AgReview

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Agribusiness Earnings and Margins in the Face of Uncertainty

Plus

How the President-Elect Will Shape American Agriculture

WORLD PERSPECTIVES: AG REVIEW

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Consumer Research: WPI produces low-cost, non-probability consumer surveys around the world. When overlaid with conventional market research data, the result is insights into where and how markets for agrifood products can be expanded – and we have the results to prove it.

Market Identification: Conventional use of macroeconomic and demographic data has correlative value in identifying new markets, but WPI digs deeper. The result has been unique recommendations with some netting a return ratio of 6:1 for increased exports and promotional investment.

Investment Analysis: WPI has provided due diligence on agrifood investments in disparate parts of the world from dairy and juice packaging in Cameroon to soybean crushing in Ukraine and biotech corn planting in Canada. In other instances, the company has used its decades of risk management experience to caution enthusiastic but new-to-agriculture investors to be prudent.

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- *WPI really provides us with a life-blood service.*

Please contact David Gregg, Consulting Projects Manager, at (503) 467-8668 or dgregg@agrilink.com for more information about how WPI's consulting services can work for you.

CONTENTS

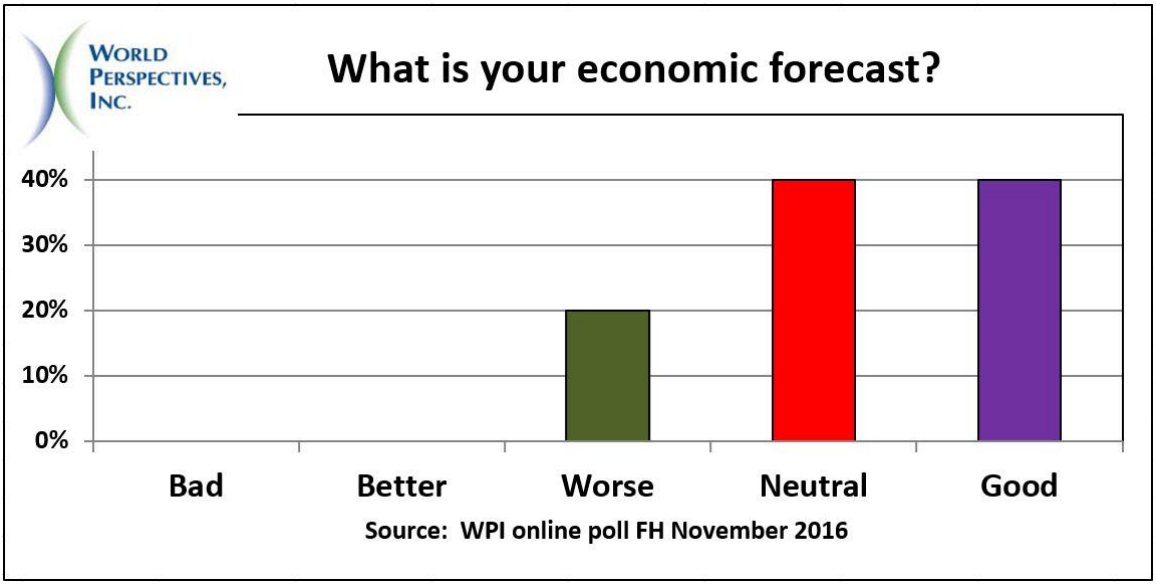
"Success is not final, failure is not fatal: it is the courage to continue that counts."

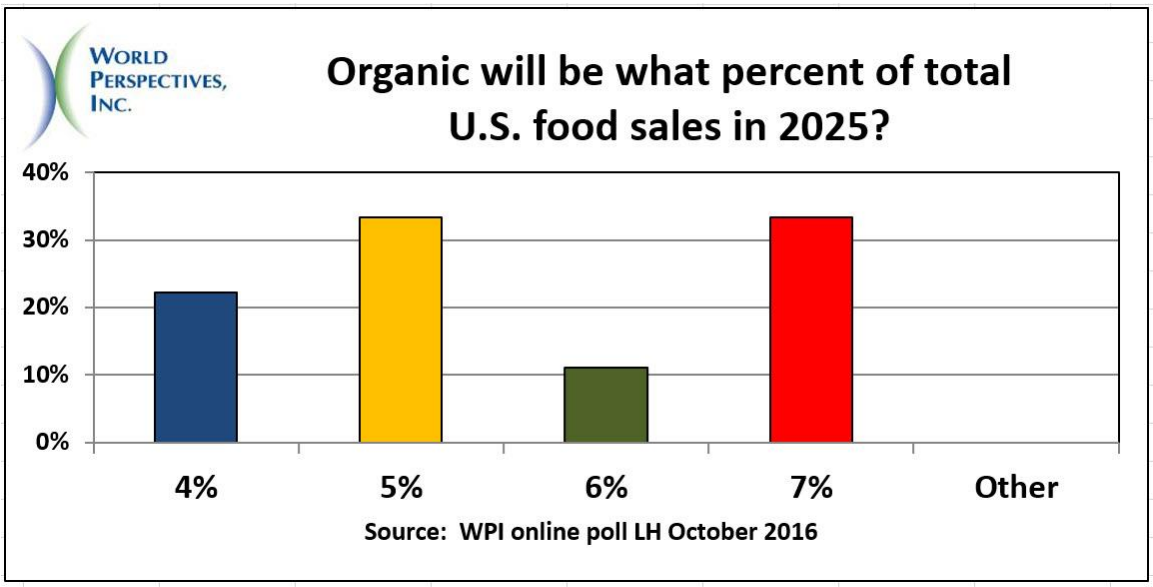
— *Winston S. Churchill*

HARVESTED DATA	
Market Opportunity	
Free Trade	Despite campaign rhetoric from both sides this election cycle, 58 percent of Americans view foreign trade as an opportunity for the U.S. with only 34 percent seeing it as a threat. Gallup Poll
Point of Interest	
Good Job on Good Jobs	The Gallup Good Jobs rate increased in October, reaching its highest point ever for that month as the poll indicated 46.4 percent of Americans held a "good job." Gallup Poll
Ag Future	
Ag Sustainability	When asked what factors will be important for agricultural sustainability in the future, 53 percent of respondents noted that biotechnology, nutrient management, water management, and ag education were *all* critical. Outside the popular "all of the above" response, biotechnology received the highest number of votes at 14 percent. Zimm Poll
International	
Normalizing Cuba	In response to a survey regarding how the U.S. should best normalize relations with Cuba, an overwhelming majority (76 percent) said it should *both* end the trade embargo and allow U.S. tourism in Cuba. Zimm Poll

WPI POLLING

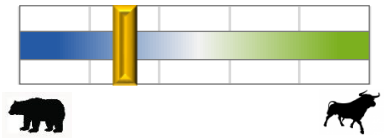
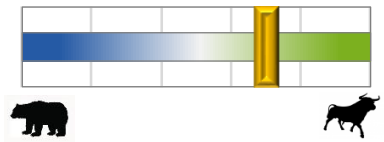
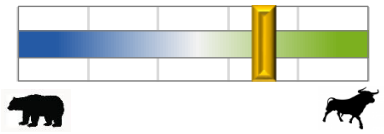
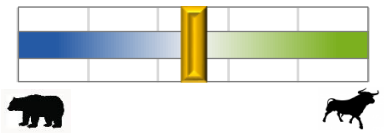
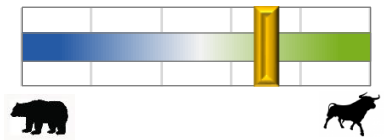
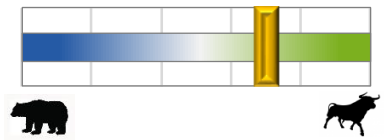
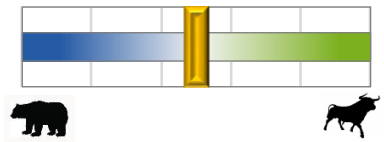
Below are the results of two recent WPI polls. Visit www.worldperspectives.com to cast your vote in our current survey.





WPI BULL/BEAR LEANINGS FOR AGRIBUSINESS

By WPI Staff

Industry	WPI Industry Bull/Bear Rating	Predominant Influencing Factors
Grains		**1)** Low commodity prices are squeezing margins at all levels. **2)** Farm input suppliers will be pressured by farmers' cost cutting decisions. **3)** Slow seed sales for 2017 could lead to a collapse in seed prices. **4)** Margins have possibly bottomed but upswings are too early to call. **5)** Prices will be determined by South American crop prospects.
Oilseeds		**1)** The U.S. will produce a record soybean crop in 2016. **2)** U.S. soybean exports are forecast to set a record high in 2016/17. **3)** U.S. soybean crush volume is forecast to be a record high in 2016/17. **4)** U.S. soymeal consumption is forecast to rise 1 MMT in 2016/17. **5)** Global soybean use will exceed total production of either China or India.
Biofuels ***Ethanol***		**1)** EPA will finalize biofuels volumes under RFS by the end of November. **2)** The origionally proposed volumes are likely to remain unchanged. **3)** A key factor for ethanol will be the value added to gross margins by DDGS, which are now priced lower than 2015 and face undertainty next year.
Biodiesel		**4)** Biodiesel will demand more feedstock, impacting global veg oil markets. **5)** Biodiesel faces undertainty about the blenders' tax credit set to expire 31 December 2016.
Livestock ***Beef Packers***		**1)** Moderation in prices is spurring domestic meat and poultry demand. **2)** Record corn and soybean crops will keep a lid on feed costs. **3)** October squeezed beef packing margins, but cattle supplies will grow.
Hog Packers		**4)** The large fall pig crop is providing robust margins to packers. **5)** Export demand is key for all proteines and has a bullish forecst.
Farm Inputs		**1)** Burdensome supplies are chasing insufficient demand. **2)** An elusive crude oil price recovery is hardly fertilzier-price supportive. **3)** Natural gas prices have fallen since October, boosting nitrogen production margins.

Policy Factors

1) Undertainty, period.

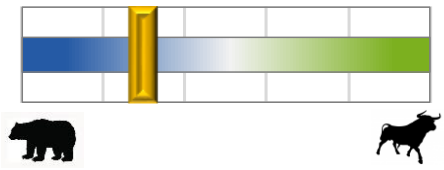
2) Disaffected Hillary Clinton supporters will pull back on their economic activities.

3) Time is needed to understand the actual changes to occur under a Trump administration.

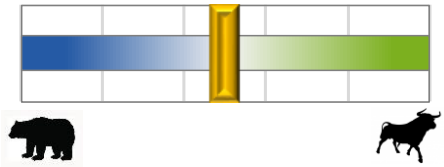
4) Like Trump's campaign, low expectations may ultimately lead to a modest upside.

WPI Bull/Bear Ratings for Policy Factors Influencinging Agribusinesses

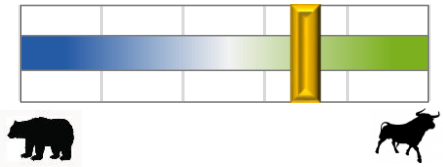
Macroeconomics



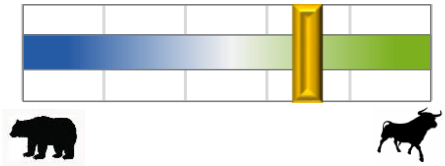
Trade Policy



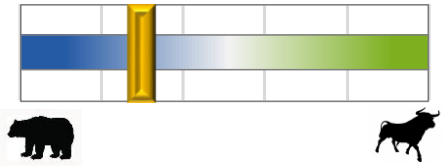
Agricultural Policy



Food Policy



Geopolitics



THE GRAIN INDUSTRY

By Mike Kruger

Top Five Reasons WPI is Bearish the U.S. Grains Industry

- Low commodity prices are squeezing margins at all levels of the farm economy.
- Farm input supplies will remain pressured by farmers' decisions to cut costs.
- Slow seed sales for 2017 could lead to a collapse in seed prices if companies cut prices further.
- Prices and margins have possibly bottomed, but any upswings are too early to call.
- Prices will be determined by South American crop prospects - U.S. farmers will have no control.

The U.S. corn and soybean harvests are now in the record books – literally. Yields established new all-time records as did total production. It was an incredible growing season that started hot and dry but finished warm and very wet. It was almost exactly the opposite result that many climatologists and private weather forecasters were predicting last winter based on the expected rapid transition from the El Nino pattern to the La Nina pattern. That shift didn't happen as quickly as anticipated, but it is occurring now, albeit very slowly.

The market has evidently decided that record crops and increasing ending supplies are now "old news." The focus has now become the very strong demand for soybeans, led of course by China. Corn demand is also nearly double what it was a year ago, led by the poor safrinha corn crop in Brazil.

Record world and U.S. production have pushed crop prices to their lowest levels in more than a decade. This low price environment has, in turn, squeezed margins at basically every level of commercial agriculture. Record corn and soybean yields will alleviate some of the financial pressure on U.S. producers as gross income per acre will be better than expected just three or four months ago. In some cases, this will turn losses into profits. That is not enough, however, to change the fact that profits at the supplier level will continue to be under pressure as farmers will try to reduce costs in 2017. In fact, conversations with a number of wholesale corn and soybean seed suppliers again verified there is pressure on margins. There is also some concern that slow retail sales of seed for 2017 could lead to a more significant collapse in seed prices if some companies decide to reduce them in order to move inventory.

A number of analytical firms have already started to forecast what U.S. farmers will plant in 2017. Most are in agreement that:

- Corn acres will decline 3-4 million acres from 2016.
- Soybean acres will increase 3-4 million acres from 2016.
- Wheat acres will decline (again) from 2016.

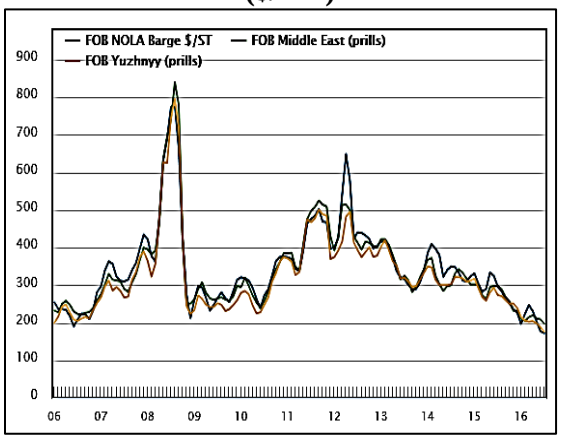
Wheat acres would drop even further were it not for the fact that farmers across most of the Southern Plains region simply have few other choices except winter wheat. The alternative is to leave more acres idle.

The forecasts for a 3-4 million acre reduction in corn plantings in 2017 are significant for crop input suppliers if they are realized. Corn costs about $200 per acre more than soybeans in terms of actual crop inputs of seed, fertilizer and

chemicals. The biggest difference would come in fertilizer. Soybeans don't require nearly as much per acre as soybeans and virtually no nitrogen fertilizer. Three million acres at a $200/acre reduction in input costs would equate to roughly $600 million in lost corn crop input sales. That doesn't seem like much when spread across the entire U.S. corn-producing area, but keep in mind that it comes in an environment of already weak sales and margins. It could reduce nitrogen fertilizer demand by 300,000-500,000 MT, which isn't enough to cause a significant change in overall fertilizer supply and demand. Again, however, this isn't a healthy sign for margins. Notably, U.S. farm-gate fertilizer prices have already collapsed and are now generally a minimum of $100/MT lower than this time last year, a drop of more than 20 percent.

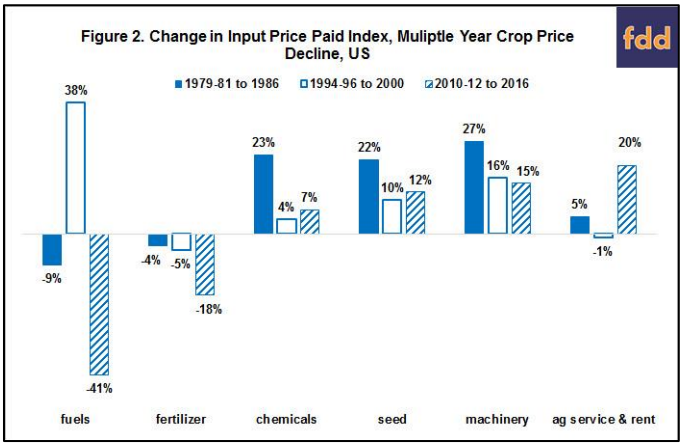
The chart below provides a visual perspective of urea prices going back to 2006, just before the bull market in agricultural prices started:

Spot Urea Prices
2006-Present
($/MT)



Source: Ferticon, Agrus, Fertilizer Week

The next chart shows an interesting comparison of crop input costs during periods of grain and oilseed price declines. It illustrates the steep break in fuel and fertilizer costs and the lack of a significant one yet in seed and land costs, although their price behavior is consistent with prior periods of low prices.



Source: University of Illinois Extension (Farmdocdaily)

One can make the argument that both crop and input prices have bottomed and thus the margin structure should improve from here as well. However, it is too early to reach that conclusion. U.S. ending supplies of wheat, corn and soybeans are large with some analysts believing that the latter will become even more so because they anticipate the 2016 soybean yield will get bigger. That means there could still be more downside pressure on crop prices. U.S. farmers will not finalize crop planting decisions until the first quarter of 2017, and they will be determined to a large extent by price action, especially in terms of the corn and soybean acreage mix. Crop production prospects in Brazil and Argentina between now and then will be the most significant determinant of corn and soybean prices moving forward.

OILSEED PROCESSING

By John Baize

Top Five Reasons WPI is Bullish the Oilseed Processing Industry

- The U.S. will produce a record soybean crop in 2016 on world-record high yields.
- U.S. soybean exports are forecast at a record high in 2016/17, offering ending stocks relief.
- U.S. soybean crush volumes will be a record higher in 2016/17.
- Domestic soymeal consumption is set to rise 1 MMT in 2016/17.
- Global soybean consumption is expected to increase substantially in 2016/17, reaching more than China's or India's total production.

USDA in November raised its forecast for the average U.S. soybean yield in 2016 to 52.5 bushels/acre, an increase of 1.1 bushels from its September estimate, and projected the crop will reach 4.361 billion bushels (118.6 MMT). Both the average yield and production forecasts were record highs by a substantial margin. Farmers across the Midwest are reporting record yields that average 70 or even 80 bushels/acre in some instances. Soybean yield trials conducted this year by Farmers Independent Research of Seed Technologies are routinely showing significantly higher yields than last year.

Despite its anticipation of a record soybean crop, USDA is forecasting MY 2016/17 ending stocks as of 31 August 2017 at only 480 million bushels (13.06 MMT). While this would be the highest level since 2007, it would equal only 11.6 percent of projected use or a 42-day supply. For reference, the ending stocks in 2007 represented 15.2 percent of consumption or a 55.6-day supply.

USDA does not foresee the U.S. having burdensome soybean stocks due to forecasts of record domestic and foreign demand in 2016/17. It projects the domestic soybean crush will increase by 44 million bushels to 1.93 billion bushels (52.5 MMT) and exports will rise 114 million bushels to 2.050 billion bushels (55.7 MMT). Total use of U.S. soybeans is forecast to be 165 million bushels greater in 2016/17 than in 2015/16 at 4.108 billion bushels (111.8 MMT).

USDA is forecasting global soybean consumption in 2016/17 at a record high of 328.75 MMT (12.075 billion bushels), a 13.51 MMT (196 million bushels) increase over 2015/16. To put this in perspective, that gain is greater than the total production of China and India, the world's fourth- and fifth-largest soybean-producing nations. Global soybean exports are forecast at 138.78 MMT, up from 132.54 MMT in 2015/16, and global soymeal exports are expected to rise by 3.72 MMT to 69.4 MMT. However, global soyoil exports are forecast to decline slightly to 11.73 MMT from 12.04 MMT, mostly because more stocks are being used for food or biodiesel in exporting countries.

China is forecast to import 86 MMT (3.16 billion bushels) of soybeans in 2016/17, up from 82.5 MMT (3.031 billion bushels) in 2015/16. Its domestic crop is projected to increase to 12.5 MMT (459 million bushels) in 2016 from 11.6 MMT (426 million bushels) in 2015. China's domestic crush volume is expected to rise to 86.5 MMT (3.178 billion bushels) in 2016/17 from 81.3 MMT (2.987 billion bushels) in 2015/16.

Most of the country's soybean production is used to produce soyfoods.

Soybean production in 2017 is forecast to grow more slowly than in past years. Brazil's crop is projected at 102 MMT (3.747 billion bushels), a 5.7 percent increase over 2016. However, many believe it will not be that large due to the country's cash-starved farmers being forced to use less fertilizer and chemicals. Corn plantings in Brazil are also expected to be up significantly in the summer growing season this year because of high domestic prices. In addition, the development of a La Nina weather pattern may result in less rains and lower yields in the southern region.

USDA expects Argentina to produce only 57 MMT of soybeans this year as the planted area is being reduced. Farmers are known to be planting more wheat, corn and sunflowers instead as a result of changes in the country's export tax policies that favor those crops. Soybean production there will likely be even lower than USDA's estimate because of flooding in parts of the country in late October and forecasts for less rainfall during the growing season as a result of the La Nina weather pattern that is developing. It would not be surprising if Argentina's 2017 soybean crop is close to or below 50 MMT.

The record U.S. soybean crop this year should be positive for domestic soybean growers, processors, exporters and animal producers. Exporters had shipped 19.5 percent more soybeans in 2016/17 as of 20 October than a year earlier, and outstanding export sales on that date were 26 percent higher at 23.285 MMT (855.5 million bushels). Exports and outstanding sales of soybeans to China were 35.6 percent and 17.6 higher, respectively, than a year earlier.

While U.S. soymeal exports were running behind last year's pace, the large soybean crop should allow processors to be quite competitive for much of MY 2016/17. In addition, USDA forecasts domestic soymeal demand will grow 1 MMT in 2016/17 over 2015/16 because of robust demand from the livestock and poultry sectors. This should assure good margins throughout the year for U.S. crushers, and any crop problems in South America will likely further boost their profit potential.

It is far too early to accurately predict what U.S. farmers will plant in 2017. Early forecasts by analysts call for as much as a 4 million acre increase in soybean plantings, mostly at the expense of corn. Soybean prices are currently far better than corn prices in terms of farmer profitability. The high yields that most farmers are reaping this year add to the advantage of soybeans. More plantings in 2017 will not be a positive for major seed companies because they tend to make more profit from selling corn seed than soybean seed. It also would be negative for producers of nitrogen fertilizer since soybeans require far less of it than corn. However, a great deal can change between now and when farmers make a final decision on what to plant next year.

The bottom line is that 2016 has been a fantastic year for U.S. soybean production. Despite predictions to the contrary, the U.S. continues to be the world's largest soybean producer by a wide margin over Brazil. While the much better yields being achieved versus South America are partially due to excellent weather, U.S. farmers are also the first beneficiaries of new, high-yielding biotech soybean varieties made available by companies like Monsanto, DuPont Pioneer and Syngenta. That is likely to continue if Argentina and Brazil fail to guarantee the same intellectual property protection for patented biotech seeds as does the U.S.

THE U.S. BIOFUELS INDUSTRY

By Dave Juday and David Gregg

Top Five Reasons WPI is Bullish the Biofuels Industry

- The EPA will finalize the volumes for biofuels under the RFS by November's end.
- The originally proposed volumes are likely to remain unchanged.
- The value added by DDGS to ethanol production margins will be key, but DDGS are now priced lower than 2015 and face uncertainty.
- Biodiesel will demand more feedstock, which will likely impact the vegetable oil markets.
- Biodiesel faces uncertainty about the extension of the blenders' tax credit that is set to expire 31 December 2016.

By 30 November, the EPA will release the final Required Volume Obligations (RVOs) rule for biofuel use under the Renewable Fuel Standard (RFS). In June, the agency proposed the volumes shown in the table below:

EPA Proposed Required Volume Obligations (mgy, bgy)			
Biofuel Category	**2017**	**2018**	**Increase over 2016**
Cellulosic	312 mgy	N/A	82 mgy
Biomass Biodiesel	2.0 bgy	2.1 bgy	100 mgy
Advanced Biofuel Total	4.0 bgy	N/A	390 mgy
Total Renewable Fuels	18.8 bgy	N/A	69 mgy
Implied Conventional Volume	14.8 bgy	N/A	300 mgy

Source: EPA, WPI

The question that remains is whether the final rule will change these volumes. The U.S. Energy Information Administration's (EIA's) October Short-Term Energy Outlook (STEO) projects total gasoline consumption will increase 0.5 percent or more than 739 million gallons to 143.9 billion gallons in 2017 from the 143.2 billion gallons estimated for 2016 (based on total use through September of this year). Next year's proposed volume for conventional biofuels, however, is increased by 300 million gallons to a total 14.8 billion gallon volume, which would equate to 10.3 percent of the total motor gasoline demand.

When the EPA issued the proposed rule, the June STEO forecast 142.9 billion gallons of total motor gasoline consumption in 2017, making the proposed conventional biofuel volume 10.4 percent of total motor gasoline demand. Essentially, there is minimal change in the fuel use outlook, and it certainly is not in a direction that would cause the EPA to reduce the volume. This is especially true since the agency is already depending on at least part of the conventional category to be filled by non-ethanol fuels.

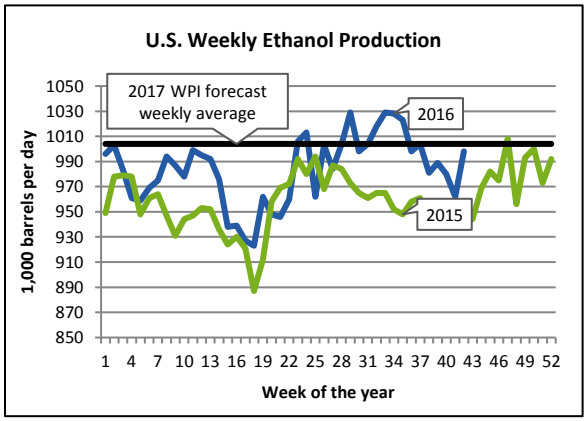
In its proposed rule, the EPA stated it would assume an ethanol supply of 14.4 billion gallons for 2017 with the remaining 400 million gallons to be made up of other non-advanced fuels such as renewable diesel.

Ethanol

Ethanol production has set records this year, exceeding 1 million barrels per week 11 times compared to one week in all of 2015. To date,

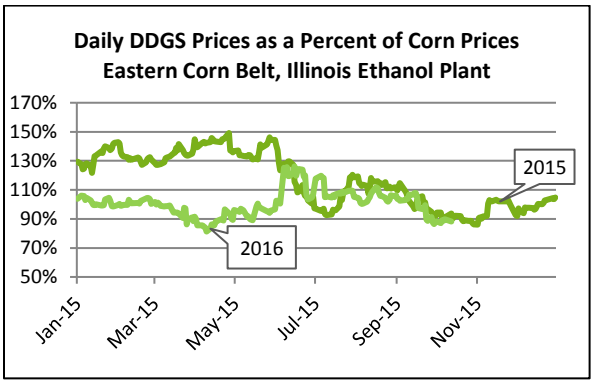
ethanol production is running 29 percent ahead of last year, and the total will reach 15.1 billion gallons for 2016 if that pace continues. Exports are also running above last year and are likely to end the year at 850-950 million gallons. They will depend on Chinese purchases next year and should be supported by the forecast reduction in Brazil's ethanol output. That country will turn its mills toward more sugar production in 2017 and is expected to import about 250 million gallons of ethanol.

Assuming the EPA keeps the conventional fuel volume at 14.8 billion gallons and exports continue at this year's pace, a total ethanol production of 15.4 billion gallons (equating to 5.5 billion bushels of corn) is a realistic scenario for next year. That would be a weekly average of 1.004 million barrels per day versus the current 984,000 barrels per day and 960,000 barrels per day for 2015. When the EPA released its proposed rule for biofuel volume obligations in June, the EIA was forecasting 2017 ethanol production at 983,000 barrels per day.



Source: EPA, WPI

Lower corn prices have certainly helped ethanol producers this year, but they have also been a drag on DDGS prices and consequently reduced the net return of ethanol production. Each gallon takes about 20 pounds of corn to produce and yields approximately 17 pounds of DDGS. Thus, the imputed "breakeven" ratio between the price of corn and DDGS is about 1.17. The contribution of DDGS value to the net return on ethanol production is a function of the corn to DDGS price ratio, and this year that ratio has run lower than last year and, based on the record corn crop this year, may continue to do so into next year.



Source: USDA, WPI

Based on nearby futures contracts for corn, natural gas and ethanol as well as cash market DDGS prices, WPI estimates the gross margins for ethanol production was $0.59 per gallon during the last week of October. Using the May 2017 futures contract prices in that same week yields the following gross margin forecasts based on various DDGS-to-corn price ratios:

DDGS Price as Percentage of Corn Price	Ethanol Gross Margin ($/gallon)
100%	$0.55
120%	$0.64
80%	$0.47
100%	$0.55

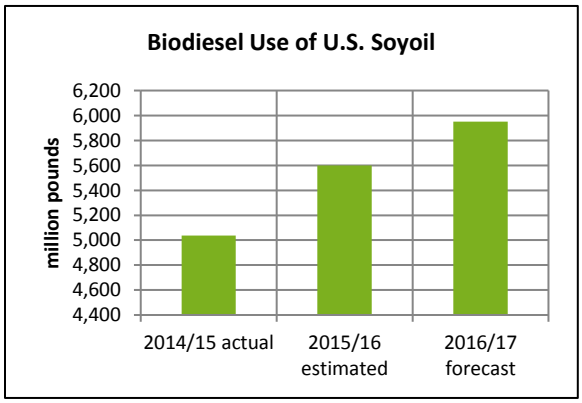
Source: CME Group, WPI

Thus, one key factor for ethanol mill profitability in 2017 will be the DDGS market. Domestically, DDGS merchandisers expect the U.S. livestock industry to take advantage of favorable pricing and purchase higher volumes in the near term. On the export front, Mexico's expanded feeding capacity for cattle has led to higher DDGS demand. Year-to-date exports to that country from the U.S. are up 24 percent on a volume basis. Trade data also shows recent modest growth in demand from Southeast Asian nations and Canada as buyers may look increasingly to the U.S. given the current favorable price dynamic.

The export outlook regarding China and Vietnam is a bit cloudier. In September, the former applied anti-dumping duties to U.S. DDGS. Some analysts suggest that this move will not be entirely prohibitive, but China's year-to-date imports of U.S. DDGS have nevertheless fallen 61 percent. More recently, Vietnam announced a temporary suspension of those imports due to phytosanitary concerns. The consensus is that this situation is temporary, but a 107 percent year-to-date increase in exports to Vietnam prior to the suspension underscores the importance of this market. The trade generally agrees that some of those purchases are transshipped to China, which links these two key markets and raises their importance for U.S. DDGS exports. For the year, exports are down 11 percent on a year-to-date volume basis and 30 percent on a value basis due in part to the situation with China.

Biodiesel

The EPA set the biodiesel mandate at 2 billion gallons for 2017. As of October, the total U.S. supply was on track to exceed 2.3 billion gallons, up 29 percent over 2015's 1.8 billion gallons, and earning D4 Renewable Identification Numbers (RINs). U.S. production will total 1.7 billion gallons with imports comprising the balance of 600 million gallons, most of which will come from Argentina. In its calculations, the EPA assumes the 2017 total biodiesel supply will be 2.3 billion gallons and that excesses over the required volume will be used to generate RINs for compliance with the overall advanced biofuels category.



Source: USDA, WPI

The issue next year will continue to be the supply of feedstocks. The most plentiful vegetable oil in the world is palm oil, which does not qualify under the RFS except for a few plants that were grandfathered in 2007. Fuel from those plants generates conventional biofuel RINs – the same as corn ethanol. In its proposed rule, the EPA is estimating 400 million gallons of this non-advanced renewable diesel will be available and used in the conventional mandate. That volume, however, is considerably more than in the past few years, and thus there will be a reliance on increased domestic production as well. The market will likely see a continued high level of Argentine soyoil imported into the U.S. either directly or as a component of biodiesel.

Additionally, Canadian canola oil will play a role in filling U.S. demand. Should these import levels rise substantially, price reactions on the global vegoil market are likely, such that the U.S. biodiesel market will need to bid soy and canola oil away from there.

One of the key factors to biodiesel profitability, however, is the fate of the blenders' tax credit. In that regard, nothing has changed since the discussion in the October issue of *Ag Review*. The $1/gallon credit expires 31 December 2016, and its fate is in the hands of a post-election, lame-duck congressional session.

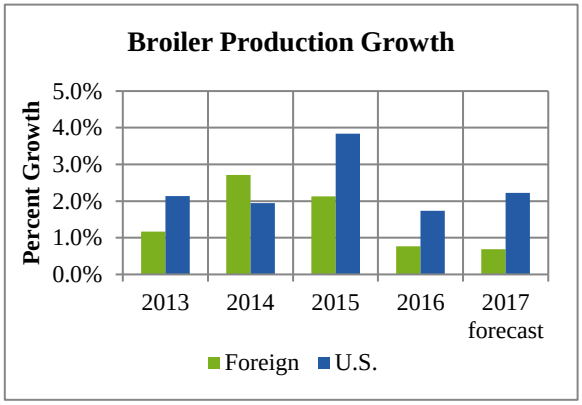
THE U.S. LIVESTOCK INDUSTRY

By Dave Juday

Top Five Reasons WPI is Bullish the Livestock Industry

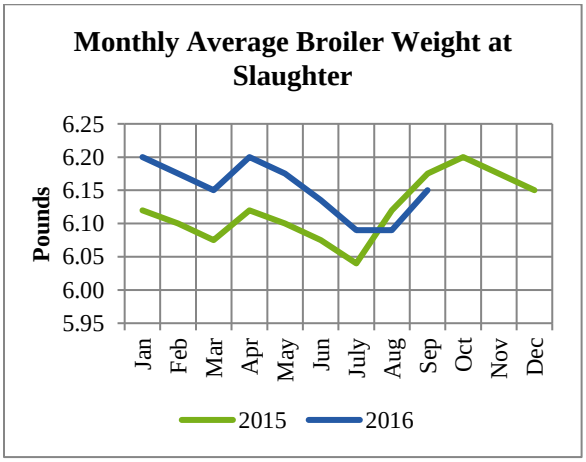
- Moderation in meat prices is spurring domestic meat and poultry consumption.
- Record corn and soybean crops will keep feed costs under pressure, especially for poultry.
- Beef packing margins were squeezed in October, but coming large cattle supplies will reverse this.
- The large fall pig crop has provided very robust margins to hog packers.
- Export demand, key for all meats, is forecast to expand and has a strong bullish tone.

Since 1975, U.S. broiler production has grown year-over-year annually except for 2009 and 2012 when it faced significant price shocks in feedstuffs. This year domestic broiler production is forecast to expand 1.7 percent and another 2.2 percent in 2017, outpacing global broiler supply growth.



Source: USDA, WPI

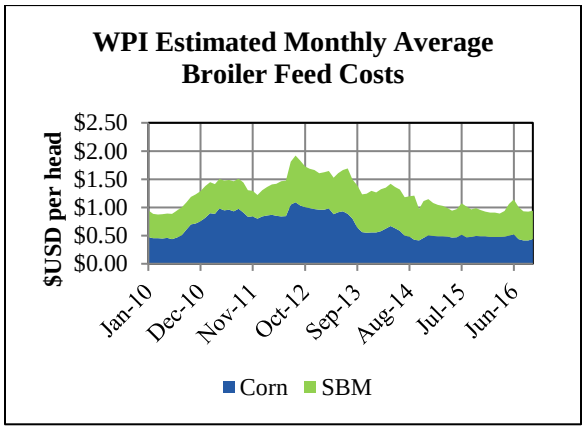
These projections, however, are down somewhat from those made earlier in the year that pegged production growth at 2.1 percent over 2015. Indeed, September production was down 1 percent from the prior year, largely because of lower-than-expected slaughter weights. Seasonally, those weights increase in September and October, but producers limited gains in August and September from the trend they were on this year due to "woody breast" syndrome. The condition is found in some larger birds and causes the breast meat to be hard to the touch and often pale in color with poor quality texture. Producers have been reducing the size of birds in order to avoid the condition, particularly in response to the demands of the food service sector.



Source: USDA, WPI

Many producers now believe that weights have been optimized, and thus it is likely that bird weights will stay within their current range. Looking forward into 2017, the record domestic supplies of corn and soymeal will benefit broiler production with little major risk on the feed cost side. This will allow producers to stay on the open market and reduce reliance on hedging strategies

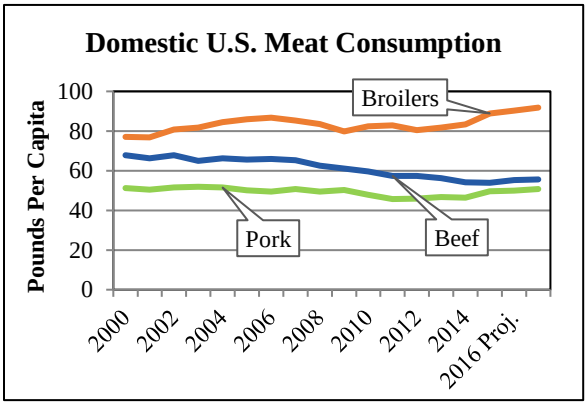
to maintain margins. Accordingly, a sudden upward move in corn or soymeal prices may catch some producers unhedged and erode profit margins.



Source: USDA, WPI

Broiler production faces the same market situation as all other major proteins – competition in the retail meat case. Supplies of beef, pork and chicken are increasing simultaneously, which is spurring more consumer meat purchases. Accordingly, per capita meat consumption is expected to increase and peak by 2018. This follows a decade (2006-15) of decline in red meat consumption that saw a 4 percent decrease for pork and 15 percent for beef. During that period, broiler meat per capita consumption rose 5 percent on value buying.

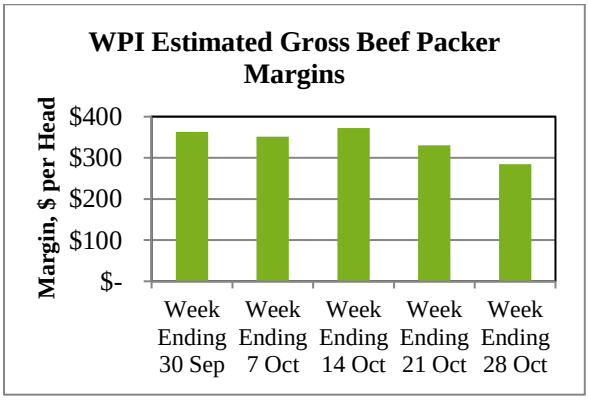
Indeed, chicken has been a less volatile product in the meat case, and that has created more consumer demand. In the fresh retail meat case, chicken holds about 43 percent market share with pork and beef at approximately 22 percent and b 35 percent, respectively. Moreover, broiler producers are differentiating chicken to the consumer with new production practices that earn premium prices. According to Rabobank, conventional broiler production is now only 37 percent of the total with production foregoing antibiotics used for human health now accounting for 51 percent. Never-ever antibiotics programs are now 10 percent of production, and organic is 2 percent.



Source: USDA, WPI

Red Meat

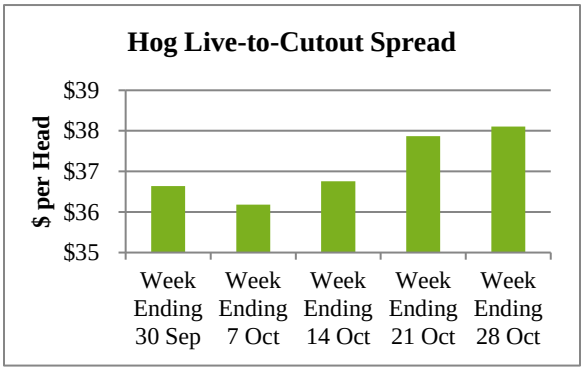
The October Cattle on Feed Report contained some unexpected results. It showed the total cattle on feed inventory as of 1 October at 100 percent of last year compared with pre-report estimates of 101.3 percent. However, the biggest surprise was that placements in September were only 98 percent of last year rather than the expected 103.6 percent. Meanwhile, marketings in that month were at 105 percent of last year, lower than the expected 106.2 percent. The report was bullish for both live cattle and feeder futures, and it put a squeeze on packer margins at the end of the month.



Source: USDA, WPI

However, a great deal of beef remains in the pipeline as production was a record high for the month of September. Beef production hit 2.179 million pounds (up 4 percent from last year) based on slaughter of 2,616 million head (up 6 percent). Pork production was also a record high for the month at 2.126 billion pounds (up 4

percent). Year-to-date, overall red meat production is up 3 percent at 37.049 billion pounds. Moreover, red meat in cold storage is at the highest level for September on record, up 7 percent on the month and slightly ahead of last September. Going into the holidays, retailers are expected to feature beef for the first time in years, which will pressure other proteins in the meat case.



Source: USDA, WPI

USDA revised its estimates of the winter 2016 pig crop in September. More than 500,000 head were added, which accounts for most of the significantly higher slaughter numbers observed in the July-September quarter. As noted in the September report, the March-May pig crop, which typically becomes slaughter-ready in the fall and early winter months, was about 3 percent larger than in the same quarter of 2015. Pork production in the fourth quarter is expected to be record-large at 6.6 billion pounds, almost 3 percent more than a year earlier. Meanwhile, pork packer margins have remained robust as is explained by the live-to-cutout spread shown above.

As the saying goes in the commodity business, however, the cure for high prices is high prices. Profits in the sector have been attracting capital for expansion. By the second-half of 2017, new plants could expand packing capacity by 5 percent or more, which will increase packer competition for hogs and boost live prices.

Exports

With all the added supply coming on line, exports will become more important to maintain profitability. USDA forecasts for red meat and poultry net exports (exports minus imports) in 2016 and 2017 show progressive increases. U.S. beef exports are expected to increase almost 9 percent in 2016 and 7 percent next year as the beef sector recovery continues and U.S. production increases. Beef imports are forecast to decline by about 10 percent this year and 11 percent in 2017 as supplies from Australia tighten with herd rebuilding and larger supplies of U.S. beef become available at lower prices. U.S. pork exports in August were up 11 percent on the year, putting the January-August total 1 percent ahead of last year, while broiler exports in August were at their highest for any month since March 2015. The January-August total for broiler exports is even with last year, but a 4 percent growth projection is issued for 2017.

FARM INPUTS

By Joost Hazelhoff

Top Three Reasons WPI is Neutral the Farm Inputs Industry

- Demand: Across all nutrient segments, burdensome supplies are chasing insufficient demand. The oversupply situation is set to deepen in 2017.
- External price drivers: A projected modest recovery in crude prices should have supported fertilizer. Crude inventory data suggests an elusive recovery, taking away this pillar of support for fertilizers.
- Production cost/margins: Gas prices have come down considerably since last month, improving spot margins for North American nitrogen production.

As one major listed nitrogen producer commented when announcing their first quarterly loss since 2010, the fertilizer industry has been facing low selling prices, in part due to the oversupply in the global nitrogen market. In recent weeks, however, international urea prices have increased on the back of demand in the U.S. and Brazil as well as another anticipated tender in India. In the meantime, Chinese FOB prices continue to climb, driven by rising thermal coal prices.

International phosphate prices are still under pressure, however, with too much supply chasing simply insufficient demand. International potash prices are moving mostly sideways.

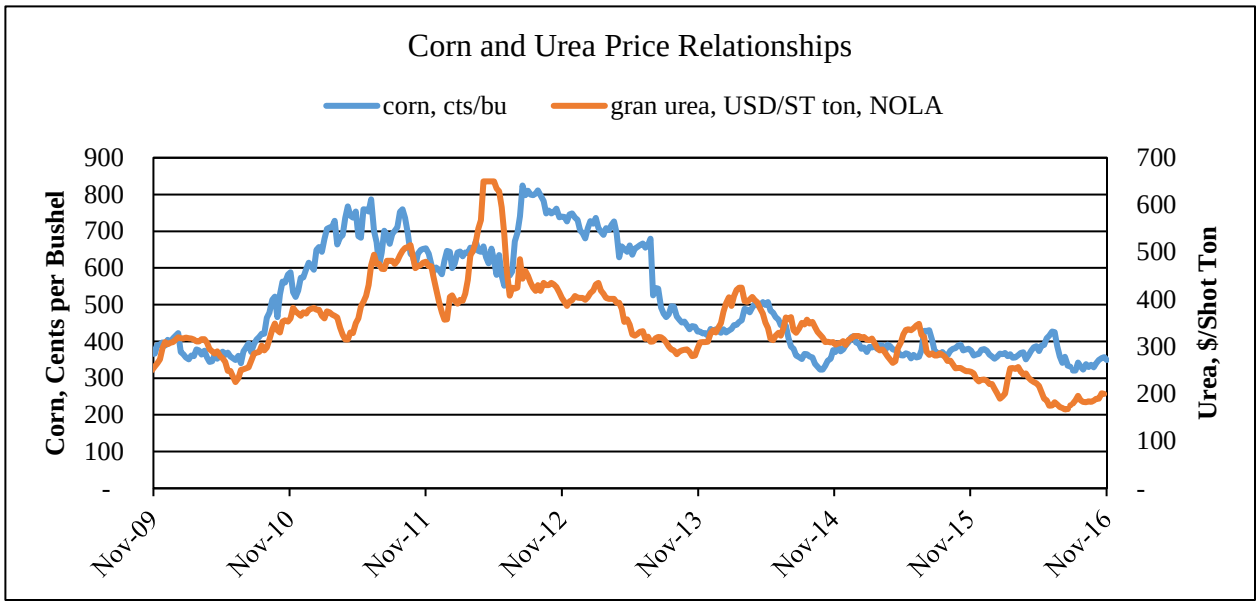
Looking forward to 2017, the global fertilizer balance sheet projected by the International Fertilizer Association (IFA) does not offer much hope for a significant move higher. The current oversupply situation is set to deepen further for all fertilizers except phosphates.

Supply and demand (MMT nutrient)		2016	2017
Nitrogen	Demand	147.6	150.6
	Supply	158.8	166.4
	Balance	**11.3**	**15.8**
Phosphoric acid	Demand	44.5	45.9
	Supply	48.4	49.6
	Balance	**3.9**	**3.7**
Potash	Demand	38.9	40.0
	Supply	42.8	44.9
	Balance	**3.9**	**4.8**

Source: IFA, WPI analysis

2017 Grains versus Fertilizers

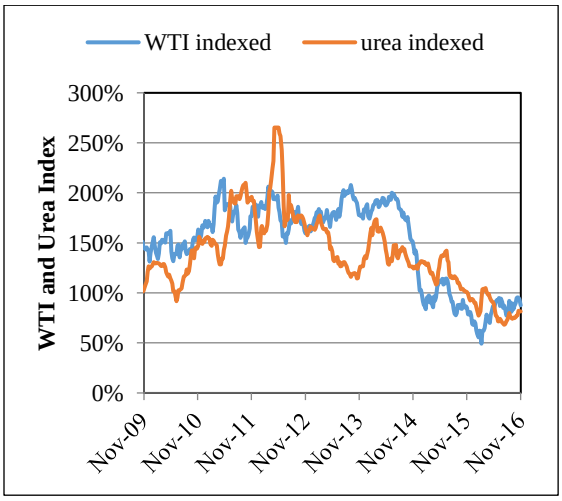
As noted in the grains section of this month's *Ag Review*, preliminary 2017 acreage projections for the U.S. suggest that some corn acreage will move to soybeans next year. In terms of fertilizer demand lost due to a shift to soybeans (that require little/no nitrogen), the impact on those prices may be modest. Of larger significance is any possible corn price increase that would normally pull fertilizer prices higher accordingly. The historic correlation between fertilizer and corn prices is shown in the chart that follows.



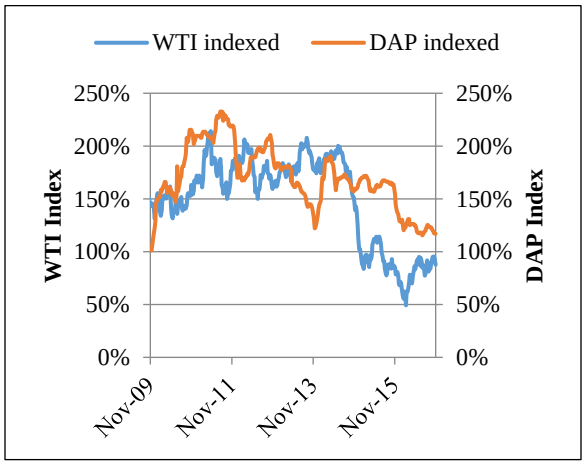
Source: CME Group, WPI analysis

Crude Oil versus Fertilizers

Current urea values appear intuitive from an energy perspective – they are in the range of the historical price band between crude and urea. Energy-led support for fertilizers would, however, require an extended rally in crude. Recent crude oil data has not been helpful in that respect. For instance, U.S. inventory data suggests growing inventories and still profitable shale production increasing in response to higher crude prices. On the international front, skepticism grows that an OPEC deal will result in a meaningful cut in its crude production.



Source: UA Dataservice, WPI analysis (NB: 1 May 2009=100%)

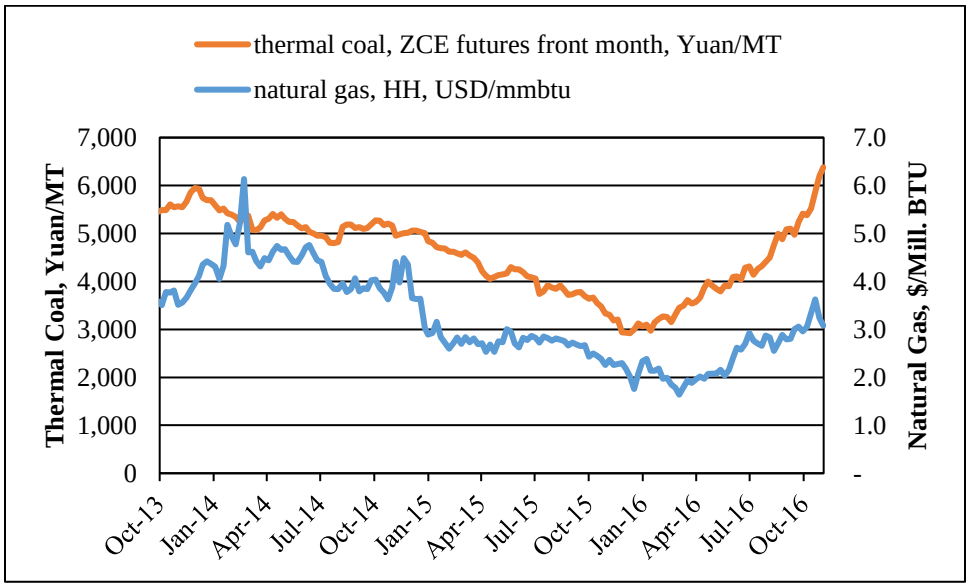


Source: UA Dataservice, WPI analysis (NB: 1 May 2009=100%)

Nitrogen Cost of Production: Gas-Based Versus Coal-Based

In the past month, spot cost of production for gas-based nitrogen fertilizer benefitted from a decrease in natural gas prices. As a rule of thumb, gas costs represent about two-thirds of the nitrogen production cost. At the same time, thermal coal prices continue to climb, and most Chinese nitrogen production is (thermal) coal-based. Thermal coal prices have risen steadily and are currently trading at levels last seen three

years ago, but natural gas prices have remained well below where they were at that time. This has already pushed up Chinese FOB prices for urea and, in turn, should offer some support to global urea prices.



Source: Zhengzhou Commodity Exchange and CME Group

POLICY TRENDS

By Gary Blumenthal

Top Four Reasons WPI is Bearish Policy's Implications for Agribusiness

- Uncertainty, period.
- Disaffected supporters of Hillary Clinton will pull back on their economic activities.
- Time is needed to understand the actual changes to occur.
- Like Trump's campaign, low expectations may ultimately lead to a modest upside.

This is the second version of a "post" U.S. election impact on agrifood; the first was written before the vote and based on erroneous pre-election political analysis by the overwhelming majority of the mainstream media. That initial assessment discussed how Hillary Clinton's win would ensure an extension of President Barack Obama's policy agenda and likely would be better for stocks and the U.S. dollar. Instead, like many other assumptions out of the Washington establishment, the analysis required rewriting.

How Trump Won

First and foremost, voters for Trump were revolting against society's elites, those in Washington, on Wall Street, in Hollywood, in the media and elsewhere. It was a coalition of the disaffected - angry and distrustful - often having fared less well economically in recent years. Notably, Trump ran up huge margins in rural areas, offsetting Clinton's advantage in urban areas. Voters for Trump, first and foremost, want change.

The Impact

Because Trump defies conventional politics, no one knows for certain what lies ahead. Based on his campaign boasts, Trump plans to undo Obama's Affordable Care Act (Obamacare), the Iran nuclear agreement, the Paris agreement on climate change and a host of regulatory initiatives. In terms of those issues that most directly impact agriculture are the following possibilities:

Immigration

Trump claims there will be an end to the inflow of illegal immigrants that comprise a significant share of farm laborers. Sam Clovis, co-chair of the Trump campaign, assured an audience last month that there will be no exceptions to a ban on illegal immigration for agriculture. He will supposedly complete the construction of a wall separating the U.S. from Mexico and have the latter pay for it. Most likely, he will divert the $50 million currently given to Mexico as foreign aid toward border measures, but that amount is far short of the estimate for building an effective physical barrier. Meanwhile, his proposed ban on Muslim immigrants in order to deter terrorism received much criticism and has been removed from his website.

Brexit Informs Much

According to polling in Britain ahead of tomorrow's vote on its EU membership, the Leave or Brexit campaign is largely supported by older, lower-skilled workers. By contrast, the Remain or Bremain position is supported by urbanites and the college-educated. This dynamic mimics the U.S. political situation where Donald Trump has tapped into the frustrations of those who feel underappreciated in the economy. Indeed, Trump supports Brexit while Hillary Clinton backs the Remain campaign. The British vote this week (likely to Remain) will not influence the U.S. election in November, but it may well reflect its outcome.

Ag Perspectives, 22 June 2016

Infrastructure

Like Hillary Clinton, Trump has said he will invest in America's broken infrastructure, improving roads, bridges and other assets. In fact, he said he would spend double Clinton's pledge of $275 billion over five years. Infrastructure improvements should impact the transportation of agricultural products, especially if some of it is focused on the inland waterway system.

Economic Policy

Where Clinton promised a surcharge on the wealthy amounting to $1.1 trillion over ten years, Trump is likely to deliver conventional Republican economic policy of a lighter hand on taxes. However, the real wild card is reform of tax policy, which policy makers on both sides of the political aisle agree is broken. Fixing tax policy could have meaningful impacts on the economy, likely more than Clinton's plan to increase the minimum wage.

Supreme Court

The largest ideological impact of Trump's win will be on the future composition of the U.S. Supreme Court. Where Clinton and the Democrats would have installed liberals, Trump's pre-election list of proposed jurists are largely conservative. His election means the highest court will, at minimum, be restored to a five-four conservative majority. However, liberal justice Ruth Bader Ginsberg is now 83, and two other justices, Breyer (liberal) and Kennedy (conservative), are not far behind in age.

Foreign Policy

Where foreign policy under the former secretary of state was expected to be muscular and assured, Trump brings vagueness and uncertainty. He said his focus would be on keeping Americans safe from terrorism, but he would end the nuclear deal with Iran. Perhaps a metaphor to Trump's attitude is a 7 July 2016 *Wall Street Journal* article that claims only the U.S. supplies musicians to the NATO military band. Like trade policy (see below), Trump intends to better equalize the burden of global security with other countries.

Trade Policy

Donald Trump did not say no to trade deals and instead said, "No to bad trade deals." He believes better outcomes can be achieved in the national interest. It has been clear for a long time that the post-WWII role of the U.S. in global trade policy is in trouble. Over the past two decades, each successive trade agreement sent to the Congress for approval has garnered fewer and fewer votes. Democrats have used free trade as a whipping boy for several election cycles, and Donald Trump joined the chorus of the skeptical in this one.

Trade negotiators are understandably upset by Trump's assertion that they have done a lousy job in the past. This disparagement ignores important historical dynamics. The U.S. was the sole economic power coming out of WWII, and Washington policy makers conceded lower tariffs to other countries as a means of helping them emerge from the ashes. This theory continues to this day with large numbers in both parties supporting nonreciprocal trade policies such as the African Growth and Opportunity Act.

Most of the agreements in the GATT (now WTO) have largely been the product of talks between the U.S. and Europe with other countries reaping

access to the rich markets under Most Favored Nation (MFN) status while having to concede much less of their own market. New Zealand's preeminent trade policy expert and now Ambassador to the U.S. Tim Groser has said that developing countries are reticent to give market access concessions in the Doha Round because they have never been required to in the past. The decades of one-sidedness in U.S. trade policy is not so much evidenced by the trade deficit but by the fact that America has amongst the lowest average tariffs in the world.

The U.S. has benefitted greatly from having an open market, but there is an optical imbalance and like all of life's perceived inequities, politicians exploit them with the aid of a complicit media. Moreover, it must be recognized that the global economic dynamic has changed significantly. The U.S. has gone from being nearly a third of the global economy to less than a fifth. This means that the rest of the world is now better positioned to import and that exports have become more important to the U.S. However, our trade policies of the past were built on the inverse dynamic.

Donald Trump followed the successful footpath of Barack Obama, who pledged in his 2008 campaign to renegotiate trade agreements with South Korea, Panama and Colombia. The creation of uncertainty is at the heart of Trump's negotiating strategy as detailed in his book, *Art of the Deal*. Ambassador to China and former Senator Max Baucus always opined that trade policy is about leverage, and Donald Trump intends to use uncertainty and the threat of havoc to extract more balanced concessions from America's trading partners. But lowering trade barriers in other countries would be good for both America and its trading partners. His gambit is that other governments will realize that losing access to the world's largest consumer market is a greater threat than loosening some of their own import barriers.

Just as he used his large real estate debts to extract even more concessions from banks, he believes that America being the world's largest consumer of imported goods creates leverage to demand a fairer set of trading rules from other countries. The U.S. has used its ability to break things kinetically with its military as leverage, and now Trump believes he can create trade policy leverage through a willingness to break what he contends are failed prior trade agreements.

Is it risky? Perhaps. But trade policy practitioners who have been aghast at how their discipline was characterized in this presidential election cycle now have an opportunity to rectify things.

Lame-Duck Session

The debate in Washington has been whether the upcoming lame-duck session of Congress would be bold or lame. Given upcoming full Republican control of the governing apparatuses in January 2017, the current 114th Congress will do the minimum and then go home for the end of year holidays.

Conclusion

British policy experts note that their island was never under the political control of Napoleon and his elites. Whereas the Continent adopted Napoleonic law, which proscribes what individuals can do, the British people collectively agreed to laws about what should not be done. Brexit was the result of the British people rebelling against excessive prescriptions from Brussels. Notably, Britain has not (yet) floundered in the wake of the Brexit vote. The U.S. economy is large, and constitutional structure prevents Donald Trump from committing many excessively bad policies. Meanwhile, some businesses like farming will be heartened by his proposed lighter hand in regulation.

TRENDS AND AGRIBUSINESS

By Robert Kohlmeyer

The Merriam-Webster dictionary defines agribusiness as "the business or industry of farming and agriculture." Common usage has broadened the term to also include the businesses of handling, transporting, merchandizing and processing crops and livestock of all kinds. Agribusiness can refer to virtually every commercial activity from crop and livestock production to the placement of consumer foods on grocery shelves or wool and cotton textiles in the hands of users. Thus, it encompasses everything from farms, small local businesses like farm service and input suppliers, country elevators, feedlots, dairies, and processors of crops to very large, vertically-integrated, multi-national corporations spanning the globe. In other words, agribusiness is as inclusive a term as one cares to make it.

The businesses of producing agricultural goods, transporting them to where needed and turning them into consumer or industrial products have been notorious for requiring substantial capital but producing low margins. The return on capital ratios are especially low when compared with other industries. The natural way for agribusinesses to counter the big capital/low margin nature of their activities has been to become more efficient. This has been true at the farm level and at every step along the marketing chain. Growing larger and becoming more efficient are usually desirable goals for all kinds of commercial enterprises. However, the big capital/low margin nature of many agribusiness has made those objectives increasingly essential for survival in the modern world. As a result, the effort to achieve them has become an overriding trend for agribusiness. This has led to the increase in size of the average U.S. farm since World War II and the consolidation among agribusinesses, a trend toward mergers and acquisitions that began in the 1970s and remains very active today.

Generally, there are two broad objectives when businesses merge or acquire another. They seek to increase their strengths and opportunities as well as minimize weaknesses and threats by doing the following:

- Combine duplicate functions
- Better utilize capacities
- Achieve economies of scale
- Spread risks
- Lower the costs of capital
- Improve management of inventories and cash
- Increase market power

Mergers and acquisitions of agricultural businesses have been a feature since World War II and first gained traction on the farm. Cash saved during the war allowed many farmers to expand their operations by purchasing their neighbor's land. This began the trend toward fewer but larger farms, and the pace accelerated during the 1960s and 1970s. The increased mechanization of farming and the advent of bigger, more diverse, costlier equipment encouraged farmers to expand their operations so that the expense and upkeep of a $175,000 tractor could be spread over a larger production area. It is fair to say government farm programs that supported high crop prices and funneled most of the cash benefits to large producers effectively financed efforts by producers to grow larger.

In the mid-twentieth century, many small, wooden frame country grain elevators dotted the Midwestern landscape. Most were ill-equipped to handle a large volume of deliveries or ship grain out in more than the occasional boxcar. The removal of railroads from the control of the Interstate Commerce Commission and the deregulation of rail freight rates quickly led to consolidation in the country elevator sector. In many cases, rail rates were negotiable rather than

fixed. The development of hopper cars capable of carrying 50 percent more grain than boxcars and the advent of freight rates for multi-car rail movements for entire trains along with 100-hopper car shipments forced many older country elevators to close. The Midwest was subsequently replanted with fewer but larger, more efficient elevators capable of unloading bigger trucks and loading out more rail cars per day to leverage the new high volume rail rates. Today's Midwestern shuttle train loading facilities are more like small terminal elevators than traditional country elevators. Mergers and acquisitions among country grain loading facilities still continue but at a much slower pace than 20 years ago.

In contrast, this type of consolidation seems to be accelerating among large agribusinesses. If this trend can be said to have a starting point, it probably occurred in 1998 when privately-held Cargill Incorporated, the largest exporter of U.S. grains, agreed to buy nearly all the grain-related assets of its biggest competitor, privately-held Continental Grain Company. The move came as a great surprise to the agricultural industry, and it immediately set off a firestorm of criticism from various farm organizations that was quickly picked up by farm state politicians. Most complaints centered around fears that removing one major buyer from the market and making the largest buyer even more immense would stifle competition and lower the prices that farmers would receive for their grain and oilseed crops. The furor was such that in early 1999, legislation was introduced in the U.S. Senate with a dozen sponsors that would place a moratorium on large mergers and acquisitions in the agricultural industry.

The Department of Justice (DOJ) did closely examine Cargill's acquisition of Continental Grain. Ultimately, it required that the two companies each either divest themselves of or sell to others certain grain handling facilities scattered around the U.S. When these requirements were met, the DOJ announced that it would not block the transaction. Interest in the proposed legislative moratorium declined, and the bill never made it to the Senate floor. Some other well-known agribusiness acquisitions and mergers in recent years include:

- 2008: JBS, a large Brazilian meat-packing company, entered the U.S. market and bought Swift and Company, a large beef processor for $1.5 billion in a cash transaction.
- 2009: JBS acquired Smithfield Foods' beef production business, making JBS the largest beef processor in the world.
- 2013: Horizon Milling Company, the largest U.S. flour miller, became even bigger when it formed a joint venture that combined all of ConAgra's flour mills with those held by Horizon. The new venture became Ardent Milling Company. Horizon Milling was itself a 2002 joint venture that combined Cargill Flour Milling's capacity with that of CHS, the largest agricultural cooperative in the U.S. The move of a large agricultural cooperative forming a joint venture with a private competitor showed that the desire to merge chronically low margin flour milling activities was strong enough to overcome any vestiges of the historic antipathy between agricultural coops and private competitors.
- 2013: Smithfield Foods' pork business was acquired by Shuanhui International, China's largest meat packer and pork producer. They are together now known as the WH Group, the largest pork producer in the world.

2016 has been an especially tough year financially for many agribusinesses, which probably explains why it has also been a busy year for very large agribusiness mergers and acquisitions. Some notable ones include the following:

- Early this year, two global agrichemical giants, Dow Chemical and DuPont, announced they would merge "as equals" to create a $130 billion behemoth.
- Last February, the Chinese National Chemical Corporation (ChemChina) agreed to acquire Syngenta, a Swiss-

based global agricultural seed, chemical and biotech company, for $43 billion.

- In September, the Potash Corporation, a large Canadian fertilizer producer, announced a merger with Agrium, another large Canadian company in the fertilizer and farm retailing business. The combined enterprise will be a $36 billion global agricultural giant that controls two-thirds of North American potash production and one-third of North American phosphate and nitrogen production. This is certain to attract anti-trust scrutiny from both Canadian and U.S. authorities.
- Also in September, Monsanto, the world's leading biotech seed company and the maker of the most widely-used herbicide (Roundup), agreed to be acquired by German pharmaceutical and chemical company Bayer for $66 billion in cash. The deal would be the largest cash purchase of one business by another and would create the largest agrochemical company in the world.

These recent mergers and acquisitions of very large agribusinesses have raised a considerable amount of criticism by users of the respective products involved who fear product prices will rise. Moreover, all the mergers have also raised varying degrees of anti-trust concerns that again attracted the attention of the DOJ as well as the Federal Trade Commission (FTC) and the European Union's anti-trust regulators. None has created more competitive and anti-trust concerns than the Bayer-Monsanto deal. Most knowledgeable observers believe there is considerable doubt that U.S. and/or European anti-trust regulators will allow it to stand, and Bayer has agreed to pay Monsanto $2 billion if the purchase is not consummated. The financial market's view of the deal's chances can be surmised by noting that the purchase price for Monsanto is worth $128.00 per share. However, Monsanto stock has recently been trading around $101.00 per share.

The joining together of agribusinesses into large, globally-oriented companies has also attracted the ire of those populist groups that believe "big" automatically means "bad" when it comes to agriculture. They assume every big agribusiness company takes advantage of the smaller customers who depend on it. A big multinational company simply does this on a multinational scale, or so they believe. The recent surge of agribusiness mergers among already large companies has drawn a barrage of vitriolic condemnation from these "big is bad" groups.

There is a sub-trend noticeable among large agribusiness mergers and acquisitions in the last 10 years, which is that both proposed and actual transactions frequently involve a large U.S. company being purchased by a large foreign one. Foreign companies see a number of advantages in acquiring U.S. businesses that often include prestigious corporate names and/or products that are well known worldwide as well as technologies that would otherwise be difficult to obtain.

As was discussed in last month's issue of *Ag Review*, farm equipment manufacturers endured a difficult time during the past two years. Accordingly, they are seeking new ways of enhancing earnings to make up for the sharp drop in equipment sales. One approach has been to marry farm and field-specific digital technology to an individual farmer's own equipment. The system then allows a farmer to monitor and map weather, soil condition patterns and nutritional needs, pest control, harvest results, and a variety of other important data right from the cab of his tractor or combine. He would be able to monitor what the soil in a particular field or section thereof might need and then deliver what is required in the proper amount to the targeted area. The prescriptive activities are determined by digital technology as part of a single function performed right in the cab of the tractor.

Big farm equipment manufacturers such as Deere and Company, CNH and AGCO have all recently acquired digital data technology by buying smaller companies that have developed it or by obtaining the use of the technology through licensing arrangements. The objective is to integrate data and decisions about crops, seed

varieties, pesticides, herbicides, irrigation, use of machinery and even crop insurance considerations in ways that target specific small areas with specific needs and with specific solutions.

Agribusinesses that have had long-term success are adept at identifying trends that affect their bottom line and then either executing the best ways to take advantage of or defend themselves against them. History provides many examples of companies that failed because they were not able to anticipate trends and react effectively. Some things never change.

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