

# Manure Management Requirements: The Economic Context and Outlook for Dairy

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## Cost of Manure management requirements

- These will be discussed later today (I hope).
- But manure management facilities can easily run into the 6 figures.
- And even with cost-sharing, this can be a substantial burden on many farmers.
- And in addition to the monetary costs, there are costs of time and effort associated with getting approvals and licenses from various levels of government.

And these high costs come at a time of economic stress in the dairy industry.

- How bad is this economic stress?
- Historical perspective.
- What about production costs?
- What can we expect in the future?

## Current state of the dairy economy

- Farmers may have more recent information than information published by the government.
- Maryland dairy industry is small, so price data is published annually, not monthly.
- But Maryland prices move up and down with national and regional prices.

## For example....

- National all milk price runs about 80 cents below Maryland all milk price.

Year	Maryland price	US price	difference
2012	19.3	18.52	0.78
2013	20.9	20.05	0.85
2014	24.8	23.97	0.83
2015	17.7	17.11	0.59

## Or another example....

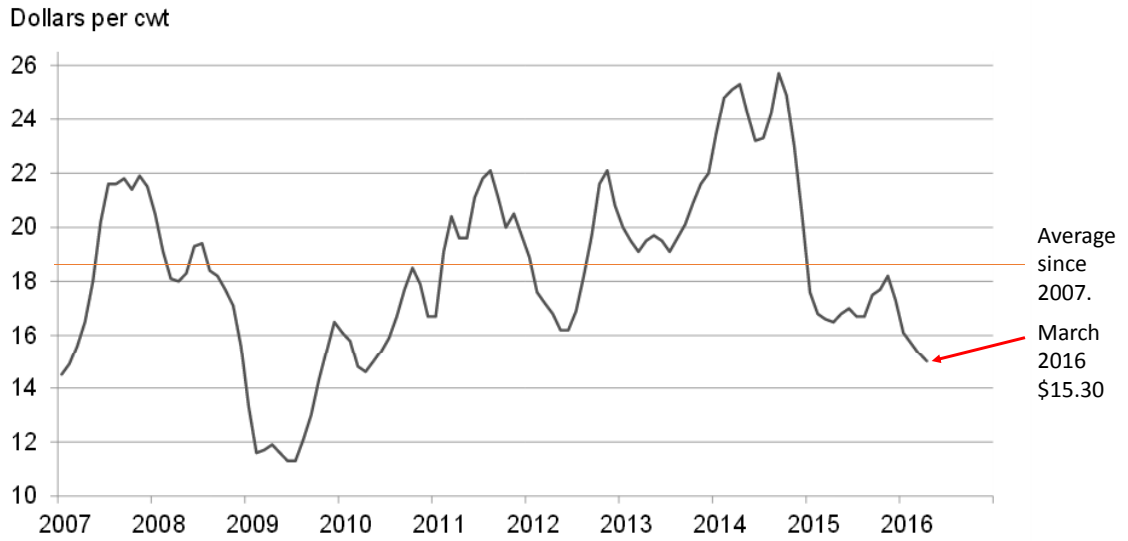
- Eastern Pennsylvania mailbox price runs about 30-50 cents below Maryland all milk price.

Year	E. PA. mailbox price	Maryland price	difference
2012	18.93	19.3	-0.37
2013	20.60	20.9	-0.30
2014	24.51	24.8	-0.29
2015	17.16	17.7	-0.54

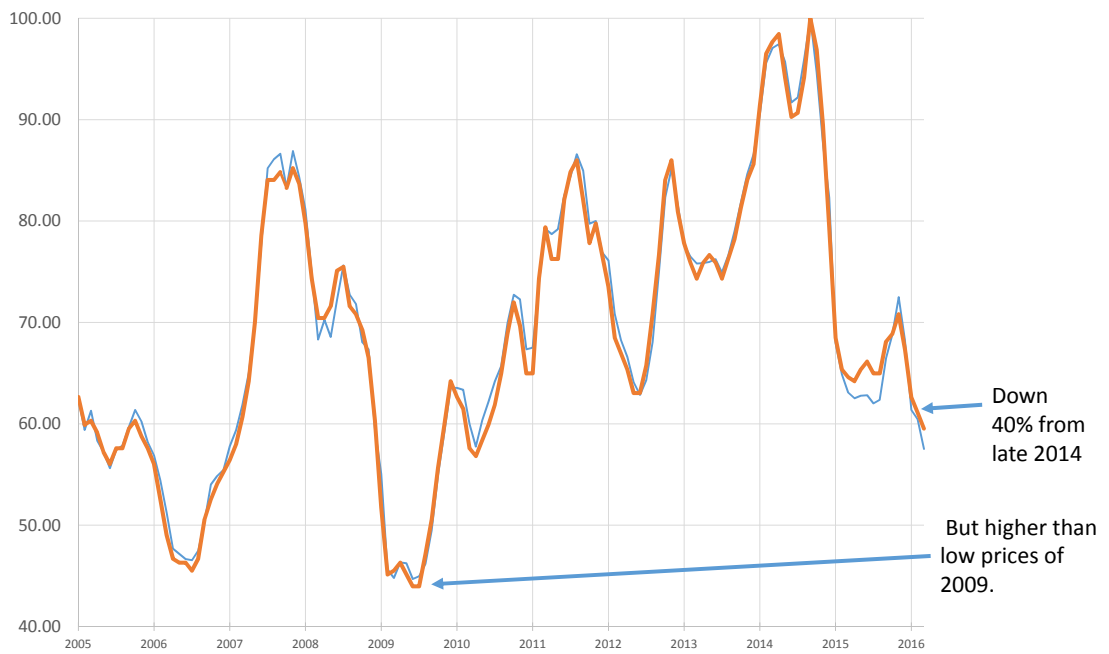
## And we have recent measures, and future projections, of these non-Maryland prices.

- Graph of monthly US and EPA mailbox as percent of the record high prices in late 2014.
- The most recent published prices we have are for March 2016, and these show both US all milk price and Eastern PA mailbox price at 60% of the all time high (September 2014), when Maryland prices rose above \$26.
- During the first 3 months of 2016, Maryland farm prices fell from about \$16.70 in January to \$15.80 in March.

### Prices Received for Milk by Month – United States



### Monthly Milk prices as % of Sept 2014 price



But as bad as things have been in the last few months, they are not as bad as they were in 2009.

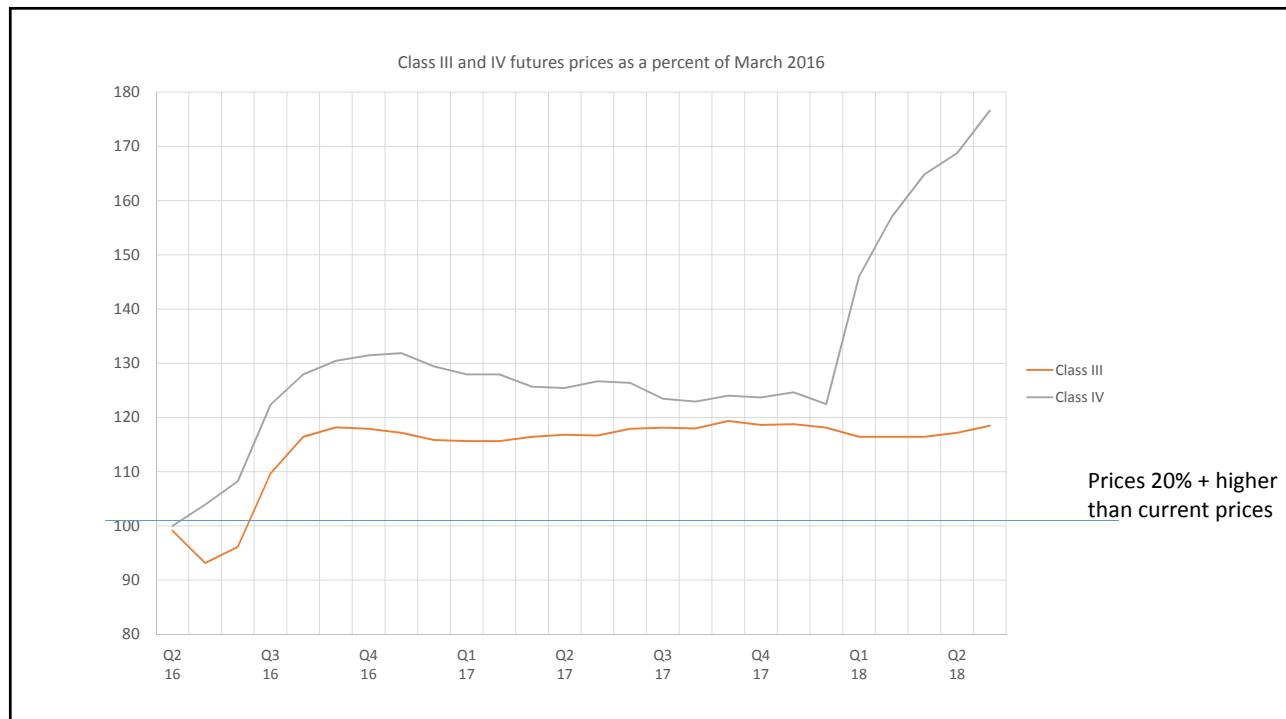
- Milk prices were in the low \$12 range in June 2009.
- Corn price was above \$4, compared to \$3.60-\$3.70 today.
- Diesel price was \$2.55, compared to \$2.14 in March of this year
- And Milk prices stayed low – below \$12.10 for 7 straight months and below the March 2016 level of \$15.30 for 10 straight months.

And the future looks a little brighter, or does it? The pessimistic view.

- USDA projects (World Supply and Demand Estimates – WASDE, May '16) that the all milk price will be:
  - \$14.95-\$15.35 – midpoint \$15.15 -- for 2016
  - \$15.25-\$16.25 – midpoint \$15.75 – for 2017.
- This projection is consistent with an all milk price below \$15 for the rest of 2016 – that is prices stay at or below levels of the spring.

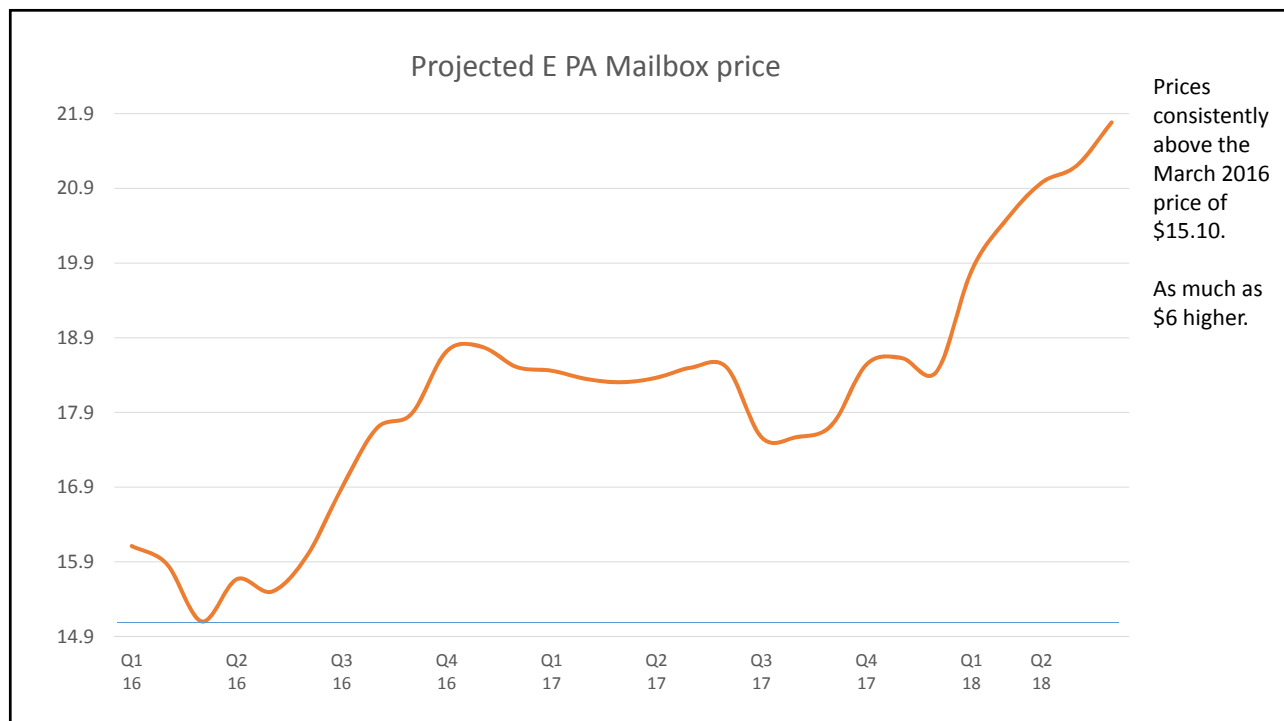
And the future looks a little brighter, or does it? The optimistic view.

- But futures markets tell a very different story.
- And they serve as the basis for projections of futures prices based on historical relationships. The next couple slides present this analysis.



## Projections of Future mailbox prices, based on futures market prices

- Use historical data to estimate the relationship between the Eastern Pennsylvania mailbox price, and
  - Class III price
  - Class IV price
  - Seasonal effects for different quarters of the year.
- Why should mailbox prices be closely related to Class III and IV prices (Federal order pricing system).
- Then plug in futures prices for future months to the estimated relationship to get an estimate of the mailbox price in those months.
- Why are futures market prices good guesses of the level of future prices.





## Who is right? The USDA experts, or the people trading on futures markets?

- People trading on futures markets have a monetary incentive to seek out the best information.
- They are backing their opinions with money (“skin in the game”).
- They stand to lose (or gain) more than a reputation.
- So I expect that USDA projections of all milk price will rise in future editions of the WASDE.

## Who is right? The USDA experts, or the people trading on futures markets?

Other experts (no doubt influenced in part by futures market prices) are also more optimistic than USDA.

- Bob Cropp of U of Wisconsin: “So we can expect the Class III price which was a low of \$12.76 in May to be near \$13.25 in June, and the Class IV price which was \$13.09 in May to be near \$13.79 in June. ... So the question is will these dairy product prices hold or even increase more? If so, milk prices will be considerably higher for the remainder of 2016 than what has been forecasted [by USDA].”
- Jim Dunn of Penn State. “My estimates for the Pennsylvania All Milk Price for the rest of 2016 show it rising significantly as the year progresses, but still averaging \$0.83 below the 2015 average.” (My guess puts the 2016 Maryland price about \$1 below the 2015 price.)

## What about future costs of production?

- Feed costs – futures markets
  - Corn stays at about \$4 through 2018.
  - Soybeans fall from \$11.35 in 2016 to \$10.79 in 2017 to less than \$10.
- Energy: Heating oil futures rise by less than 10% over the next 2 years.
- Interest rates: futures market show interest rates rising over the next 2 years, but remaining low – a federal funds rate of less than 1%.
- But “no change” can also mean “no one really knows anything about where things are going”.

## Bottom Line

- There is no convincing evidence that traditional costs of production (ignoring the costs of compliance with manure management regulation) will increase over the near term.
- The futures markets indicate a strengthening in milk prices.
- But USDA’s projections do not agree with the futures markets on that.
- If you agree that futures markets are a better indicator of the future, then the conclusion must be “Don’t panic”.

