

Knowledge Exchange Industry Outlook - Dairy

Overview

- The Northeast dairy industry had a challenging 2015 with falling milk prices. Margins have declined and are expected to continue to fall through the first half of 2016.
- Despite negative market signals, milk production increased by 0.6 percent in 2015 and is forecast by USDA at 211.8 billion pounds for 2016, an additional 1.5 percent increase.
- The all-milk price for 2016 is forecast at \$15.00-15.50 per cwt, compared to 2015's \$17.08 per cwt.

Recap of 2015

Depressed global dairy markets led to sharply reduced margins for U.S. dairy producers. International prices have declined more steeply than U.S. domestic prices, which, combined with a strengthening dollar, have made American dairy products less competitive in export markets. This has led to decreased exports and increased imports of dairy products. Strong domestic demand for cheese and butter have somewhat buffered U.S. prices, preventing the all milk price from falling to international levels.

Both number of cows and per-cow production were higher in 2015 than the year before. Production per cow averaged 22,383 pounds for 2015, 125 pounds greater than the prior year. Per-cow production is 14.6 percent greater since 2005. Number of cows increased 0.6 percent nationally. The New York herd is estimated at 620,000, about 5,000 head over last year, and overall milk production was 3.5 percent higher¹.

Exports in 2015 were well below the prior year in terms of both value and volume. Total exports for 2015 were valued at \$5.4 billion, a decrease of 25 percent².

For 2015, the U.S. income-over-feed-costs (IOFC) averaged \$8.32 per cwt. of milk. In 2016, it is projected to fall to \$7.81/cwt³.

*U.S. milk
production
up 0.6
percent
over 2015*

*NY milk
production
up 3.5
percent*

*Income
over feed
costs
projected
to fall 6
percent*

¹USDA / NASS

²U.S. Dairy Export Council

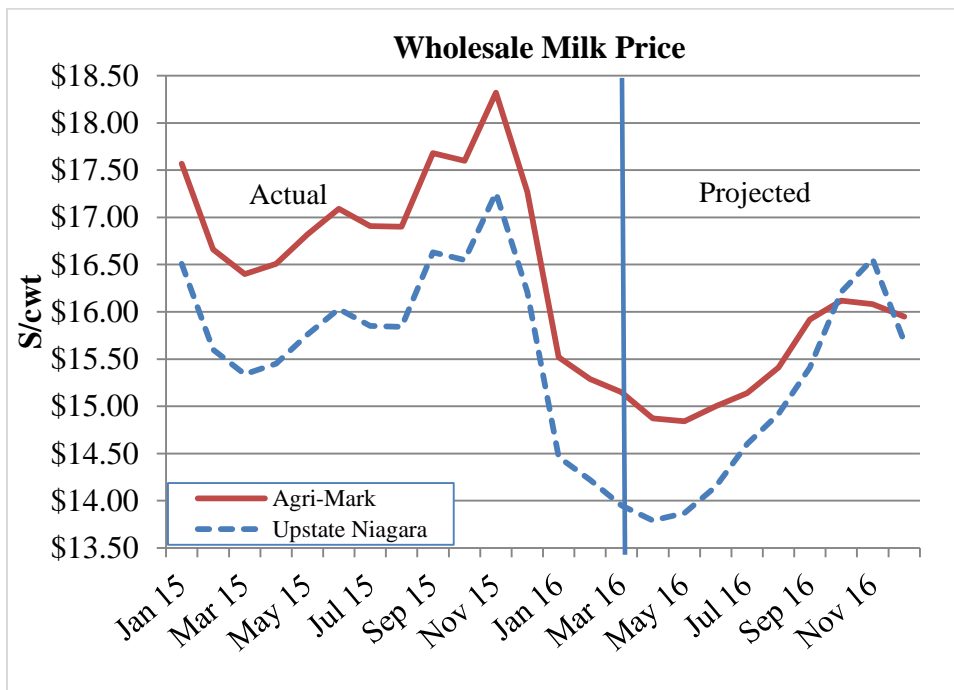
³Brian Gould, University of Wisconsin Madison. As measured by the MPP program.

Beef prices have declined substantially from earlier highs, leading to relatively low cull-cow prices.

Price Outlook

As seen in the chart below, prices peaked in November and turned downward. Agri-Mark is projecting a 2016 Boston Blend price at \$15.44 per cwt., while Upstate Niagara projects WNY Blend pricing at \$14.82 per cwt. Agri-Mark serves New England and eastern New York, and Upstate Niagara covers western New York. The 2016 Class III milk price forecast is \$13.65-14.15 per cwt. and the Class IV price forecast is \$12.90-13.50 per cwt.

The USDA Economic Research Service projects the 2016 national all-milk price at \$15.00-15.50 per cwt.

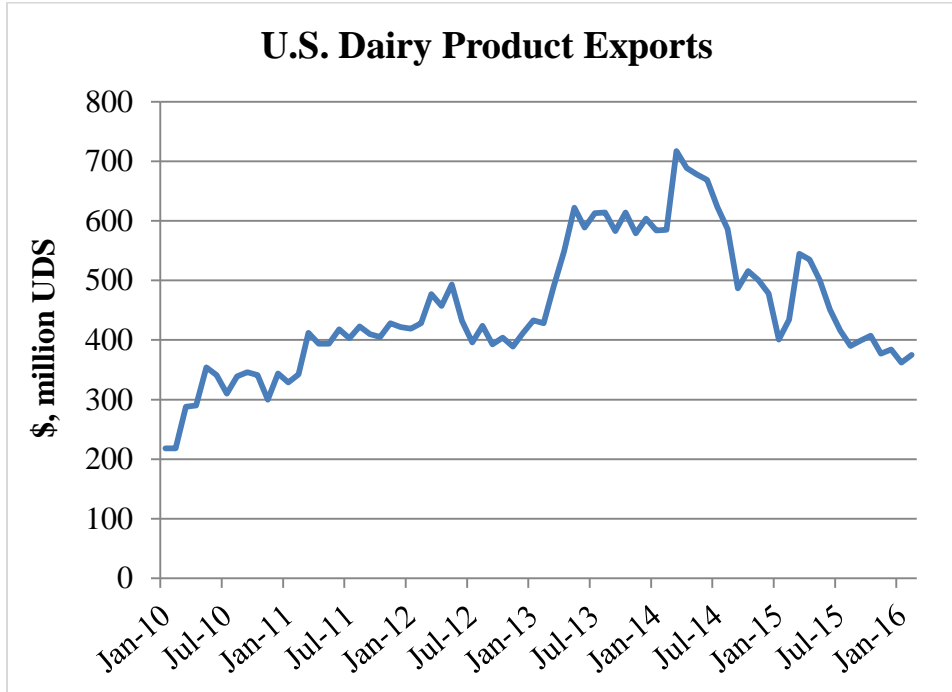


Sources: Agri-Mark, Upstate Niagara Cooperative

Milk prices down since November

Further declines in milk pricing expected

Exports



Sources: USDA Foreign Agriculture Service

Exports have been a big factor affecting domestic milk prices. Depressed global prices for dairy products, increasing supply from Europe, a strengthening U.S. dollar, and modest purchases from major importing countries all combine for a weak outlook for 2016 U.S. dairy exports.

Exports are unlikely to begin to lift milk prices until late this year or possibly not until 2017. Despite slim margins for U.S. producers, domestic product prices remain significantly above world markets, limiting exports and even making it economical for imports, despite U.S. tariff barriers. This is particularly true in butter and cheese markets.

In the partial year since EU quotas expired, milk production in Ireland and the Netherlands increased 10 percent. This more than offset a slight decline in New Zealand production. The U.S. Dairy Export Council forecasts production from the top 5 exporters to be a half-percent higher overall, in the first quarter of 2016, then run even with year-ago levels. This means that there will be little relief from the current global oversupply situation in the near-term.

2016 Outlook

Despite low profitability, moderate feed and other input costs, coupled with low cull-cow prices, are expected to incentivize increased milk production. The USDA forecasts 2016 milk production of 211.8 billion

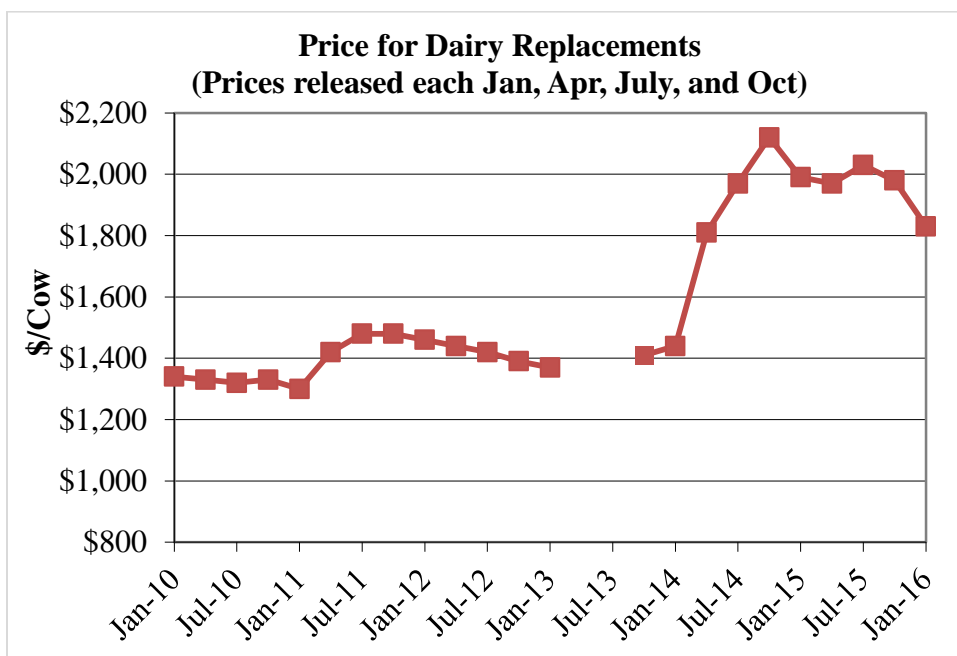
Exports fall amidst global price weakness

U.S. prices remain higher than world markets

pounds, a 1.5 percent increase over 2015. Recent trade and world price data suggest that imports will increase and exports will continue to languish for much of the year. However, strong domestic demand should help offset weak export markets to some extent.

Dairy Cow Replacement Costs

Dairy replacement prices have declined since peaking in October of 2014. As of January 2016, they were at \$1,830/head, still above the five-year average of \$1,648 per head, which is surprising and may not continue long-term.



Source: USDA/NASS. Data gap in 2013 due to budget limitations.

Long-Term Outlook Projections to 2024

The USDA projects that milk production from 2016 to 2024 will grow at a decreasing year-over-year rate⁴. The herd size is projected to continue to grow through 2018, then moderately decrease from 2020 to 2024. The trend of higher-productivity cows is expected to continue. Cow productivity is projected to increase from 2016 to 2024 at roughly 1.5 percent per year.

Domestic demand for dairy products is expected to outpace U.S. population growth. While fluid milk consumption continues to decline modestly, consumption of cheese and cultured dairy products has been on the rise. Despite a decline in exports in the first half of 2015, the United States is well-positioned to expand dairy trade going forward. Dairy

⁴USDA Agricultural Projections to 2024

Replacement costs moderate

Long term outlook mixed

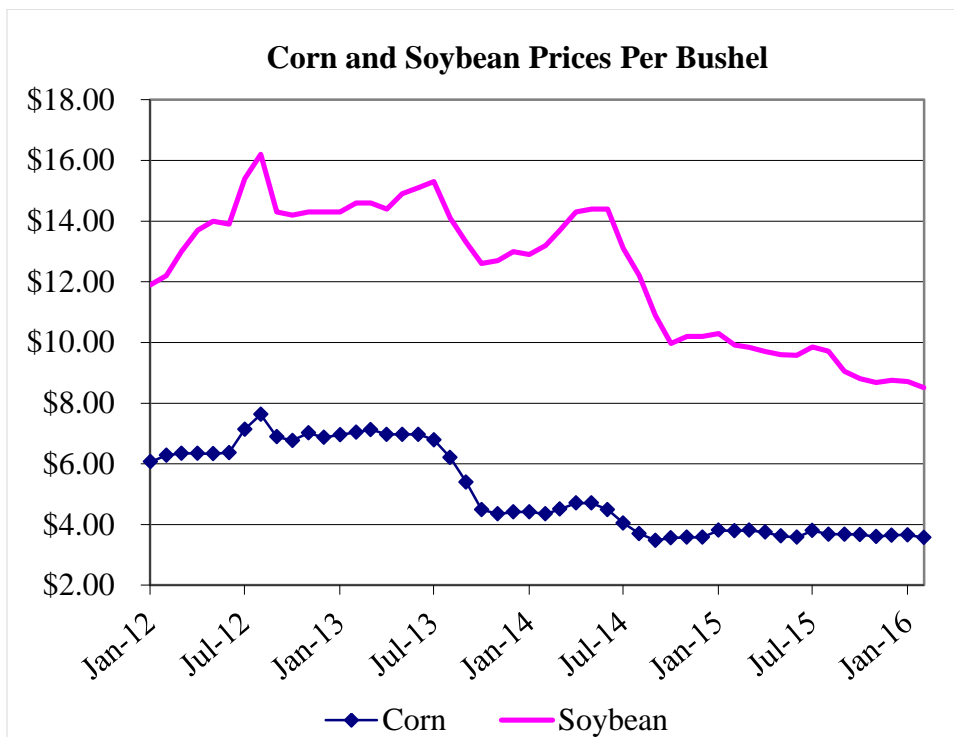
exports are expected to continue to grow at a rate of 2-to-3 percent on a skim-solids basis. International demand is expected to outpace foreign productivity growth.

From 2016 to 2023, the all-milk price is projected to increase at an average rate of 0.8 percent per year, in nominal terms, although considerable volatility is likely to occur. Adjusted for inflation, prices are likely to decline through 2019, then gradually rise as production increases at a slower rate.

Feed Outlook

Feed prices are forecast to remain relatively low by recent standards. The USDA corn price forecast for the 2015/16 marketing year is \$3.40-3.70 per bushel. The 2015/16 forecast for soybean meal is \$275-295 per ton.

Feed costs, as calculated according to the 2014 farm bill formula, are expected to decrease from the 2015 average of \$8.77/cwt of milk produced, to \$8.13/cwt of milk produced for 2016. Unfortunately, the decline in feed costs will not be sufficient to preserve margins in the face of falling milk prices.



Source: USDA/NASS

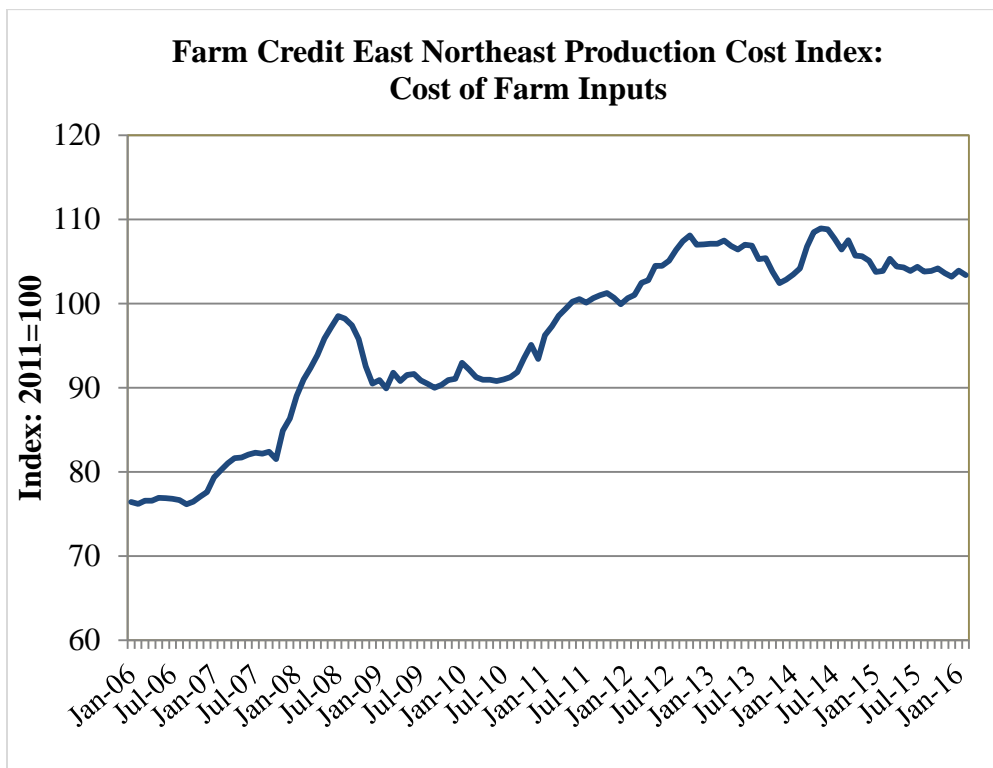
Feed costs to remain low

Corn and soybean prices fall further.

Input Cost Overview

The 2016 Input Cost Overview can be summarized fairly simply – energy costs (other than electric) will be significantly lower, but labor, which is typically the number one or two largest expense for Northeast farms will increase faster than general inflation. Fertilizer should be less expensive. Interest rates will likely continue to slowly increase, but should remain low by historical standards.

The *Farm Credit East Northeast Production Cost Index* tracks a wide range of farm production costs. As can be seen in the chart below, other than a temporary dip towards the end of 2013, costs have fluctuated within a relatively narrow range recently.



Sources: Farm Credit East; NASS (not specific to dairy production)

Fuel and Energy Costs

Petroleum prices are projected to remain low for the rest of 2016, bringing the yearly average price per barrel of WTI crude to \$34.60, compared with 2015's average of \$48.67, and 2014's average of \$93.17.

This translates to an average price of \$1.94 per gallon for regular unleaded gasoline, roughly 21 percent below last year, and \$2.11 per gallon for diesel fuel.

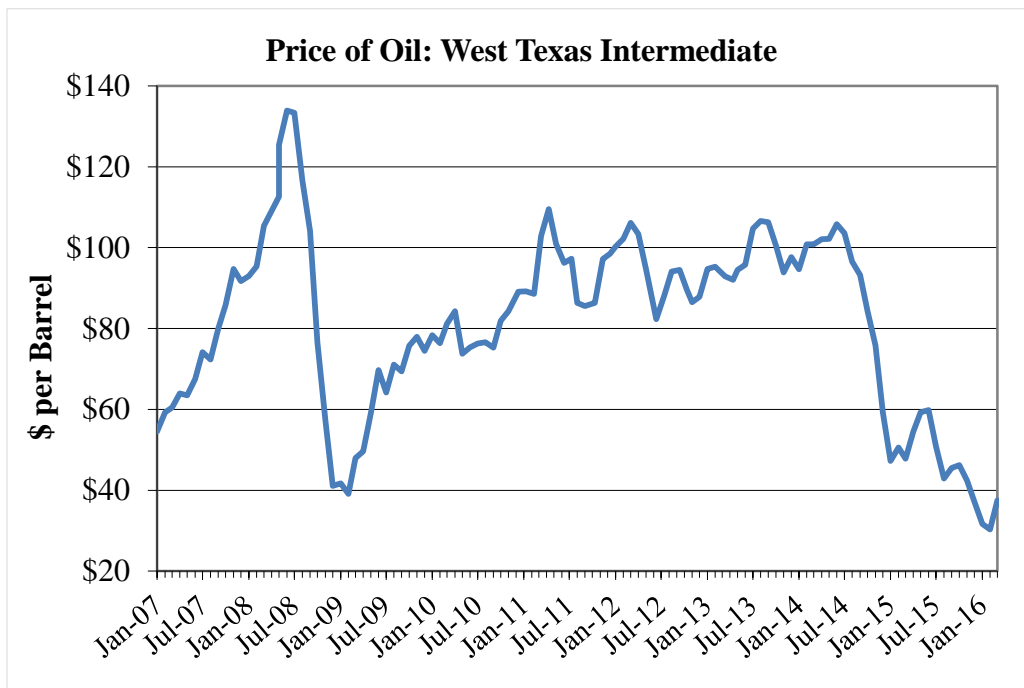
*Energy costs
down; labor
costs up*

*Farm input
costs flat*

Natural gas inventories remain high, which has put downward pressure on prices. The U.S. Energy Information Administration (EIA) expects U.S. residential prices for natural gas to average about 7 percent lower this year than the year before. However, pipeline limitations mean New England will continue to see higher prices than the national average.

Electric rate-payers may finally begin to see some relief in the form of lower costs. While rates have actually increased in recent years – up 1.1 percent nationally and 9.0 percent in New England in 2015, prices are expected to decrease in 2016 by 0.5 percent nationally, and 4.9 percent in New England.

We estimate that motor fuel expenses will come in about 20 percent below last year, and natural gas prices will be slightly lower than last year, although actual heating costs will depend on heating degree days.



Source: US Energy Information Administration

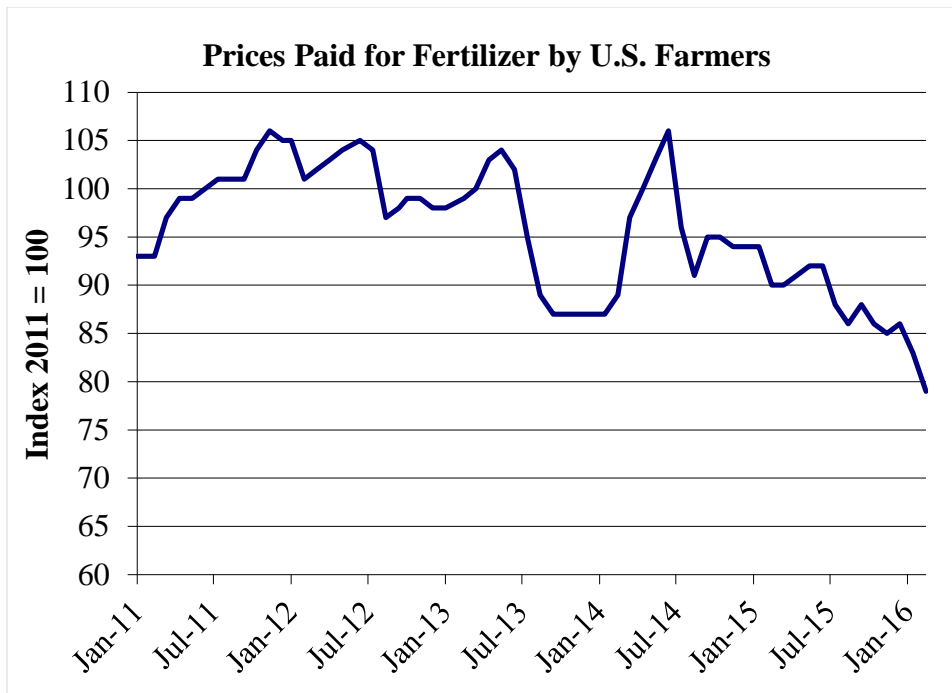
Fertilizer Costs

As of February of 2016, fertilizer costs have declined by 6 percent compared to one year ago. In general, we have seen a steady decline in fertilizer costs over the past two years. Prices are expected to be steady during the spring planting season, but face more downward pressure over the remainder of the year. The combination of lower energy costs, low crop prices, a weakening world economy and a strong dollar should continue to lower nutrient costs.

Natural gas and electric rates fall

Oil at new lows

Fertilizer costs decline



Source: USDA/NASS

Labor Costs

Farm wage rates are expected to increase greater than inflation during 2016, depending on the source of labor. The failure of Congress to allow for a new agricultural guest worker program continues to create difficulties for many farms. H-2A continues to suffer operational challenges with some growers reporting delays in receiving workers of a month or more.

Nationally, farm hired worker wages rose 3.9 percent in 2015 to \$12.54 per hour. In the Northeast, farm operators paid their hired workers an average wage of \$12.63 per hour⁵. Field crop workers received an average of \$11.90, while livestock workers received an average of \$11.74 per hour.

H-2A delays noted

Farm worker wages rise

⁵ USDA/NASS, October 2015 reference week. All hired workers, including supervisors.

Several Northeast states have raised their minimum wages, effective as of this year:

State	CT	ME	MA	NH	NJ	NY	RI
Current Minimum Wage	\$9.60	\$7.50 ⁶	\$10.00	\$7.25	\$8.38	\$9.00 ⁷	\$9.60
Future Minimum Wage	\$10.10 (1/1/17)	--	\$11.00 (1/1/17)	Same as federal	Annually indexed to inflation ⁸	\$9.70 ⁹ (12/31/16)	--

Even though some states have limited exemptions for farm workers, these wage increases may still increase costs for producers by affecting the local labor market, and wages paid by competing businesses.

Inflation in health insurance costs is expected to slow in 2016, but still outpace general inflation. Health insurance costs are projected to rise 6.5 percent in 2016, according to accounting firm PwC, continuing the trend of increases in recent years. How much health insurance group premiums will increase will depend largely on the extent of coverage offered.

Major provisions of the Affordable Care Act continue to take effect in 2016. Businesses employing 50 or more full-time equivalents will be required to provide adequate and affordable health insurance coverage to their full-time employees, or pay a penalty. Those with fewer than 50 full-time equivalents do not need to offer health insurance.

Note that the number of employees in 2016 will affect an individual business's status in 2017. There are many nuances to this law. For more information, visit FarmCreditEast.com.

We suggest a budget increase of 5 percent for wages and 7 percent for health insurance premiums over 2016 levels.

Interest Rates

The Federal Reserve has begun a transition to normalize U.S. interest rates by gradually raising the federal funds rate. At its December 2015 meeting, they raised the rate by ¼ of a percent. Citing continued low inflation and weakness in global markets, they have postponed additional increases, but are expected to gradually continue to raise rates over the coming year(s).

⁶ Higher in some jurisdictions.

⁷ Higher for fast-food workers and in some jurisdictions.

⁸ No change for 2016.

⁹ Will increase by 70 cents annually for 5 years, reaching \$12.50 for upstate workers in 2020.

Several states raise minimum wages

Health insurance costs continue to rise

Interest rates remain low- for now

A survey of Fed board members indicates that they expect interest rates to increase by about 2 percentage points over the next 2 years.

Although fixed interest rate loans are generally higher than current variable rates, variable rates represent substantially more risk over the long term.

We suggest budgeting for modestly increased interest expense in 2016, with greater increases anticipated for 2017, depending on your farm's individual circumstances.

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