

Facing Cow Management Decisions with the New Cost of Production on Southeast Dairy Farms

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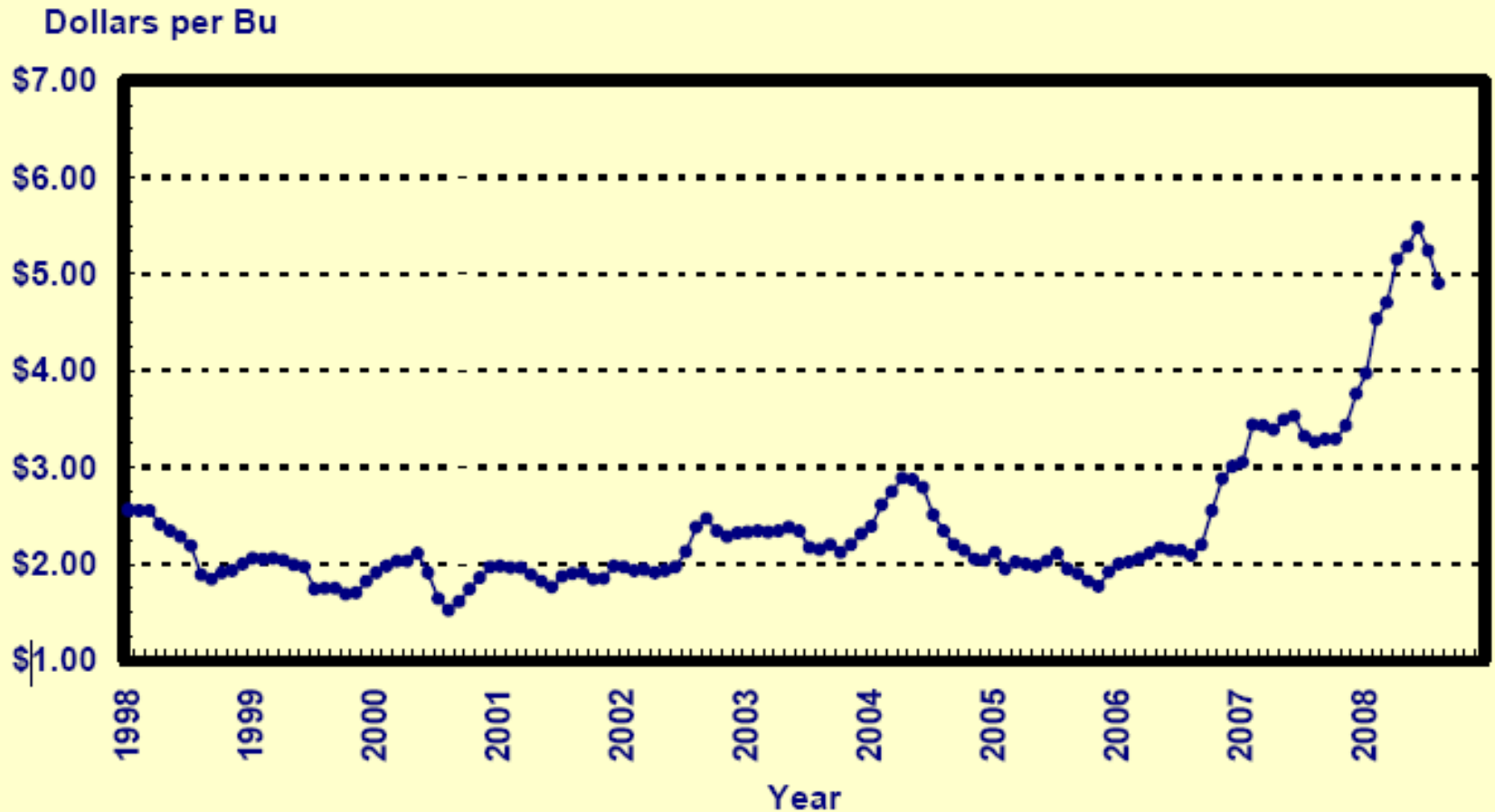


Topics

1. New cost of production
2. Cow management decisions
 - breeding, dry-off, culling
3. Marginal thinking
 - Feed cost example
4. Prediction of future milk prices

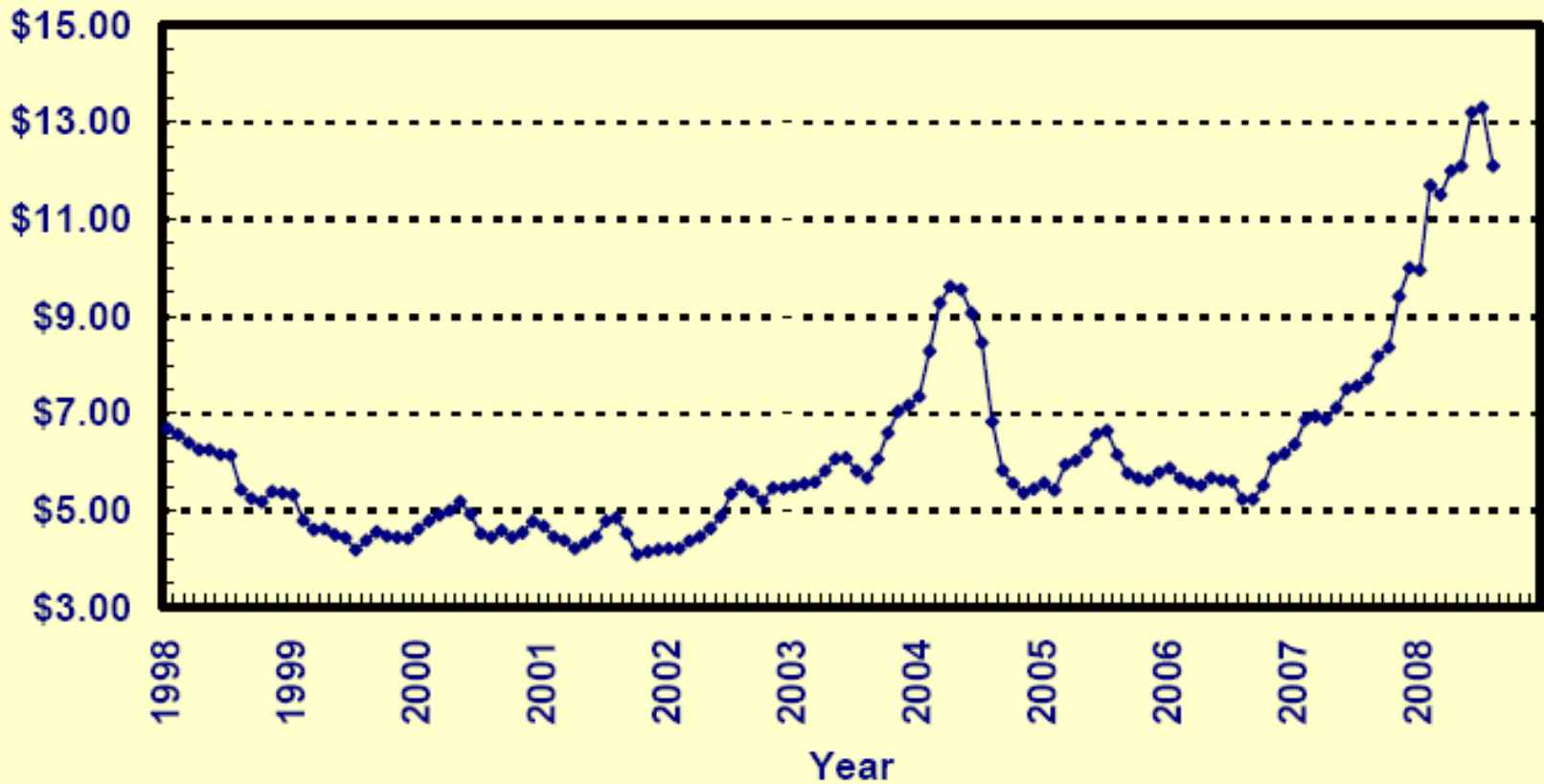


Prices Received, Corn, US

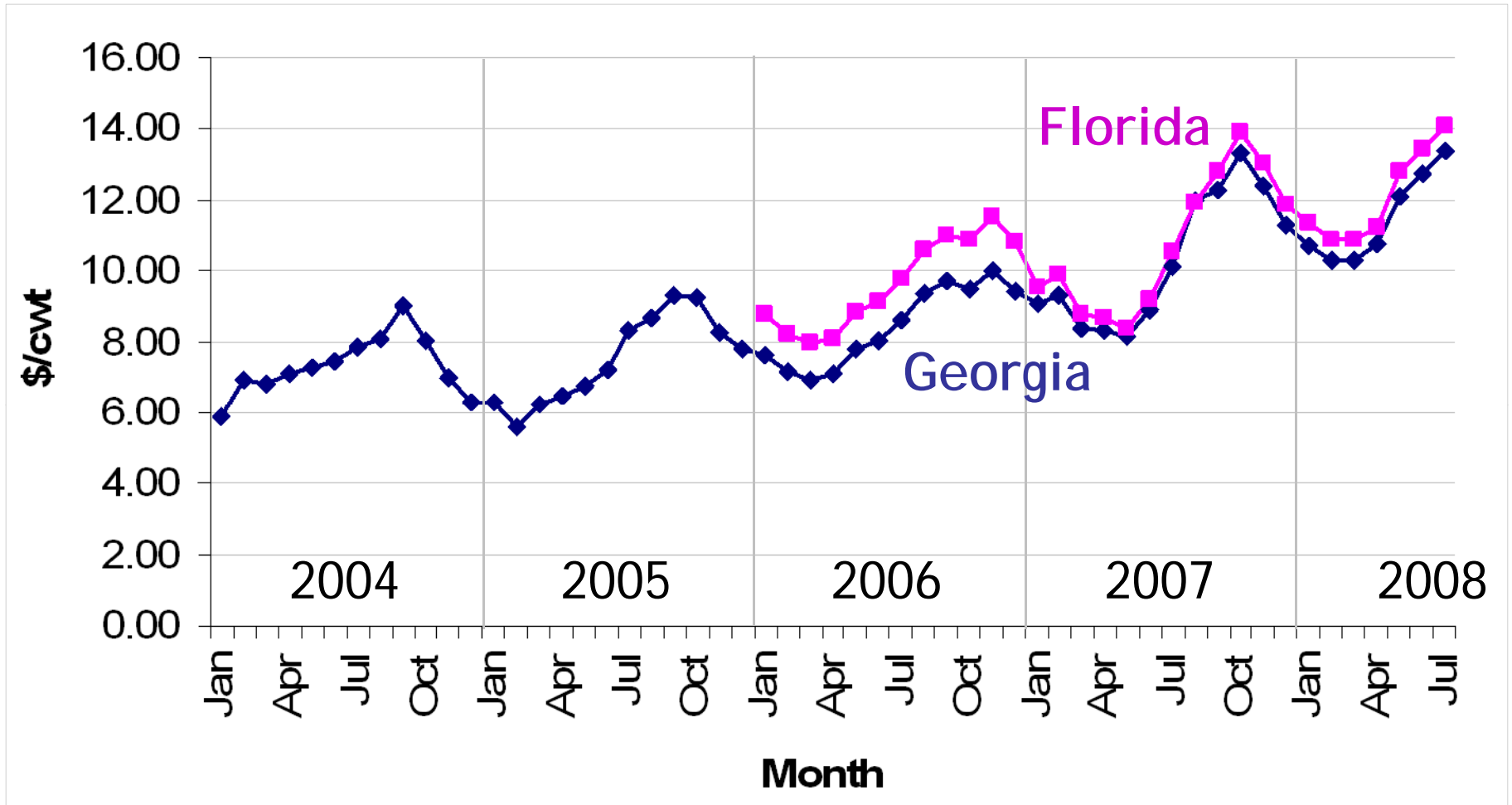


Prices Received, Soybeans, US

Dollars per Bu



Feed cost / cwt milk

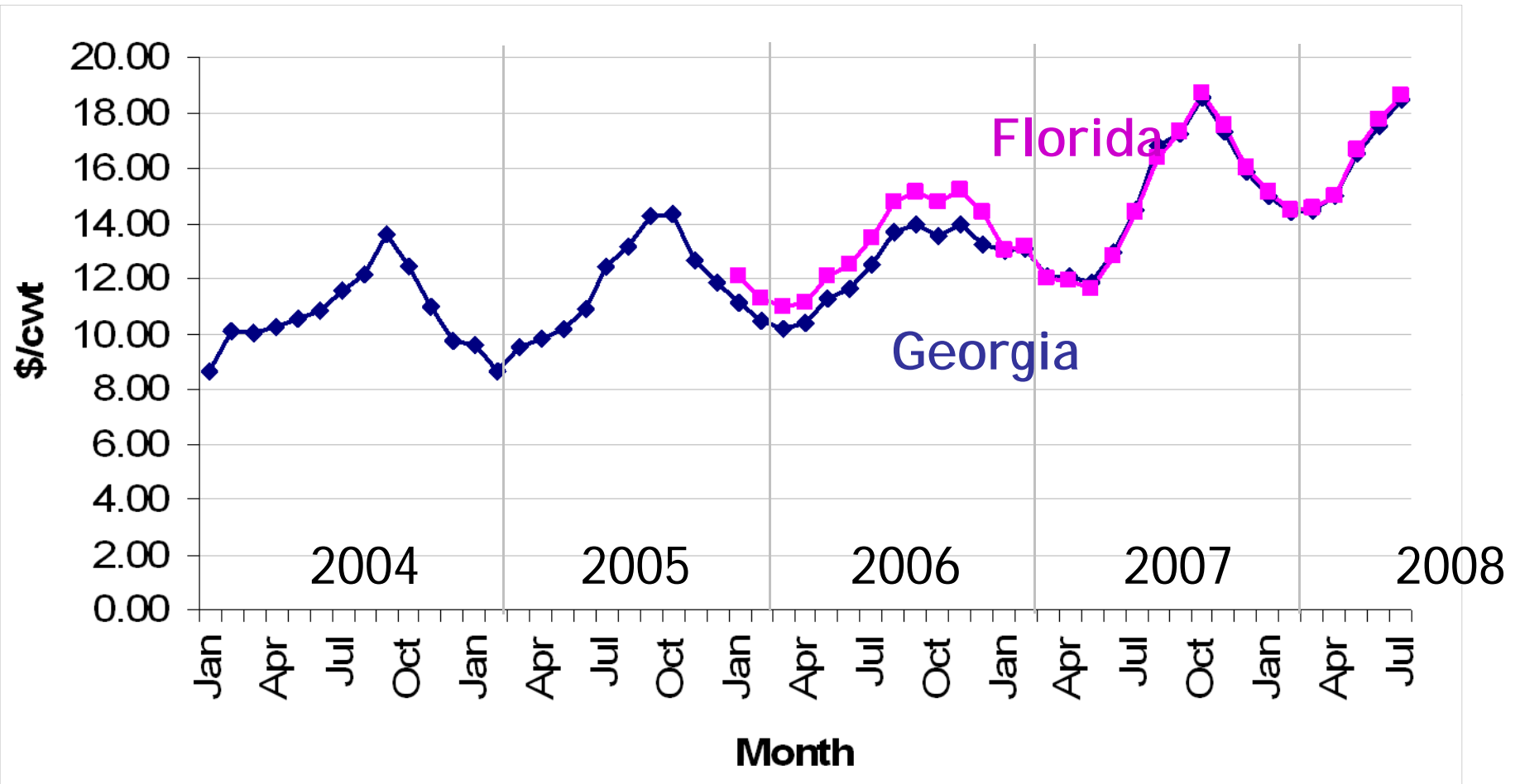


USDA-ERS - Monthly milk cost of production (09/05/2008)

Total operating cost / cwt milk

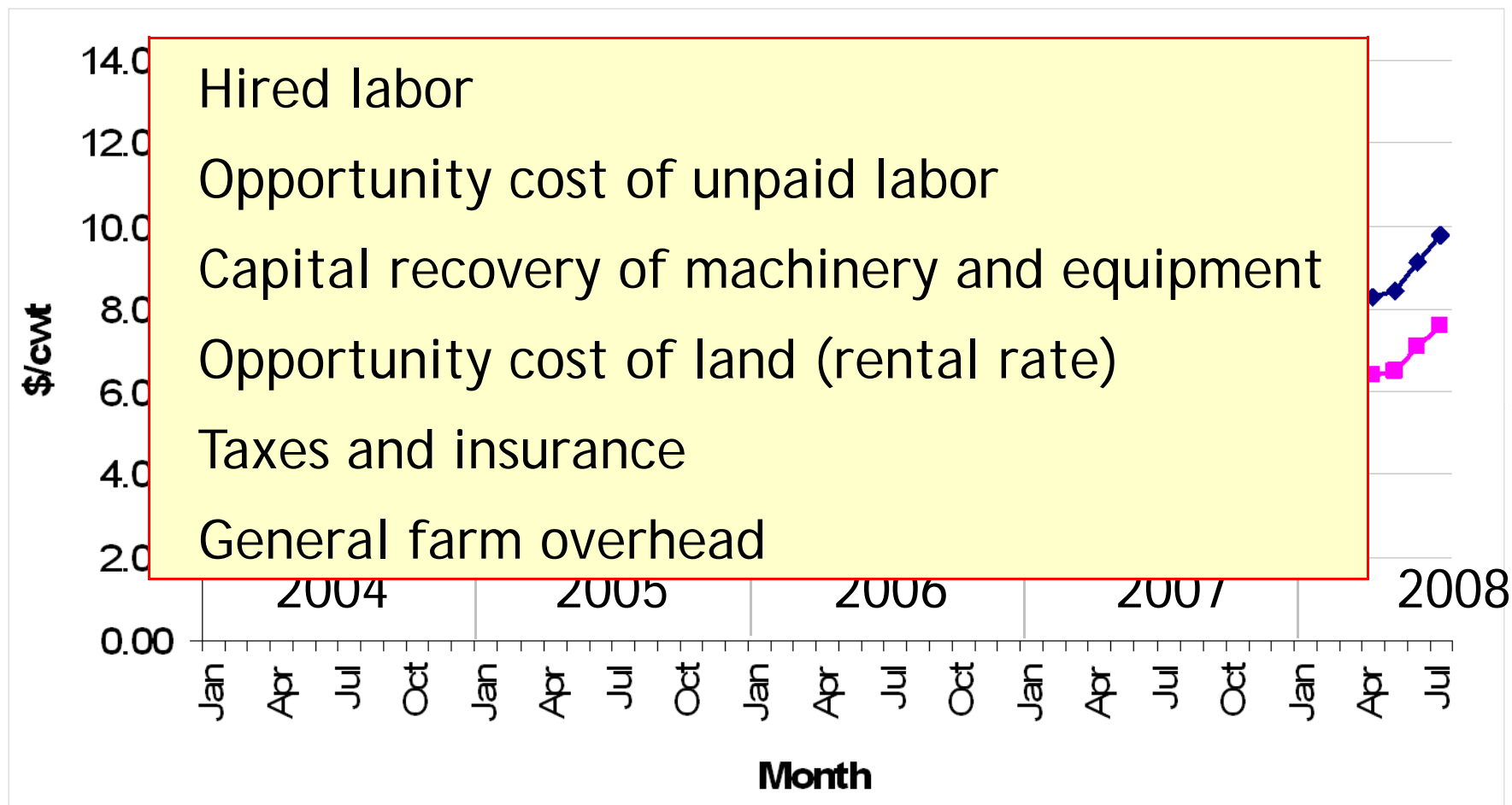


Total operating cost / cwt milk

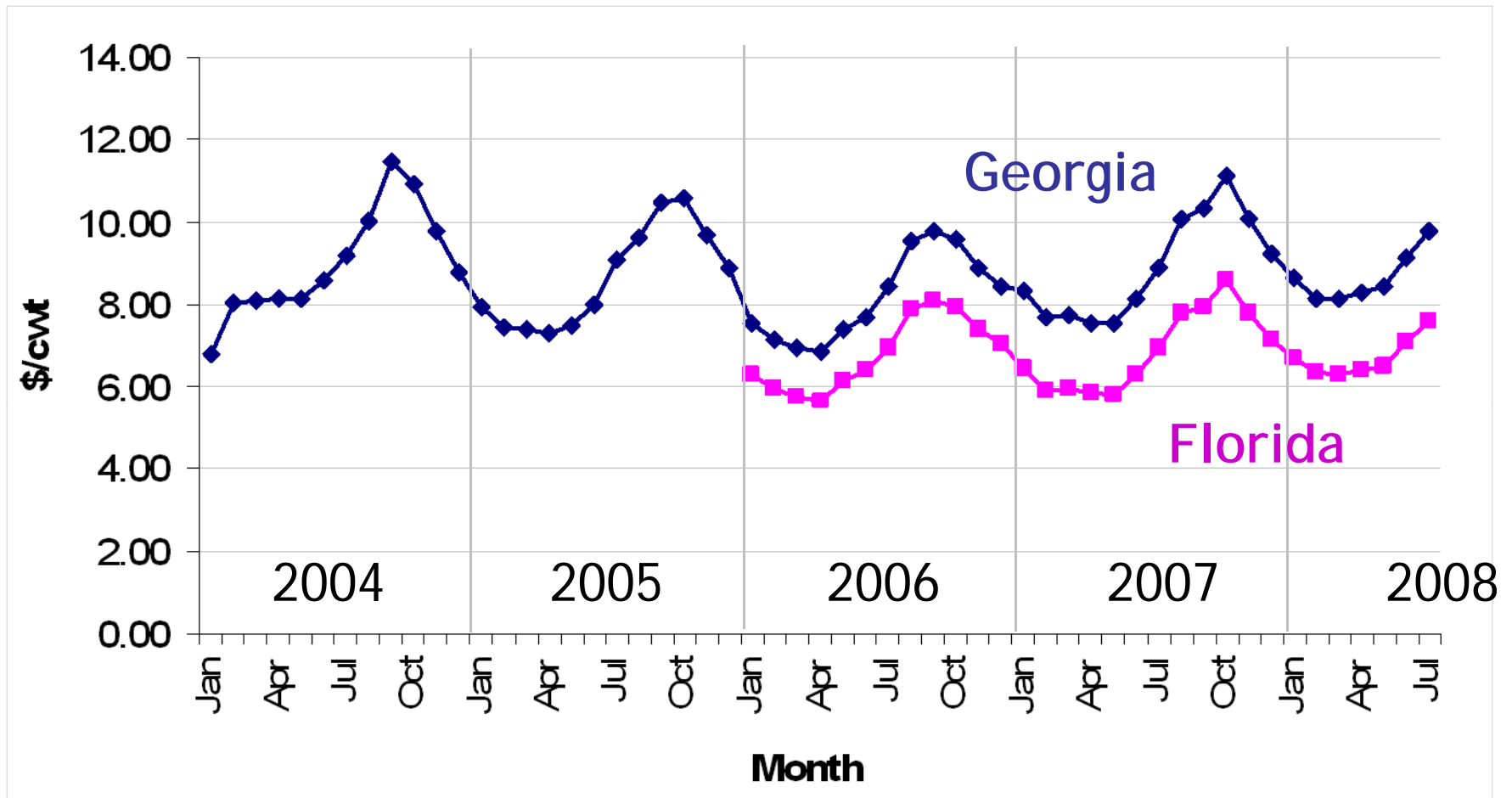


USDA-ERS - Monthly milk cost of production (09/05/2008)

Total allocated overhead cost / cwt milk

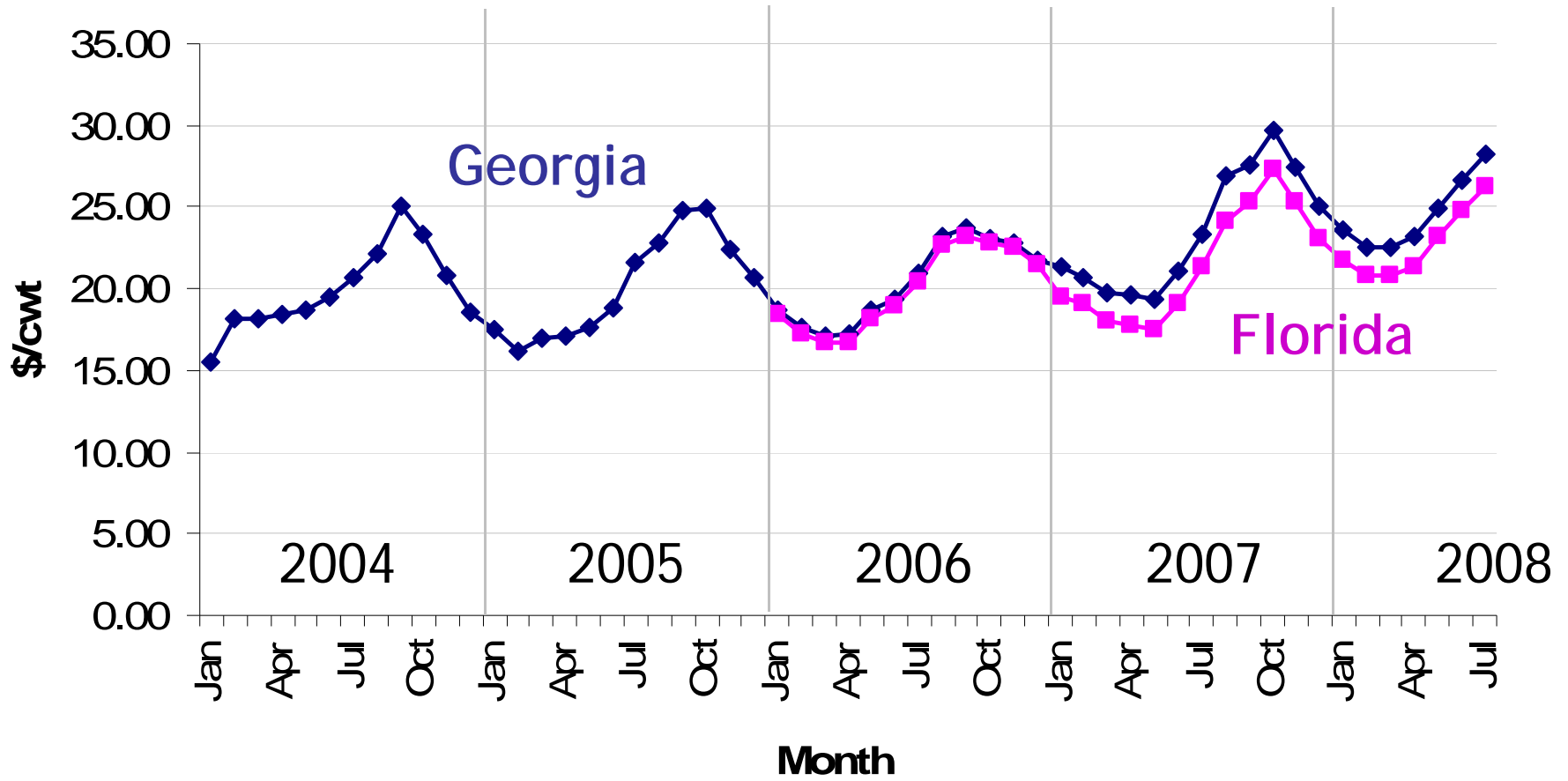


Total allocated overhead cost / cwt milk



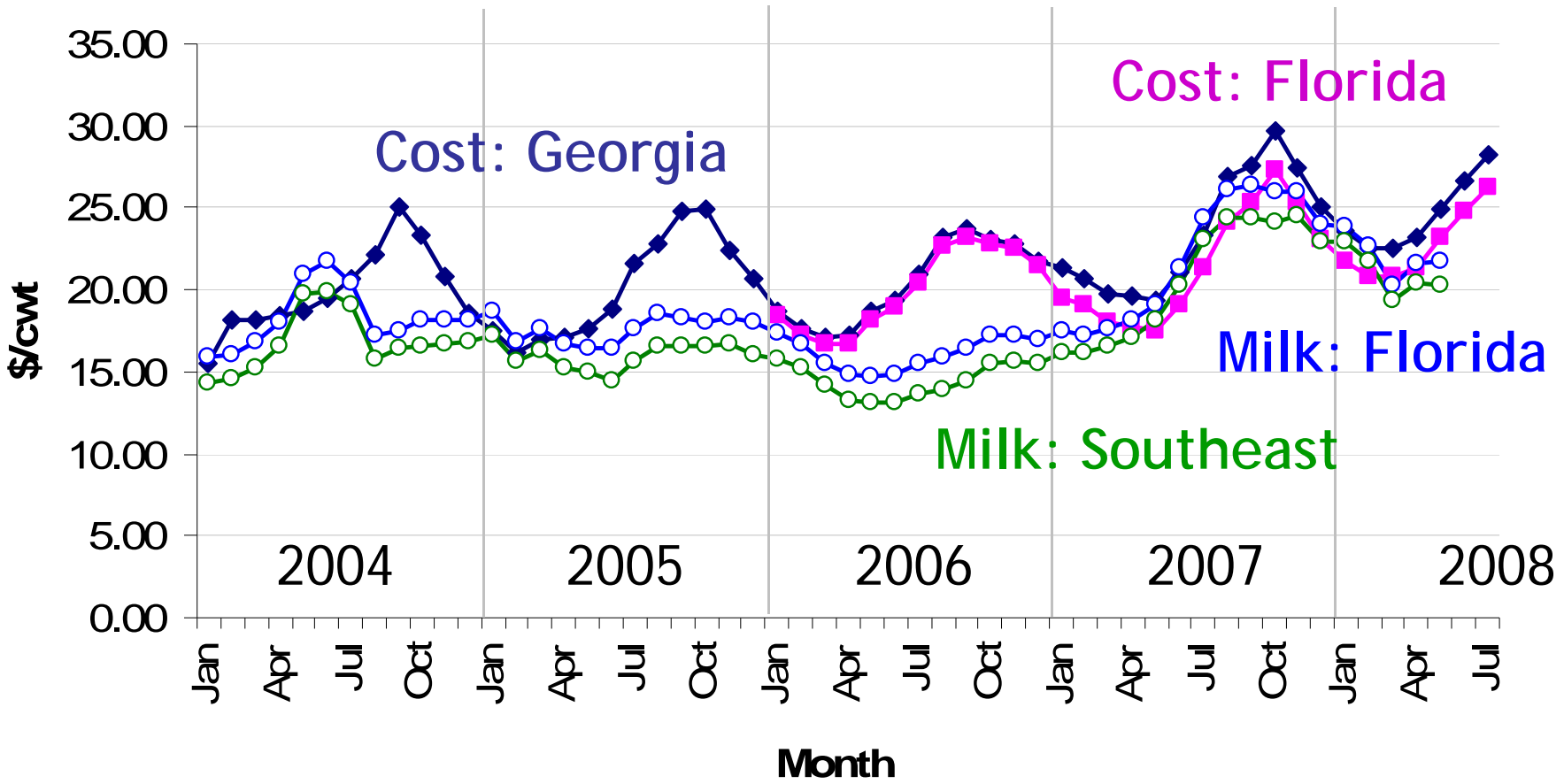
USDA-ERS - Monthly milk cost of production (09/05/2008)

Total cost / cwt milk



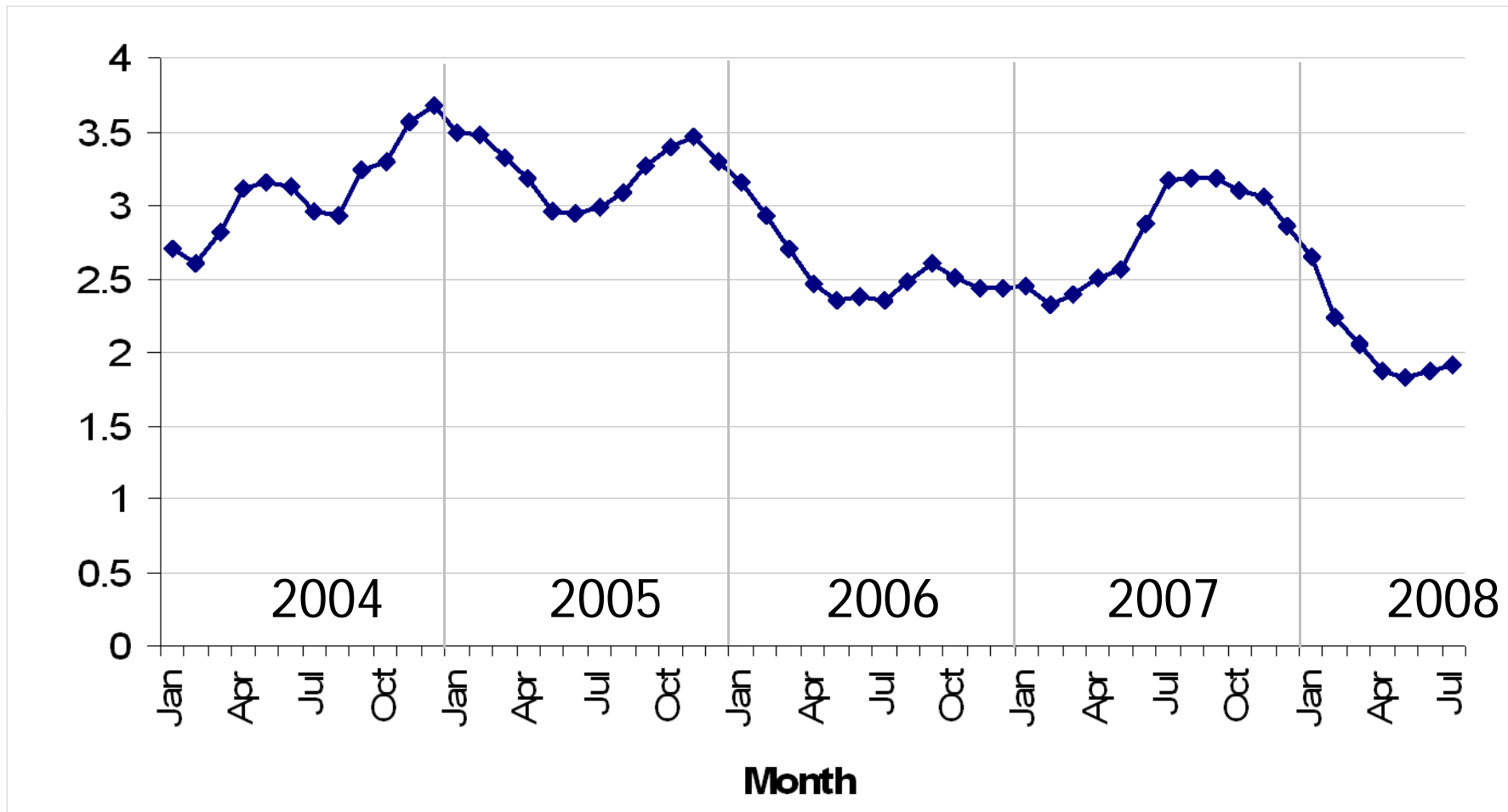
USDA-ERS - Monthly milk cost of production (09/05/2008)

Total cost and milk price / cwt milk



USDA milk-feed price ratio

“number of pounds of 16 percent protein-mixed dairy feed equal in value to 1 pound of whole milk”

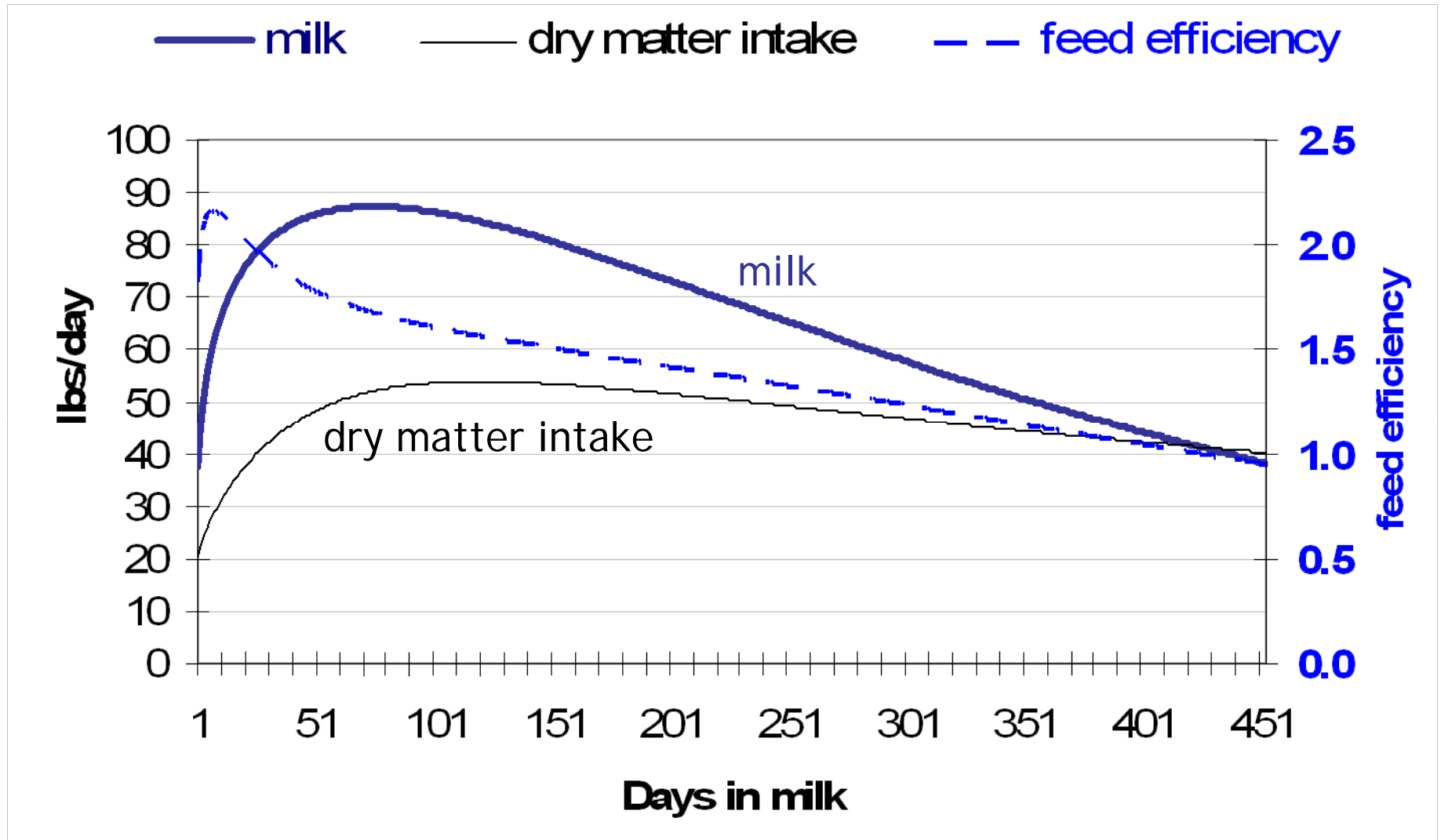


Cow management decisions

- Breeding
- Dry-off
- Culling

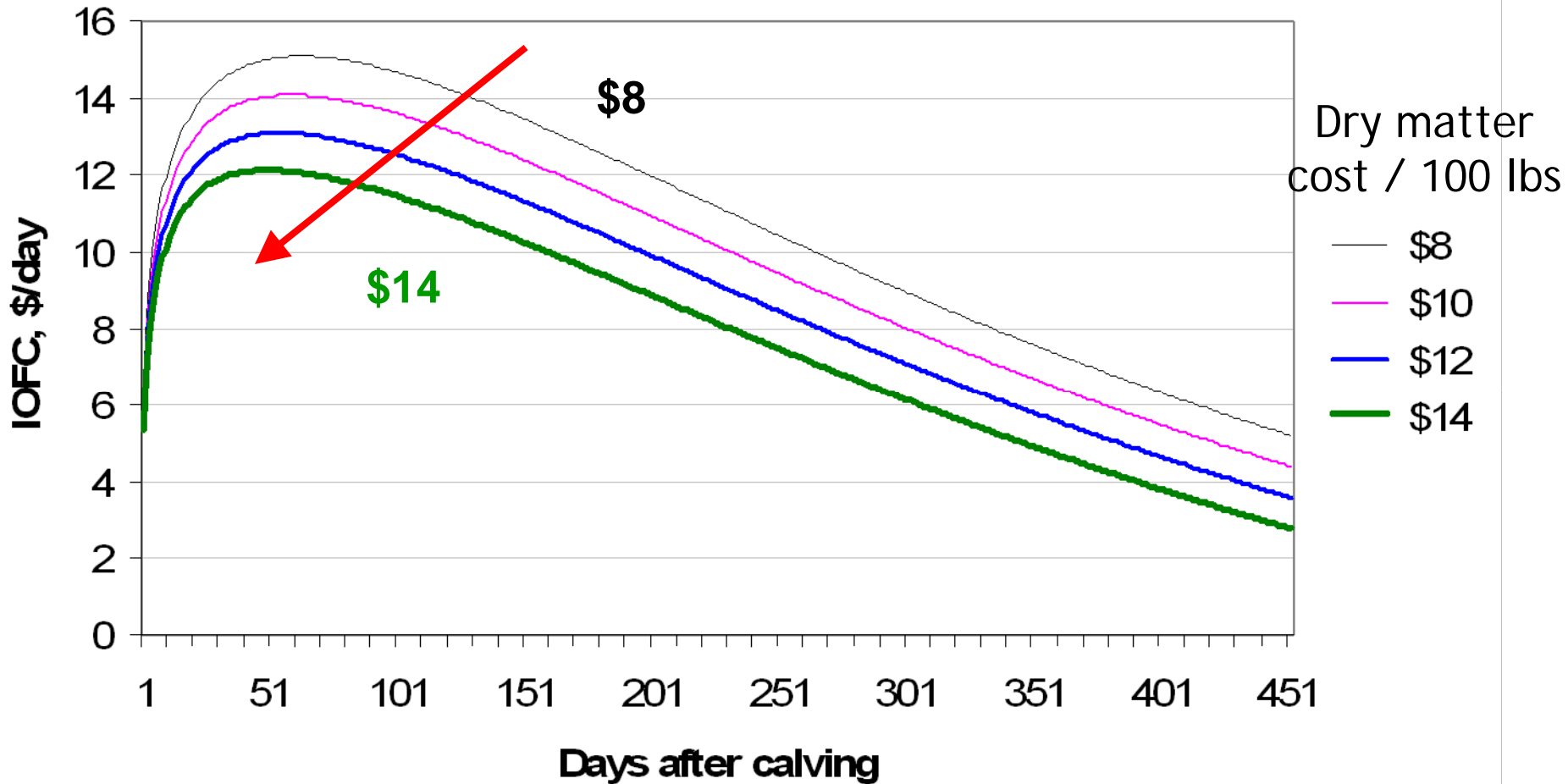


Milk production, dry matter intake, feed efficiency



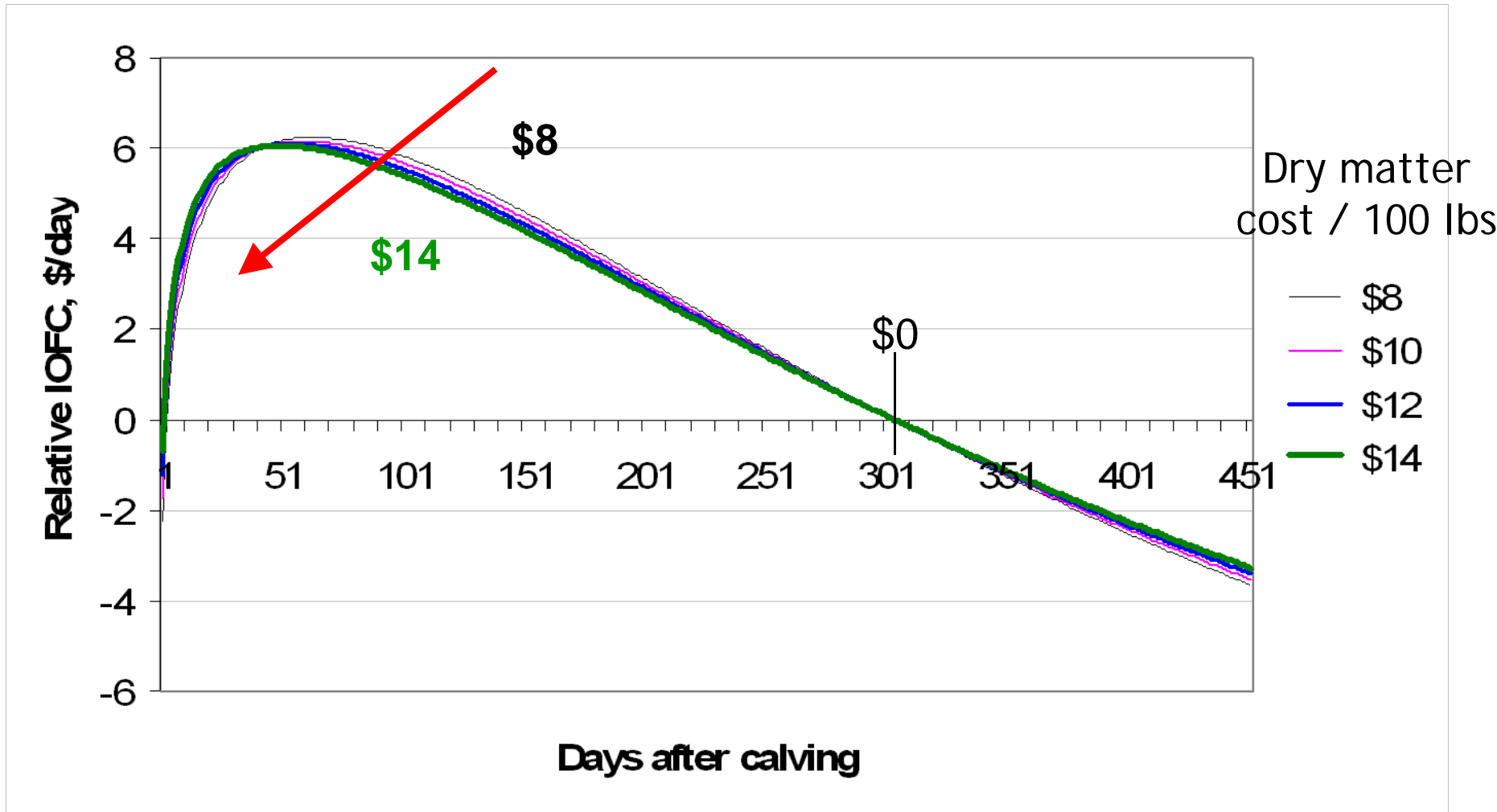
Income over feed cost / day

Milk sales (\$22/cwt) - dry matter cost

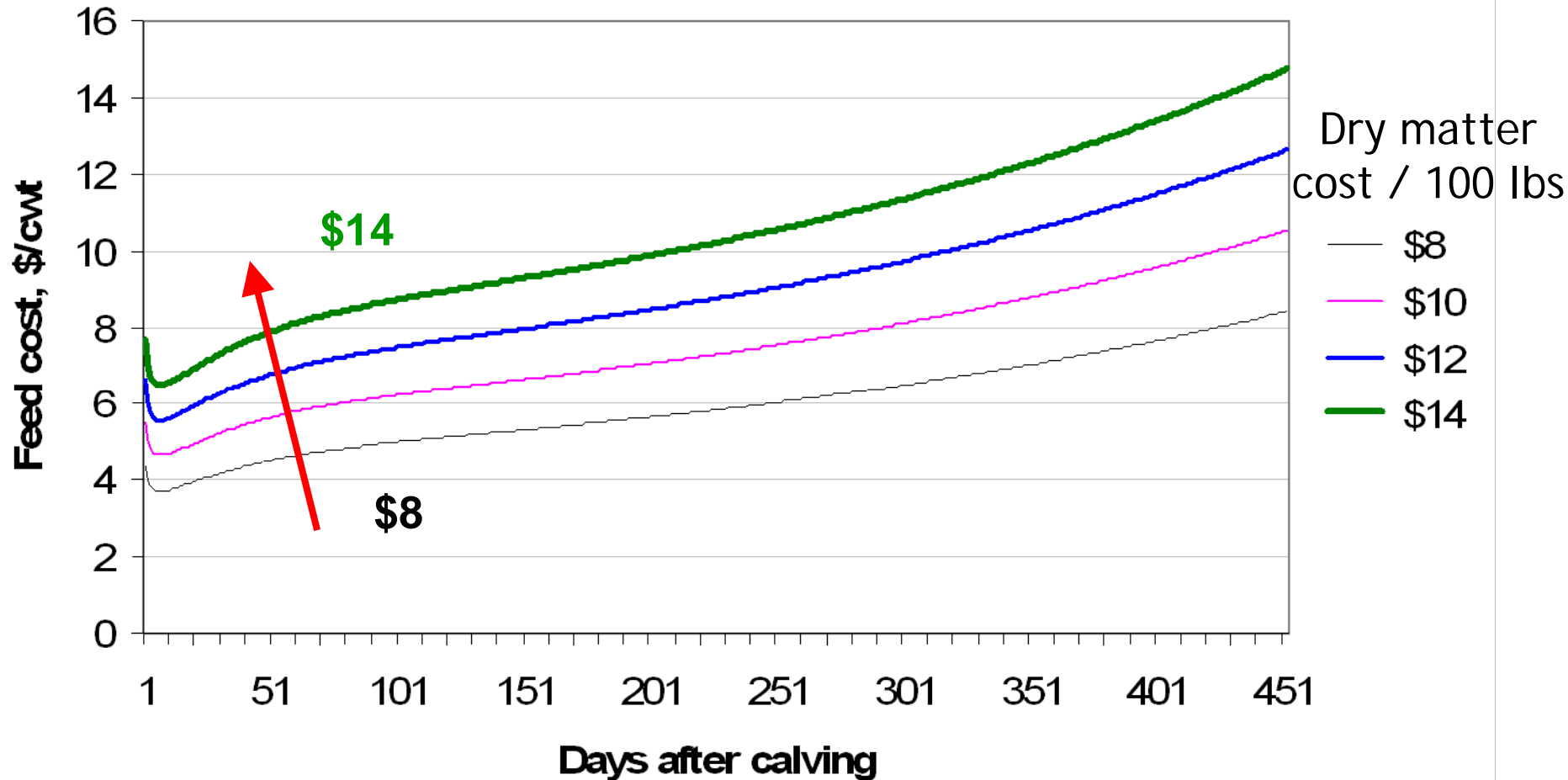


Relative IOFC / day

IOFC on day 305 is set to \$0

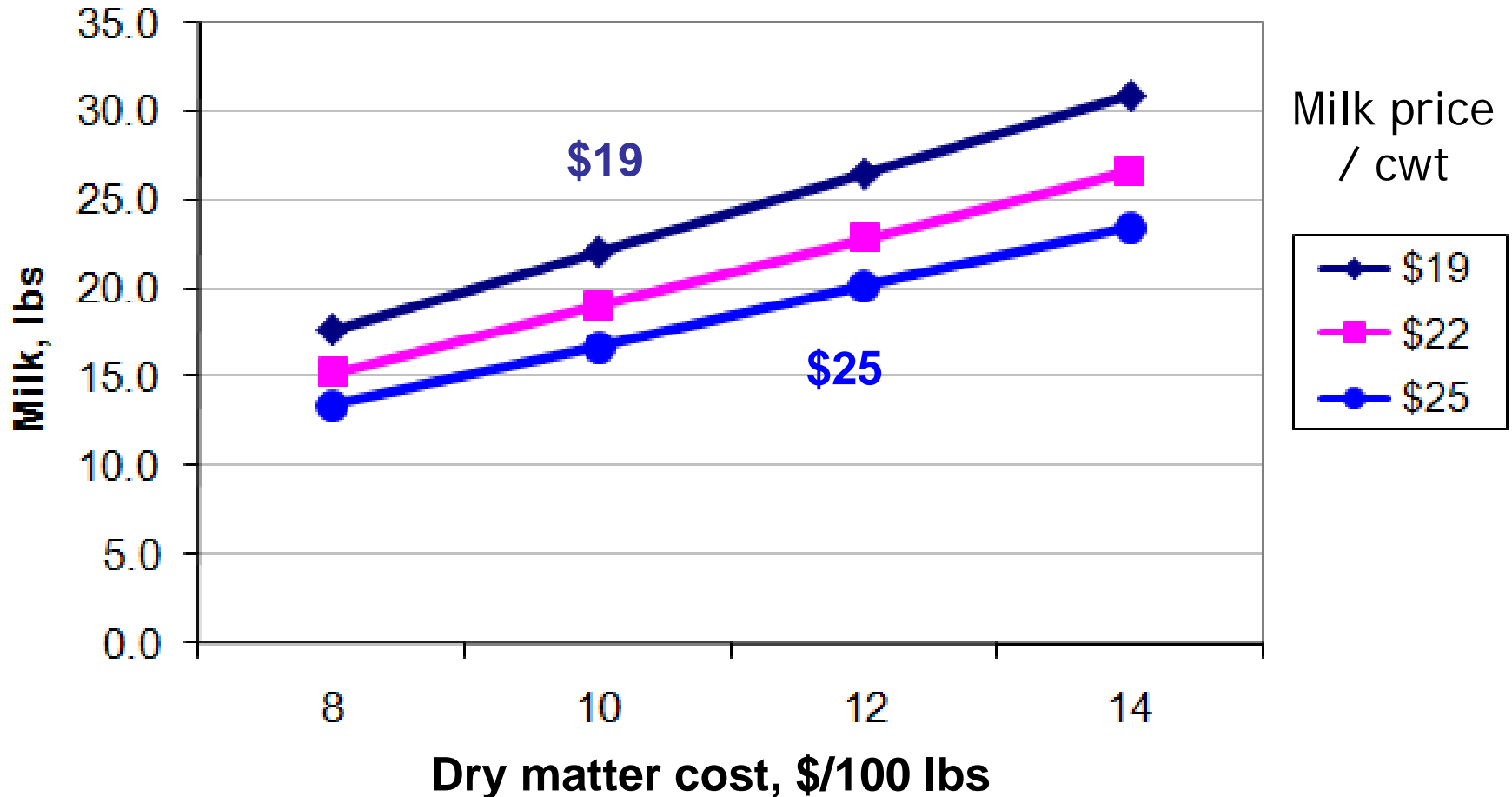


Feed cost / cwt milk



Break-even milk yield

Milk yield needed to pay for 42 lbs of dry matter



Milk price / cwt



Higher feed cost

- Feed efficiency more important
 - Early part of lactation curve
 - Cows should spend more time in early lactation → early conception more important
- Higher break-even milk yield
 - Earlier production dry-off
 - Earlier culling open cows

Marginal thinking

- Feed cost example



Scenario 3:
Your Nutritionist Gives You Two Rations/
Production Levels to Choose From:

Milk Level	DMI (lbs)	TMR Cost/ lb	Feed Cost	Feed Cost/ Cwt
80 lbs	48.8	\$0.12	\$5.70	\$7.13
90 lbs	53.1	\$0.13	\$6.91	\$7.68

Milk is selling for \$20/ cwt

Which one is more profitable?

Scenario 3: Your Nutritionist Gives You Two Rations/ Production Levels to Choose From:

Milk Level	DMI (lbs)	TMR Cost/ lb	Feed Cost	Feed Cost/ Cwt	IOFC
80 lbs	48.8	\$0.12	\$5.70	\$7.13	\$10.30
90 lbs	53.1	\$0.13	\$6.91	\$7.68	\$11.09
10 lbs = \$2.00	4.3		\$1.21		\$0.79

Although the actual feed cost AND feed cost/ cwt Milk is selling for \$20/ cwt, The better choice here is the 90 lb production with the higher feed cost.

Average cost of production or cost/ cwt can be very misleading

Predicting future milk prices

- Accuracy of prediction of future uniform milk prices in Florida from Class III and IV futures markets



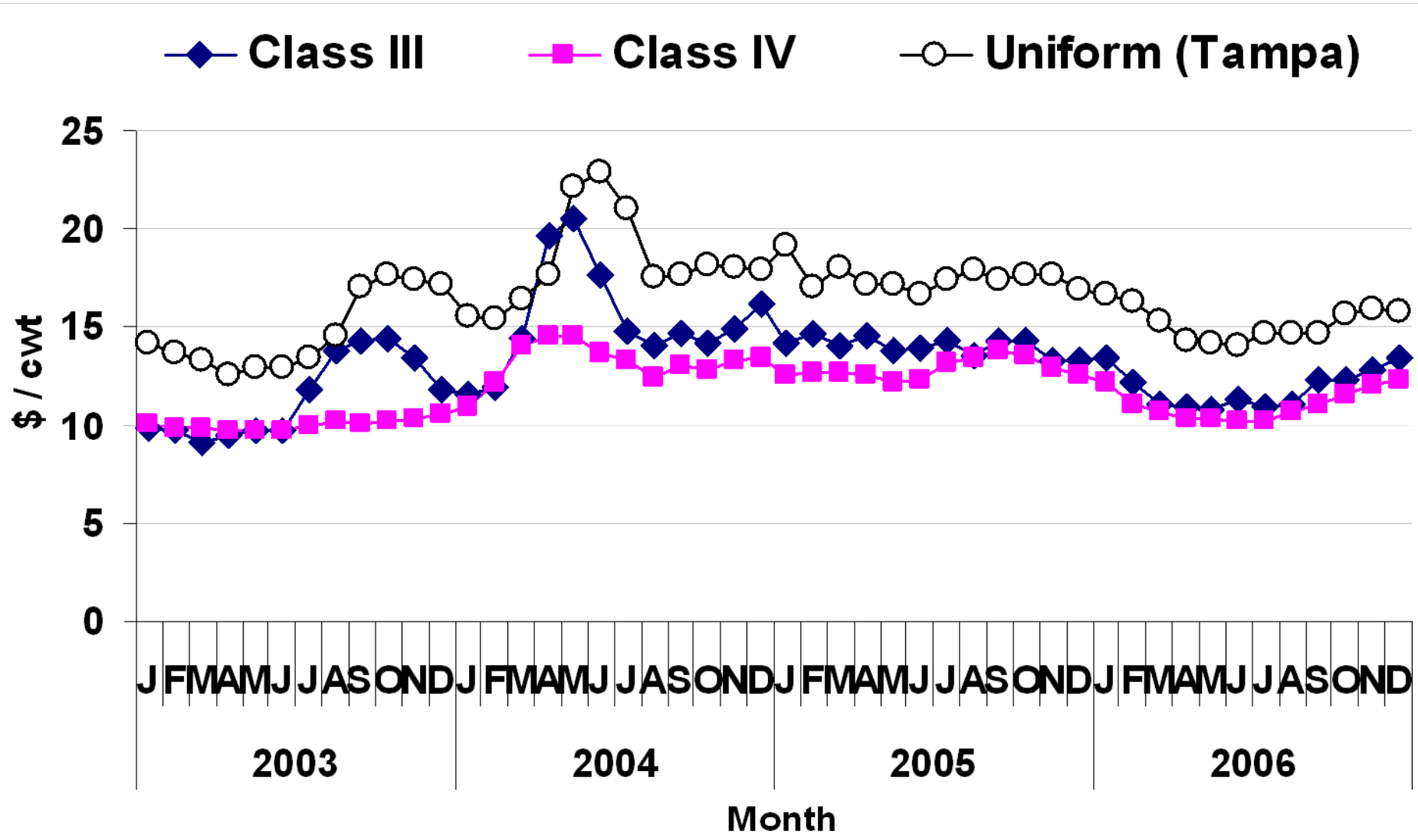
F.O. 6 Uniform Milk Price

Uniform milk price is function of 17 inputs:

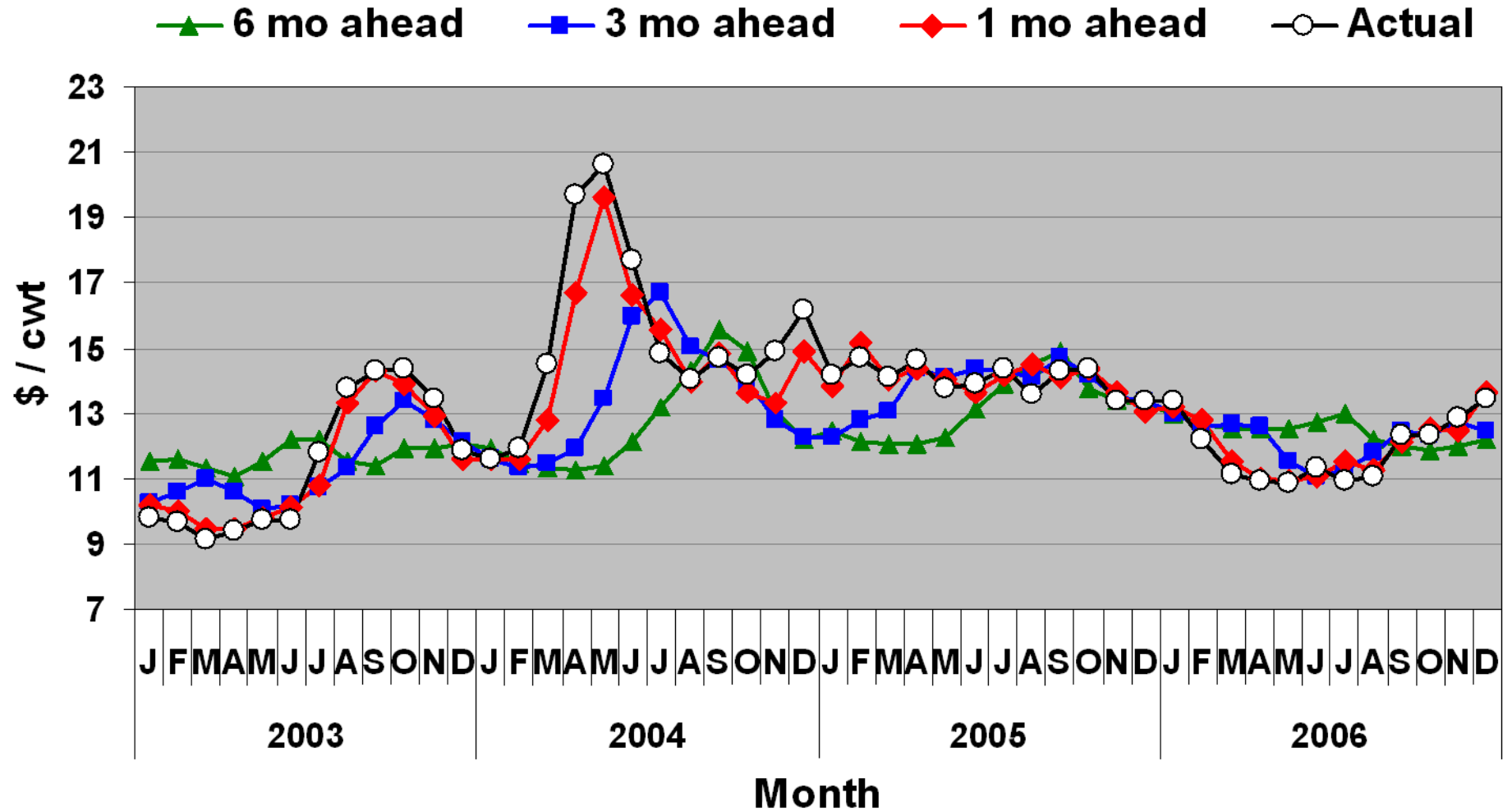
- Announced and advanced butter prices
- Product prices for cheese, butter, dry whey, non fat dry milk
- Utilization of Class I, II, III, IV skim milk
- Utilization of Class I, II, III, IV butterfat
- Class I price differential
- Class III and Class IV cash prices

Prices and utilization announced every month by USDA

Actual Prices

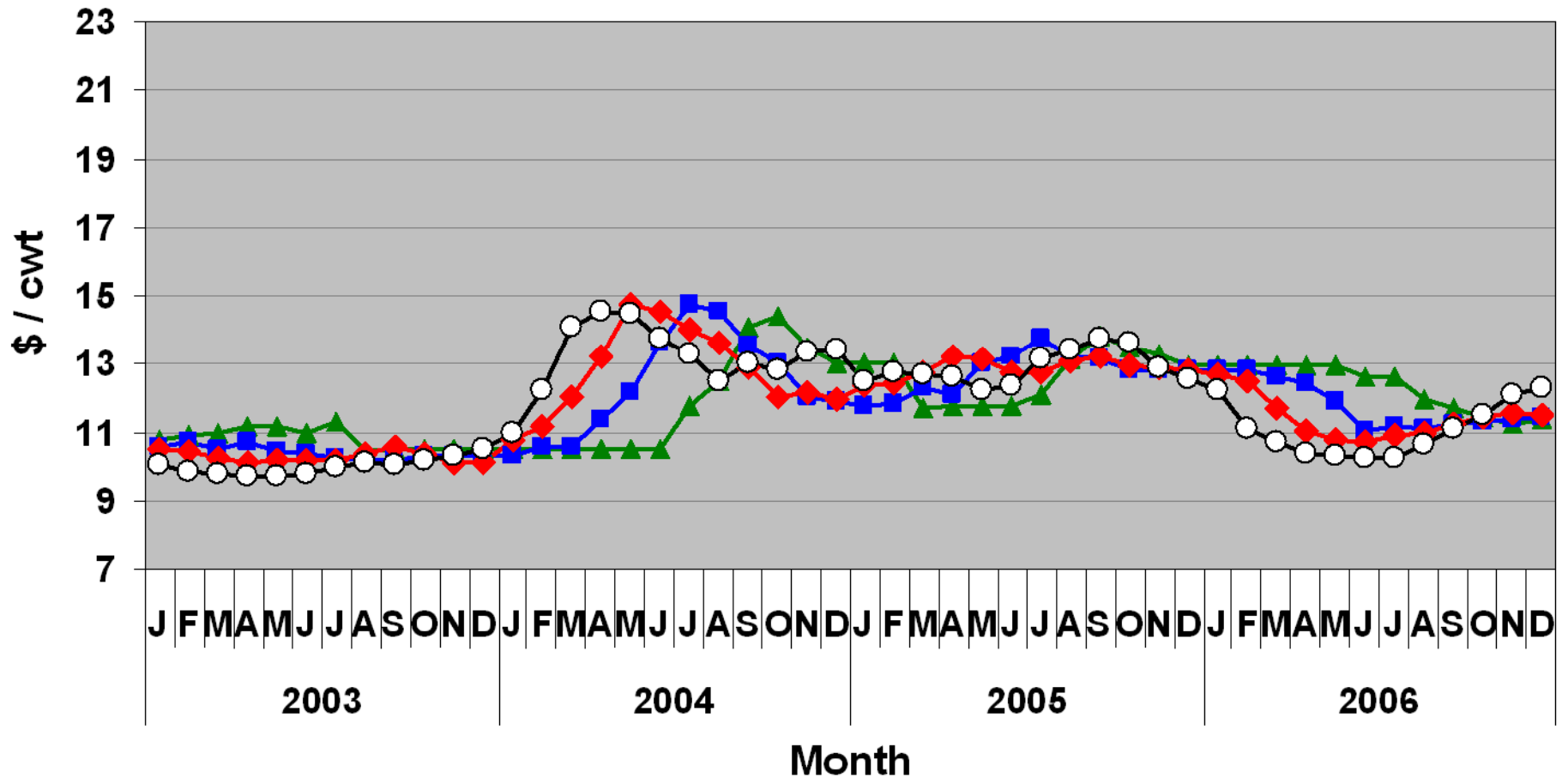


Class III, Predicted and Actual



Class IV, Predicted and Actual

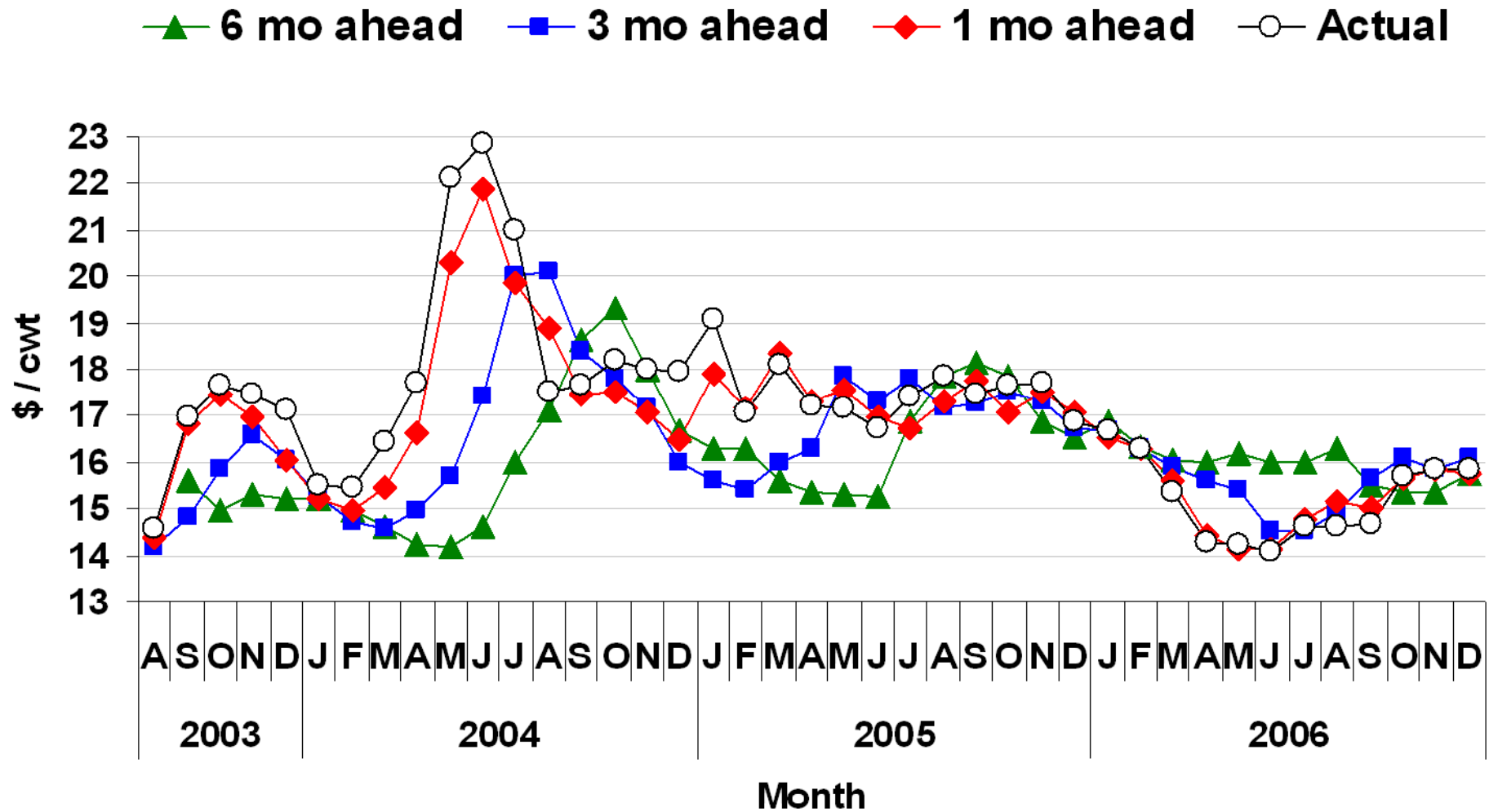
▲ 6 mo ahead ■ 3 mo ahead ◆ 1 mo ahead ○ Actual



Prediction Method

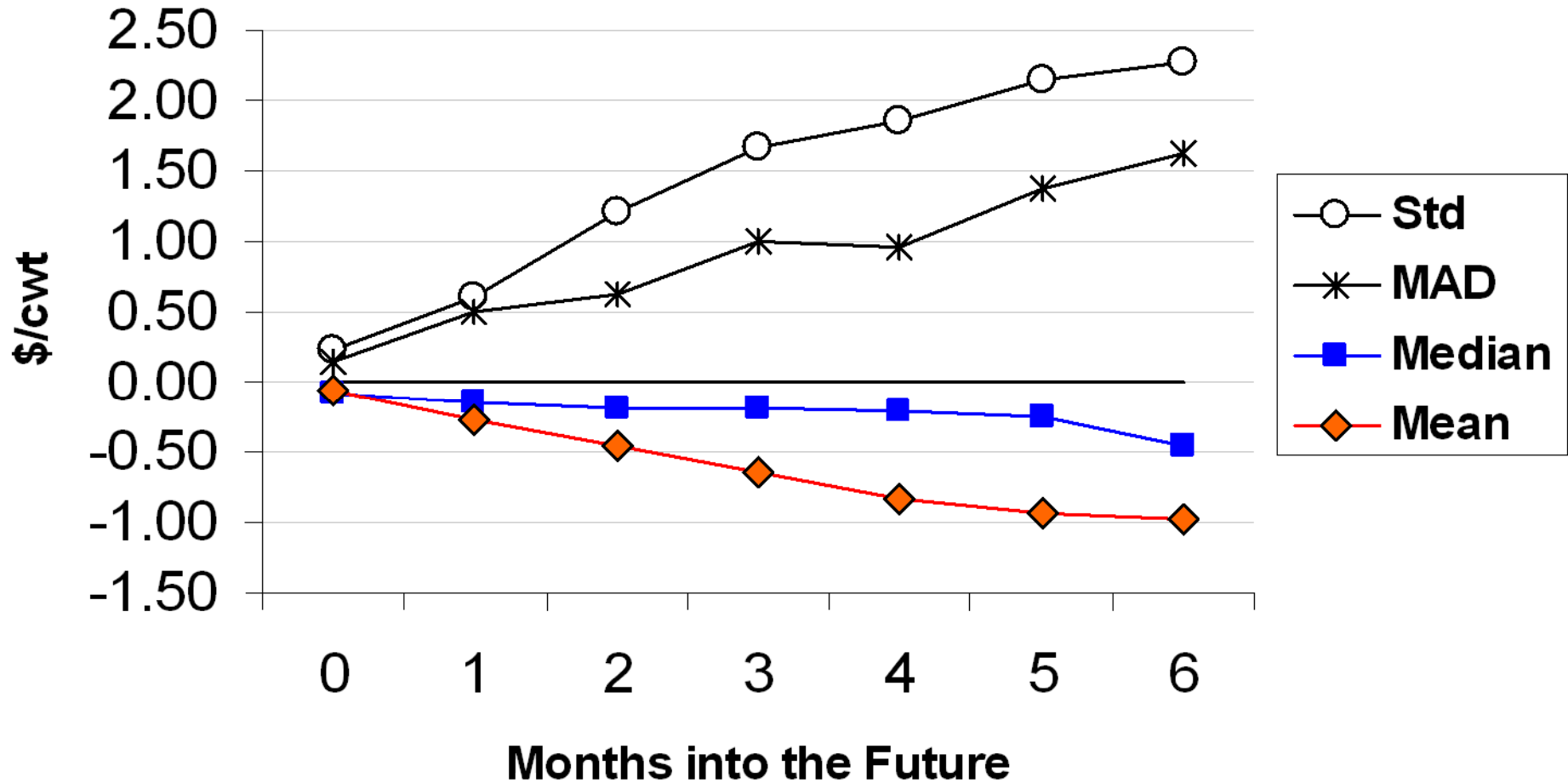
- Class III and IV cash prices:
 - futures prices
- Announced butter prices, advanced butter prices, advanced Class III skim milk price, advanced Class IV skim milk price, advanced Class I butterfat price; function of:
 - futures Class IV price, last announced Class IV price, last announced Class III price, last announced butter price, last advanced butter price, advanced butter price
- Utilization skim milk, utilization butterfat:
 - Holt-Winters method (historical utilization)

Uniform Prices: Predicted and Actual



Tampa Uniform Price, Predicted - Actual, \$/cwt

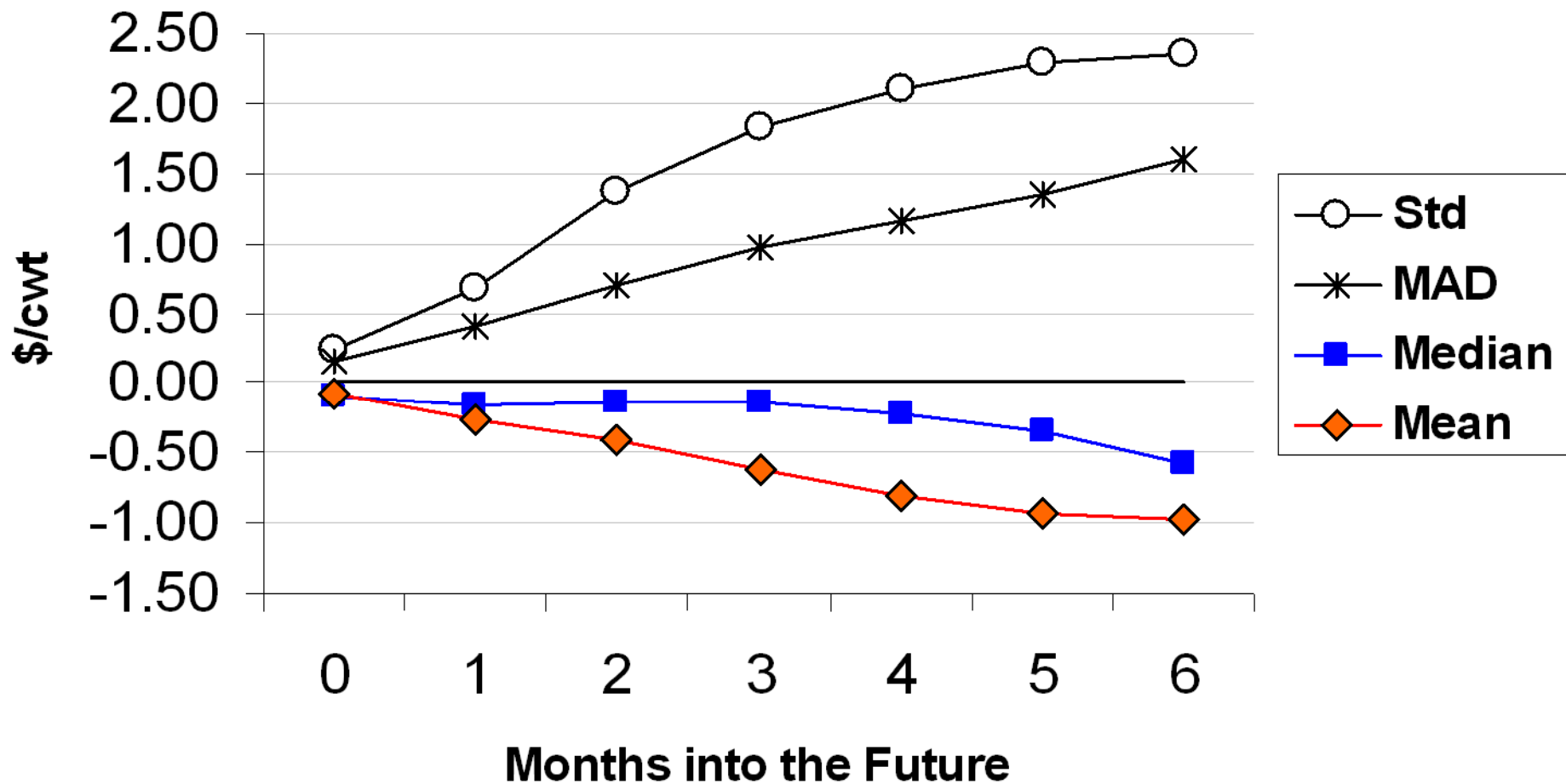
Class III and IV prices, butter prices, utilizations predicted (2003-2006)



MAD = median absolute deviation: $1.482 \text{ median } |x_i - \tilde{x}|$

Tampa Uniform Price, Predicted - Actual, \$/cwt

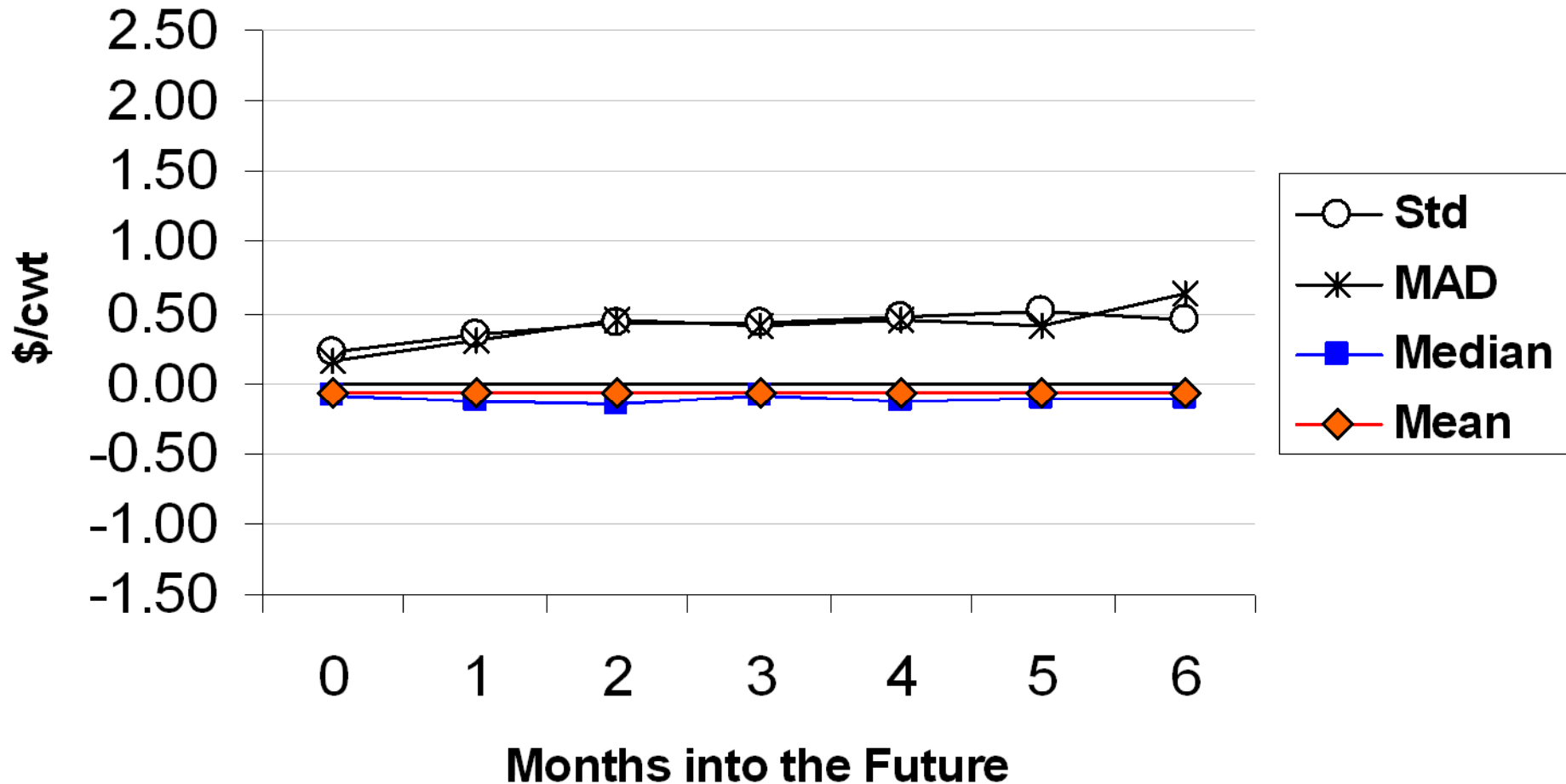
Class III and IV prices predicted; butter prices and utilizations assumed known (2003-2006)



MAD = median absolute deviation: $1.482 \text{ median } |x_i - \tilde{x}|$

Tampa Uniform Price, Predicted - Actual, \$/cwt

Butter prices and utilizations predicted; Class III and IV prices assumed known (2003-2006)



MAD = median absolute deviation: $1.482 \text{ median } |x_i - \tilde{x}|$

Conclusions

- Predicted uniform prices are increasingly inaccurate farther into the future.
 - Uncertainty is large even a few months ahead
- Majority of prediction error due to inability of CME futures market to predict Class III and IV cash prices accurately.



Thank You

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