

# Market Mosaic

August 2015

## Bipolar Agricultural Commodity Markets



*Market Mosaic is a newsletter published for our customers, suppliers and stakeholders by the Market and Strategic Analysis group of The Mosaic Company. Some issues assess the near term outlook for agricultural and plant nutrient markets while others take an in-depth look at a topic of interest to our readers.*

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**A**gricultural commodity markets have exhibited symptoms of bipolar disorder. The charts below illustrate the bearish and bullish mood swings this summer. Mother Nature and the macroeconomic gods have flooded grain traders with extraordinary and conflicting stimuli this growing season.

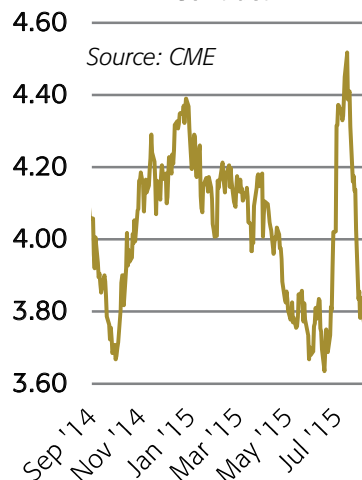
In this issue of Market Mosaic, we take an in-depth look at agricultural commodity fundamentals and speculate on how grain and oilseed markets likely will behave this year. We then assess the implications for phosphate (P) and potash (K) markets.

Based on this analysis, we expect that agricultural commodity prices will stabilize later this summer once markets determine the size of the North American crop, the impact of slower Chinese growth on commodity markets, and the fallout from the Greek/EU financial crisis. In particular, we project that the price of new crop corn likely will trade a quarter or so on both sides of \$4 while the price of new crop soybeans will likely trade a 50-cent-piece or so on both sides of \$10.

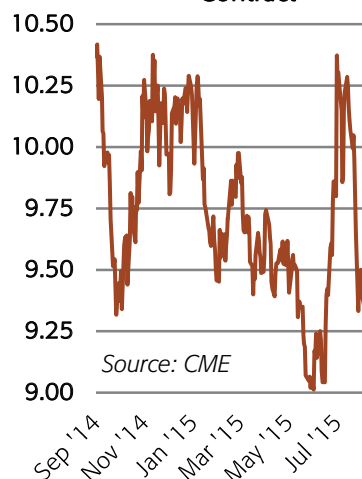
We have long maintained that P&K demand prospects look positive with one important caveat – no collapse of agricultural commodity prices. Recent weather events in North America and Europe have greatly reduced the odds of \$3 corn, \$8 soybeans and \$4 wheat this year.

As a result, we do not expect the recent volatility to significantly impact P&K demand. In fact, we have narrowed the range of our 2015 P&K shipment estimates and tabled preliminary forecasts for 2016. Global shipments of the leading solid phosphate products are projected to total 65-66 million tonnes this year and then increase to 66-68 million in 2016. In the case of potash; muriate of potash (MOP) shipments are forecast to total 59-60 million tonnes in 2015 and then climb to 61-63 million next year.

US\$ BU New Crop Corn Price Daily Close Dec '15 Contract



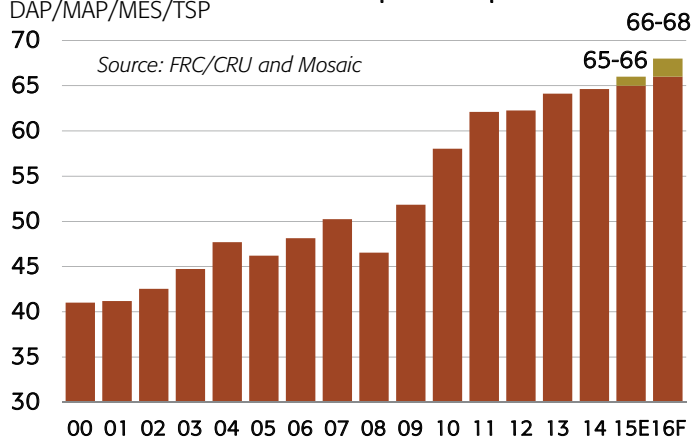
US\$ BU New Crop Soybean Price Daily Close Nov '15 Contract



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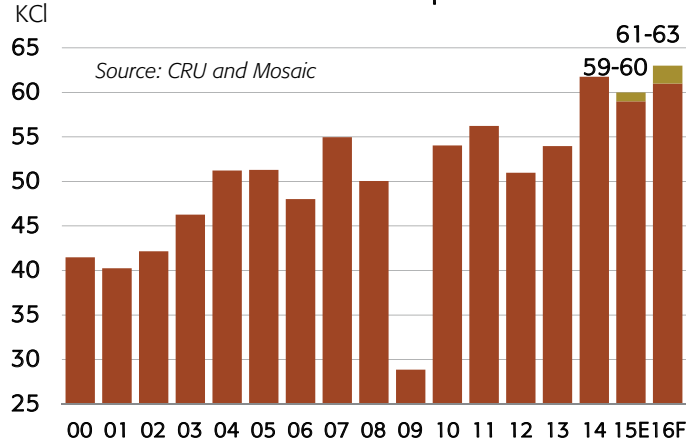
Mil Tonnes  
DAP/MAP/MES/TSP

## Global Phosphate Shipments



Mil Tonnes  
KCl

## Global Potash Shipments



## The Summer Mood Swings

New crop prices for the big-three commodities trended downward during the first half of the year due to several bearish factors. These include last year's blockbuster harvest, a decent start to the U.S. planting season, lower oil prices, a surging U.S. dollar, and troubling macroeconomic developments such as the economic slowdown in China and the Greek debt crisis. The price of new crop corn began the year trading in the \$4.20 per bushel range but then slid to a low of \$3.64 as late as June 15. Soybean prices followed a similar pattern with the new crop price trading in the \$10.20 per bushel range at the start of the year but then trending lower to close at \$9.01 on June 1 and \$9.04 as late as June 15. The potential for another bumper crop raised talk of \$3 corn, \$8 soybeans and \$4 wheat. Managed funds put their money where

their mouths were by building record or near-record short positions in corn and soybeans.

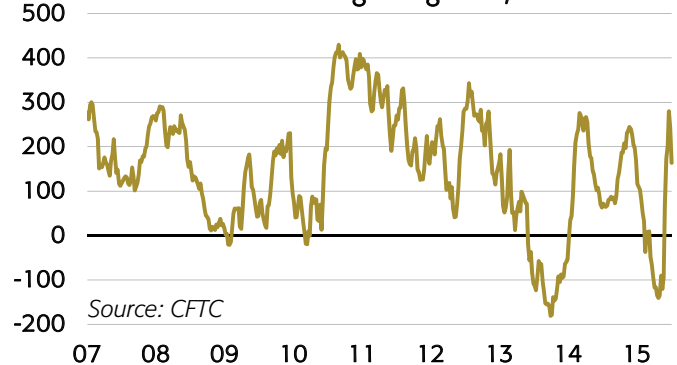
A bullish Mother Nature then trumped bearish macroeconomic events. Excessive rainfall throughout June delayed planting and eroded crop conditions in key Corn Belt states such as Missouri, Illinois, Indiana and Ohio. In addition, weather throughout Europe and Ukraine turned hot and dry. Markets took note and began to trend up during the last half of June.

Acreage and Grain Stocks reports released by the USDA on June 30 provided the spark to ignite a rally. Prices surged on June 30, particularly in response to the Grain Stocks report that showed lower-than-expected corn and soybean inventories on June 1. Lower stocks implied larger-than-expected use and/or a smaller 2014 crop than final USDA estimates from last January.

The tightening of 2014/15 balance sheets coupled with the rapid erosion of crop condition scores in several key states stoked a potent weather/short-covering rally during the first half of July. New crop corn shot to \$4.52/bu by July 13, up 88 cents from less than a month earlier. New crop soybeans surged 57 cents on June 30 alone to close at \$10.37/bu, up \$1.36 from the low on June 1, and then continued to trade on both sides of \$10.20 into mid-July.

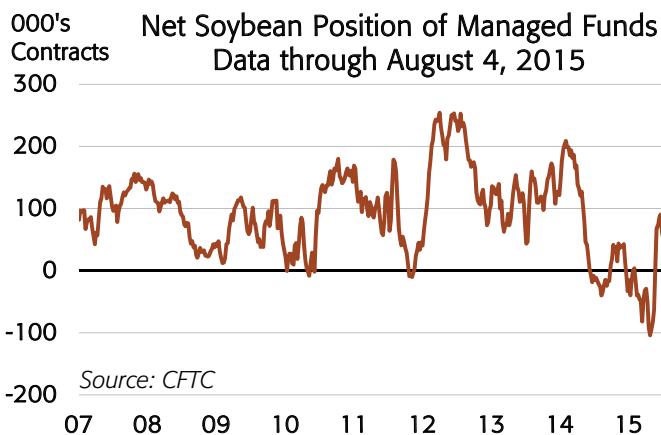
Funds moved quickly from the short to long side of the market. In the case of corn, funds swung from a net short position of 120,000 contracts or 600 million bushels on June 16 to a net long of 280,000 contracts or 1.4 billion bushels on July 21 – a 2 billion bushel swing in just five weeks. Soybean positions moved from a net short of 64,000 contracts or 320 million bushels on June 16 to a net long of 90,000 contracts or 450 million bushels on July 21.

## 000's Contracts Net Corn Position of Managed Funds Data through August 4, 2015



Prices turned down during the last half of July, giving back most of the gains achieved during the first half of the month. The new crop price of corn dropped to \$3.81/bu and the new crop price of soybeans declined to \$9.43/bu on August 6. The reversal was attributed to a mass exodus by fund managers from commodities due to concerns about China and the strength of the dollar, as well as improved weather and more stable crop conditions in the eastern Corn Belt.

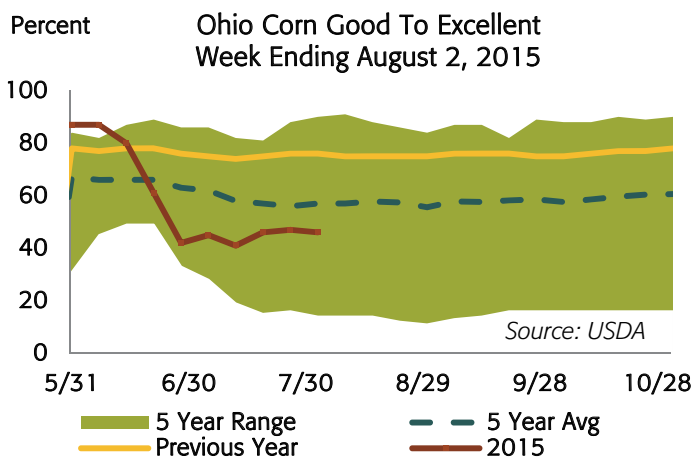
"P&K demand in the two largest consuming countries – namely China and India – to a large extent is insulated from the vagaries of agricultural commodity prices."  
– Dr. Michael R. Rahm



## Another Bullish Mood Swing?

In a bullish rant traders will argue that, despite the recent retracement, there still is plenty of gas in the tank to reignite a rally from current values, especially after funds liquidate large net long positions and reassess fundamentals.

U.S. corn and soybean supply and demand balance sheets are expected to show much lower 2014/15 carryout inventories than current USDA estimates due to lower-than-expected June 1 stocks and larger use estimates. More importantly, 2015 yields are projected to fall short of what the market is trading today due to poor crop conditions in the eastern Corn Belt (see chart showing Ohio corn condition ratings). Fund managers in this mood cannot come up with yield estimates close to what the market is trading when they do the state-by-state math using realistic yield estimates for eastern Corn Belt states. Furthermore, European and FSU harvests are expected to fall short of initial forecasts, and the strong El Niño event raises uncertainties about the size of Asian and Australian crops later this year.



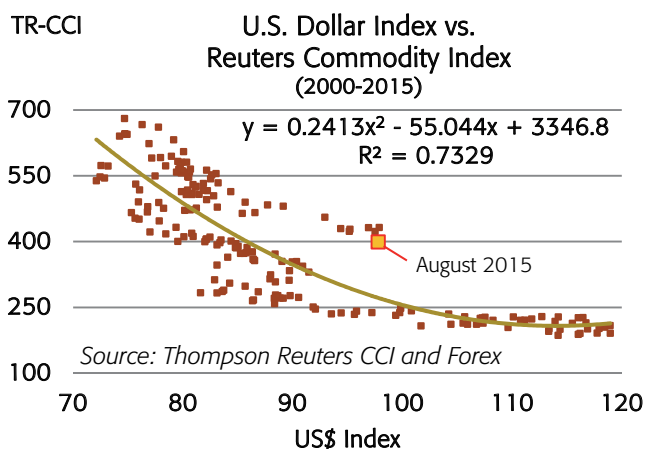
These traders also point to extraordinary demand prospects led by the recovery of the livestock sector, and believe that concerns about the global economy in general and China in particular are overblown. As a consequence, they expect that the dollar eventually will stabilize and commodity bashing will end.

## Another Bearish Mood Swing?

In a bearish funk, traders believe that markets suffer myopia from U.S. and eastern Corn Belt crop conditions. South American grain

supplies are plentiful after two record-breaking crops and highly competitive on the world market with a sky-high U.S. dollar. And traders can't understand why the market pays so much attention to poor but improving crop conditions in the eastern Corn Belt and so little to potential record yields in the west.

In this state, traders are less optimistic -- or even slightly paranoid -- about the global economy and politics, and become especially fearful when Chinese equity markets plunge. They expect that the dollar may strengthen even more and continue to weigh on commodity prices based on historical correlations (see chart showing the relationship between dollar and commodity indexes).



Traders in this temperament also expect China to make quick and bold changes in domestic agricultural policies. These include lowering extremely high support prices for corn. This change would allow large corn stocks to flow to Chinese feeders and processors, reduce sizeable imports of competing feed grains such as DDGs and sorghum, and stimulate domestic soybean planting.

## Impact on Global P&K Shipments

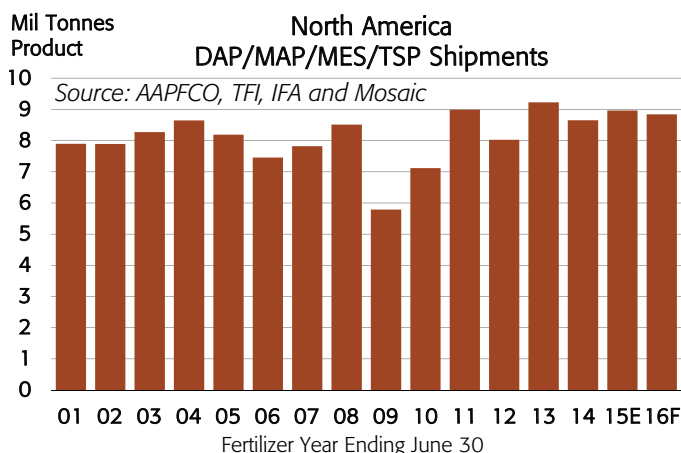
Markets likely will continue to go through these mood swings for a while. Extraordinary agricultural commodity price volatility has impacted P&K shipments in some regions but not in others. For example, P&K demand in the two largest consuming countries -- namely China and India -- to a large extent is insulated from the vagaries of agricultural commodity prices. However commodity price volatility, along with several other and likely more important factors, has caused uncertainty and contributed to delays in positioning product for upcoming application seasons in Brazil and North America.

Our plant nutrient affordability metric has bobbed and weaved with agricultural commodity prices during the summer, but the current reading indicates that plant nutrients remain affordable. In fact, compared to a year ago, affordability has improved mostly due to lower plant nutrient prices.

## North America Highlights

North American phosphate shipments have remained steady at about 9 million tonnes during the last three years despite ongoing concerns by some analysts about potential cutbacks in application rates. Although statistics for the second quarter are not yet available, we estimate that shipments of the leading solid products (DAP/MAP/MicroEssentials®/TSP) totaled just less than 9 million tonnes



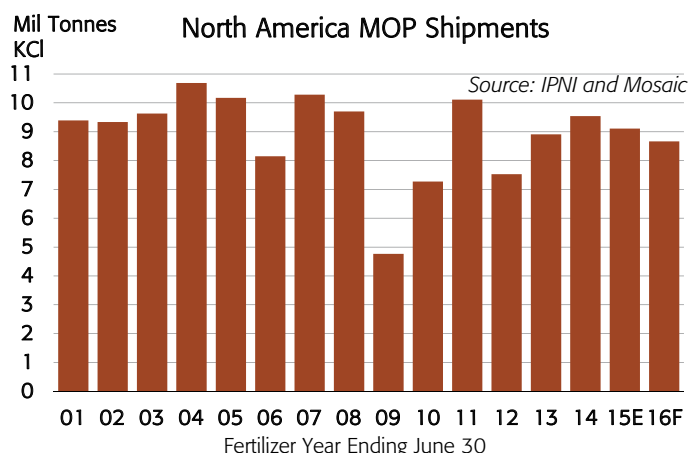


for the plant nutrient year that ended on June 30, 2015. That was up from 8.7 million in 2013/14 but down slightly from 9.2 million in 2012/13.

Based on very preliminary assumptions for acreage and application rates for next year, we project that shipments will drop slightly to 8.9 million tonnes in 2015/16. As long as Mother Nature cooperates and agricultural commodity prices settle at expected levels we expect a good fall application season. We project that fall (Jul-Dec) shipments will total 4.6 million tonnes, about 25,000 tonnes or 19 barges less than shipments last fall. That would leave about 4.3 million tonnes of shipments in the spring (Jan-Jun) of 2016. If these estimates are accurate, that would be slightly less than 4.4 million tonnes shipped last spring but slightly more than the 4.2 million tonnes moved two years ago.

Potash shipments have exhibited a little more volatility for several reasons. We estimate that MOP shipments tallied 9.1 million tonnes in 2014/15, down from 9.5 million in 2013/14 but up from 8.9 million in 2012/13. The 2013/14 total was elevated due to large summer fill shipments during the last half of May and June last year. Producers and distributors restocked early to avoid the long shipment delays that had resulted from the severe winter weather and other rail transportation issues.

However, piling on another 9.1 million tonnes of shipments in 2014/15 implies that the channel was recharged and well stocked



on June 30, 2015. As a result, we project that shipments will drop to just less than 8.7 million tonnes in 2015/16 as a result of destocking of the distribution pipeline. We also expect a good fall application season, but implied shipments from producers and importers are projected to drop to 4.2 million tonnes from 4.5 million last fall due to destocking.

## India Highlights

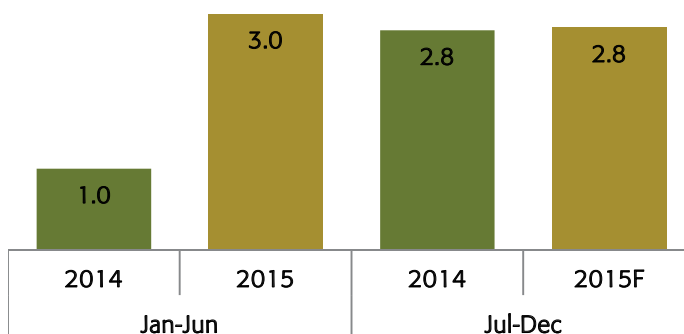
India is one of the countries where recent agricultural commodity price volatility has had limited impact on plant nutrient demand. The government supports crop prices through procurement programs that pay farmers a Minimum Support Price for staple crops. In addition the government also provides farmers with generous plant nutrient subsidies.

Phosphate and potash imports are projected to increase significantly this year due to strong on-farm demand, low channel inventories, a better-than-expected monsoon so far this year, and profitable import economics. First-half statistics indicate that India is on track for a big rebound from the lower levels of last year.

In the case of phosphate, DAP imports totaled just less than 3.0 million tonnes during the first half of this year, up 190% or nearly 2.0 million tonnes from the same period last year. Imports for the entire year are projected to reach 5.5 to 6.0 million tonnes so arrivals during the last half are expected to total 2.5 to 3.0 million tonnes, in line with the large tonnage delivered during the second half last year. India imported only 3.8 million tonnes of DAP in 2014.

## India DAP Imports

Source: FAI and Mosaic

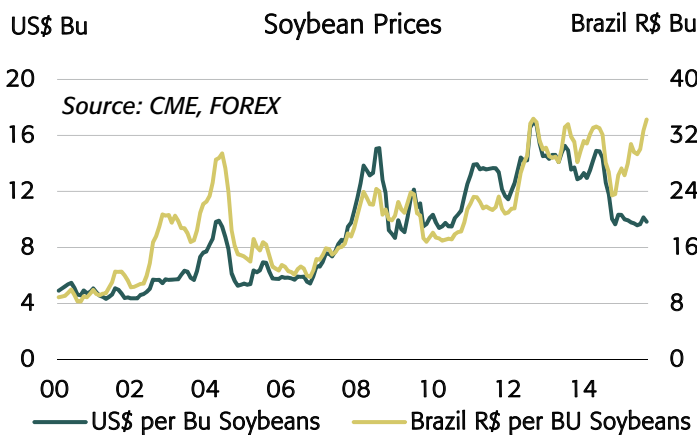


In the case of potash, MOP imports totaled 1.8 million tonnes during the first half of this year, up 7% or 120,000 tonnes from the same period last year. Based on tonnage contracted for the 2015/16 fiscal year, imports for this calendar year are projected to reach about 5.0 million tonnes. This implies that arrivals during the last half of 2015 are expected to total 3.2 million tonnes, up one-half million tonnes from the 2.7 million imported during the last half of 2014. India imported 4.3 million tonnes of MOP in 2014.

## Brazil Highlights

The collapse of the *real* coupled with still relatively high soybean prices typically would have supercharged the export-oriented agricultural sector by now. That has not happened . . . yet. Indeed, the current price of soybeans in *real* per bushel is nearly equal to peaks of the last few years.

In addition to commodity price volatility, a long list of other factors including the volatility of the *real*, delays in releasing government-subsidized farm credit and economic and political uncertainties have delayed shipments and imports this year. The latest statistics from ANDA indicate that shipments of all plant nutrient products during the first half were off 10% or almost 1.4 million tonnes from the record pace a year ago. Our Sao Paulo team now projects that shipments this year will total 30.7 million tonnes, off 5% or about 1.5 million tonnes from last year. The good news is, assuming this forecast is on the mark, that shipments during the last half of the year will nearly equal the high levels of last year.

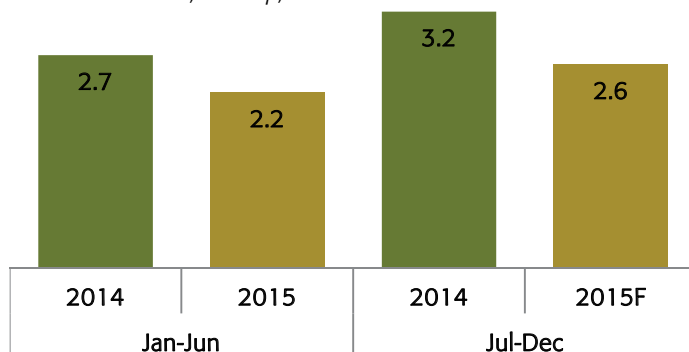


The situation in Brazil remains fluid, but farmers are expected to plant record area, apply much-needed inputs, and produce another record crop as long as Mother Nature cooperates. Indeed, initial estimates made by consultant SAFRAS e Mercado indicate that it expects farmers to plant 32.9 million hectares of soybeans and harvest 99.8 million tonnes in 2015/16; both record harvests and up from 31.7 million hectares and 95.5 million tonnes in 2014/15.

In the case of phosphate, shipments of the leading high analysis products (DAP/MAP/MicroEssentials®/TSP) are forecast to decline 4% or 310,000 tonnes to 7 million this year. Shipments

### Mil Tonnes Brazil DAP/MAP/ME/TSP Imports

Source: ANDA, Siacesp, and Mosaic

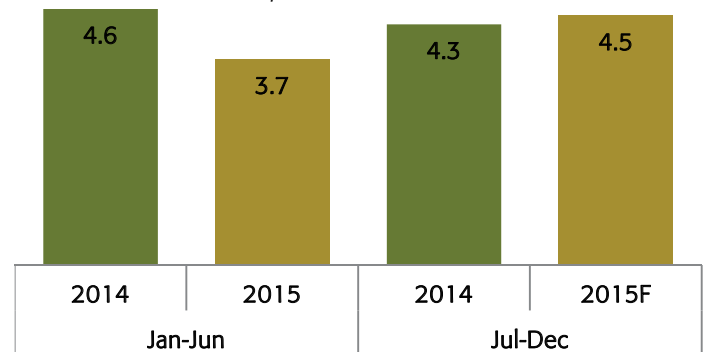


during the first half totaled 2.6 million tonnes, a drop of 13% or 390,000 tonnes from a year ago. If our forecast for the entire year is on target, 4.5 million tonnes will need to ship during the second half, up 80,000 tonnes from the same period last year.

Imports of high analysis phosphate are projected to decline more than the drop in shipments as a result of a drawdown of channel inventories and a small bump in domestic production. In particular, imports of these products are forecast to decline to 4.8 million tonnes this year, off 19% or 1.1 million from 2014. Imports during the first half totaled 2.2 million, down 18% or 470,000 tonnes from a year earlier. As a result, imports during the last half are expected to total 2.6 million, off 21% or 665,000 tonnes from the same period last year.

### Mil Tonnes Brazil MOP Imports

Source: ANDA, Siacesp, and Mosaic



In the case of potash, MOP shipments are projected to decline 5% or 410,000 tonnes to 8.5 million this year. Shipments during the first half totaled 3.0 million tonnes, a drop of 14% or 490,000 tonnes from a year ago. If our forecast for the entire year is correct, 5.5 million tonnes will need to ship during the second half, up 80,000 tonnes from the same period last year.

Imports are forecast to decline to 8.2 million tonnes this year, off 8% or 750,000 tonnes from 2014. However, imports during the first half totaled 3.7 million, a drop of 20% or more than 900,000 tonnes from a year earlier. As a result, imports during the last half are expected to total 4.4 million, up 4% or nearly 160,000 tonnes from the same period last year.

## China Highlights

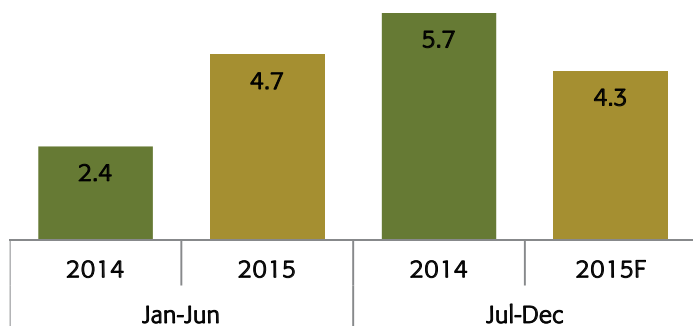
Agricultural commodity price volatility has had limited impact on plant nutrient demand largely because the government supports crop prices at high levels through procurement programs designed to build strategic reserves and support rural economies. In fact, corn traded at an average price of \$9.35/bu on the Dalian exchange and wheat traded at more than \$12/bu on the Zhengzhou exchange during July.

Lofty domestic grain and oilseed prices continue to underpin large planted area and strong on-farm demand for plant nutrients. That clearly is the case for potash. China has contracted for large tonnage from all of the major suppliers this year. Our tally of contracted vessel-delivered tonnage plus an estimate of rail-delivered volume is 7.4 million tonnes. We estimate that optional tonnage adds up to 1.7 million tonnes, so China could import 9.1 million tonnes this year if all of the optional tonnage is shipped – a 13% or 1.1 million tonne increase from the hefty mark of 8.0 million tonnes last year.

China Customs statistics revealed that MOP imports totaled 3.8 million tonnes in the first half, down 2% or approximately one vessel from the same period a year earlier. Canpotex was the largest supplier (1.2 million tonnes) followed by Belaruskali (990,000 tonnes) and Uralkali (960,000 tonnes). If all of the optional tonnage is exercised, imports in the second half could reach 5.3 million tonnes, up 1.1 million tonnes from the same period last year. Implied potash use has increased significantly during the last several years as a result of both large gains in domestic production and a rebound in imports to a level that is approaching the previous peak of 9.4 million tonnes in 2007.

#### Mil Tonnes China DAP/MAP/TSP Exports

Source: China Customs and Mosaic



In the case of phosphate, exports of high analysis products (DAP/MAP/TSP) doubled in the first half of this year due to the elimination of low- and high-tax windows as well as early and large purchases by India. The implementation of a relatively low flat export tax was expected to facilitate a more orderly flow of exports and reduce price volatility in 2015, and that looks to be the case.

First-half exports jumped 98% or 2.3 million tonnes to 4.7 million from the low comparable last year. India (27%), Brazil (17%) and Vietnam (11%) accounted for more than one-half of the total. We project that exports likely will total 8.5 to 9.0 million for the entire year, so second half exports are expected to total 3.8 to 4.3 million tonnes, less than the 5.7 million tonnes bunched into the last half of 2014 when both India and the United States imported large tonnage. Our Beijing team projects a point estimate of 8.9 million tonnes.

China is expected to implement a 13% value added tax (VAT) on all plant nutrient sales on September 1. Details of the policy and the impacts on prices, domestic shipments, exports and imports remained uncertain as this issue of Market Mosaic went to press. Nevertheless, a VAT is expected to raise the floor price and reduce the volume of phosphate exports. In the case of potash, a VAT will increase retail prices and potentially jeopardize some of the optional tonnage that is expected to ship later this year. Stay tuned.



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