MOE AGOSTINO & THE COMMODITY RESEARCH TEAM

2017 Energy and Fertilizer Report & Outlook

Brought to you by: OFA Ontario Federation of Agriculture

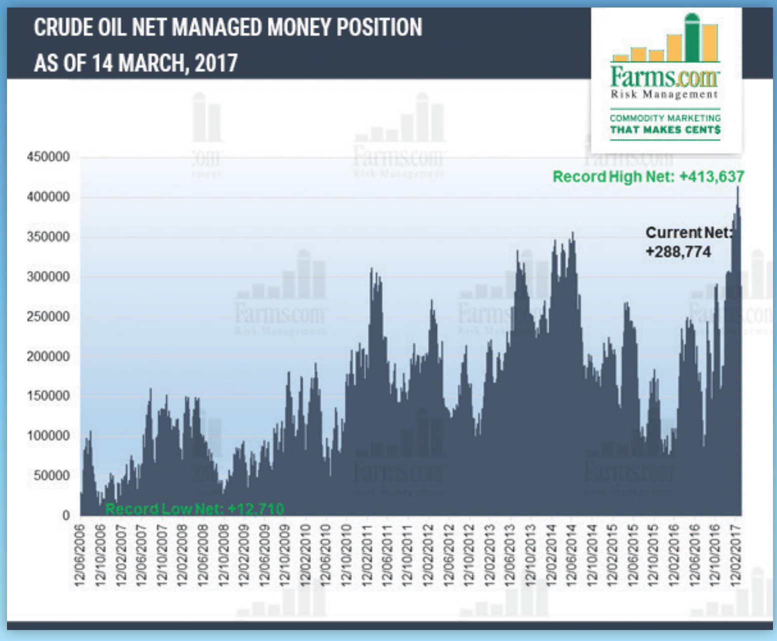
HIGHLIGHTS

- Crude oil futures finished 2016 up by 22.8% but has since trended lower (down $7/barrel or 12%) after the OPEC (Organization of the Petroleum Exporting Countries), Russia and other producers agreed to cut production by 1.8 million barrels per day (bpd) from Jan. 1 (deal expires end of June) to boost prices and reduce a supply glut.
- However, 11 non-OPEC oil producers that joined the global deal to reduce output in 2017, to boost prices, delivered 64% of promised cuts in February. OPEC members met a compliance of 106%, with Saudi Arabia providing the lion's share of output cuts to-date, and thus overcompensating for other members. Higher U.S. shale production is offsetting this though.
- The biggest risk in 2017 is the war of market share between OPEC and U.S. sale production. Higher crude oil prices has U.S. shale more profitable leading to a recovery in American drilling that threatens to spoil the OPEC's party and their bid to balance an oversupplied global market. U.S. crude stockpiles hit record highs and is upsetting OPEC's plans to reduce global inventories.
- The new Trump administration in Washington, D.C., also adds some potential twists to energy market dynamics.
- **With an uptick in U.S. shale oil, the side-effect of the U.S. shale comeback is an uptick in gas production (up as much as 25%), and is bearish for prices longer-term. This could send prices down by 50% a year from now, to $2/MMBtu.**
- **Low oil prices are here to stay as the market remains well oversupplied. $50- $55 is most likely going to be a ceiling rather than a floor, with prices potentially slipping down to $40 as the world is awash with oil and there continues to be an endless supply of it. In fact, $60 could be the new $100!** If crude oil traders' record long position continues to unwind, it will put further pressure on crude oil futures and diesel prices.
- **The opportunity was to book your colored or dye diesel ahead of the new carbon tax that was introduced into Ontario at the beginning of 2017, but otherwise just fill up your tanks as you need it. Fuel prices have fallen 15% since the peak in January.**
- **Farmers should already be booked 100% on their 2017 spring/summer fertilizer needs from our last report, when we stated to look "for a booking opportunity by end of 2016 or early 2017." It is still not too late to lock in lower savings!**

Energy

OPEC vs. U.S. shale showdown is biggest risk in 2017

Crude oil futures finished 2016 up 22.8% but has since trended lower down ($7/barrel or 12%) after the OPEC (Organization of the Petroleum Exporting Countries), Russia and other producers agreed to cut production by 1.8 million barrels per day (bpd) from Jan. 1 (deal expires end of June) to boost prices and reduce a supply glut. OPEC's recent production cuts are propping prices up, which is a reversal on its previous policy of keeping production high (and prices low) to damage the U.S. fracturing industry. This news caused the managed funds sentiment to get extremely bullish and lean too much to one side and become record long in crude oil future contracts. **(Please see chart on the right)**



Source: CFTC

Sentiment has since turned negative as record U.S. inventories, higher U.S. shale production and non-compliance from some OPEC members is weighing on prices.

2017 April Crude Oil Futures Daily Chart

Source: www.qtmarketcenter.com

A break below $46/barrel opens the door for a test of the 2016 lows around $40/barrel but seasonally we tend to bottom as the higher demand from the summer driving season provides global support. We have been largely range bound from a low of $45 to a high of $55 but we have started to create a downward sloping downtrend but remain oversold near-term so look for a dead cat bounce back to near $50/barrel.

However, 11 non-OPEC oil producers that joined the global deal to reduce output in 2017, to boost prices, delivered 64% of promised cuts in February. OPEC members met a compliance of 106%, with Saudi Arabia providing the lion's share of output cuts to-date, and thus overcompensating for other members. But higher U.S. shale production is offsetting. A chronic issue with OPEC production cuts tends to be the motivation of various members to "cheat" with hidden production and to earn more profits while prices are high but that does not seem to have developed to any serious degree yet. Iran keeps pumping out oil at record levels and Iraq is increasing its output to multiyear highs. Oil exports from Iran in February reached 3 million b/d, a level not seen since 1979. According to the IEA, Iraq will increase its output to 5.4 million b/d by 2022.

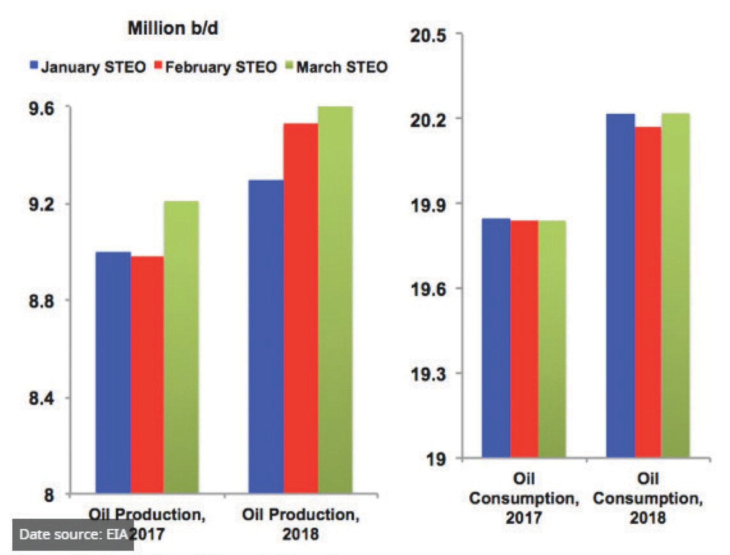
U.S. shale producers can now make money even if the price falls because they have price protection when prices move above $55 as their break evens have moved down to $30 -$40/barrel. The end result is that, not only are the fears of $200/b oil unrealistic anytime soon but even $100/b is unlikely. In fact, $60/b is "the new $100."

OPEC produced 31.96 million barrels a day last month, compared with 32.1 million barrels a day in January. Output by the members that committed to cutting production late last year was 29.7 million barrels a day, compared last month with 29.9 million. Among the cartel members still pumping beyond promised levels are Iraq, OPEC's second largest producer, and the United Arab Emirates, which pumped 63,000 and 51,000 barrels a day above their quotas, respectively.

The biggest risk in 2017 is the war of market share between OPEC and U.S. shale production as higher crude oi prices has made U.S. shale producers more profitable leading to a recovery in American drilling that threatens to spoil the cartel's bid or party to balance an oversupplied global market. This pushing the country's crude stockpiles to record highs and upsetting OPEC's plans to reduce global inventories. U.S. shale producers in the last 2 years with lower crude oil prices have proven that they can reduce costs, become more efficient and make good money at $40 - $50/barrel oil. **The united front OPEC members showed in the early days of the deal has begun to crack and extending the deal another 6 months may depend on compliance in the first 6 months.**

2017 Supply and Demand Outlook Bearish

OPEC raised its forecast for 2017 oil demand by 70,000 barrels a day on the view that developed European nations and the Asia-Pacific region will consume more crude than previously thought. It now sees world demand averaging 96.31 million barrels a day this year but EIA is forecasting that demand growth for oil is expected to drop from 1.6 million barrels a day last year to 1.4 million barrels a day in 2017 as they expect non-OPEC oil to rise 0.4 million barrels per day to 58.1. **(Please see chart below)**



EIA's projected crude oil production and oil demand

U.S. oil rig counts have continued to surge (up nearly 50% since August) and projections for U.S. crude output have also continued to surge. Although production lags an increase in rig counts due to the drilling process, the U.S. has added about 515,000 b/d since last summer, and spending should increase 30-35% this year. Cost reductions forced onto the industry by the collapse in commodity prices had the silent benefit of forcing efficiency, with cost reductions of 30% in 2015 and 22% in 2016.

The cartel also raised its 2017 non-OPEC supply outlook by 160,000 barrels a day on an improving outlook for Canadian oil sands and U.S. supply. OPEC oil held in storage rose in January to more than 3 billion barrels, above the five-year average.

The U.S. shale production has already jumped over 4000,000 barrels per day and is on track to deliver 1 million barrels per day increase in production from December 2016 to December 2017, according to IEA estimates. This is before any tax cuts from the new Trump administration, which would lower the breakeven price even further.

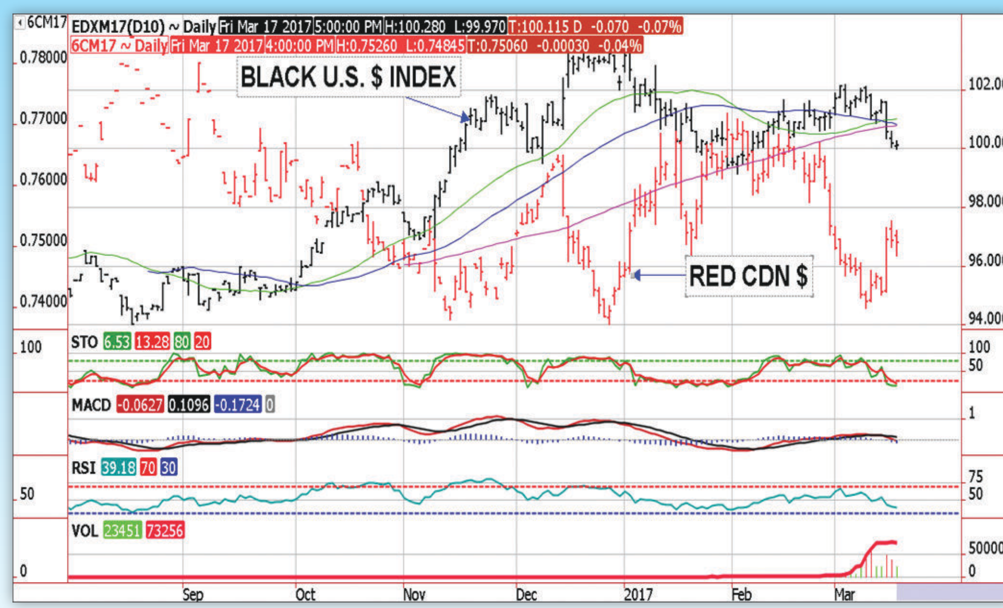
Low crude oil prices are here to stay. $50- $55 is most likely going to be a ceiling rather than a floor and $60 could be the next $100/barrel.

The crude oil price plunge has been primarily attributed to U.S. data showing domestic stockpiles had recording a 9th consecutive month of supply rises in February to reach 8.2 million barrels as exports remain at the same level as last December indicating that cutting production has not increased demand. Adding to the negative sentiment, non-committal comments from OPEC and non-OPEC members indicated that while producers intend to continue pursuing production cuts, they will not pledge at this point to renew their existing six-month agreement once it expires at the end of June.

Lower crude oil weighing on CDN $ but U.S. $ movement more important

Despite a drop of 12% in crude oil prices thus far in 2017 the loonie is up only 1%. The 1 to 1 correlation has started to divorce itself and it's the U.S. $ Index performance that has more of a correlation. The CDN $ remains in a downward sloping downtrend as we await more news on Trump policies and interest rate increases in the U.S. A higher U.S. could put a cap on crude oil futures.

(Please see chart on the right)



Source: www.qtinfo.com

2017 CURRENCY OUTLOOK & PRICE TARGET

COMMODITY	SENTIMENT	TARGET RANGE 1st HALF	TARGET RANGE 2nd HALF
CDN $	BEARISH	$0.72 - $0.73	$0.68 - $0.70
US $ INDEX	BULLISH	$1.04 - $1.05	$1.10 - $1.12

Source: Farms.com Risk Management

Support comes in at $0.74 for the CDN $ while at $1.00 for the U.S. $ Index. We remain bearish long-term on the CDN $ and bullish on the U.S. $ as Trump policies will eventually stimulate demand and growth and support a faster pace of higher U.S. interest rates in the future.

(Please see table on the left)

THE BOTTOM-LINE

In our last report in November of 2016 we were forecasting "lower crude oil prices with a possible bounce by end of 1st quarter." The risk remains to the downside as $50- $55 is most likely going to be a ceiling rather than a floor with prices potentially slipping down to $40 as the world is awash with oil and there continues to be an endless supply of it. Demand could offset and push prices to $60 but that would be a stretch.

The opportunity was to book your colored or dye diesel ahead of the new carbon tax that was introduced into Ontario at the beginning of 2017, otherwise just fill up your tanks as you need it. Fuel prices have fallen 15% since the peak in January. We remain bearish near-term but could see a bounce by years end as demand could surprise to the upside but this may be a 2018 story. (Please see table below)

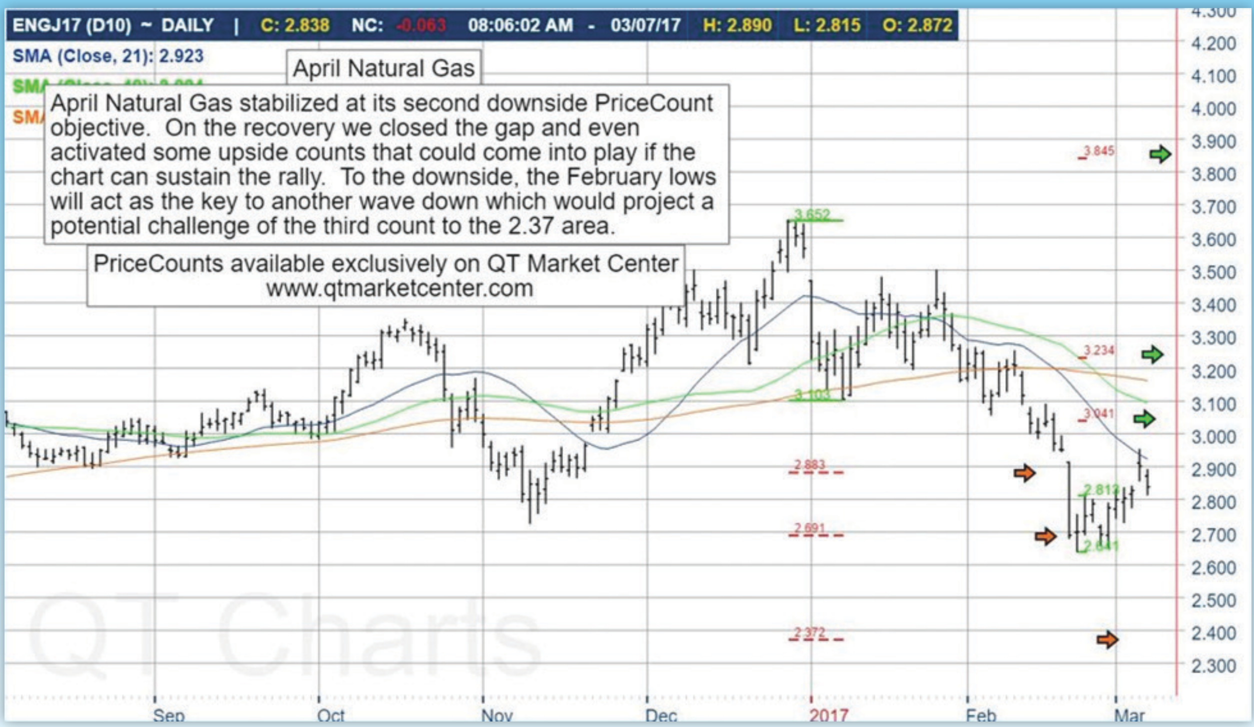
2017 CRUDE OIL FUTURE PRICE TARGETS & OUTLOOK

TREND	SENTIMENT	TARGET RANGE
SHORT-TERM (3 MONTHS)	BEARISH	$40 - $46
LONG- TERM (6 – 9 MONTHS)	SLIGHTLY BULLISH	$50 - $60

Source: Farms.com Risk Management

Natural Gas / Propane

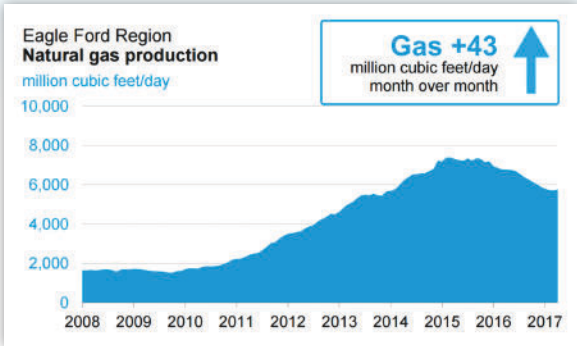
Heating demand in the winter season runs from Nov 1 to Mar 31 and warm weather has cut into natural gas demand as February was the 2nd hottest month on record for the globe 7.3 degrees higher than the average. Natural Gas futures are bouncing after hitting new lows at the end of February achieving its 2nd price count objective at $2.70 as meteorologist declared an end to the 2016/17 winter and a 50% chance of El Nino in the summer of 2017 but weather in March was more like February and gas prices did rebound back to resistance at $3.00 avoiding hitting the lows near $2.40 from 2016. Natural gas remains depressed on a combination of strong supply and warm weather. U.S. gas in storage is also running above the five-year average suggesting that the natural gas market is headed back into a period of oversupply. **The market has experienced 13 such declines since 2005.** **(Please see chart below)**



Source: www.qtmarketcenter.com

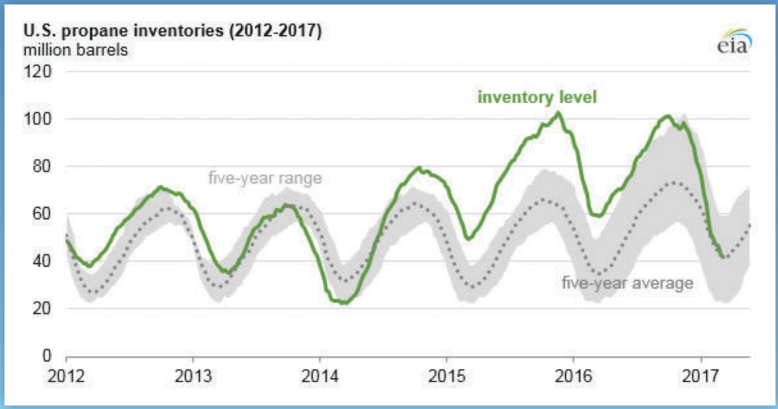
U.S. average natural gas prices have sunk in 2017 mostly due to the "**winter that wasn't.**" As we exit winter, and as the market shifts their attention to the daily fundamentals, the recent trend is seeing more exports amid flat production that has helped install a floor under gas prices. Demand is outpacing supply for the first time in a long time and 16-18 months out prices should be higher but in fact, while there is a lot of media attention surrounding the resurgence in U.S. shale oil, with a sharp rise in rig counts and a rapid rebound in production, the side-effect of the shale comeback is an uptick in gas production up as much as 25% and bearish for prices longer-term and could send prices down 50% a year from now to $2/MMBtu.

(Please see chart on the right)

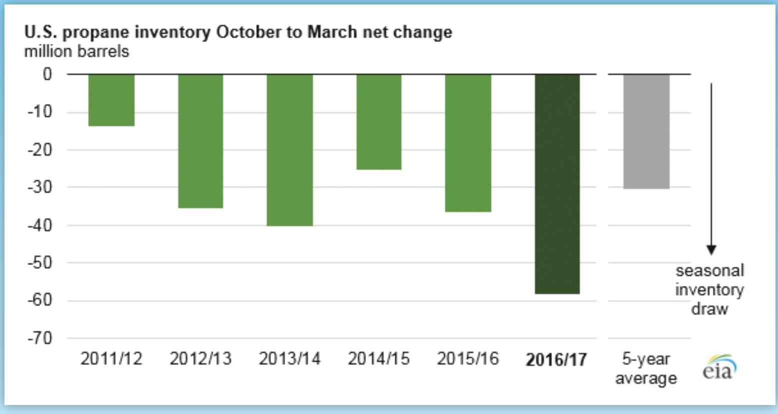


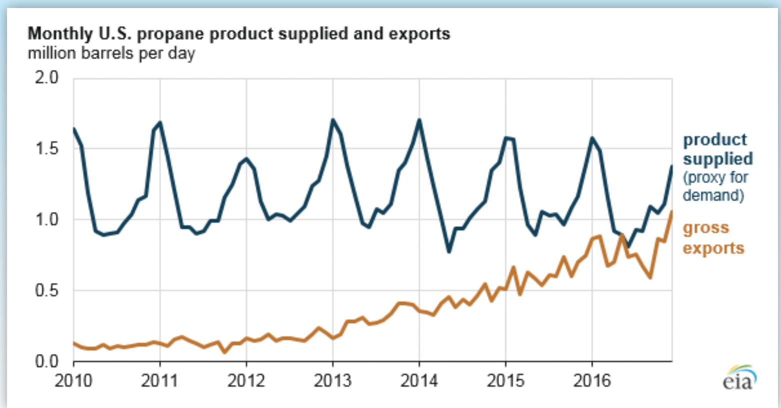
Source: EIA

Heating degree days in February reported by EIA were the lowest on record, which implies soft demand for home heat and stronger-than expected ending stocks. NOAA is predicting a colder heating season in 2017-18 and if coming winter is 10% warmer than forecast, average propane prices could be 6% above this winter's prices according to the EIA. If it is 10% colder than forecast, those prices could be 49% greater than this year's average at U.S. $0.4448.



According to the EIA, a U.S. 59-million-barrel draw since October was the largest ever and almost double the average draw for the period. Inventories rose above the 100 million barrels in both 2015 and 2016 but have since fallen. **(Please see charts on the right)**





U.S. domestic consumption has remained flat but exports have grown tenfold to peak at 1.05 MMBPD for the first time ever. **(Please see chart on the left)**

Propane firmed through February on seasonal demand and lagging U.S. supplies just book hand-to-mouth if you need to top off at this stage of winter 2016-17 as we expect prices to begin to soften as winter winds down. Supplies will soon begin to rebuild seasonally and now is not the time to overextend.

Fertilizer

According to the USDA, China is the world's No. 1 user of fertilizer, consuming 29% of global supply. India comes in second at 14%, with the U.S. slightly behind at 11%. There are currently plans for seven new nitrogen production plants to open in the U.S. during 2017, and the vast majority of this will be targeted at the agricultural market. In fact, between 2016 and 2020, nearly 5 million tons of new nitrogen capacity will be built in the U.S., compared with 18 million tons anticipated on the global stage. Even after these projects are complete the U.S. will still need to import 25% of its nitrogen supplies.

U.S. fertilizer prices continued to fall at the end of 2016 but seem to have found a low at the end of 2016 to early 2017 and we may have a change in trend in the making. Prices are still well below the last 2 years and just bouncing from 6 years' lows and with only 1 - 2 months before the 2017 planting season producers should have already booked ahead but it's not too late. Costs for N, P and K rose the last month and the path of least resistance is higher.

(Please see table below)

US WHOLESALE FERTILIZER PRICES (IN U.S. $ PER TON)

NUTRIENT / FUEL	16-Mar-17	6 YEAR LOW	DATE (OF 6 YEAR LOW)	% CHANGE CURRENT VS. 6 YEAR LOW	HIGH PAST 2 YEARS	HIGH SINCE PAST 6 YEARS	6 YEAR AVERAGE
Anhydrous	$524.00	$481.44	5-Jan-17	8.84%	$734.37	$892.50	$726.78
DAP	$429.15	$414.21	5-Jan-17	3.61%	$559.31	$710.00	$568.09
MAP	$458.33	$431.25	29-Sep-16	6.28%	$578.00	$731.25	$589.07
Potash	$323.87	$287.61	1-Sep-16	12.61%	$484.40	$645.71	$495.31
Liquid Nitrogen	$244.60	$213.90	1-Sep-16	14.35%	$334.30	$429.51	$334.90
Urea	$361.43	$302.68	29-Sep-16	19.41%	$472.20	$750.21	$486.96
Farm Diesel	$2.02	$1.49	21-Jan-16	35.57%	$2.50	$3.76	$2.97

Farms.com Risk Management
COMMODITY MARKETING THAT MAKES CENT$

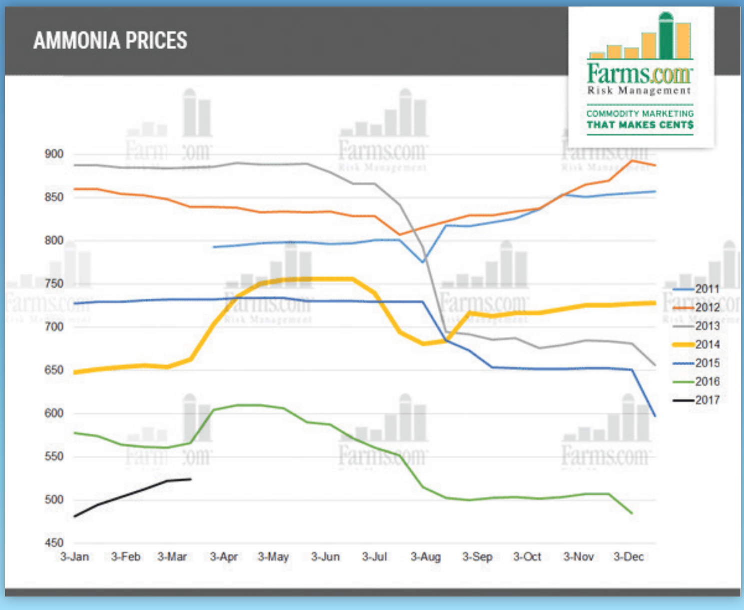
Source: USDA

U.S. fertilizer prices firmed through January, led by strength in urea. Other key indicators are suggesting limited downside potential across the fertilizer complex with more upside risk. The downside has been exhausted across the board and the best value fertilizer has to offer in 2017 has already arrived.

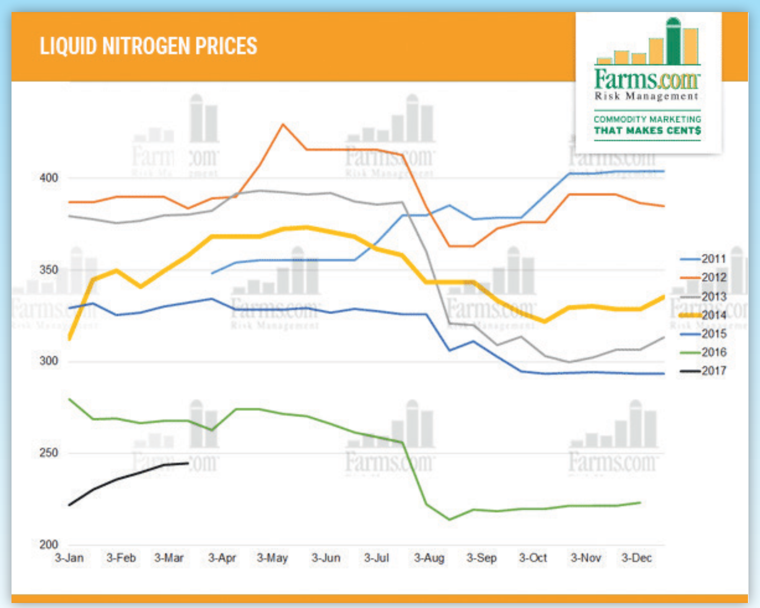
ANHYDROUS AMMONIA

Anhydrous ammonia firmed sharply through the month of February and seasonally the price trend will keep ammonia locked in an upward trajectory. Price support could last until demand for spring applications in the U.S. Northern Plains is exhausted. Upside risk will continue to grow as spring fieldwork moves northward. Anhydrous prices are up 6% in the month of February.

(Please see chart on the right)



Source: USDA



Source: USDA

UAN

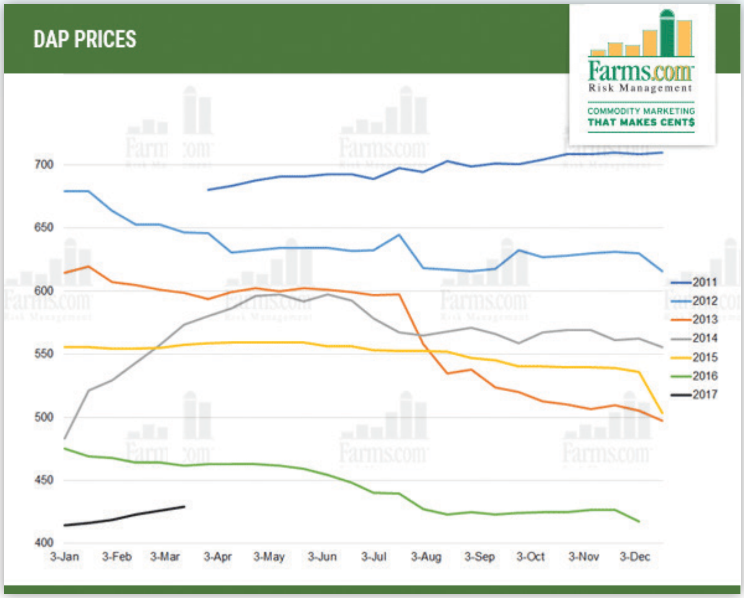
U.S. UAN prices created a "V" shape bottom in mid-January and the trend has been higher for both 28% and 32%. Seasonally, it is early for UAN to begin to firm and we generally see an uptick in UAN prices just ahead of side dress activity, but some growers will use a shot of 28% with pre-plant glyphosate applications. However, with the rest of the nitrogen segment favoring an upward tone, we expect higher UAN prices by spring. UAN28% is up 6.0% in the month of February and UAN32% is up 4.3%.

(Please see chart on the left)

DAP/PHOSPHATES

Phosphate prices have firmed roughly 3% since placing a post-harvest low. China has raised prices and imports coming into the U.S. out of the Middle East delayed by storms. Record Chinese exports and seasonally slow demand in India offset stronger shipments to Latin America. We do not expect a sharp rise in DAP/MAP prices, but the seasonal trend will continue to support mildly higher near-term phosphate prices. U.S. DAP prices are up 1% while MAP is up 2% for the month of February.

(Please see charts on the right and below)

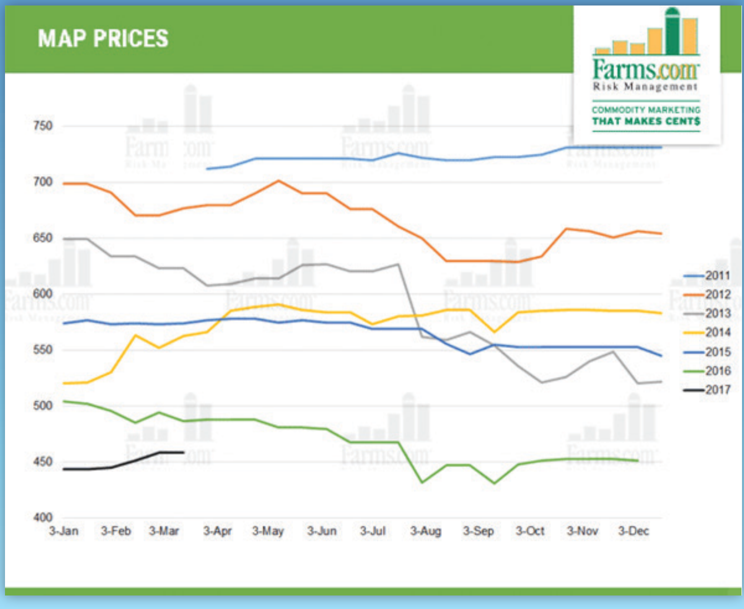


Source: USDA

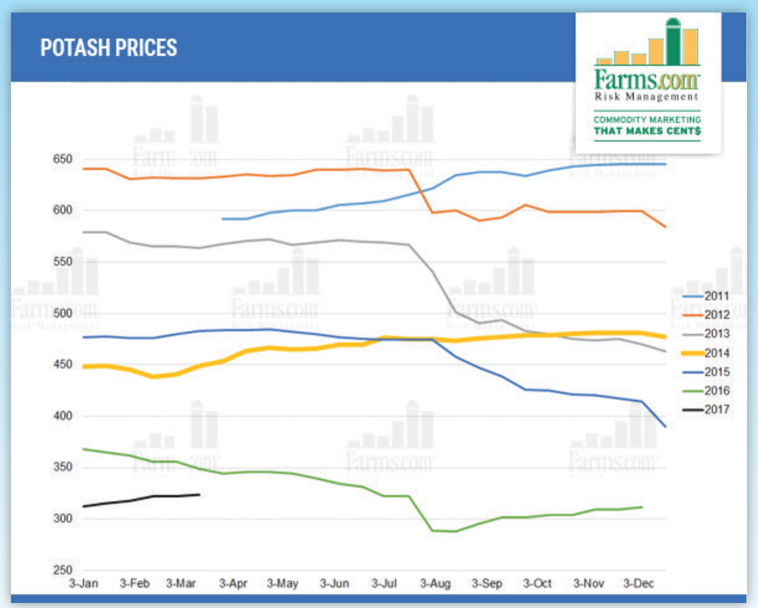
POTASH

International potash inventories remain tight, leaving the path of least resistance higher. World supplies are still strong thanks to robust production in Russia and Belarus. PotashCorp stood by expectations of a rise in world potash shipments in 2017 to 61 -64 million tons, foreseeing consistent customer engagement throughout the year, after a strong close to 2016 for demand. Healthy underlying consumption trends and lower dealer inventories in most key buying regions are preventing potash prices from dropping too much. Current features for the market are a compelling fertilizer affordability in North America, and a potential for record demand of up to 12 mil tons in Latin America supportive pricing trends in the first half of 2017. China, the world's largest potash importer, has not yet signed its annual contract with exporters but the deal will come too late to affect the U.S. growing season. Meanwhile, adjustments to India's government subsidies on potash will come to an end, suggesting diminishing demand in India, the world's second largest potash importer. If world demand is in decline and China is waiting to sign import contracts, price discovery amid weaker demand could pressure U.S. retail prices through summer but for the month of February prices are up 3.2%.

(Please see chart on the right)



Source: USDA

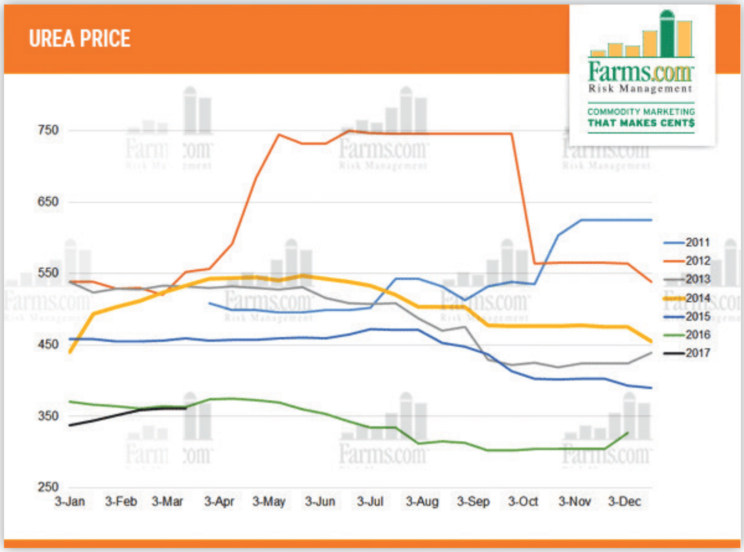


Source: USDA

UREA

Globally, urea is the most frequently used nitrogen fertilizer and accounts for 56% of all nitrogen fertilizers consumed globally. Urea firmed 4% during February, which was slightly less than anhydrous, but urea remains in a leadership role in the nitrogen segment. We expect urea to continue higher through spring fieldwork, but since price strength eased slightly during the month, we may see urea wait for the rest of the nitrogen segment to catch up with it on price before making another aggressive move higher. A decline in planted wheat acres may drain some demand-based strength from the retail market, but we do not believe there will be enough of an acreage shift to have a lasting impact on urea's price performance. Get current to 100% filled on spring urea. Urea prices started February at U.S. $346.62 and firmed $14.27 through the month to $360.89 per short ton. With a lack of farmer interest and fear of an over supplied market urea prices are expected to remain soft.

(Please see chart on the right)



Source: USDA

THE
BOTTOM-LINE

It's the 7th consecutive week of higher fertilizer prices. In our last report in November of 2016, we recommended looking for an "opportunity to buy 2017 fertilizer needs by end of 2016 or early 2017." Producers should be fully booked on fertilizer needs for the 2017 spring/summer applications as they present a value buy. We are forecasting fertilizer prices to continue to move higher through the spring, with nitrogen expected to lead the way upward until the spring 2017 demand dries up.

According to David Widmar's article "2017 Fertilizer Prices Turn Higher -- Still Lower than 2016" on the Agricultural Economic Insight website, Widmar makes the case that even with the recent increase, crop farmers could still see fertilizer savings in the 2017 growing season. Even with increasing retail fertilizer prices, Widmar does point out prices are still below 2016. Using a 180-70-70 (pounds per acre) nutrient blend (anhydrous, DAP and potash), the author observes that the price for this blend in March 2017 is fairly inexpensive compared to past years. "The current fertilizer expense for this rate is U.S. $100 per acre, $12 lower than in 2016 and the lowest of the last eight years, and in 2013, the same nutrient application would have cost U.S. $163 per acre."

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