December 4, 2015

Agriculture Market Highlights:

A very difficult month is in the books. November was one of those months where just about everything that could have gone wrong, did go wrong. If you recall from the commentary last month I had started leaning somewhat friendly to the soybean market while looking for a basis-inspired rally due to slow farmer marketing. It turns out that was a completely wrong position to take as farmers marketed their crops more aggressively than anticipated and the sheer volume of last year's large crop kept prices on the defensive. The good news is that I quickly realized this and switched position to a more bearish tone. Unfortunately, that change in sentiment was poorly timed as the prices stopped going down and spent much of the month trending sideways before a late rally to end the month.

The difficult part of the second half of last month is that all the fundamental data was "checking all the boxes" in agreement with negative sentiment. Consider the following:

- Cash markets remained uninspiring. Basis levels steadied from post-harvest lows but have never indicated any tightness in available supply.
- Export sales, especially in corn, continue to look weaker than necessary to match WASDE projections.
- Argentine voters elected a new administration promising to loosen restrictions on grain/oilseed export taxes.

There are other price-negative factors I could mention, but I'll stop there. Still, despite these developments, prices reversed higher following the Argentine election results and really haven't looked back since. While the fundamental data points I follow were mostly bearish, the price action should have commanded more of my attention as it was clearly headed in the opposite direction.

Of course what usually happens when markets make this sort of shift in an opposite direction is that some "news" takes place to encourage further follow through. In this case, it appears the EPA's long awaited release of the "final" Renewable Fuel Standard (RFS) mandates for 2014, 2015, and 2016 has served as this news. Keep in mind, however, that nearly everyone has agreed that the EPA was likely to raise their Renewable Fuel Standard requirements from their May proposals. Still, upon the confirmation of slightly higher figures, we've seen further buying enthusiasm in soy and corn markets.

I contend this buying enthusiasm, if solely based on the RFS update, is misplaced. For starters consider the adjustment to the corn-based ethanol requirement. Their 2016 finalized rule calls for corn based ethanol blending of 14.5 billion gallons compared to 14.0 billion in their initial proposal. I've seen *several* commodity analysts note that a 500 million gallon increase to the requirement would essentially mean ~180 million bushels in added corn demand, assuming one bushel of corn yields 2.8 gallons of ethanol. I obviously cannot argue with that math, but the logic is flawed. An increase to the mandate does not necessarily mean current projections on the corn grind for ethanol need to be increased. For starters, we've produced ethanol at levels above the mandate for several years, giving the industry a "bank" of leftover Renewable Identi-

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fication Numbers (RINs) that could be applied to the RFS requirements. Also note the graphic to the right. WASDE is currently projecting 15/16 corn for ethanol use of 5.175 billion bushels. Using the 2.8 conversion factor mentioned above, this would yield approximately 14.49 billion gallons of ethanol. As you can see, the *current* WASDE projection is already close to matching the new RFS requirement for corn. It would only take an additional 3 million bushels of corn to reach the 14.5 billion level. Now, the WASDE projection is for the 15/16 marketing year and the EPA requirements are for CY 2016, so it is not the exact same time frame…but it still clearly indicates the market has rightly factored corn demand for ethanol this year.

Corn Requirement Scenario Breakdown	
15/16 Corn Grind	5,175,000,000
Ethanol Equivalent (gal)	14,490,000,000
2016 Ethanol Req	14,500,000,000
Difference	(10,000,000)
Amount of "added" corn	**3,571,429**
*Assumes 2.8 conversion factor	

Some might point out that I'm not accounting for ethanol exports in my math above, and that is true. The US is a net exporter of ethanol and this does not contribute to the RFS requirement. That said, I would make the counter-point that others are making the incorrect assumption that all ethanol production is derived from corn. Instead, I think we'll continue to see sorghum utilized more aggressively in ethanol use as the year progresses. The bottom line is the same, the updated RFS requirement is not a game-changer for the corn balance sheet.

The soyoil implications of the new RFS are more complicated. The soyoil market has seen a huge surge in buying interest in the past few weeks based on the idea that this could lead to a massive surge in soyoil consumption for biodiesel. I'd agree that it likely leads to higher soyoil consumption, but I question whether the increase will be large enough to keep the market impressed.

First off it is important to note there is an "accounting" issue between the Energy Information Administration's biodiesel production figures and the EPA's RIN figures. Each gallon of biodiesel accounts for 1.5 RINs, but as the graphic below shows, the EIA's biodiesel production figures have fallen well short of the EPA's RIN calculations over the past several years and the gap is growing wider. If I had to guess, I would bet that this is somewhat due to an increase in biodiesel imports since 2013, but that likely doesn't account for all of the discrepancy.

Biomass-Based Diesel (D4 RINs)	2011	2012	2013	2014	2015*
RINs Volume (bil)	1.692	1.737	2.739	2.710	1.805
EPA Est. Prod. (bil gal)	1.123	1.147	1.793	1.763	1.175
EIA Biodiesel Prod (bil gal)	0.966	0.990	1.358	1.270	0.838
**YTD data current thru Aug*					
EPA Calc x 1.5 RIN/Gal	1.685	1.721	2.690	2.645	1.763
Difference b/w RIN Vol	0.008	0.017	0.050	0.066	0.042
EIA Biodiesel x 1.5 RIN/Gal	1.449	1.485	2.037	1.905	1.257
Difference b/w RIN Vol	(0.243)	(0.252)	(0.702)	(0.805)	(0.548)
Percentage of RIN Vol	86%	85%	74%	70%	70%

I bring this up to point out the market's incorrect assumption of a 1:1 relationship between the EIA's biodiesel (and soyoil use) figures and the EPA's estimates. The reason this is important to note is shown in the figure below. The biomass diesel EPA requirement for 2016 stands at 1.9 billion gallons, but if we were to assume the EIA's biodiesel production will account for 80% of that (near levels seen in 2011 and 2012) it would require 1.52 billion gallons of biodiesel production. This would require roughly 11.2 billion lbs. of inputs into biodiesel production, and the common assumption is that soyoil accounts for roughly 50% of these inputs. In this manner, you can back in to a soyoil consumption figure of roughly 5.6 billion lbs., compared to the current WASDE projection of 5.2 billion lbs. But what if the EIA's biodiesel production relative to EPA RIN generation is closer to the 70% we've seen in recent years? This would clearly not impress the market, at least not at current soyoil and soybean valuations.

Biomass Biodiesel - Soyoil Scenario - 2016			
Biomass Diesel Req. (bil gal)	1.900		
"Textbook" Calculation		Alternative Calculation	
Needed EIA Bio Prod	1.520	Alt. Bio Prod	1.330
(Biomass Req x 80%)		(Biomass Req x 70%)	
Estimated Required Inputs	11.172	Estimated Required Inputs	9.776
50% Soyoil Assumption (bil lbs)	5.586	50% Soyoil Assumption (bil lbs)	4.888

Unless Congress switches the biodiesel tax credit to a producer credit rather than a blending credit (as it currently stands), I believe biodiesel imports will still be used to meet the RFS requirements and soyoil consumption will not be as strong as many are expecting. We should know more on the tax credit decision by Congress in the coming weeks, and DC contacts appear to be split on whether or not they believe it has a reasonable chance to pass. The market appears to be counting on it to pass at these price levels, potentially setting up for some serious disappointment.

So the bottom line here is, by itself the updated RFS rule really changes nothing. A switch to a producers' tax credit will prompt a reevaluation of what we're looking at, but odds are pretty split over whether or not that has a chance of passing. I've spent a lot of time discussing this here because it has been a large issue in the market's price action lately, and I think it is important to understand that the reality might not match the hype.

With that in mind, our attention shifts to what *does* matter to price action going forward. In the case of soybeans, it appears to me the market is looking at a fork in the road in terms of price action. The short term price direction of soybeans will be almost solely determined by weather conditions through northern Brazil. The state of Mato Grosso itself accounts for roughly 30% of Brazil's soybean production. The state has seen a very irregular rainfall pattern so far this season. Soybean areas of Mato Grosso have seen much lighter rainfall than is normally seen during this time of year. This has had two major features. The first one is that soybean planting was somewhat delayed as producers waited until soil moisture levels were adequate enough to ensure proper germination. Secondly, crop conditions following emergence are questionable and there are

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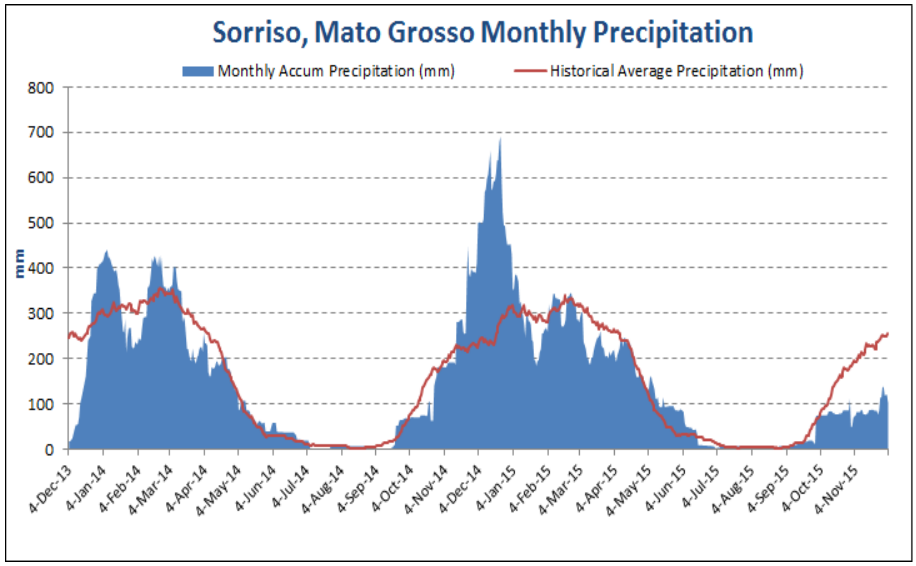
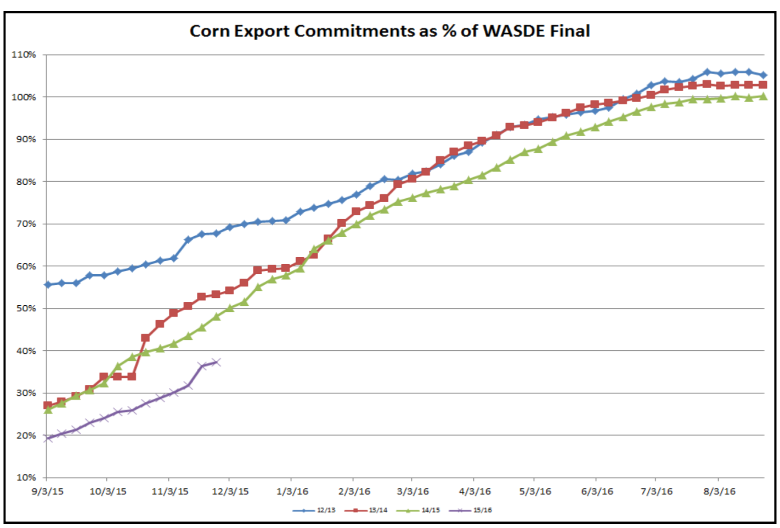
some concerns over yield potential. The chart to the right illustrates the point. This shows precipitation vs. average for Sorriso, Mato Grosso which is in the heart of the soybean production area in the state. You can easily see how rainfall has been running below normal over the past few months.



The impact on yield potential is hard to quantify. We are talking about a part of the world that is practically rain forest, so “normal” precipitation is actually more than you need for proper soybean development. The timeliness of rainfall is more important, usually, than its deviation from normal. That said, the departure from normal in some of these areas is getting pretty noticeable, and our guard has to be raised against potential yield shortfalls.

We’re stuck at the fork in the road in soybeans where weather will dictate short term price action. While I maintain my overall bearish bias, I am positioning to make sure we can take advantage of a price rally in case the market comes to the decision to be worried about Brazilian yield prospects.

Turning to corn, I have a fairly strong negative bias for old crop futures. Export demand remains abysmal. I get the sense that USDA will be reluctant to lower their corn export projection the immediate future, but eventual reduction are highly likely. Corn sales continue to underwhelm and the “window” of corn export business is now looking smaller than previously thought. We all expected US corn exports to struggle early this year due to Brazil’s export pace, but now Argentine corn offers from March-forward are more aggressive than US prices. The new Argentine administration will end export taxes on corn effective immediately (Dec 10) and this is expected to bring corn out of farmer storage and finally back into the market. Longer term, the removal of the corn export tax and quota system will encourage farmers to return to a more normal crop rotation rather than planting continuous soybeans. This should encourage higher corn (and wheat) production over time.



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As mentioned before, I don't believe the hype that the corn grind for ethanol will need to increase significantly based on the updated RFS requirements, and so a lower eventual export figure will further add to corn ending stocks and should pressure prices in the short/medium term. Weather in Brazil is less of an immediate concern for the corn market, as it is the winter crop in Brazil that really matters for total production. Still, one caveat for my expectation for weaker corn prices in the short/medium term is the possibility for soybean futures to continue their rally due to yield concerns in Brazil. With that in mind, we only have a conservative corn short at the moment and are prepared to take advantage of short term upside should that situation develop.

Happy Holidays,

David Zelinski
12/4/2015
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