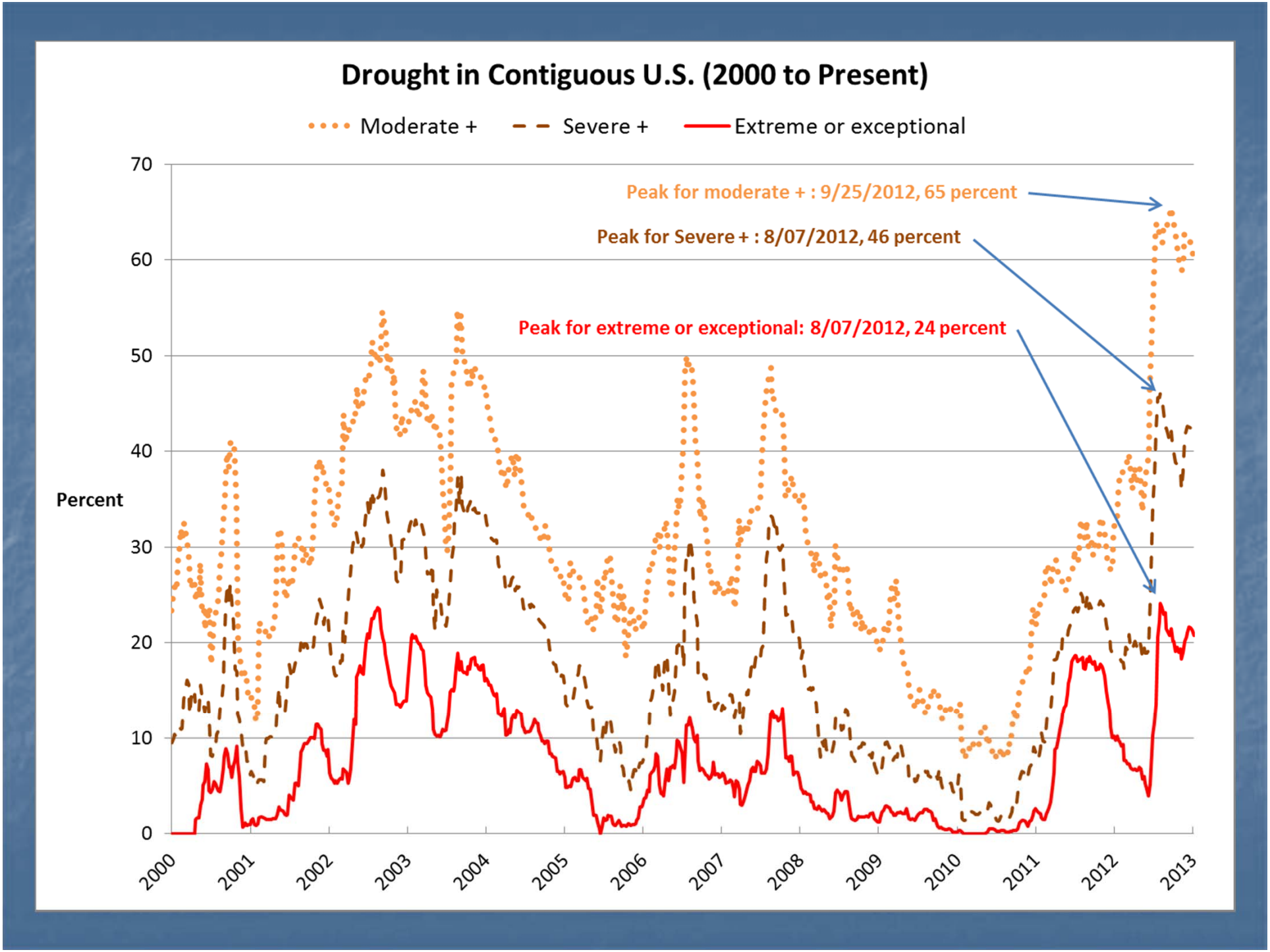
2012
A Record-Breaking Year for the Dairy Industry

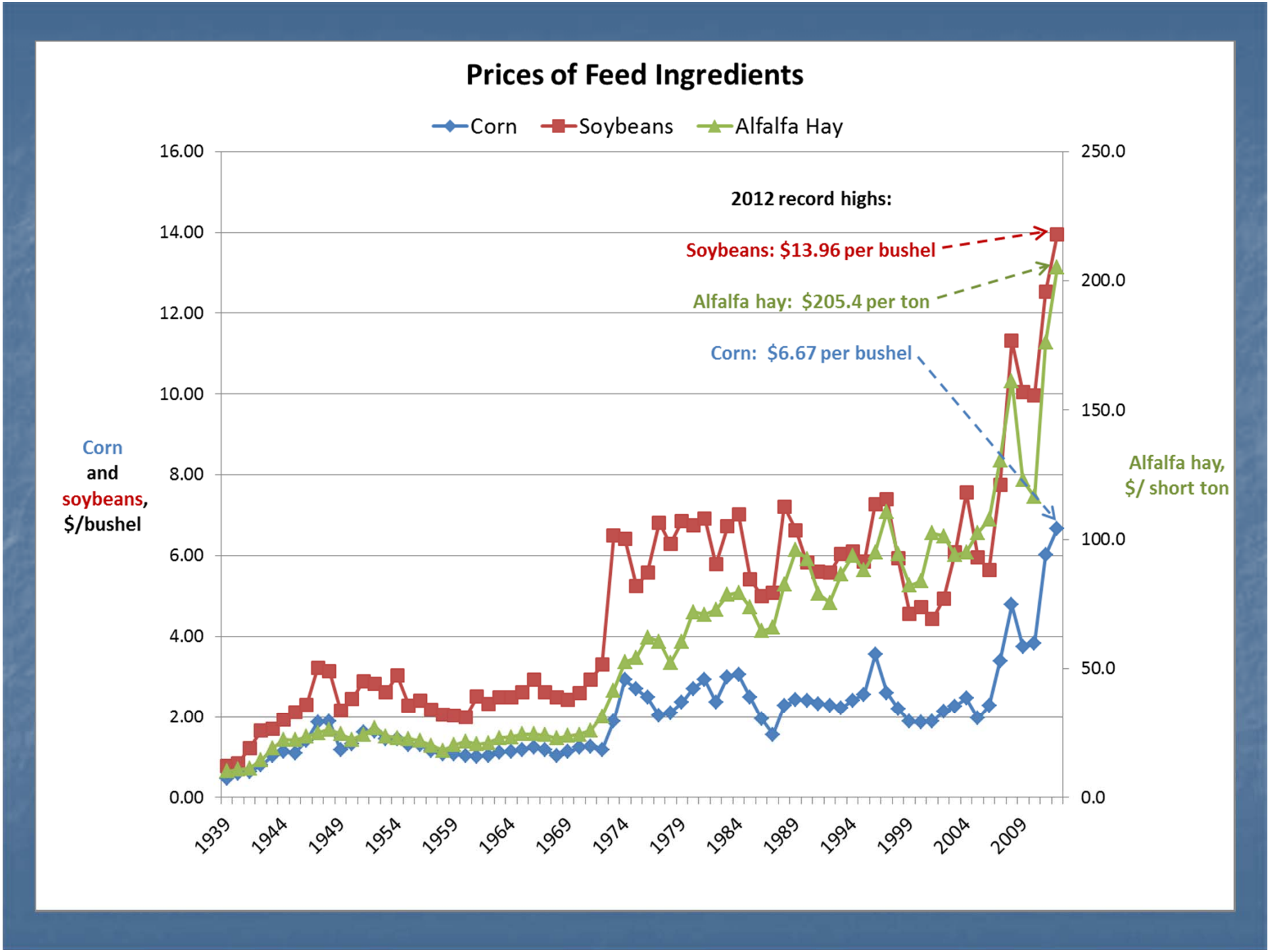


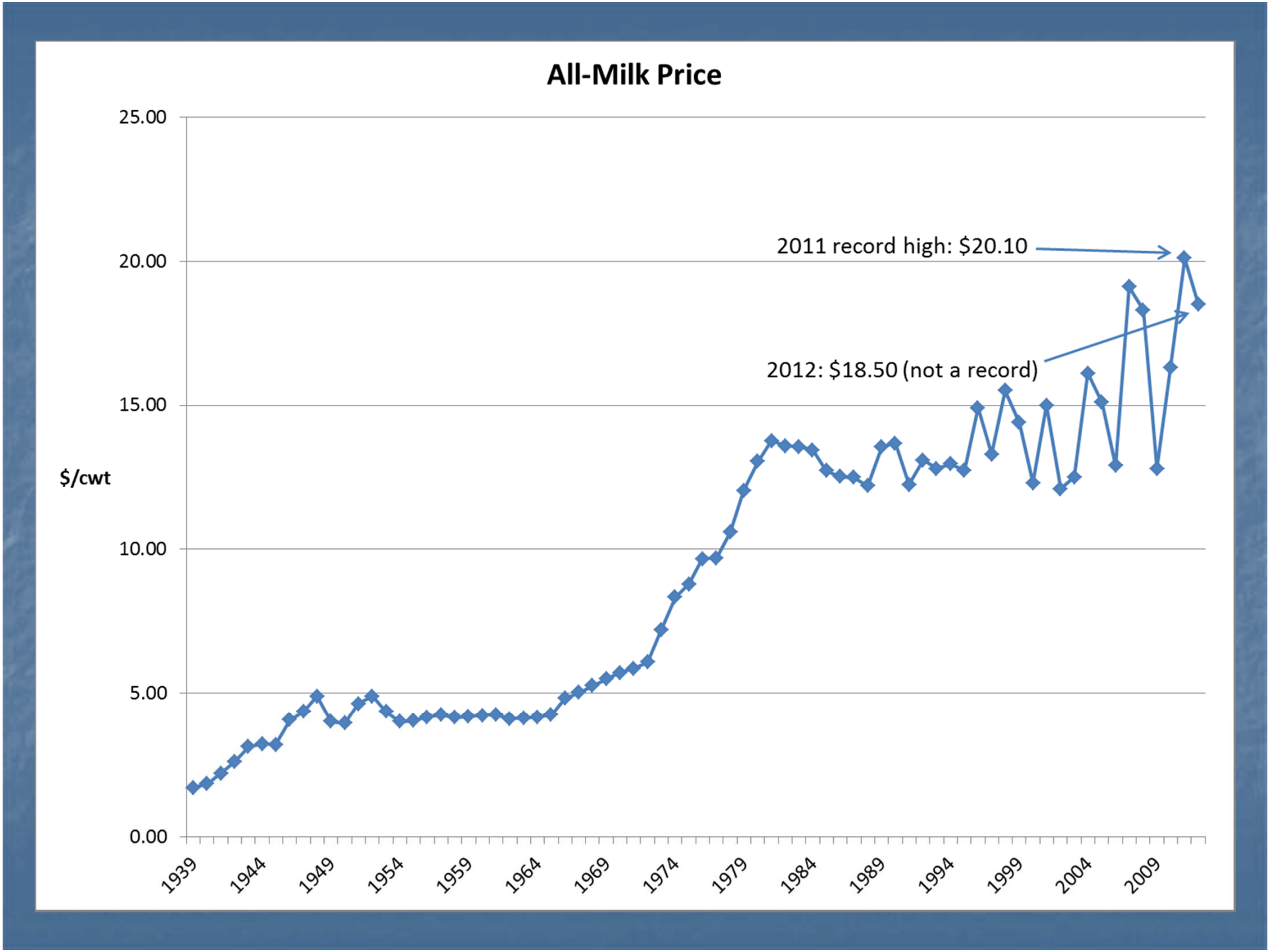
National Climatic Data Center, National Oceanic and Atmospheric Administration

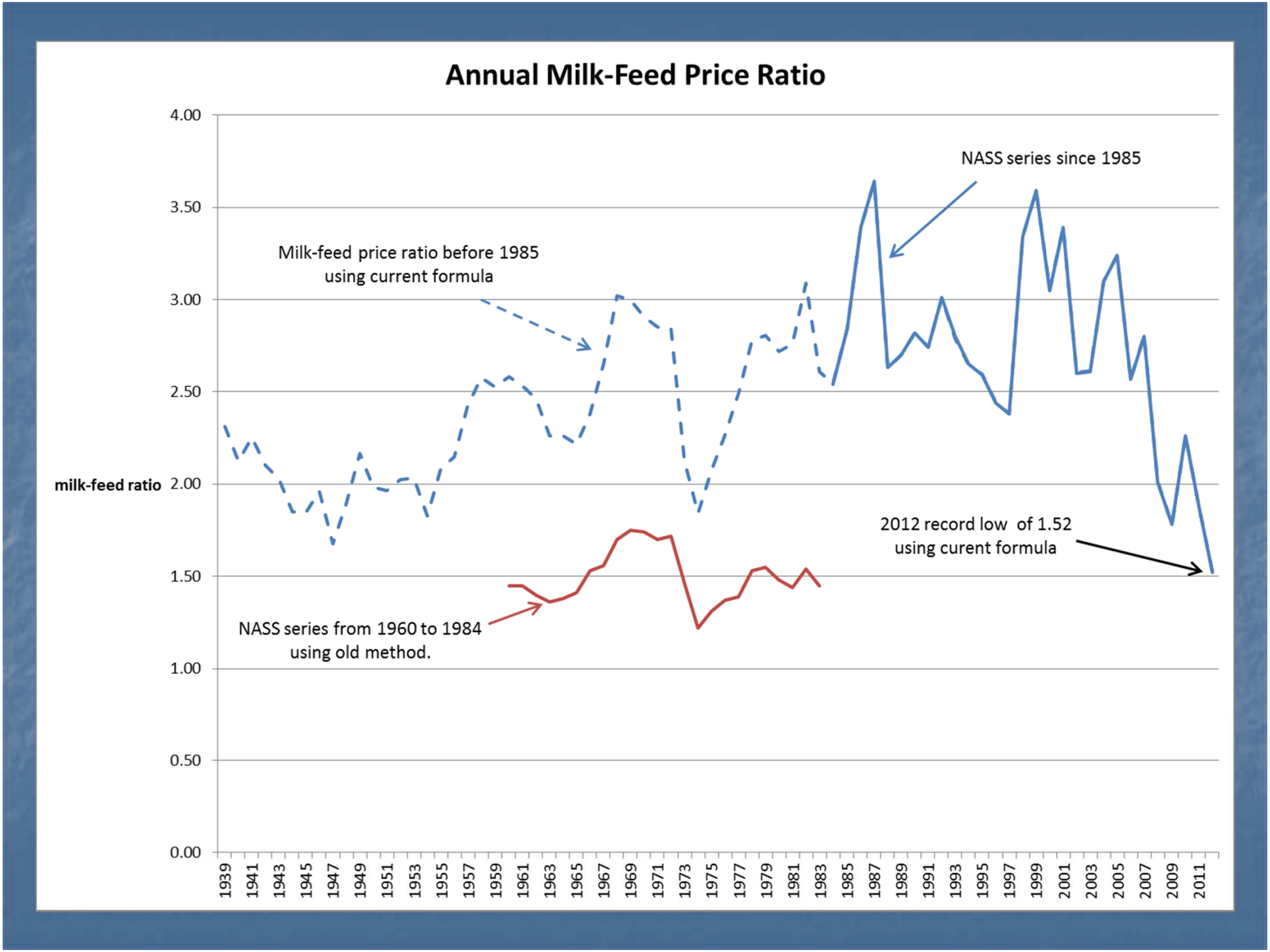


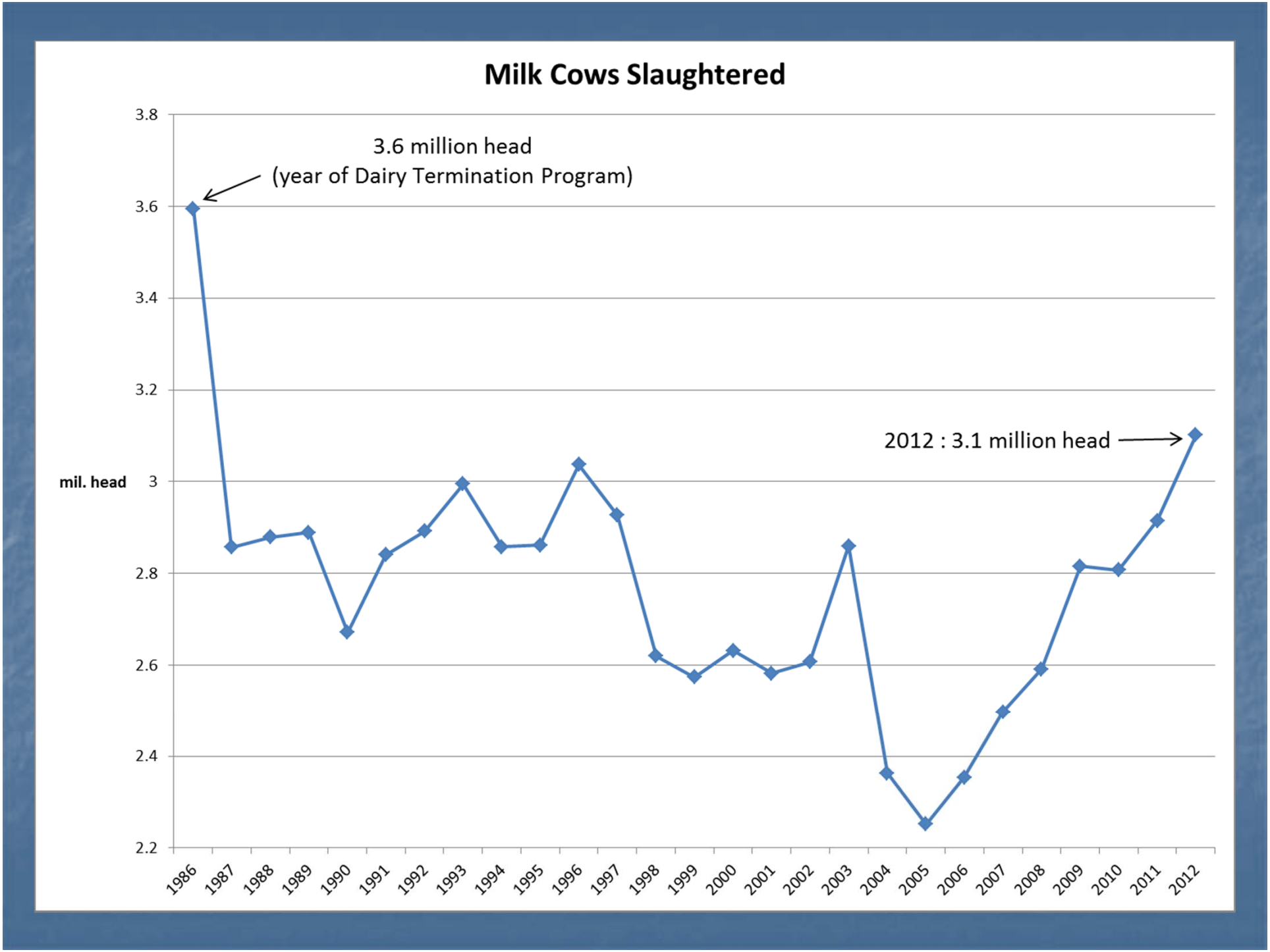
National Climatic Data Center, National Oceanic and Atmospheric Administration

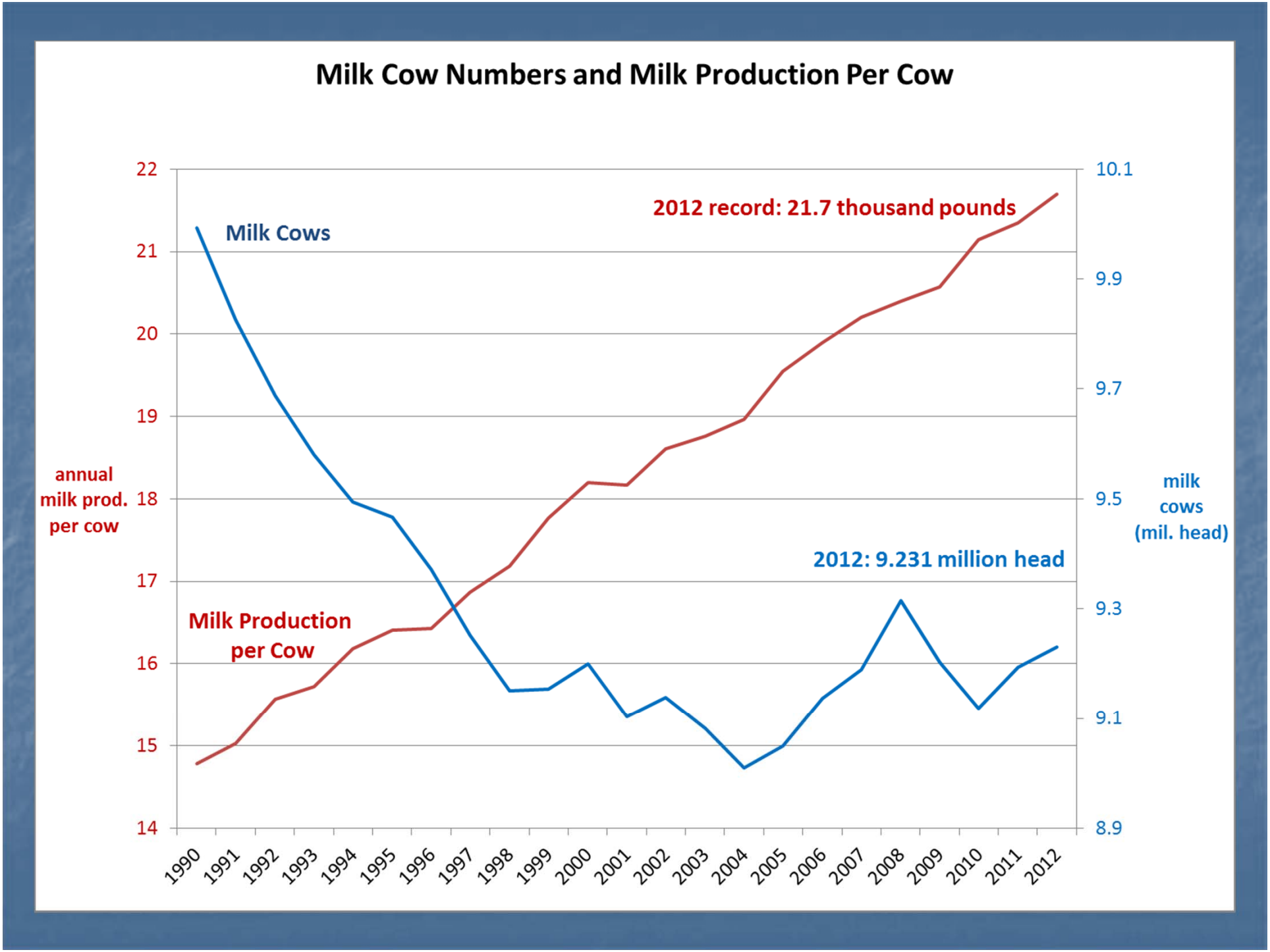

Drought in Contiguous U.S. (2000 to Present)
Moderate +
Severe +
Extreme or exceptional
Peak for moderate + : 9/25/2012, 65 percent
Peak for Severe + : 8/07/2012, 46 percent
Peak for extreme or exceptional: 8/07/2012, 24 percent
Percent
70
60
50
40
30
20
10
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013

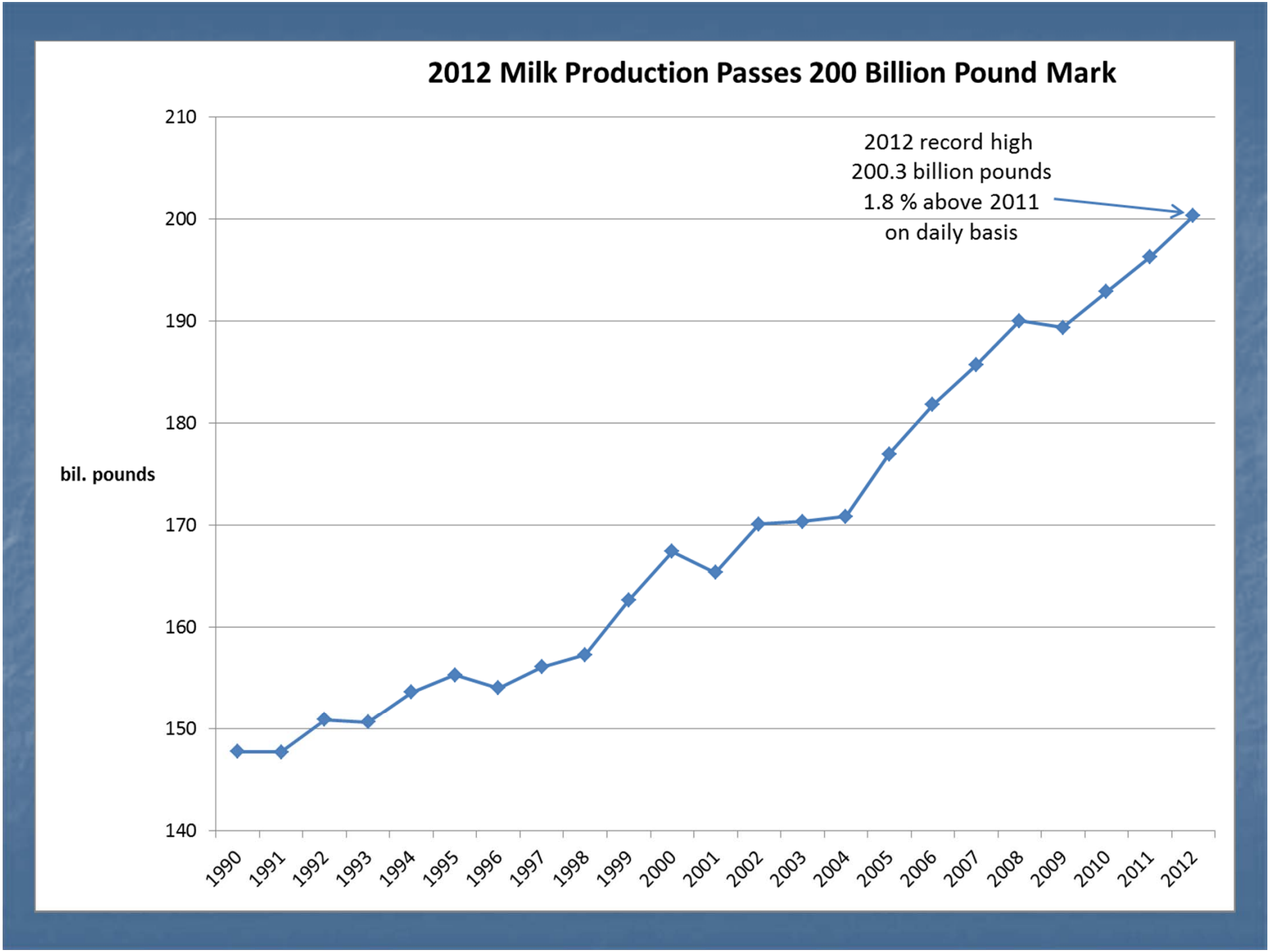

Prices of Feed Ingredients
Corn
Soybeans
Alfalfa Hay
2012 record highs:
Soybeans: $13.96 per bushel
Alfalfa hay: $205.4 per ton
Corn: $6.67 per bushel
Corn and soybeans, $/bushel
Alfalfa hay, $/ short ton
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
250.0
200.0
150.0
100.0
50.0
0.0
1939
1944
1949
1954
1959
1964
1969
1974
1979
1984
1989
1994
1999
2004
2009

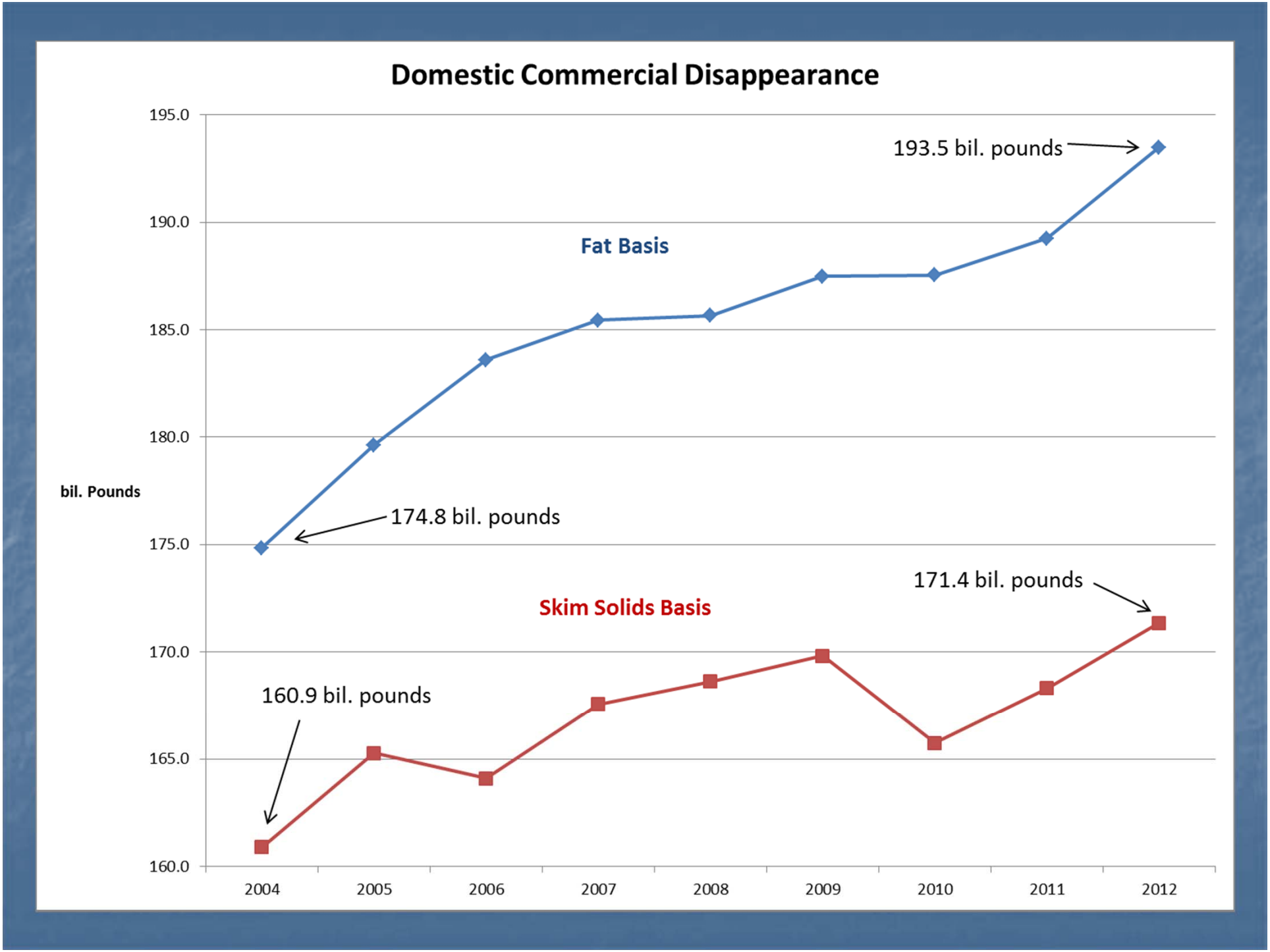

All-Milk Price
25.00
20.00
15.00
10.00
5.00
0.00
$/cwt
2011 record high: $20.10
2012: $18.50 (not a record)
1939
1944
1949
1954
1959
1964
1969
1974
1979
1984
1989
1994
1999
2004
2009

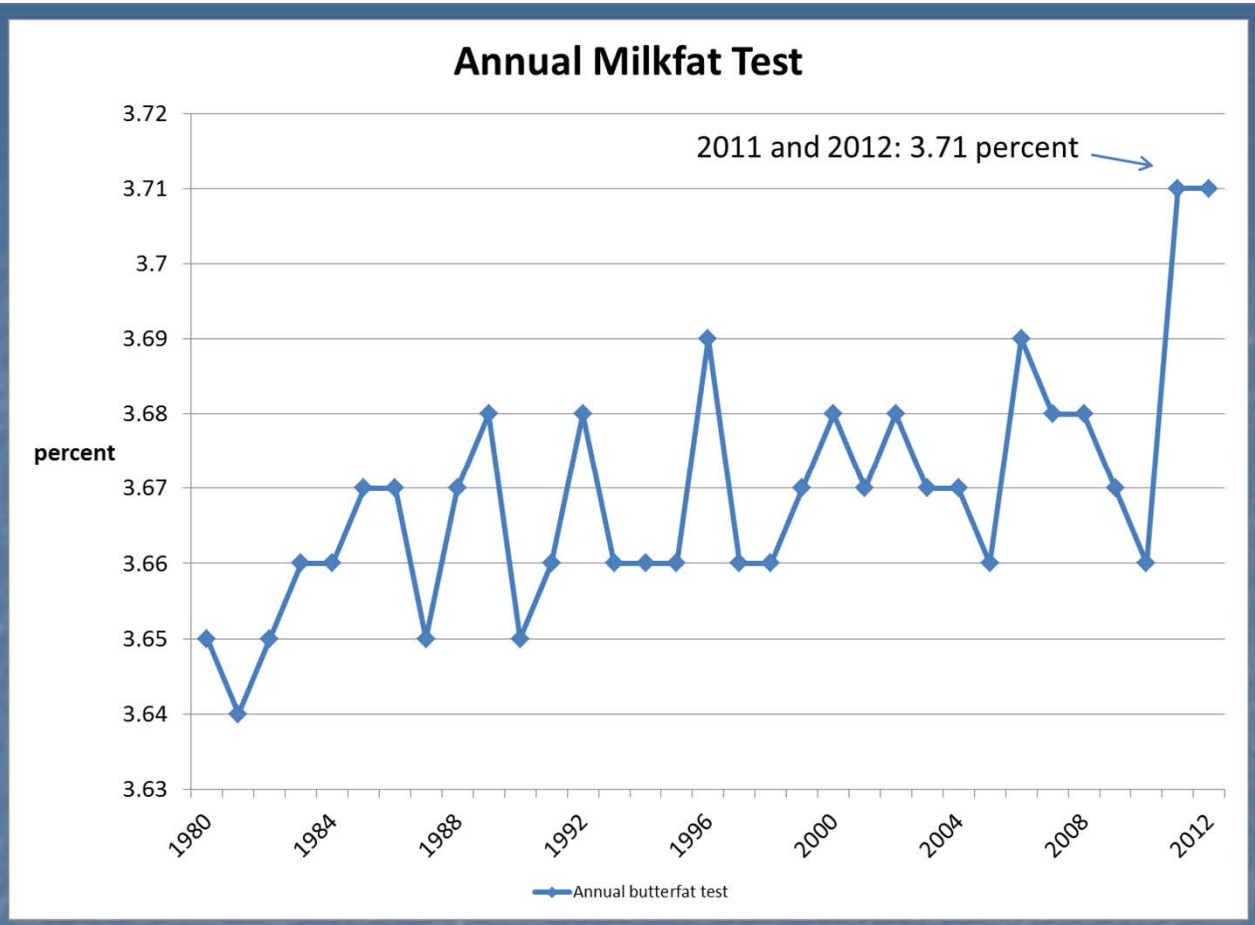

Annual Milk-Feed Price Ratio
milk-feed ratio
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
1939
1941
1943
1945
1947
1949
1951
1953
1955
1957
1959
1961
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
NASS series since 1985
Milk-feed price ratio before 1985
using current formula
2012 record low of 1.52
using curent formula
NASS series from 1960 to 1984
using old method.


Milk Cows Slaughtered
3.6 million head
(year of Dairy Termination Program)
2012 : 3.1 million head
mil. head
3.8
3.6
3.4
3.2
3
2.8
2.6
2.4
2.2
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012


Milk Cow Numbers and Milk Production Per Cow
annual milk prod. per cow
milk cows (mil. head)
Milk Cows
Milk Production per Cow
2012 record: 21.7 thousand pounds
2012: 9.231 million head
22
21
20
19
18
17
16
15
14
10.1
9.9
9.7
9.5
9.3
9.1
8.9
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012

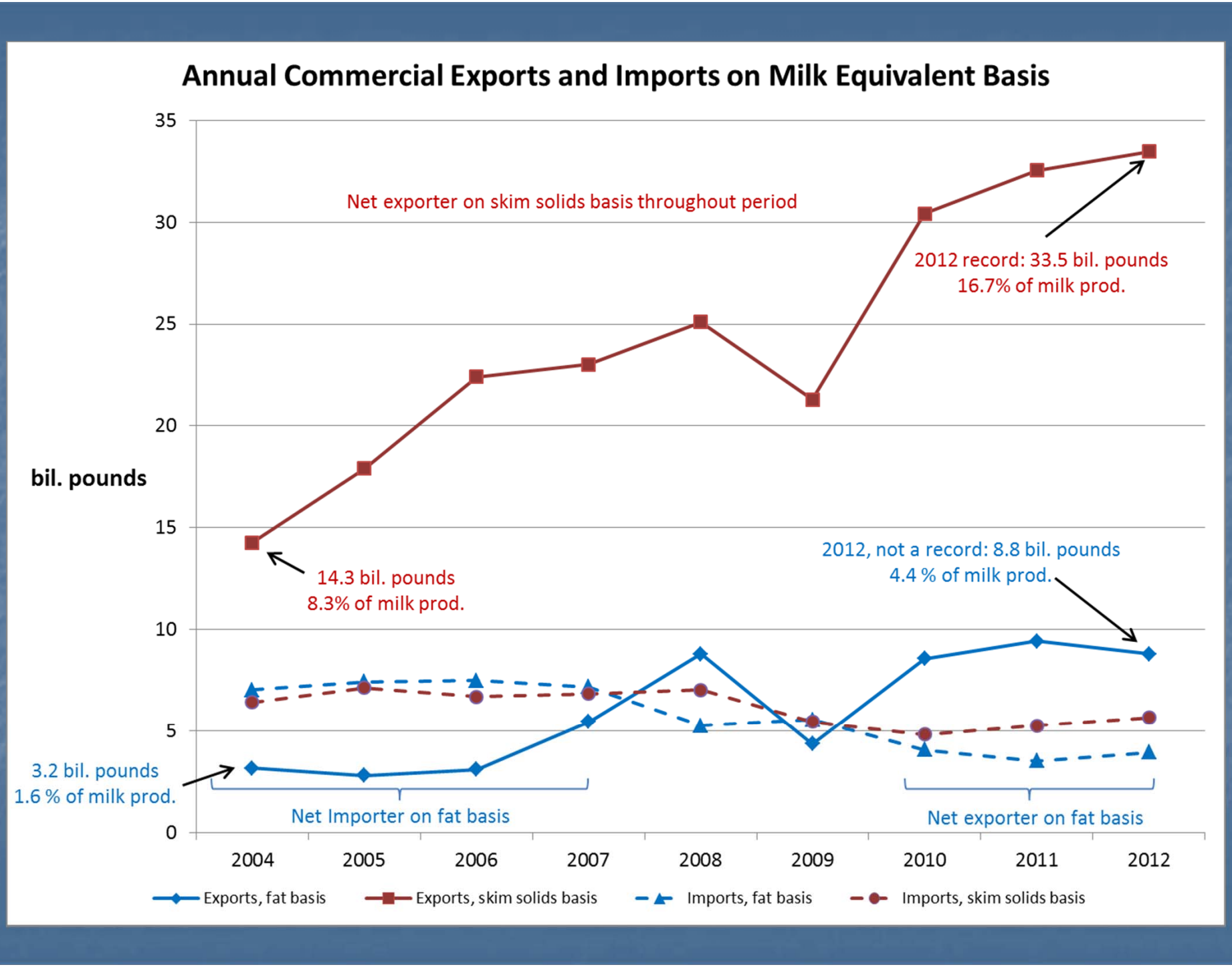

2012 Milk Production Passes 200 Billion Pound Mark
2012 record high
200.3 billion pounds
1.8 % above 2011
on daily basis
bil. pounds
210
200
190
180
170
160
150
140
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012

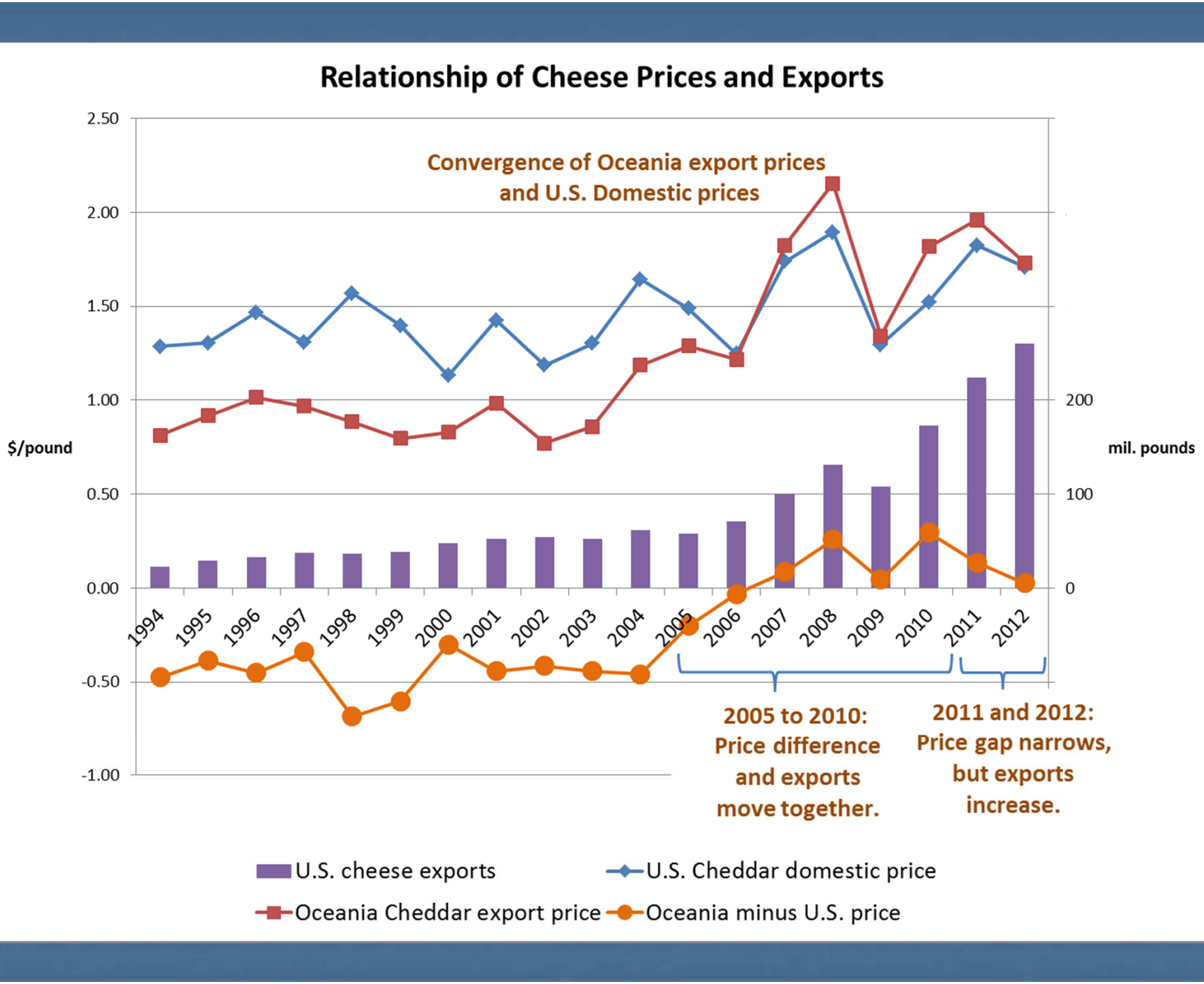

Domestic Commercial Disappearance
195.0
190.0
185.0
180.0
175.0
170.0
165.0
160.0
bil. Pounds
193.5 bil. pounds
Fat Basis
174.8 bil. pounds
171.4 bil. pounds
Skim Solids Basis
160.9 bil. pounds
2004
2005
2006
2007
2008
2009
2010
2011
2012



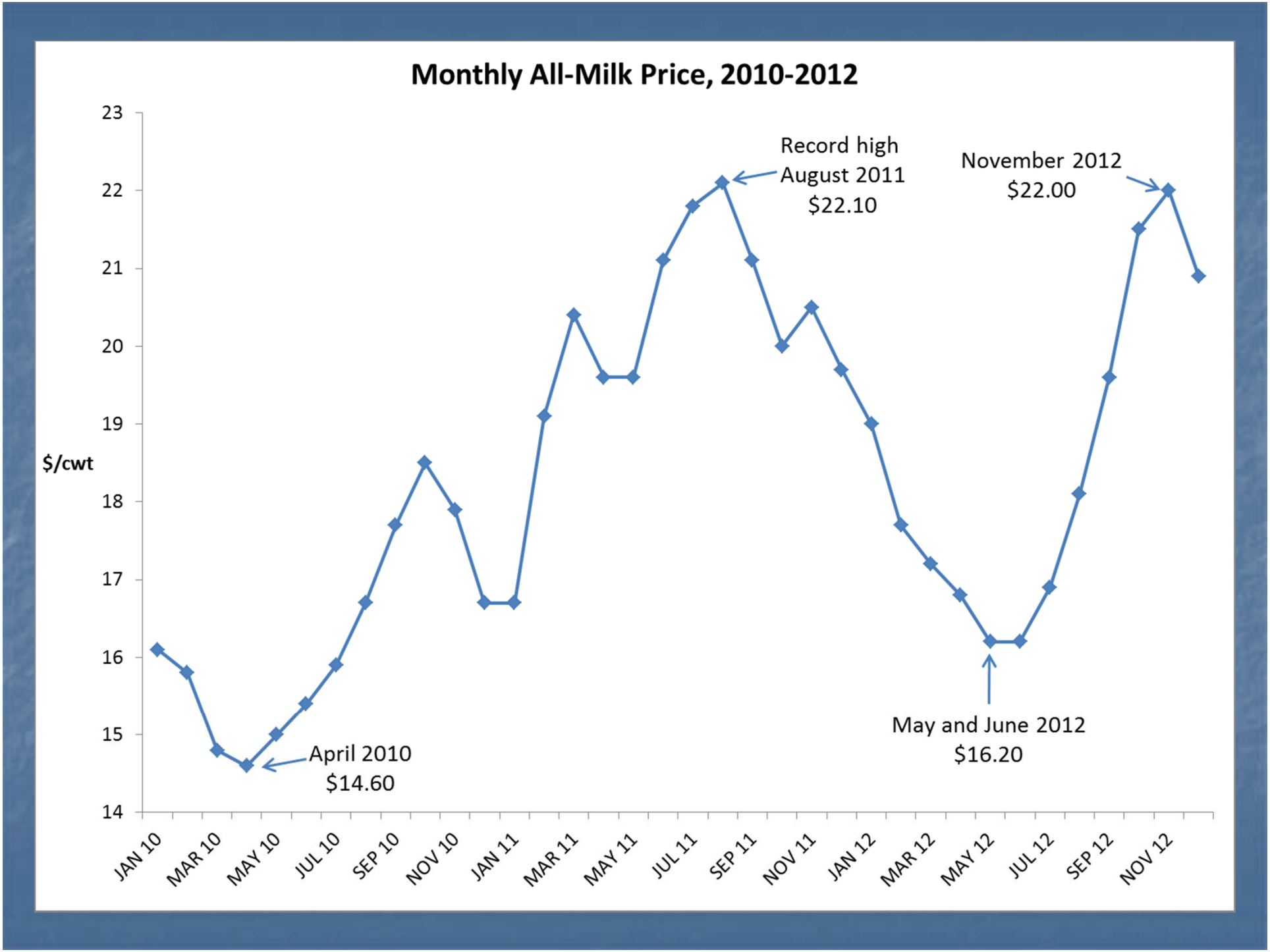
December 2012: 3.86 percent

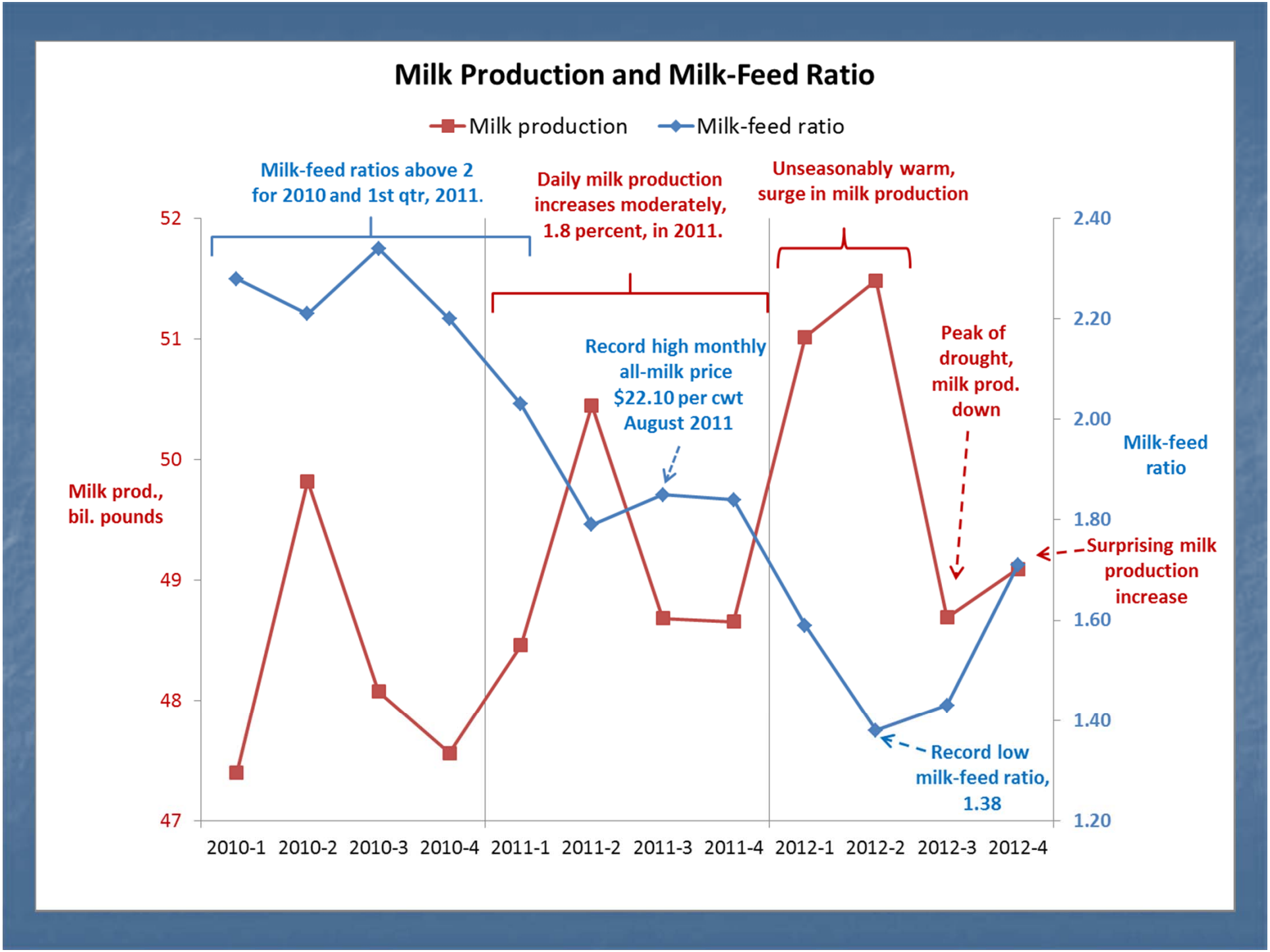
Dairy Cow Percentage Enrollment in Dairy Herd Improvement (DHI) Test Plans as of January 1 by Breed					
Breed	2009	2010	2011	2012	2013
Holstein	89.1	87.6	86.8	86.0	84.7
Mixed	5.1	6.6	7.5	8.2	8.6
Jersey	5.1	5.2	5.1	5.2	6.2
Other	0.7	0.6	0.6	0.5	0.5
Total	100.0	100.0	100.0	100.0	100.0

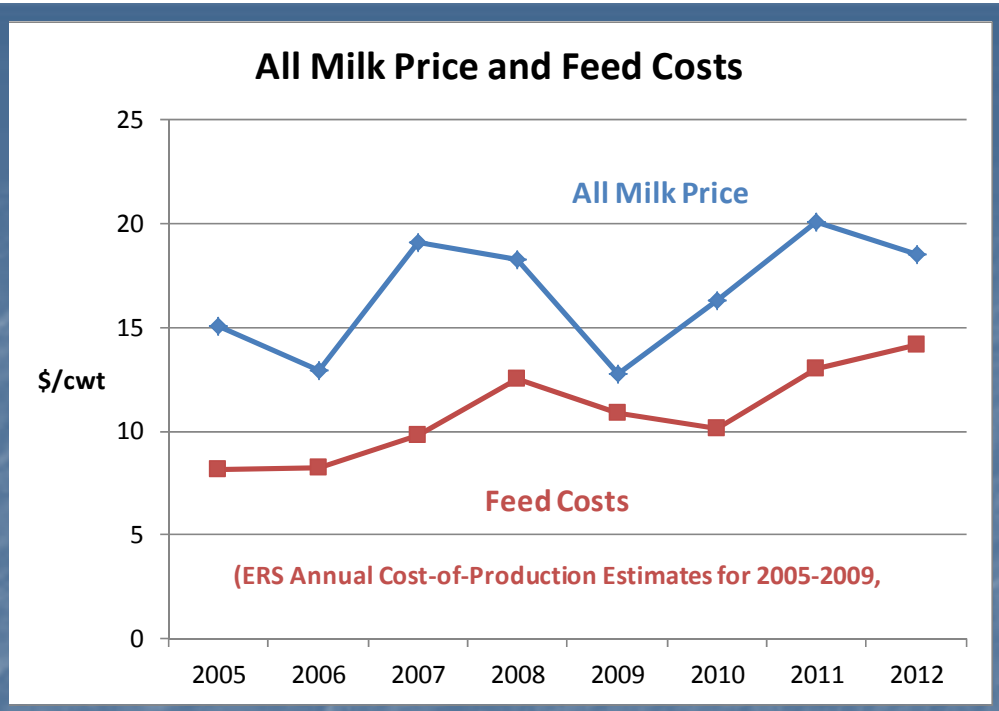

Annual Commercial Exports and Imports on Milk Equivalent Basis
bil. pounds
35
30
25
20
15
10
5
0
Net exporter on skim solids basis throughout period
2012 record: 33.5 bil. pounds
16.7% of milk prod.
14.3 bil. pounds
8.3% of milk prod.
2012, not a record: 8.8 bil. pounds
4.4 % of milk prod.
3.2 bil. pounds
1.6 % of milk prod.
Net Importer on fat basis
Net exporter on fat basis
2004
2005
2006
2007
2008
2009
2010
2011
2012
Exports, fat basis
Exports, skim solids basis
Imports, fat basis
Imports, skim solids basis

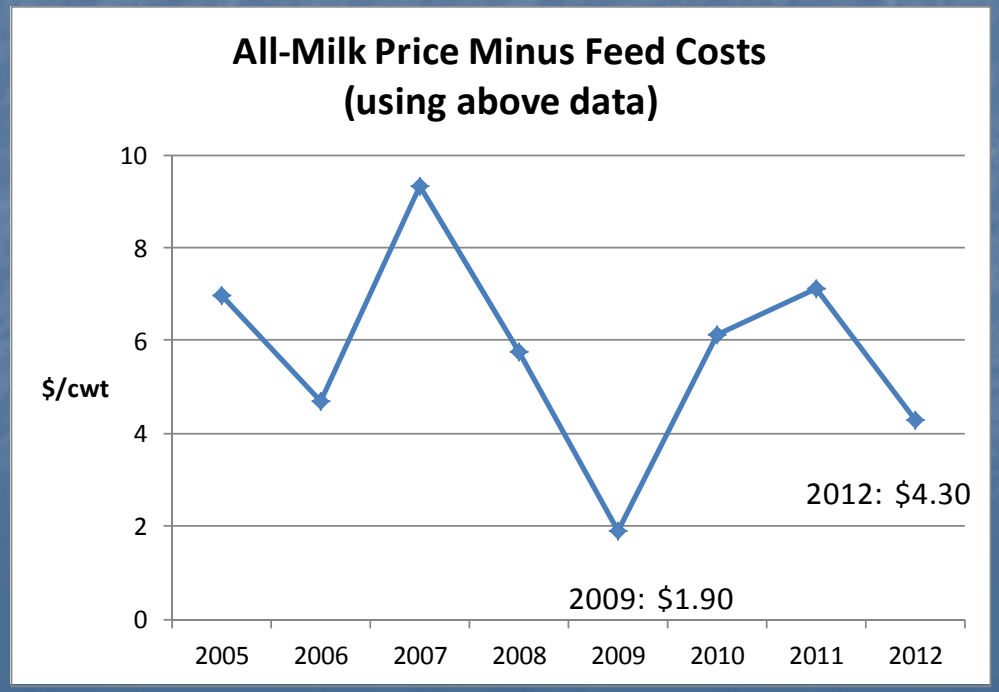

Relationship of Cheese Prices and Exports
Convergence of Oceania export prices and U.S. Domestic prices
$/pound
mil. pounds
2.50
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
200
100
0
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2005 to 2010: Price difference and exports move together.
2011 and 2012: Price gap narrows, but exports increase.
U.S. cheese exports
U.S. Cheddar domestic price
Oceania Cheddar export price
Oceania minus U.S. price

Closer Look at 2010 Through 2012

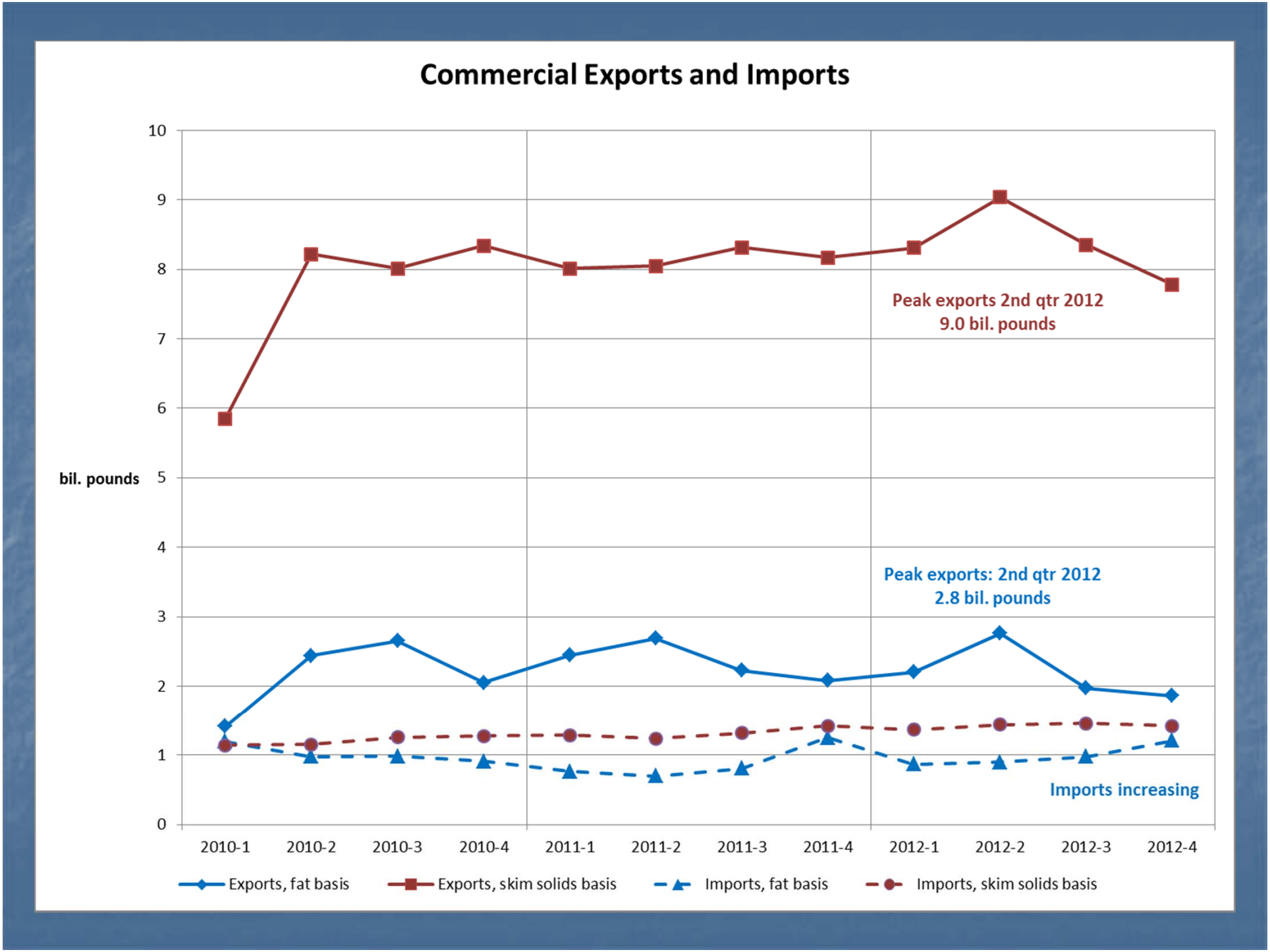

Monthly All-Milk Price, 2010-2012
$/cwt
23
22
21
20
19
18
17
16
15
14
Record high
August 2011
$22.10
November 2012
$22.00
April 2010
$14.60
May and June 2012
$16.20
JAN 10
MAR 10
MAY 10
JUL 10
SEP 10
NOV 10
JAN 11
MAR 11
MAY 11
JUL 11
SEP 11
NOV 11
JAN 12
MAR 12
MAY 12
JUL 12
SEP 12
NOV 12


Milk Production and Milk-Feed Ratio
Milk production
Milk-feed ratio
Milk-feed ratios above 2 for 2010 and 1st qtr, 2011.
Daily milk production increases moderately, 1.8 percent, in 2011.
Unseasonably warm, surge in milk production
Record high monthly all-milk price $22.10 per cwt August 2011
Peak of drought, milk prod. down
Surprising milk production increase
Record low milk-feed ratio, 1.38
Milk prod., bil. pounds
Milk-feed ratio
52
51
50
49
48
47
2.40
2.20
2.00
1.80
1.60
1.40
1.20
2010-1
2010-2
2010-3
2010-4
2011-1
2011-2
2011-3
2011-4
2012-1
2012-2
2012-3
2012-4





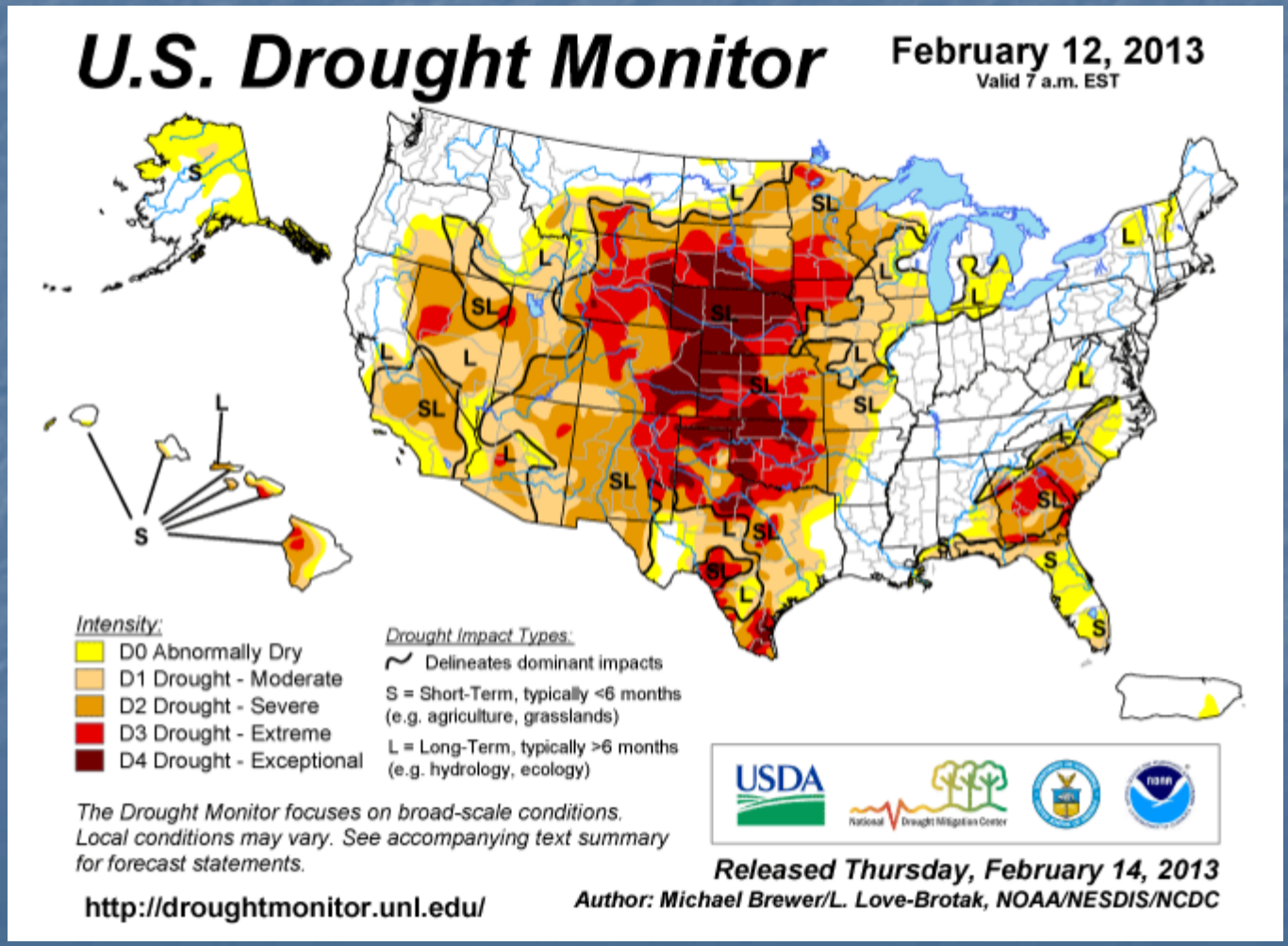
Margins on average were smaller in 2009 than in 2012.


Commercial Exports and Imports
bil. pounds
10
9
8
7
6
5
4
3
2
1
0
2010-1
2010-2
2010-3
2010-4
2011-1
2011-2
2011-3
2011-4
2012-1
2012-2
2012-3
2012-4
Peak exports 2nd qtr 2012
9.0 bil. pounds
Peak exports: 2nd qtr 2012
2.8 bil. pounds
Imports increasing
Exports, fat basis
Exports, skim solids basis
Imports, fat basis
Imports, skim solids basis

Transition
From 2012 to 2013

Still in a Drought
Projections Assume Return to Normal Weather

38 % of contiguous U.S. in severe or worse drought.
Down from peak of 65 %.



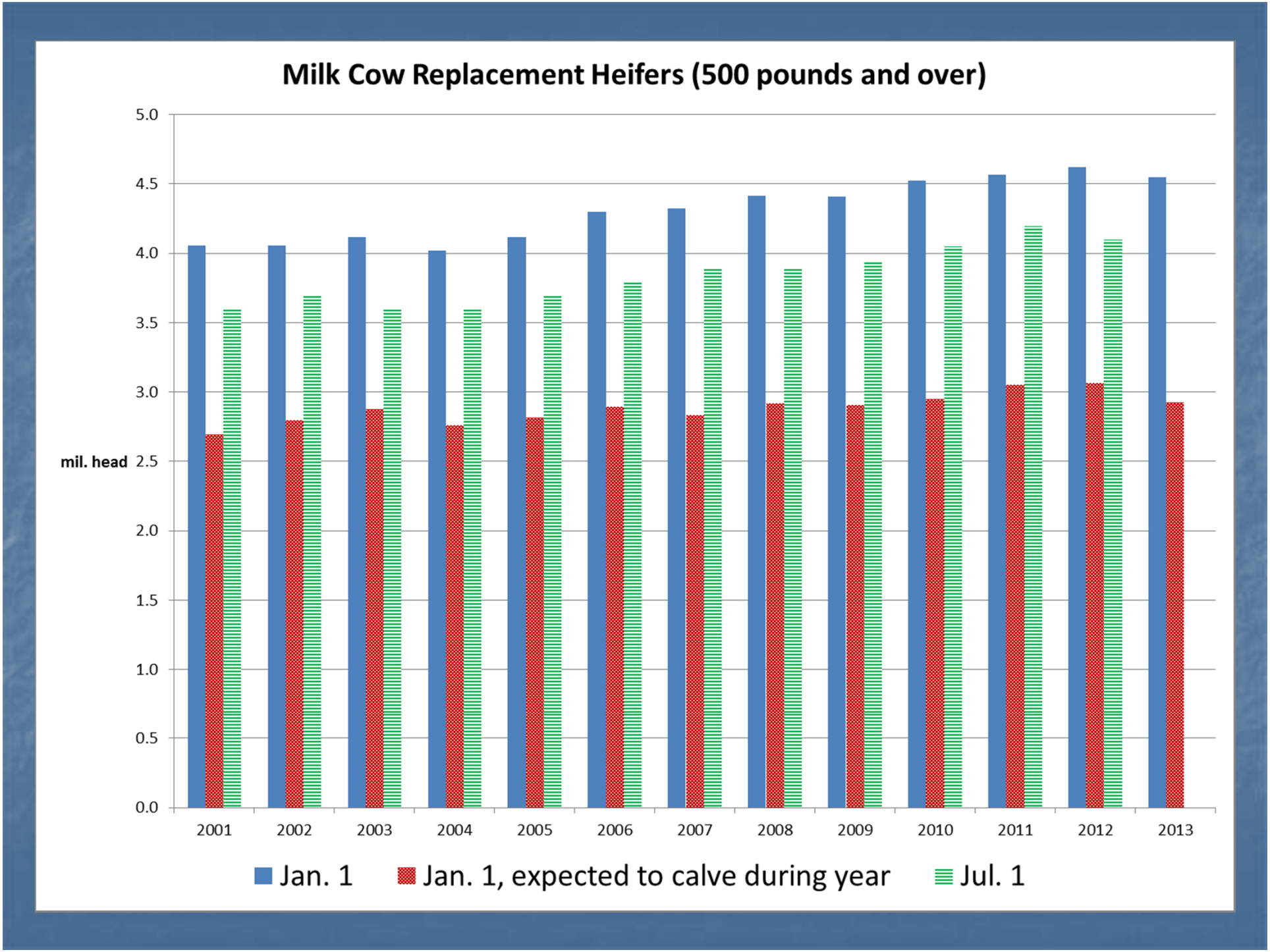
Feed Price Projections

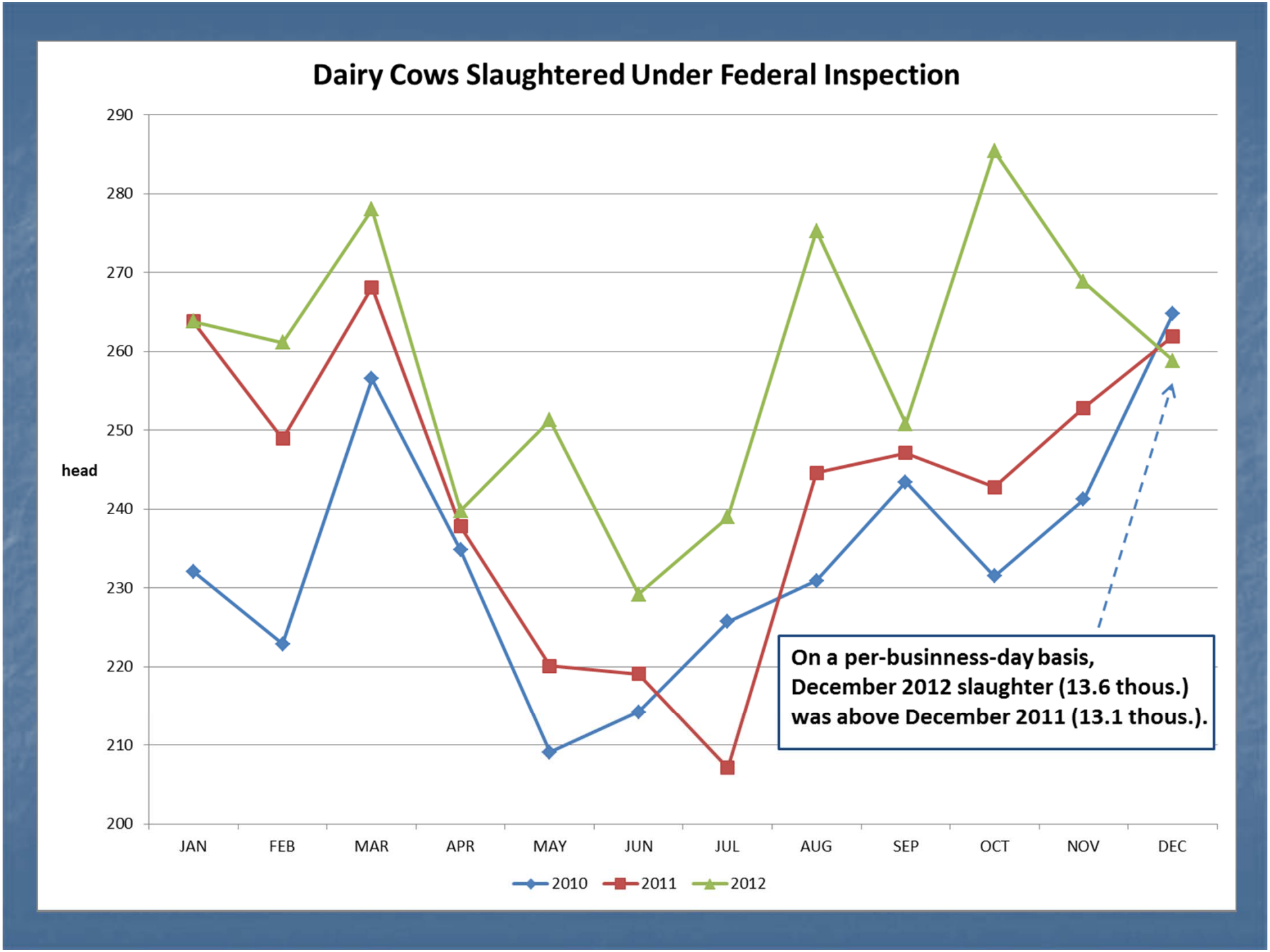
- Corn (Marketing Year: Sept.-Aug.)
  - 2011/2012: $6.22 per bushel (historical data)
  - 2012/2013: $6.75 – $7.65 per bushel
  - Expectations of a relatively large planted area and trend yield growth
  - 2013-2014: $4.80 per bushel

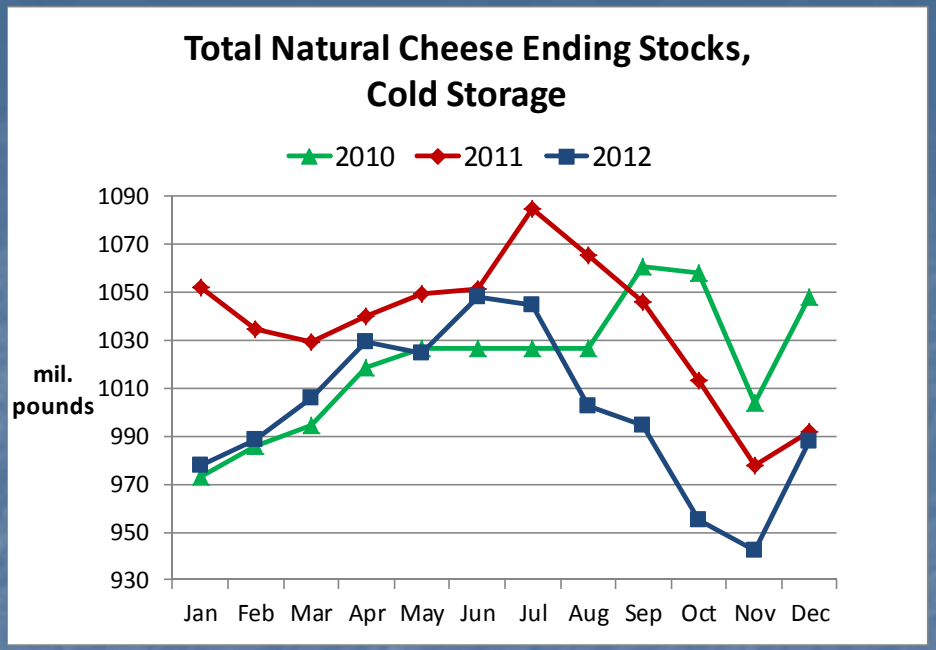
- Soybean Meal (Marketing Year: Oct.-Sept.)
  - 2011/2012: $394 per short ton (historical data)
  - 2012-2013: $430 - $460 per short ton
  - 2013-2014: $300 per short ton

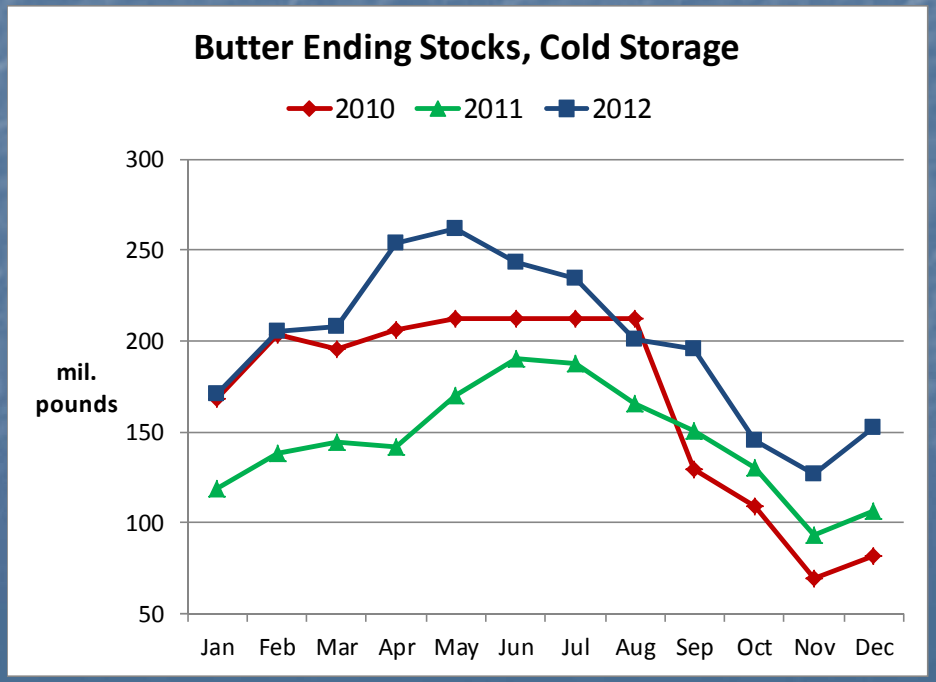
- Note: Feed price projections are per applicable marketing year.
  Milk price, supply, and use projections are per calendar year.

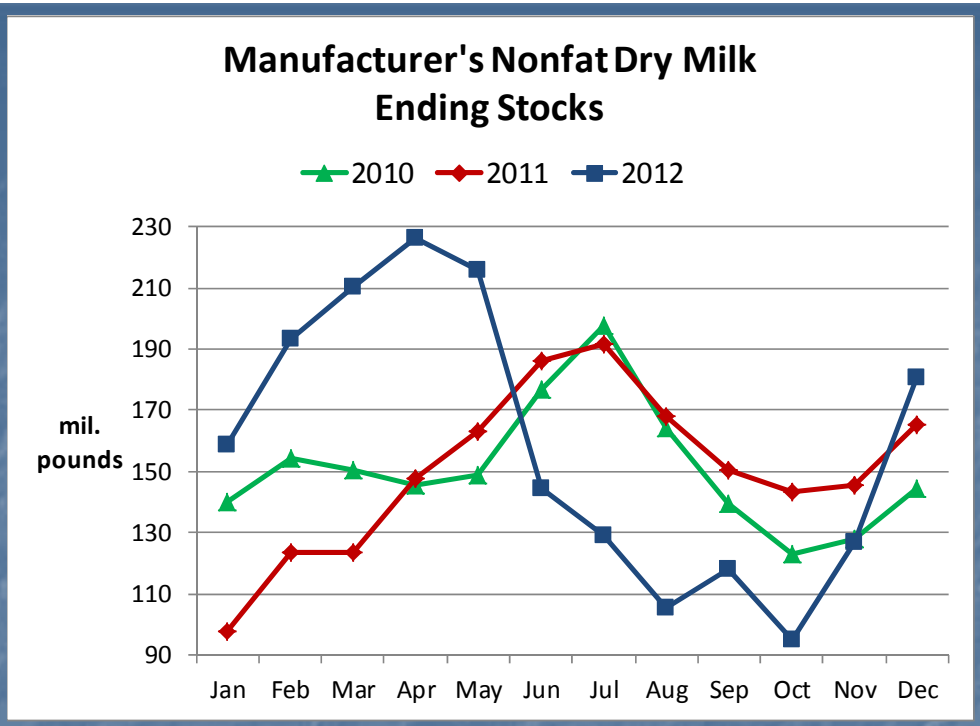
- The lower feed price projections for 2013/14 marketing suggest some relief for dairy farmers in the latter part of calendar year 2013.

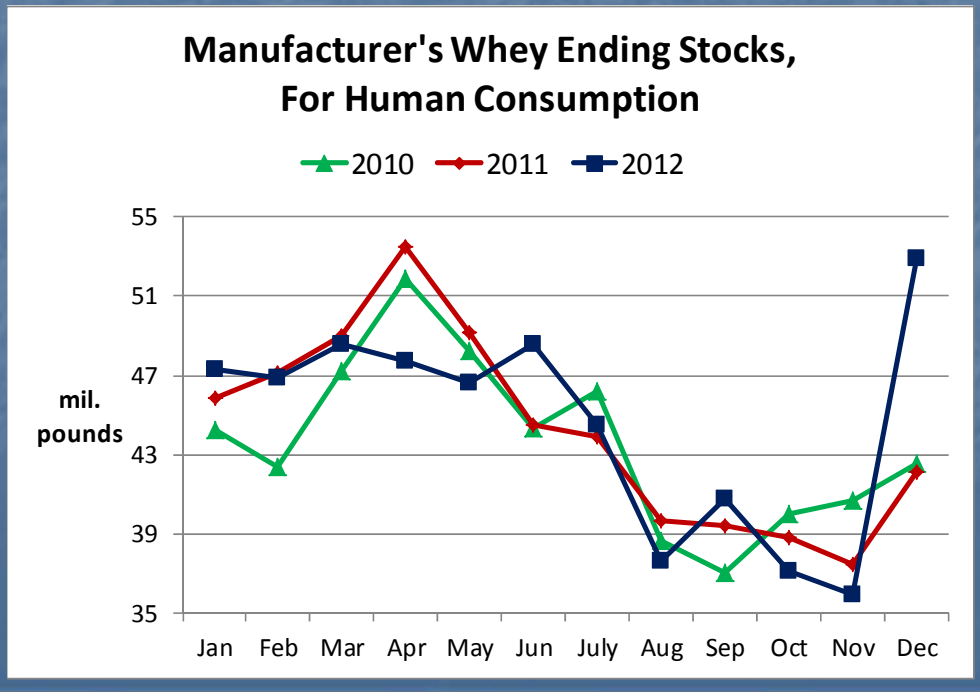

Milk Cow Replacement Heifers (500 pounds and over)
mil. head
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Jan. 1
Jan. 1, expected to calve during year
Jul. 1


Dairy Cows Slaughtered Under Federal Inspection
290
280
270
260
250
240
230
220
210
200
head
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
2010
2011
2012
On a per-businness-day basis, December 2012 slaughter (13.6 thous.) was above December 2011 (13.1 thous.).


Total Natural Cheese Ending Stocks, Cold Storage
2010
2011
2012
mil. pounds
1090
1070
1050
1030
1010
990
970
950
930
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Butter Ending Stocks, Cold Storage
2010
2011
2012
mil. pounds
300
250
200
150
100
50
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

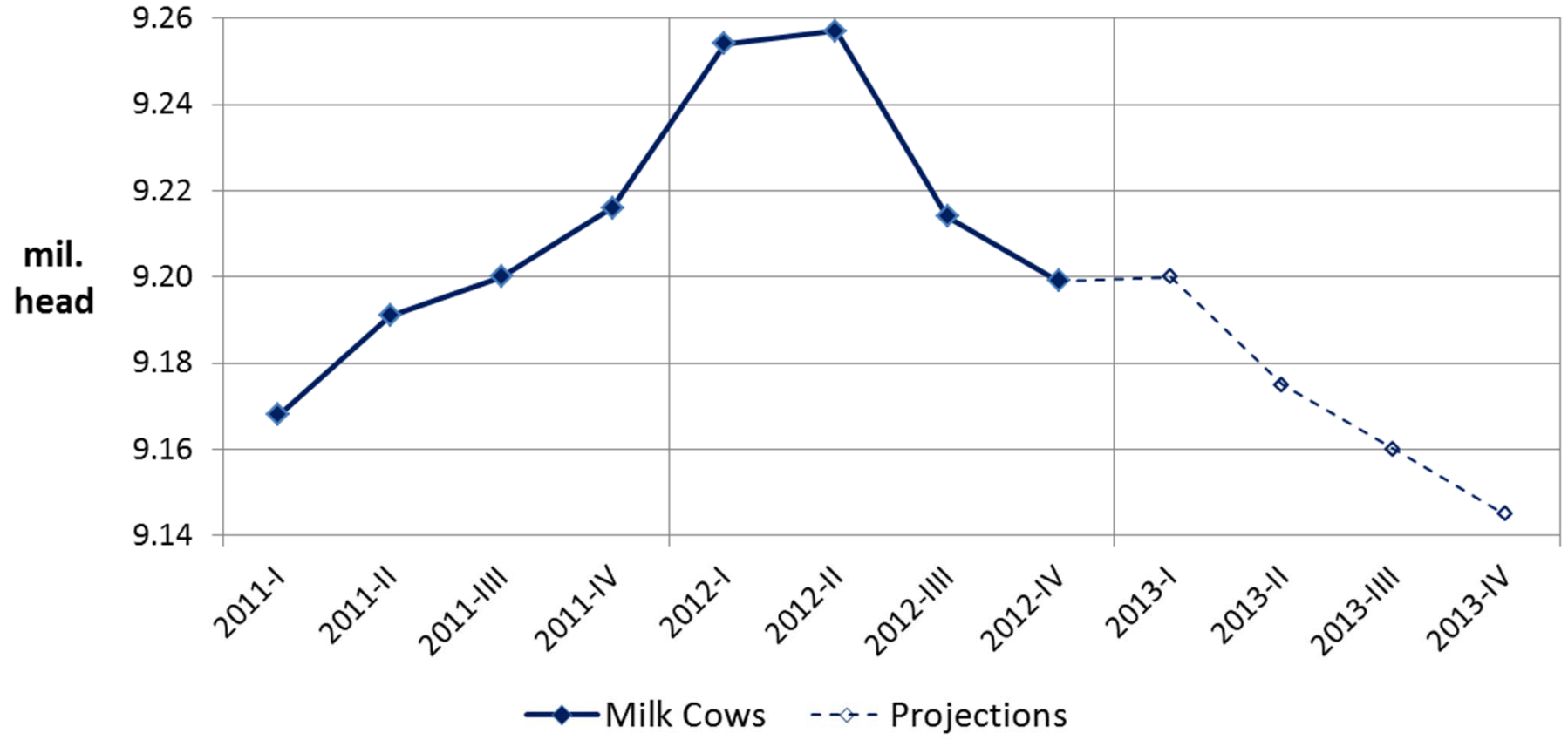

Manufacturer's Nonfat Dry Milk
Ending Stocks
2010
2011
2012
mil.
pounds
230
210
190
170
150
130
110
90
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Manufacturer's Whey Ending Stocks,
For Human Consumption
2010
2011
2012
mil.
pounds
55
51
47
43
39
35
Jan
Feb
Mar
Apr
May
Jun
July
Aug
Sep
Oct
Nov
Dec

A Look Forward to 2013

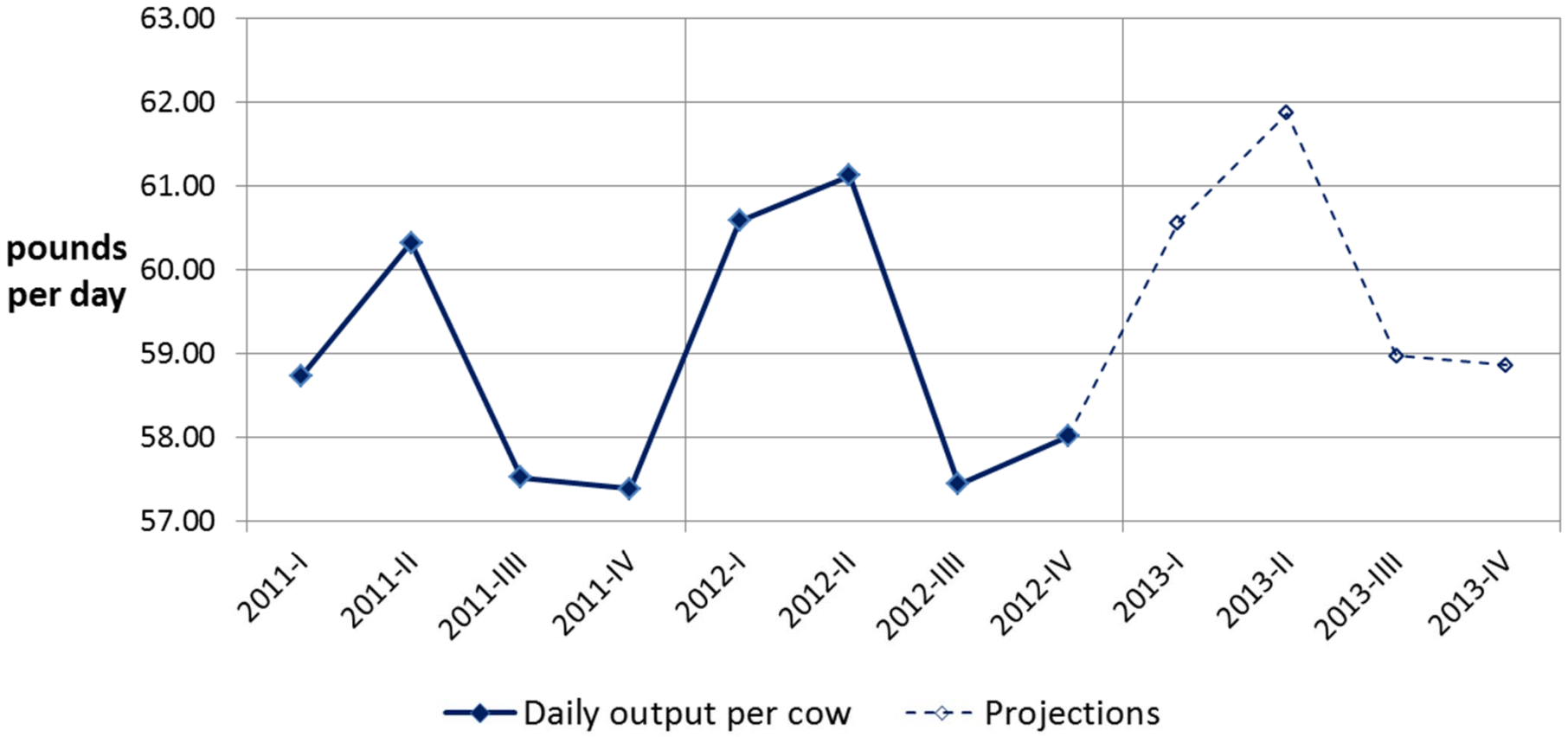
Milk Cows (mil. head)

	2011	2012	2013
Milk Cows	9.194	9.231	9.170
% chg prev. yr.	+ 0.8%	+ 0.4%	- 0.7%



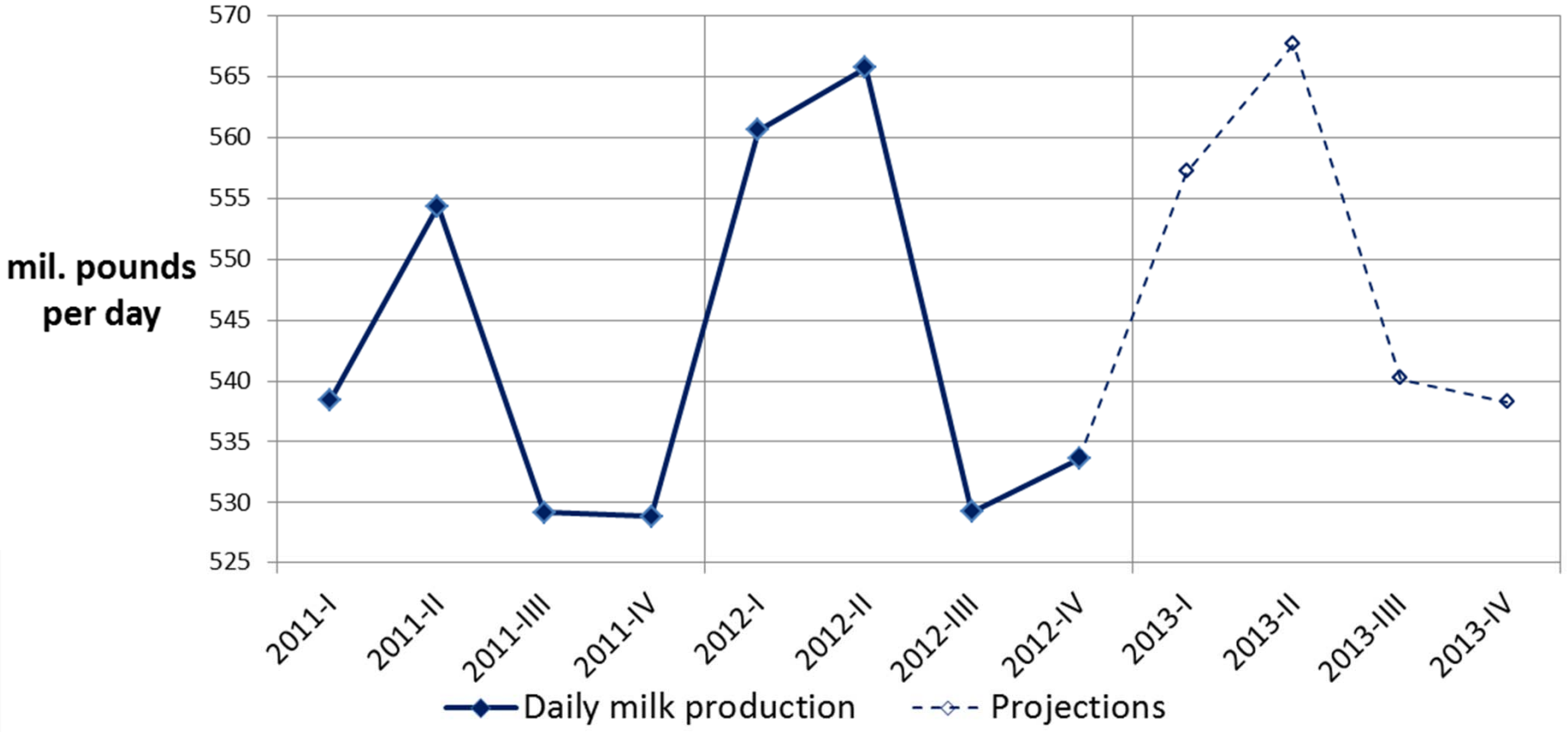
Daily Output per Cow (pounds)

	2011	2012	2013
Daily output per cow	58.5	59.3	60.1
% chg prev. yr.	+ 0.9%	+ 1.4%	+ 1.3%



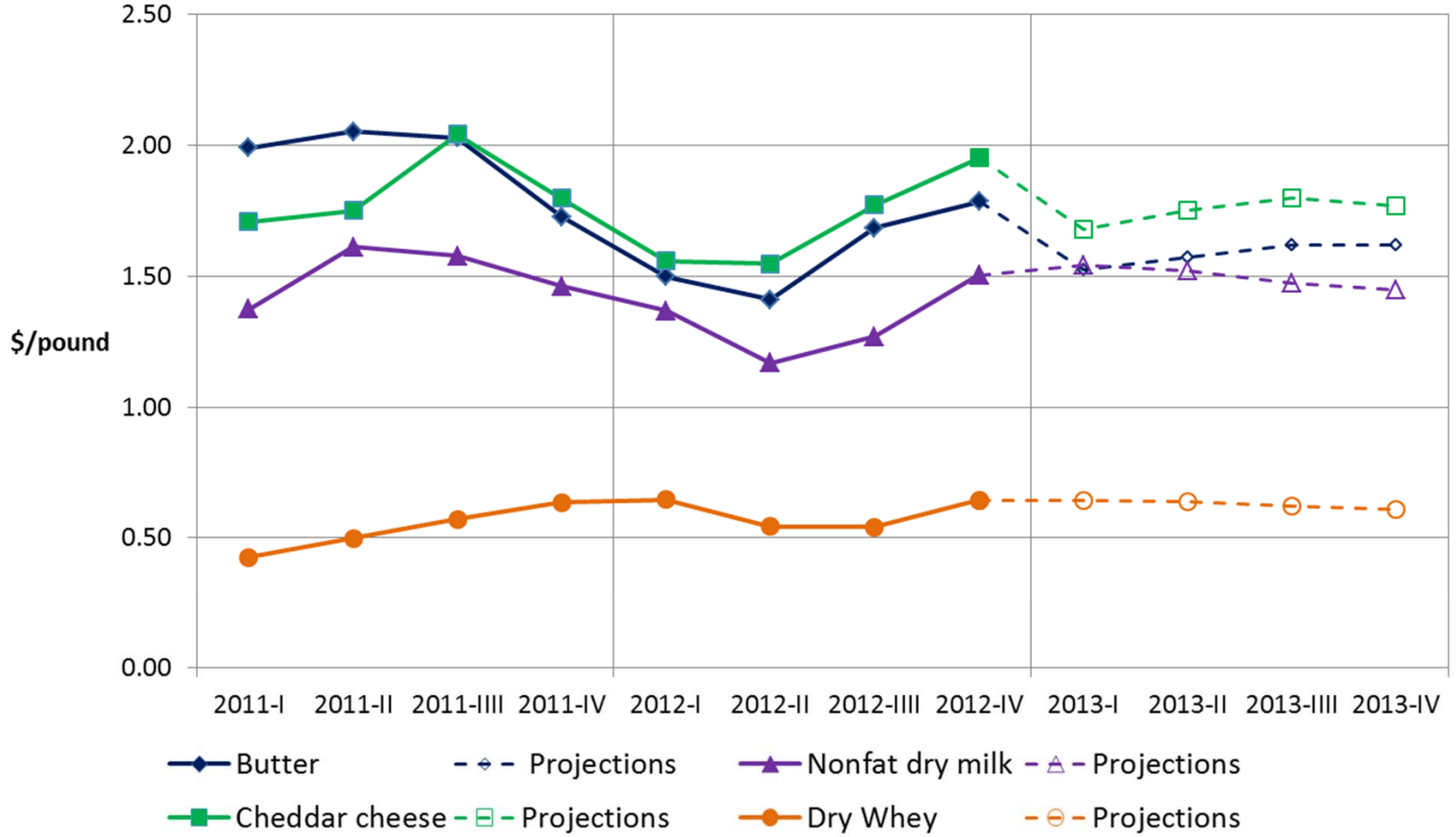
Daily Milk Production (mil. pounds)

	2011	2012	2013
Milk Production	537.7	547.3	550.8
% chg prev. yr.	+ 1.8%	+ 1.8%	+ 0.6%



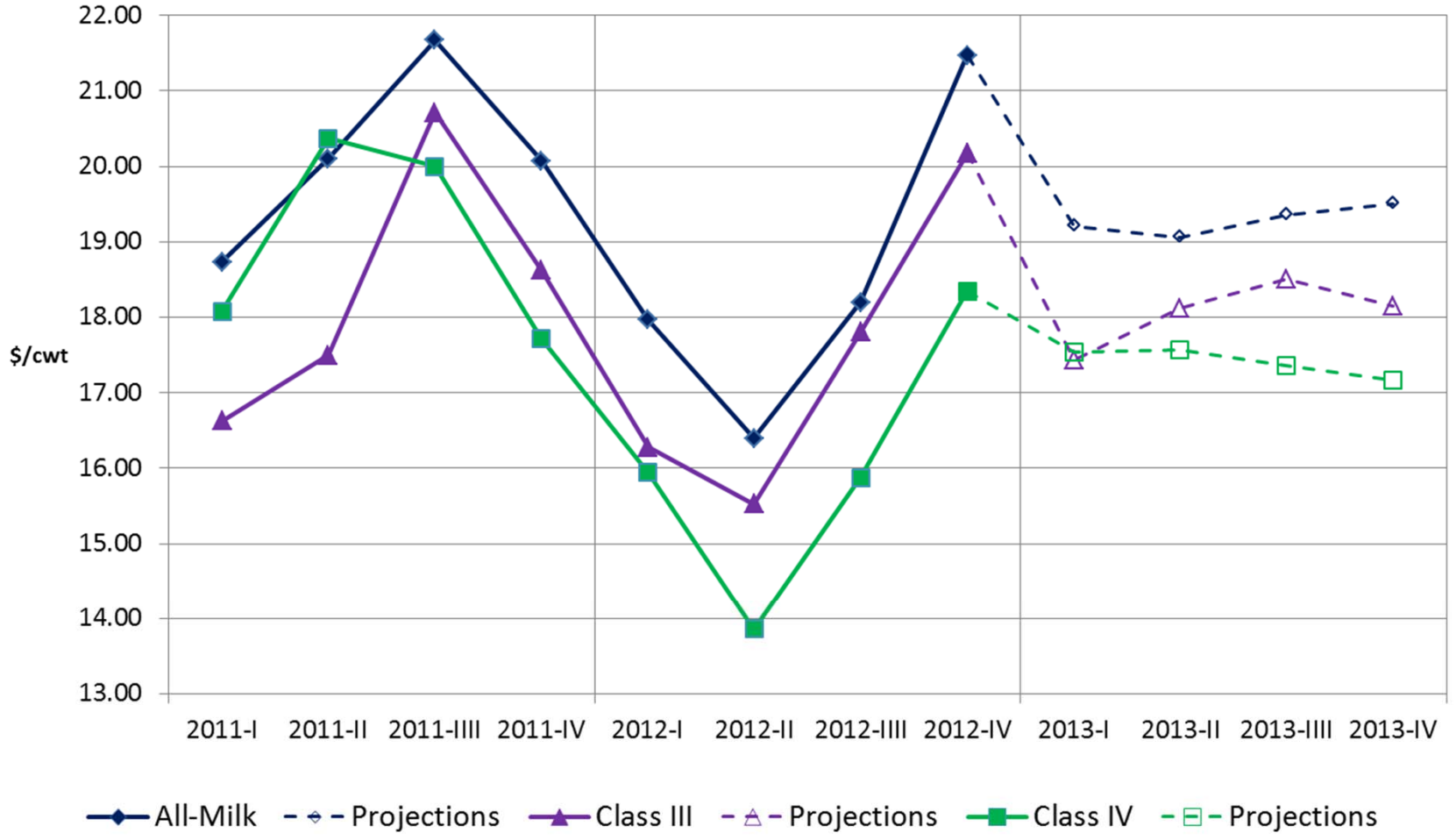
Dairy Products Prices ($/pound)

	2011	2012	2013
Cheddar Cheese	1.8246	1.7076	1.715-1.785
Butter	1.9498	1.5943	1.535-1.635
Nonfat Dry Milk	1.5058	1.3279	1.465-1.525
Dry Whey	0.5325	0.5935	0.615-0.645



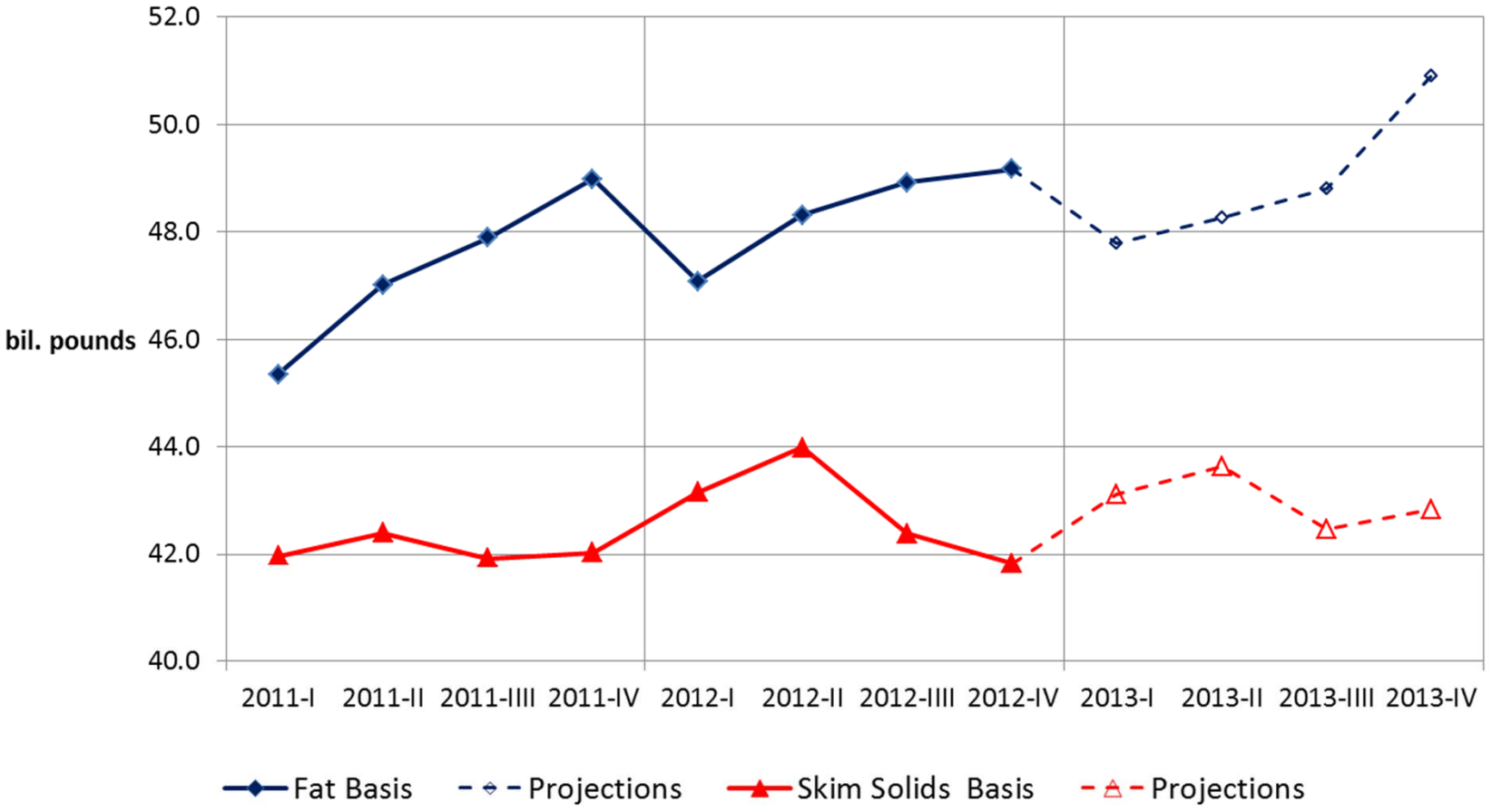
Milk Prices ($/cwt)

	2011	2012	2013
All Milk	20.14	18.51	18.90-19.60
Class III	18.37	17.44	17.70-18.40
Class IV	19.04	16.01	17.00-17.80



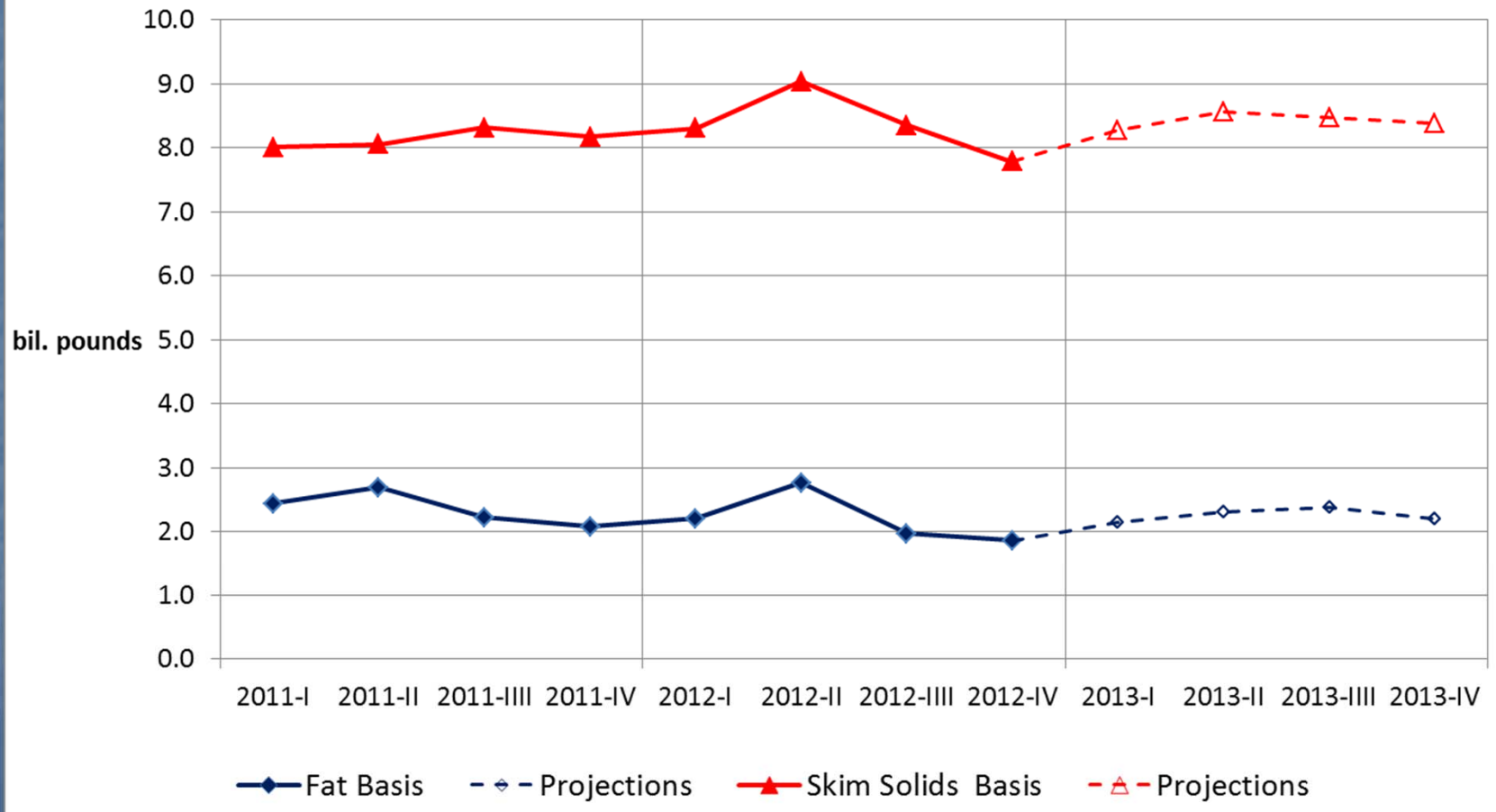
Domestic Commercial Use (bil. lbs)

	2011	2012	2013
Fat Basis	189.2	193.5	195.7
% chg prev. yr.	+ 0.9%	+ 2.2%	+ 1.2%
Skim Solids basis	168.3	171.4	172.1
% chg prev. yr.	+ 1.6%	+ 1.8%	+ 0.4%



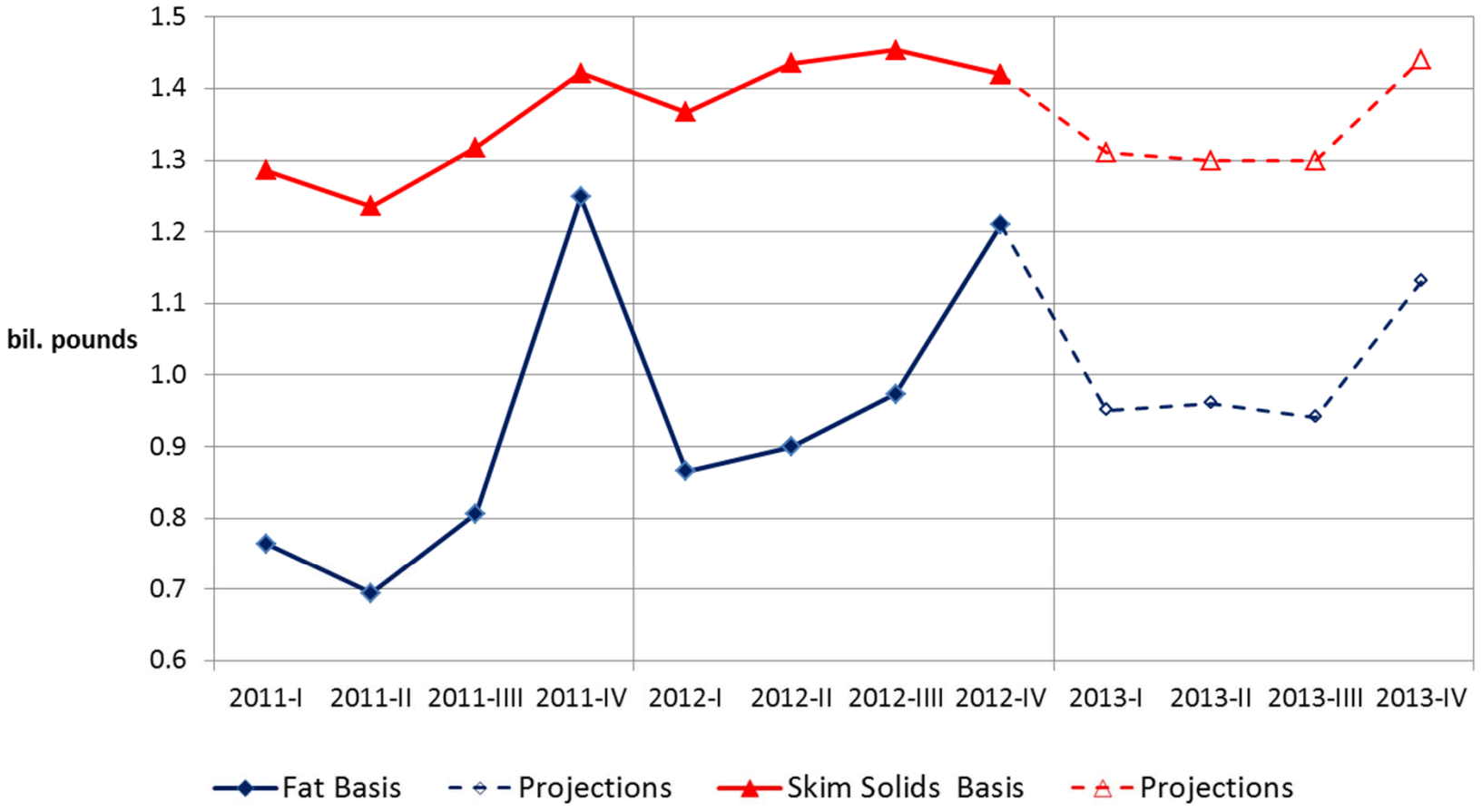
Commercial Exports (bil. lbs)

	2011	2012	2013
Fat Basis	9.4	8.8	9.0
% chg prev. yr.	+ 10.3%	- 6.8%	+ 2.6%
Skim Solids basis	32.5	33.5	33.7
% chg prev. yr.	+ 7.0%	+ 2.9%	+ 0.7%



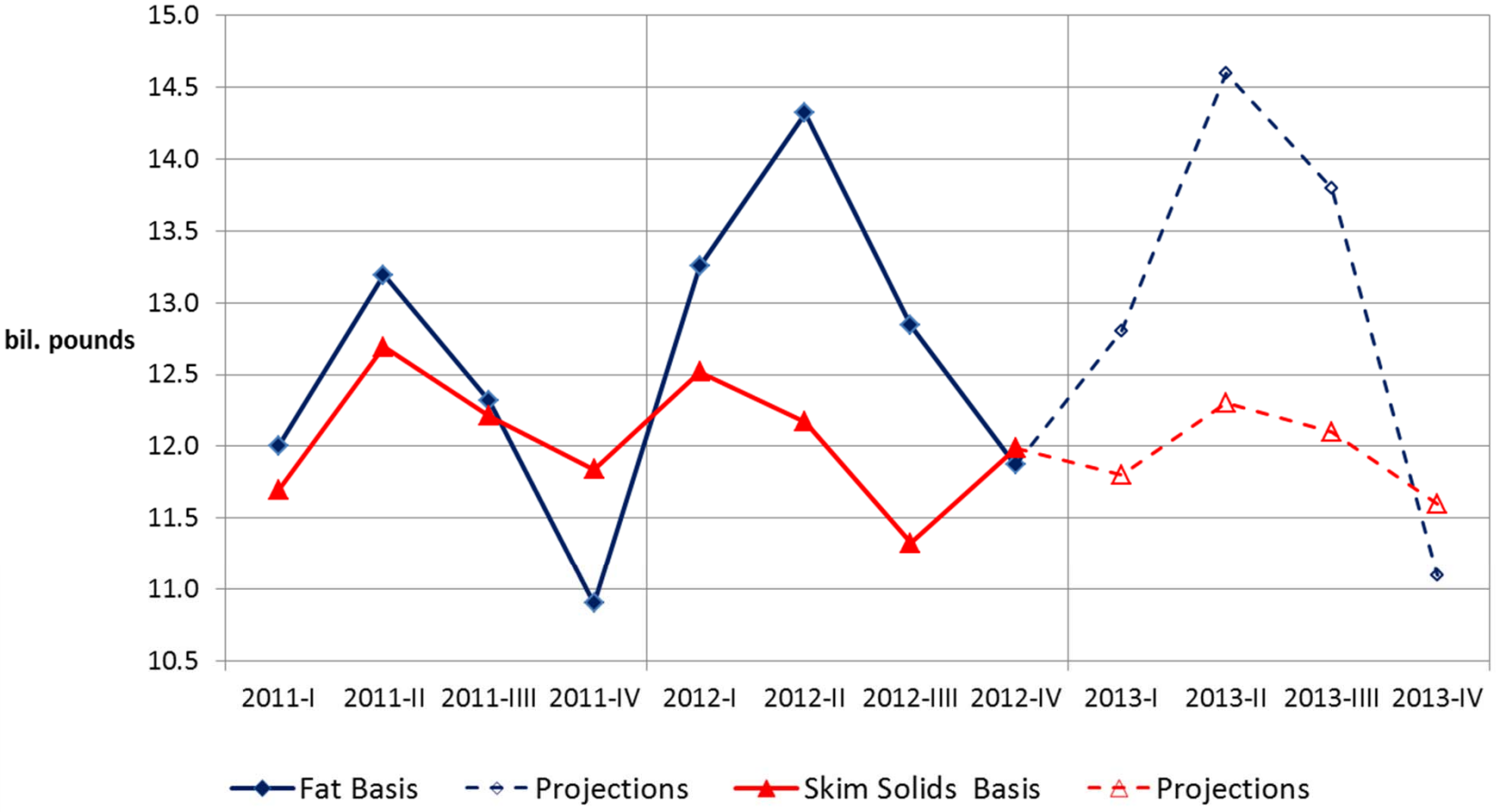
Imports (bil. lbs)

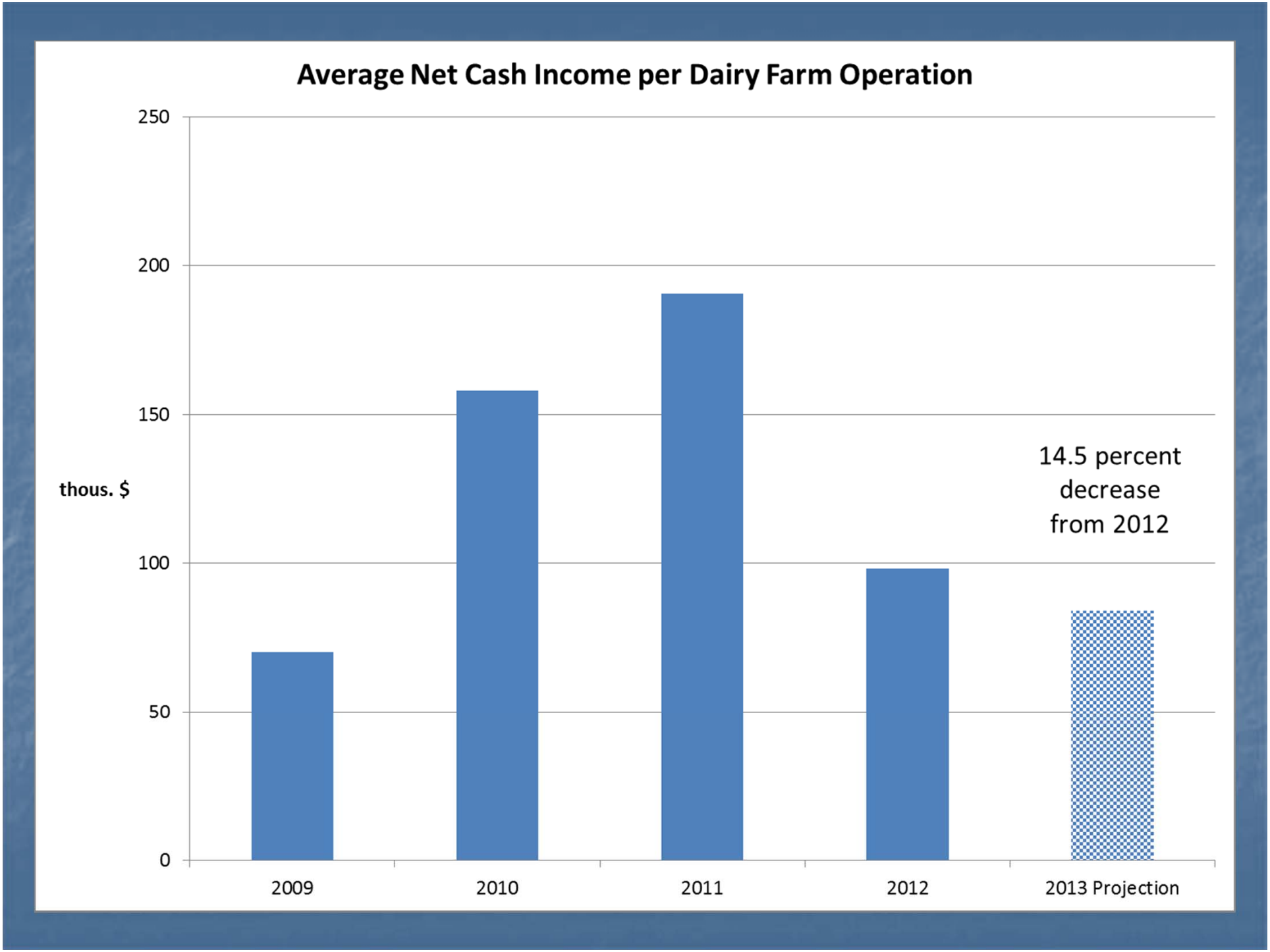
	2011	2012	2013
Fat Basis	3.5	4.0	4.0
% chg prev. yr.	- 13.5%	+ 12.4%	+ 0.8%
Skim Solids basis	5.3	5.7	5.4
% chg prev. yr.	+ 9.0%	+ 7.9%	- 5.7%



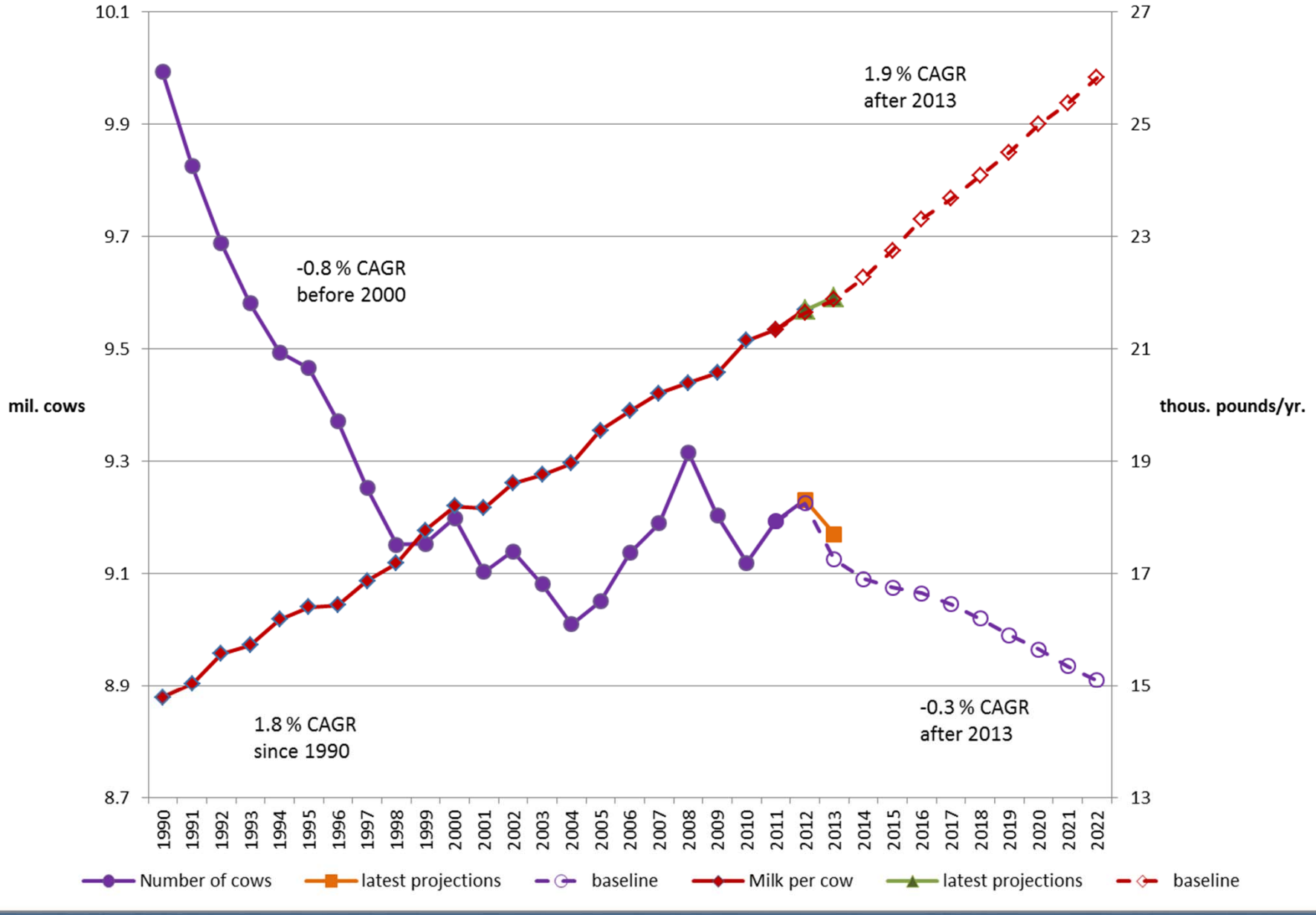
Ending Commercial Stocks (bil. lbs)

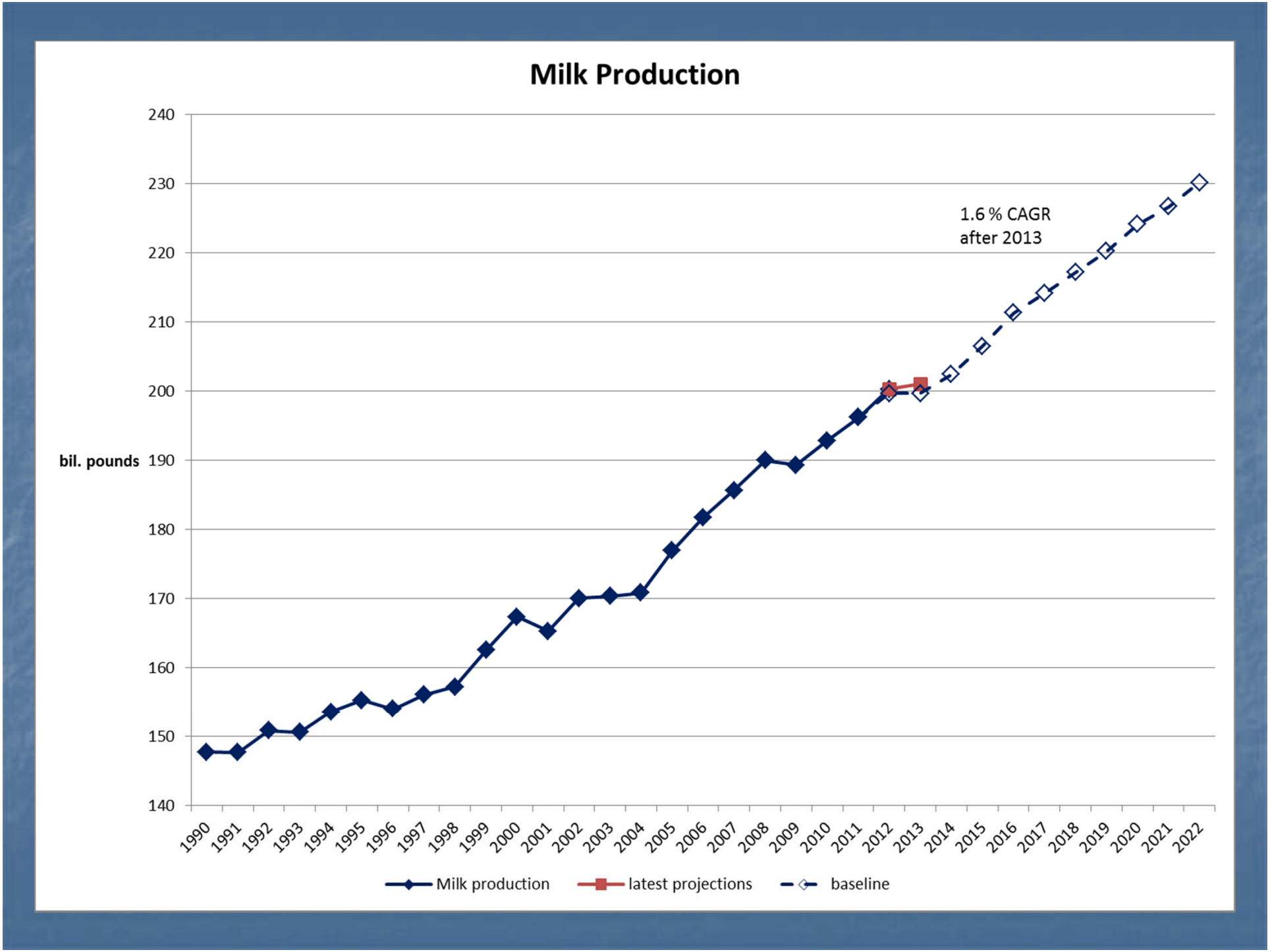
	2011	2012	2013
Fat Basis	10.9	11.9	11.1
% chg prev. yr.	+ 0.8%	+ 8.9%	- 6.5%
Skim Solids basis	11.8	12.0	11.6
% chg prev. yr.	- 2.7%	+ 1.2%	- 3.2%

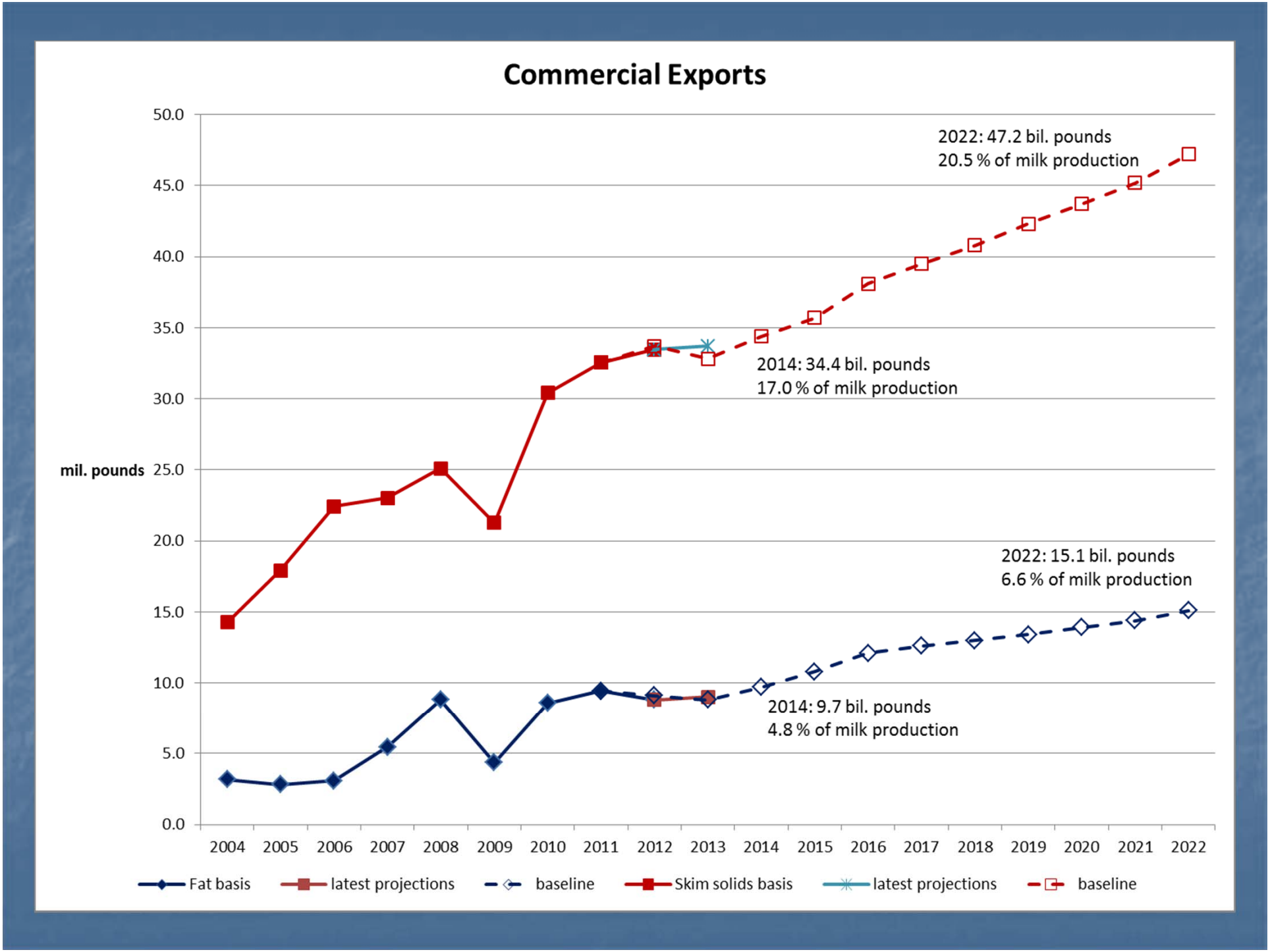


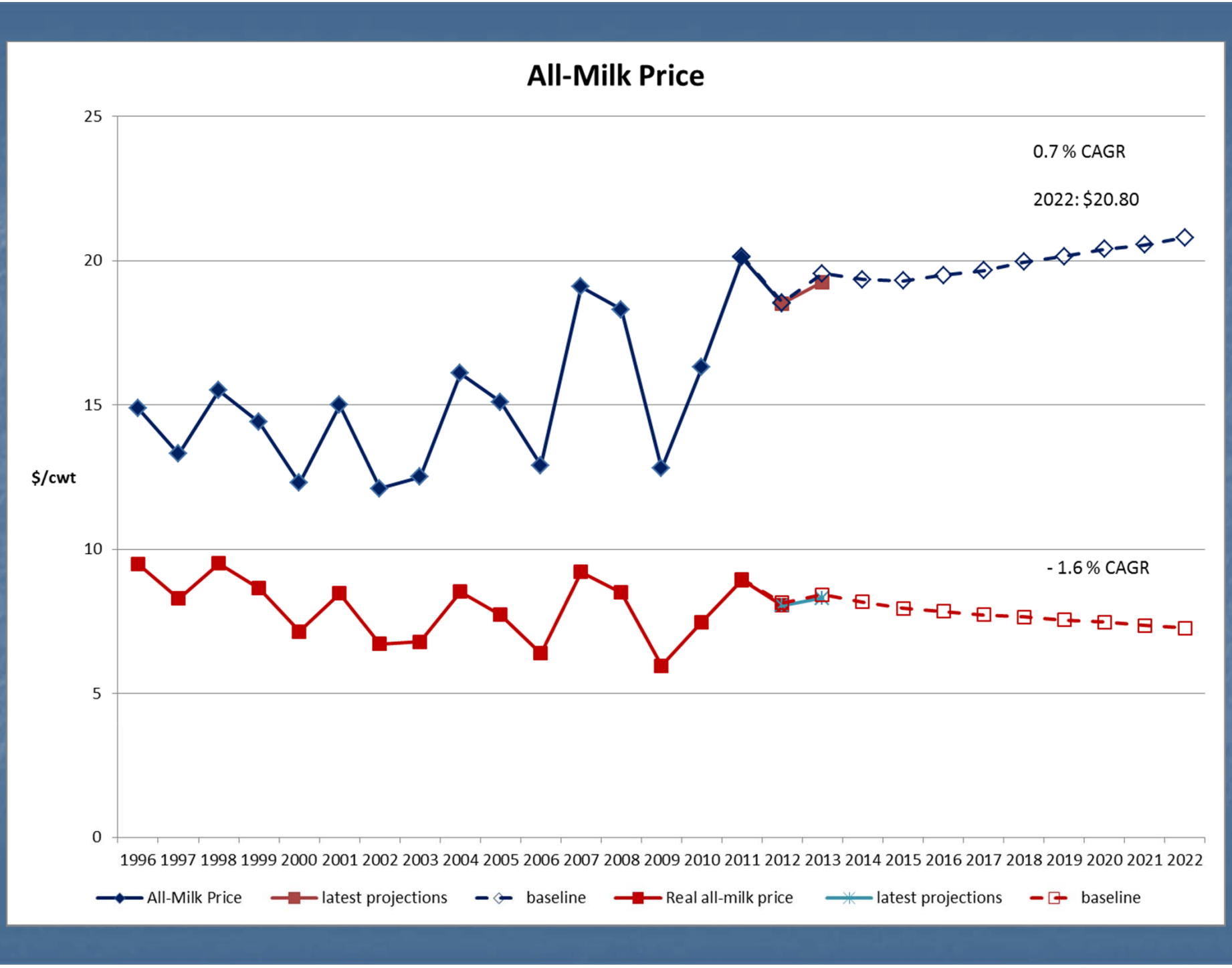

Average Net Cash Income per Dairy Farm Operation
thous. $
250
200
150
100
50
0
2009
2010
2011
2012
2013 Projection
14.5 percent decrease from 2012

Long-Term Baseline Projections


Number of Cows and Milk Production Per Cow
10.1
9.9
9.7
9.5
9.3
9.1
8.9
8.7
mil. cows
27
25
23
21
19
17
15
13
thous. pounds/yr.
1.9 % CAGR
after 2013
-0.8 % CAGR
before 2000
1.8 % CAGR
since 1990
-0.3 % CAGR
after 2013
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Number of cows
latest projections
baseline
Milk per cow
latest projections
baseline


Milk Production
bil. pounds
240
230
220
210
200
190
180
170
160
150
140
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
1.6 % CAGR
after 2013
Milk production
latest projections
baseline


Commercial Exports
mil. pounds
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2022: 47.2 bil. pounds
20.5 % of milk production
2014: 34.4 bil. pounds
17.0 % of milk production
2022: 15.1 bil. pounds
6.6 % of milk production
2014: 9.7 bil. pounds
4.8 % of milk production
Fat basis
latest projections
baseline
Skim solids basis
latest projections
baseline


All-Milk Price
25
20
15
10
5
0
$/cwt
0.7 % CAGR
2022: $20.80
- 1.6 % CAGR
1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
All-Milk Price
latest projections
baseline
Real all-milk price
latest projections
baseline

Thank you