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BUSINESS VALUATION & FINANCIAL ADVISORY SERVICES

VALUE FOCUS

Agribusiness Industry

SEGMENT FOCUS

Agriculture Chemicals

2016

Q1: Agriculture Machinery, Equipment & Implements

Q2: Crops & Crop Services

Q3: Agriculture Real Estate

Q4: Agriculture Chemicals

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SEGMENT FOCUS

Agriculture Chemicals

Overview

Agricultural chemical producers and manufacturers have experienced a decline in revenues due to weak demand from farmers as crop prices have remained low. According to the USDA farm income forecast for 2017, U.S. net cash farm income is projected to rebound only slightly (an increase of 1.8%), following three years of decline. The 2017 projected level is 31% below the 2013 peak. When adjusted for noncash expenses, U.S. net farm income is projected to decline 8.7%.

Prices for most major field crops are expected to continue their downward trajectory in 2017, with the exception of soybeans and cotton. Rising yields and growing inventories have put downward pressure on crop prices and will require farmers to plant fewer acres further reducing the demand for fertilizers and pesticides. Farmers are projected to **cut expenses on agricultural chemicals** such as fertilizer and pesticides by 5.4%, which would mark the first three year decline since 1987.

Lower or stagnating farm incomes should increase farmers' price sensitivity for inputs which may favor low cost producers relative to the rest of the industry. Many chemical producers invested in expanded production capabilities when crop prices peaked several years ago, which may contribute to oversupply and weigh on chemical prices. Mergers and acquisitions activity has been strong in the agricultural chemicals industry over the past few years, and revenue pressures and the potential for cost savings may spur further deal activity.

U.S. Farm Sector Income Statement (2012-2017F) // ($ billions)

	2012	2013	2014	2015	2016F	2017F
Crops	231.6	220.8	211.4	185.7	187.7	186.7
Livestock	169.8	182.7	212.8	189.8	168.1	168.2
Direct Government Payments	10.6	11.0	9.8	10.8	13.0	12.5
Other Farm-related Income	39.3	41.0	36.6	34.4	30.7	34.4
Gross Cash Income	**$451.3**	**$455.5**	**$470.5**	**$420.6**	**$399.5**	**$401.8**
Noncash Income	18.3	17.7	16.9	17.8	18.8	19.9
Value of Inventory Adjustment	(19.8)	10.6	(4.3)	1.3	(0.1)	(9.3)
Total Gross Income	**$449.8**	**$483.8**	**$483.1**	**$439.7**	**$418.2**	**$412.4**
Total Expenses	353.3	360.1	390.5	358.8	349.9	350.0
Net Cash Farm Income	**$96.5**	**$123.7**	**$92.6**	**$80.9**	**$68.3**	**$62.3**

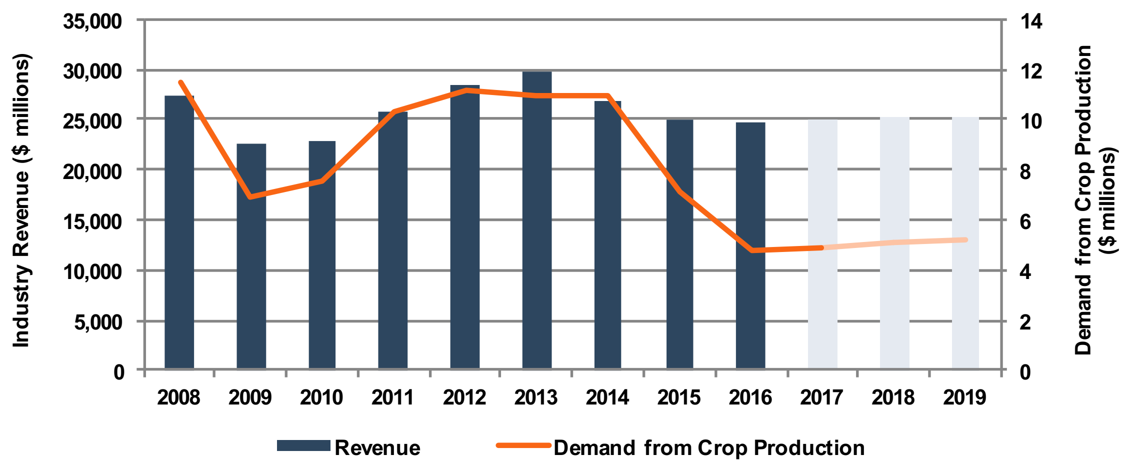
Source: USDA WASDE Report, February 7, 2017

Fertilizer

The fertilizer manufacturing industry produces fertilizer products, primarily consisting of phosphorous-based and nitrogen-based fertilizers. Nearly 80% of industry products are used for various agricultural products, making the industry highly correlated with the general farming economy.

Along with the impact of the decline in crop prices discussed above, the decline in natural gas prices, a key input for nitrogen fertilizers, will put further pressure on fertilizer prices. Overproduction may prove most costly for potash, where expansion takes more time and it is difficult to pull capacity off line for short periods of time. As farmers cut costs on fertilizer, underutilization presents a challenge for small and high-cost producers. Potash and phosphate producers are more vulnerable in the short run because foregoing or delaying the use of potash or phosphate has a less immediate impact on crop yields than nitrogen.

Fertilizer Manufacturing Industry Revenue



Source: IBISWorld Report

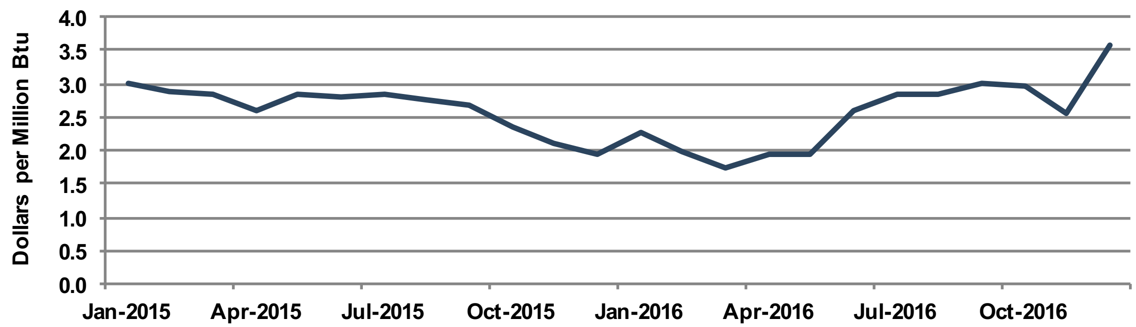
Fertilizer
(continued)

The nearly $25 billion industry is dominated by a handful of large multinational corporations. Four fertilizer manufacturing companies comprise a majority of overall market share due to factors such as access to natural resources and key inputs, along with intense price competition. **Industry revenue declined** 9.6% in 2014 as the drop in crop and fertilizer prices initiated a multi-year period of falling revenue (as shown in the chart on page 2). Reduced demand from crop production and lower farm incomes, along with technological breakthroughs reducing the need for industry products, will continue to keep revenue growth low in the short term until farmer demand and fertilizer prices start to increase again.

A large quantity of U.S. fertilizer consumption is supplied by imports. **The USDA reports** that in 2011 (most recent data available) more than 85% of the potash supply used in U.S. was imported. In the future, the U.S., with its limited domestic nitrogen and potash production capacity, will consume an even larger portion of these fertilizers from foreign imports. U.S. phosphate production, however, is overwhelmingly domestic. U.S. manufacturers produce more than 90% of U.S. consumed phosphate, and over 60% of phosphate produced in the U.S. is exported. Key export markets include Canada and Brazil.

Natural gas is the main raw material used to produce nitrogen fertilizer (35.3%), the second most popular type of fertilizer behind phosphate based fertilizer (44.4%). Energy price trends over the past five years have benefitted the industry, lowering manufacturing costs. **Natural gas prices have started to increase** after falling to lows of $1.73 per million Btu in early 2016 but still remain below the highs of 2014.

Henry Hub Natural Gas Spot Price



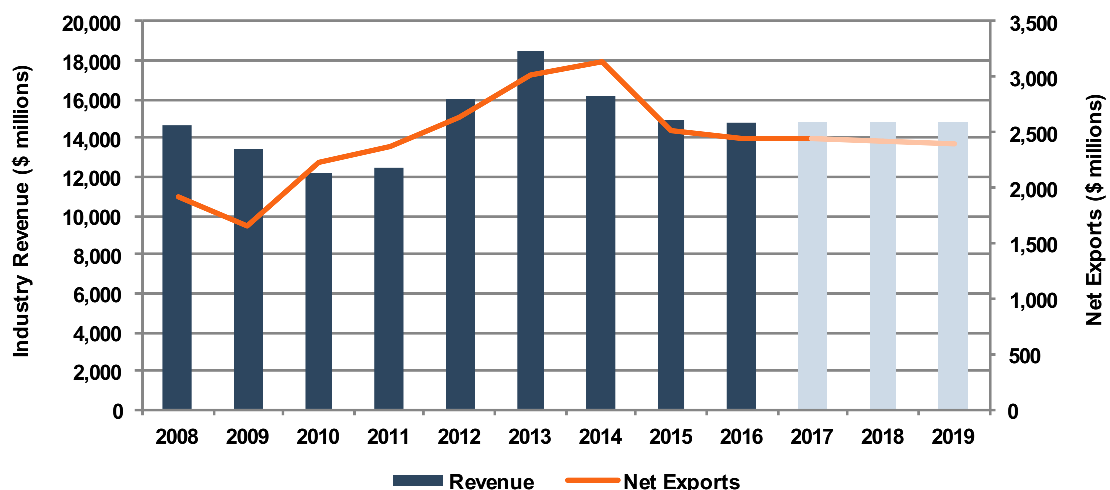
Source: EIA

Pesticide

Pesticide manufacturers cover a **wide variety of products** for household and agricultural pest control. Herbicides (53%), fungicides (25%), and insecticides (19%) make up the majority of industry products. Crop industries in the U.S. accounted for nearly 65% of pesticide manufacturing revenue in 2016, followed by exports (24%) and household/other uses (11%). In 2012, over 60% of all herbicide treatments were applied to corn and soybean crops, while citrus and cotton crops received more than 50% of all insecticide treatments.

Like fertilizers, pesticide industry revenue has been **volatile over the past five years** as reduced farm incomes led to a significant decline in 2014 that has continued through 2016. Revenue is projected to stagnate over the next couple of years as farmers cut costs and reduce acres planted. However, oil is a major input for pesticide manufacturers and operators in the pesticide manufacturing industry have benefitted from the sharp drop in prices since the second half of 2014 due to the crude oil glut.

Pesticide Manufacturing Industry Revenue



Source: IBISWorld Report

Pesticide (continued)

The U.S. pesticide manufacturing industry is a net exporter of industry products, and the importance of exports is expected to increase moving forward as reduced U.S. farm incomes temper demand. Exports accounted for $3.5 billion in industry revenue in 2016, 24% of overall revenue, with Canada (28%), Brazil (19%), Mexico (8%), and China (6%) constituting the industry's major trading targets. Export totals increased over 11% from 2009 to 2014, due to Brazil's economic growth and a weak U.S. dollar. A strengthening U.S. dollar over the second half of 2014 dampened export totals for both fertilizer and pesticides. The **Wall Street Journal Dollar index**, which measures the U.S. dollar against a number of currencies, rose 2.5% in 2016 and remains at multi-year highs. Future dollar appreciation may hurt U.S. exports going forward, negatively affecting the profitability of both fertilizer and pesticide manufacturers.

As farmers continue to cut costs and look for ways to more efficiently employ their crop inputs, more farmers will adapt the use of new farm data management practices and technologies such as variable rate seeding. Variable rate seeding helps farmers alter their seeding rates according to specific field variables which increases seed utilization efficiency and minimizes total costs. According to a Purdue University farm retail survey, the use of variable rate seeding and other pesticide technologies reached new highs in 2015. Data management services and offerings may provide competitors an advantage as overall demand for chemicals and seeds stagnates.

Additionally, the increasing implementation of genetically modified crops has hurt industry product demand, as new seeds are created with a resistance to many agricultural diseases and pests. In addition, the growing trend of organic farming avoids the use of synthetic chemical pesticides, opting instead to use production practices and natural means to reduce pests.

Agricultural Chemicals Recent M&A Activity

There were 37 transactions announced or closed in 2016 in the agricultural chemicals sector. According to data from Capital IQ, total deal volume for the industry (represented by SIC Code 2870) was over $137 billion for the period, with an average transaction value of $3.7 billion.* Given the global nature of the industry, transaction volume includes a significant number of cross-border deals.

Major Transactions

- February 3, 2016: **China National Chemical Corp.**, a Chinese government-owned manufacturer of chemical products, placed a $43 billion **offer to buy** **Syngenta AG**, a Switzerland-based pesticide and seed company. If successful, the acquisition would be the largest foreign deal completed by a Chinese company. The deal is still pending approval from government officials due to antitrust and potential national security concerns. For ChemChina, the deal would provide access to Syngenta's developed biotechnology, and Syngenta would gain access to the massive Chinese market.

- December 19, 2016: **The Mosaic Company** **entered into an agreement to purchase** the majority of Brazilian mining firm **Vale SA's fertilizer business** for $2.5 billion. The deal is expected to close by the end of 2017. Vale will use the proceeds of the deal to pay down debt accumulated during the period of low commodity prices while The Mosaic Company will gain a foothold in the promising Brazilian fertilizer market. Brazil is viewed as a key market for growth in fertilizers and agriculture and represents a strong export market for U.S. producers.

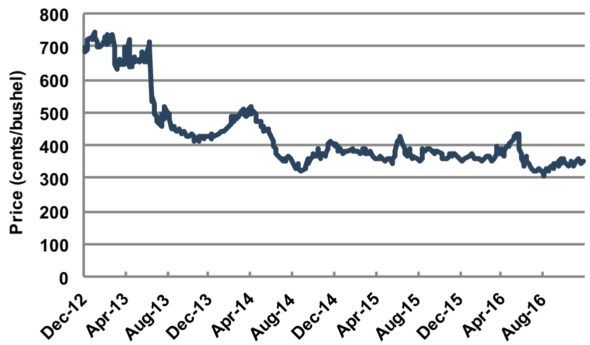
* Capital IQ. Deal Volume and Averages are derived from disclosed deal information.

Agricultural Chemicals Recent M&A Activity (continued)

- September 12, 2016: Two Canadian firms, **Agrium Inc.** and **Potash Corp.** of Saskatchewan, **agreed to a merger** that would produce a combined company worth $27 billion. Potash Corp. is the world's largest fertilizer producer in terms of capacity and Agrium is the biggest retailer of fertilizer, seeds, and equipment in North America. The deal would strengthen Agrium's supply of Potash and other fertilizer ingredients while protecting Potash from volatile fertilizer prices and providing a stronger distribution network. The combined company would potentially control 60% of North American capacity.

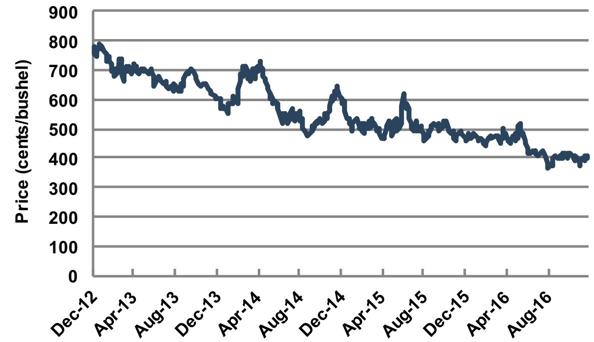
Further deals may materialize as a lack of organic growth opportunities will place pressure on firms to cut costs and pursue other means of growth. Despite weak earnings growth, significant M&A deals have helped bolster agricultural chemical company valuations. However, according to Bloomberg Intelligence, chemicals mergers between large, established firms have performed worse historically than bolt-on acquisitions. Over the past 20 years, the return on capital fell an average 2% in the three years after a chemicals deal. Megadeals raised return on capital only half as often as smaller deals. Too much further M&A activity may signal a potential economic downturn as recessions have followed two of the last three large M&A waves in the agricultural chemicals industry.

Corn

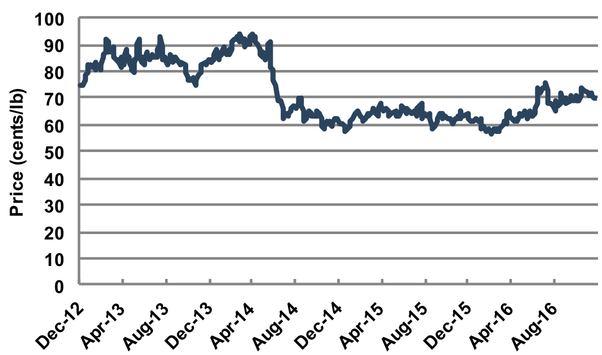


Soybeans

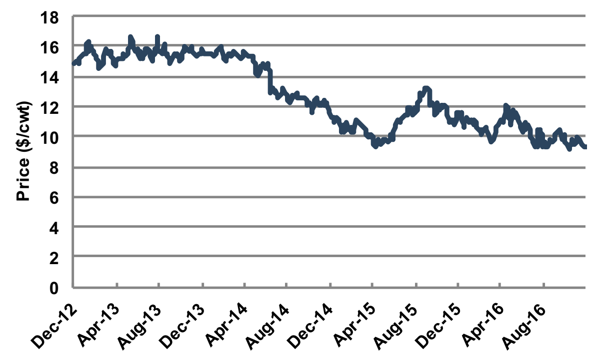
Wheat



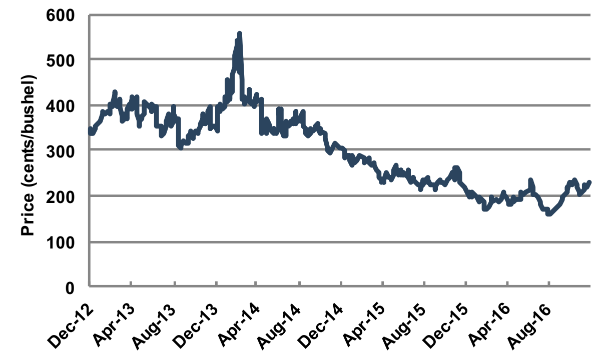
Cotton



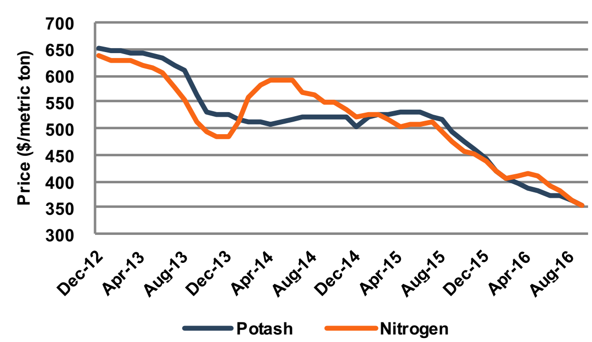
Rough Rice



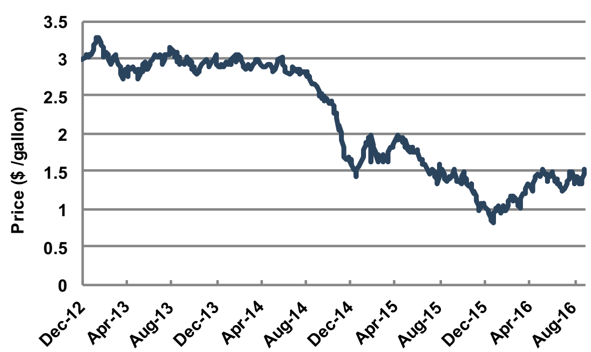
Oats



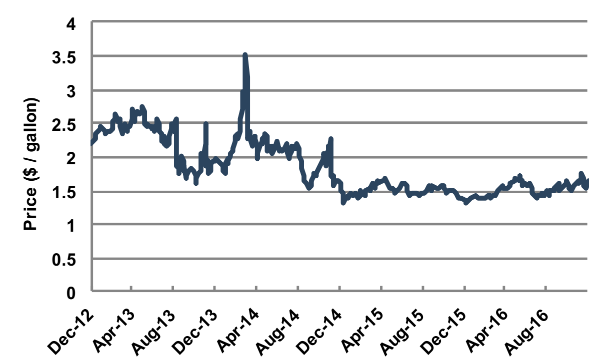
Retail Fertilizer



Gulf Coast Diesel: Ultra-low Sulfur No. 2



Ethanol

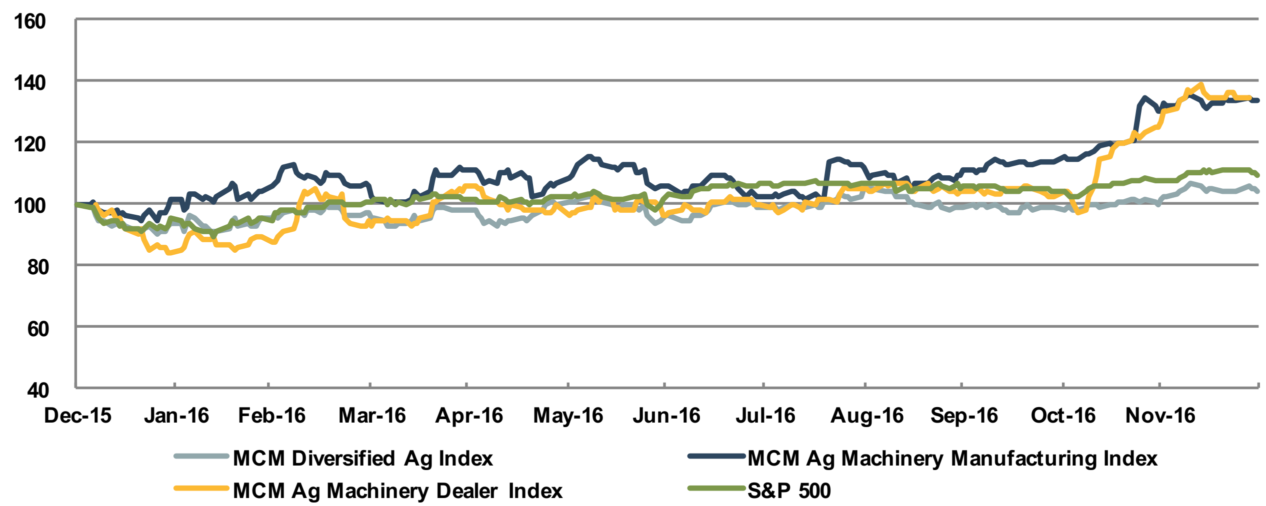


Publicly Traded Agribusiness Companies

Company Name	Ticker	Price 12/31/16 ($)	52 Wk Perform (Market Cap)	LTM Revenue ($)	Enterprise Value ($M)	Debt/ MVTC	EBITDA Margin	EV / LTM EBITDA (x)	TEV / Nxt Yr EBITDA (x)	Price/ LTM Earnings (x)
Diversified Agribusiness										
Agrium Inc.	TSX:AGU	100.47	12.7%	13,665	19,692	26.0%	11.5%	12.56	10.95	23.42
CF Industries Holdings, Inc.	NYSE:CF	31.48	-22.9%	3,685	14,444	40.0%	33.6%	11.66	12.06	NM
The Mosaic Company	NYSE:MOS	29.33	6.3%	7,163	13,533	28.2%	16.8%	11.26	12.14	34.51
Potash Corporation of Saskatchewan Inc.	TSX:POT	18.08	5.9%	3,921	19,678	23.3%	31.8%	15.79	13.77	46.97
Intrepid Potash, Inc.	NYSE:IPI	2.08	-29.5%	164	278	48.0%	-5.4%	NM	12.78	NM
Terra Nitrogen Company, L.P.	NYSE:TNH	102.71	1.1%	418	1,927	0.0%	59.8%	7.72	NM	13.53
Yara International ASA	OB:YAR	39.51	-8.7%	11,068	12,259	15.7%	13.9%	7.99	7.62	14.62
Monsanto Company	NYSE:MON	105.21	6.8%	13,933	53,611	16.1%	28.8%	13.36	13.72	28.79
Syngenta AG	SWX:SYNN	396.25	1.1%	12,790	39,573	9.2%	20.5%	15.11	13.93	30.95
Archer-Daniels-Midland Company	NYSE:ADM	45.65	24.5%	62,346	32,441	21.4%	4.1%	12.78	9.78	20.99
Bunge Limited	NYSE:BG	72.24	5.8%	42,679	15,724	30.5%	3.9%	9.42	8.02	14.07
Median - Diversified Agribusiness			**6%**	**11,068**	**15,724**	**23.3%**	**16.8%**	**12.11**	**12.10**	**23.42**
Agricultural Machinery & Equipment										
Manufacturers										
Deere & Company	NYSE:DE	103.04	35%	26,549	64,889	55.0%	14.4%	17.02	17.98	21.32
AGCO Corporation	NYSE:AGCO	57.86	27%	7,411	6,403	26.6%	7.8%	11.14	11.69	29.42
Lindsay Corporation	NYSE:LNN	74.61	3%	505	809	14.5%	8.3%	19.27	13.57	56.50
Median - Manufacturers			**27%**	**7,411**	**6,403**	**26.6%**	**8.3%**	**17.02**	**13.57**	**29.42**
Dealers										
Titan Machinery Inc.	NasdaqGS:TITN	14.57	33%	1,231	759	66.2%	1.8%	34.77	28.40	NM
Rocky Mountain Dealerships Inc.	TSX:RME	7.21	60.4%	693	384	67.4%	4.6%	11.95	13.42	12.55
Cervus Equipment Corporation	TSX:CERV	11.80	23.5%	826	371	34.7%	4.2%	10.74	9.07	10.48
Median - Dealers			**33%**	**826**	**384**	**66.2%**	**4.2%**	**11.95**	**13.42**	**11.52**

Source: Capital IQ

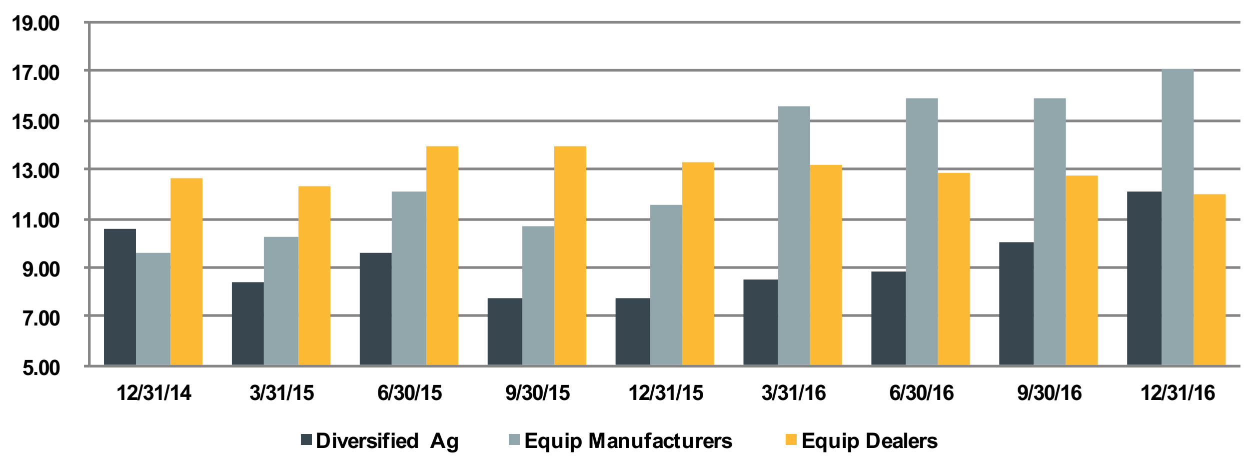
Mercer Capital Agriculture Indices: One Year Performance



6/30/2015 = 100

Source: Yahoo! Finance

Historical EV / EBITDA Multiples



Source: Capital IQ

Mercer Capital

Agribusiness Industry Services

Mercer Capital has expertise providing business valuation and financial advisory services to companies in the agribusiness industry.

Industry Segments

Mercer Capital serves the following industry segments:

- Agriculture Machinery, Equipment, & Implements
- Crop and Crop Services
- Agriculture Real Estate
- Agriculture Chemicals

Services Provided

- Valuation of agriculture companies
- Transaction advisory for acquisitions and divestitures
- Valuations for purchase accounting and impairment testing
- Fairness and solvency opinions
- Litigation support for economic damages and valuation and shareholder disputes

Contact a Mercer Capital professional to discuss your needs in confidence.

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