

# ***Ag Equipment Intelligence***

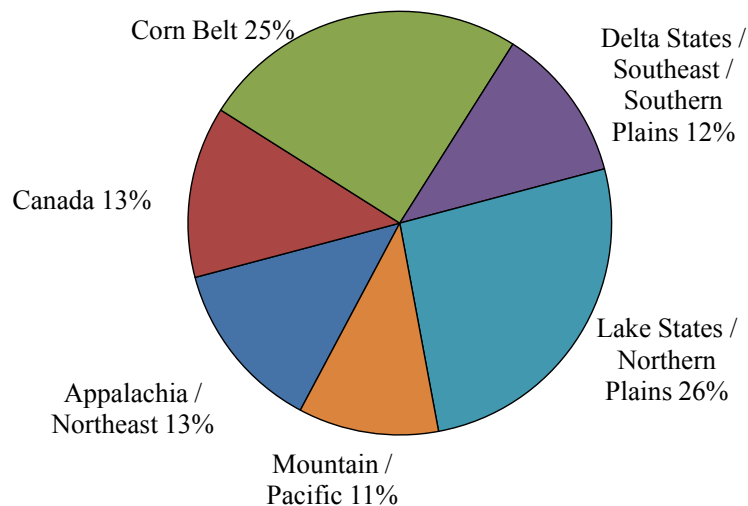
March 2016 Dealer Sentiments &  
Business Conditions Update

# Monthly Ag Equipment Intelligence North American Dealer Survey

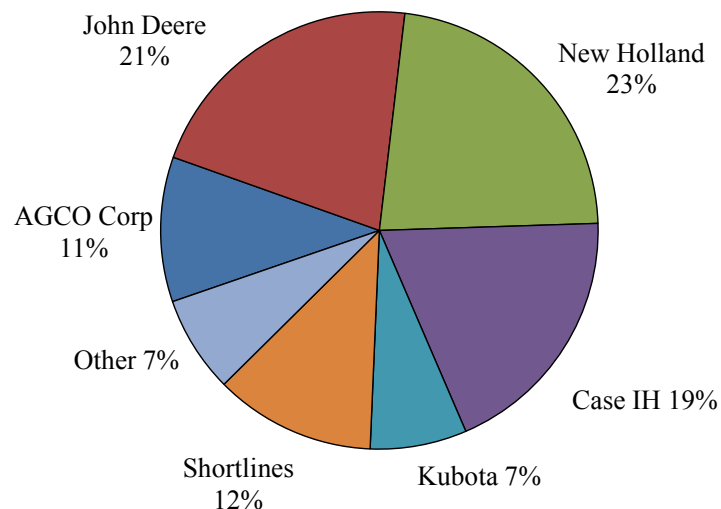
## Background:

- We are pleased to announce the results of the February Ag Equipment Intelligence survey conducted in partnership with Cleveland Research Company. We hope this monthly survey will provide valuable and timely insight into industry trends and fundamentals.
- The February survey had 102 respondents representing combined annual revenues of roughly \$4.1 billion. Participants representing a broad cross section of geographies and brands are summarized in the charts below.

### Survey Participants by Region



### Participants by Brand



**Appalachia / Northeast** – CT, DE, KY, MA, MD, ME, NC, NH, NY, NJ, PA, RI, TI, TN, VA, VT, WV, **Corn Belt** – IL, IN, IA, MO, OH, **Delta States / Southeast / Southern Plains** – AL, AR, FL, GA, LA, MS, OK, SC, TX, **Lake States / Northern Plains** – KS, MI, MN, NE, ND, SD, WI, **Mountain / Pacific** – AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY. Note AGCO represents Massey Ferguson and Challenger brands. \*Note regions have been condensed.

## Highlights / Summary Thoughts

- **Sales** – Average dealer sales were reported down 12% in February, slightly better than the 13% decline reported in January. A net 22% of dealers missed their sales budget in February, making for the 23<sup>rd</sup> consecutive month of net budget misses. A net 40% of dealers reported a sales decline in the month vs a net 50% citing a decline in January. Commercial and consumer lawn equipment sales continue to show strength, while large equipment demand remains very weak.
- **Outlook** – The full year 2016 dealer average sales growth forecast was reported at down 10%, an improvement from the down 11% forecast in January with a net 42% of dealers forecasting a sales decline for the year vs a net 54% forecasting a decline last month.
- **Inventory** – A net 42% of dealers reported new equipment inventories as too high, an improvement from the net 60% in January. Used inventory levels were inline with January, as a net 40% of dealers reported inventory as too high. Used combine inventory has worsened in the past several months after improving throughout 2015.
- **Pricing** – Dealers reported relatively flat new equipment pricing following a slight uptick in 4Q (~0.5-1.0%) as Tier 4 sales and OEM price increase have been offset by greater discounting at the dealer level. Used large tractor pricing is reported down 7% y/y on average, a slight improvement from the 8% decline reported in January, while small tractor pricing was ~flat in the month. Used combine prices were reported down 14%, a slight decline from the 12% decline reported in January.

# Monthly Sales Growth

- Average dealer sales were reported down 12% y/y in February, an improvement from the 13% decline in January and the 16% decline reported in 4Q. A net 22% of dealers missed their sales budgets in February, roughly inline with the net 23% of dealers missing budgets in January.
- A net 24% of dealers report they are less optimistic about overall business conditions, the 23<sup>rd</sup> consecutive month of deterioration in optimism.

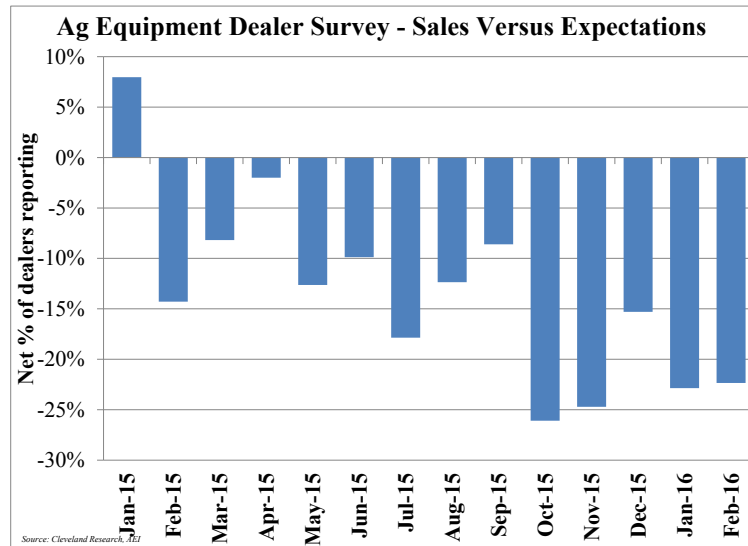
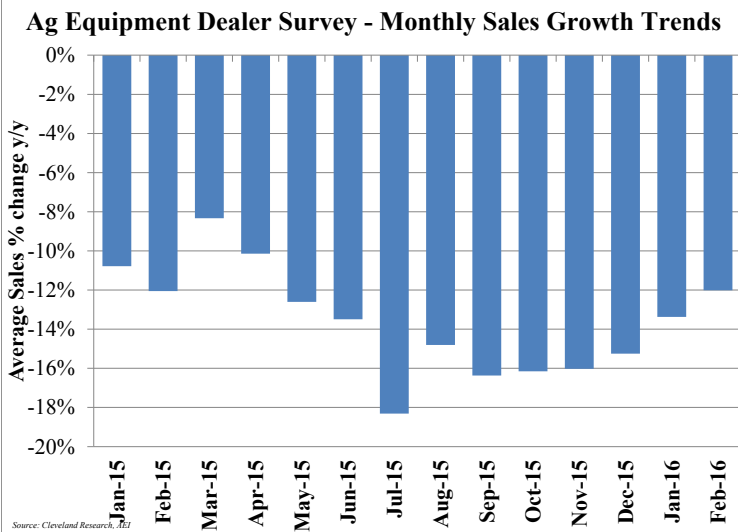
N. American Farm Equipment Dealer Survey - Average Dealer Sales Growth														
% Change y/y	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
AGCO	-15%	3%	-8%	-1%	4%	-12%	-24%	-13%	-14%	-22%	-27%	-9%	-13%	-7%
John Deere	-9%	-22%	-8%	-11%	-15%	-14%	-19%	-14%	-15%	-16%	-12%	-16%	-11%	-11%
New Holland	0%	-5%	-3%	-2%	-7%	-5%	-17%	-12%	-23%	-14%	-13%	-15%	-11%	-10%
Case IH	-19%	-10%	-13%	-16%	-19%	-19%	-17%	-19%	-20%	-19%	-22%	-18%	-18%	-20%
Kubota	5%	-6%	-4%	-1%	0%	0%	0%	-3%	-2%	2%	-5%	-13%	-8%	0%
Shortlines/Other	-9%	-4%	-18%	-8%	-6%	-16%	-7%	-38%	-7%	-9%	-8%	-8%	-9%	-1%
<b>Total</b>	<b>-11%</b>	<b>-12%</b>	<b>-8%</b>	<b>-10%</b>	<b>-13%</b>	<b>-13%</b>	<b>-18%</b>	<b>-15%</b>	<b>-16%</b>	<b>-16%</b>	<b>-16%</b>	<b>-15%</b>	<b>-13%</b>	<b>-12%</b>

Source: Cleveland Research, AEI

N. American Farm Equipment Dealer Survey - Sales Versus Expectations														
% of Dealers Reporting	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
Better than expected	26%	13%	20%	27%	23%	21%	18%	16%	19%	15%	12%	19%	12%	15%
In line with expectations	57%	59%	50%	44%	39%	48%	45%	56%	53%	43%	51%	47%	52%	47%
Worse than expected	18%	28%	28%	29%	36%	31%	36%	28%	28%	41%	37%	34%	35%	38%
<b>Net % (Better - Worse)</b>	<b>8%</b>	<b>-14%</b>	<b>-8%</b>	<b>-2%</b>	<b>-13%</b>	<b>-10%</b>	<b>-18%</b>	<b>-12%</b>	<b>-9%</b>	<b>-26%</b>	<b>-25%</b>	<b>-15%</b>	<b>-23%</b>	<b>-22%</b>

Source: Cleveland Research, AEI.

# Monthly Sales Growth Continued



**N. American Farm Equipment Dealer Survey - Average Dealer Revenue Growth Trends**

% of Dealers Reporting	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
Positive Sales Growth	32%	13%	20%	27%	29%	26%	20%	19%	24%	20%	16%	18%	14%	20%
Flat Sales	25%	59%	50%	11%	17%	11%	16%	16%	16%	15%	17%	10%	22%	20%
Negative Sales Growth	43%	28%	28%	62%	54%	63%	64%	65%	60%	65%	67%	72%	64%	60%
<b>Net % Reporting Growth</b>	<b>-11%</b>	<b>-14%</b>	<b>-8%</b>	<b>-35%</b>	<b>-25%</b>	<b>-37%</b>	<b>-43%</b>	<b>-46%</b>	<b>-35%</b>	<b>-46%</b>	<b>-52%</b>	<b>-54%</b>	<b>-50%</b>	<b>-40%</b>
<b>Average % Change y/y</b>	<b>-11%</b>	<b>-12%</b>	<b>-8%</b>	<b>-10%</b>	<b>-13%</b>	<b>-13%</b>	<b>-18%</b>	<b>-15%</b>	<b>-16%</b>	<b>-16%</b>	<b>-16%</b>	<b>-15%</b>	<b>-13%</b>	<b>-12%</b>

Source: Cleveland Research

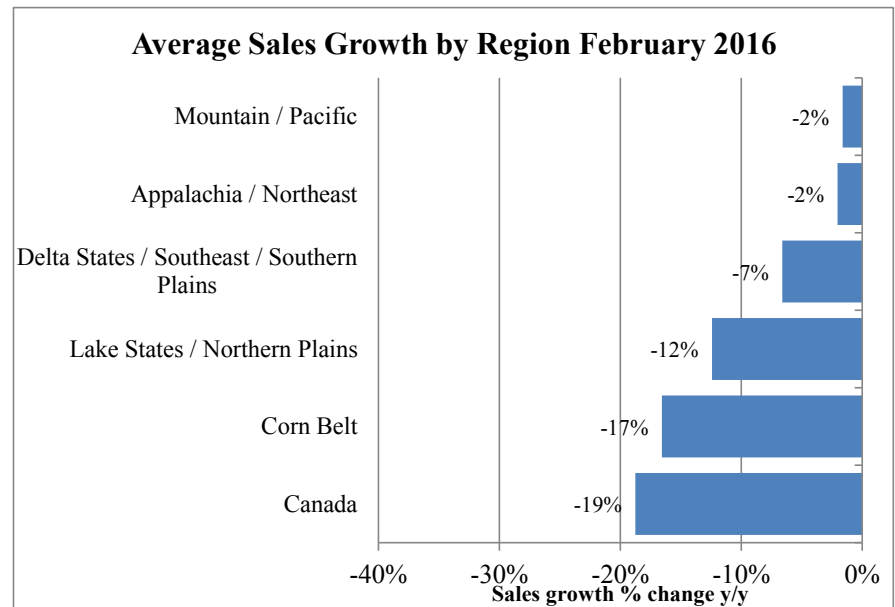
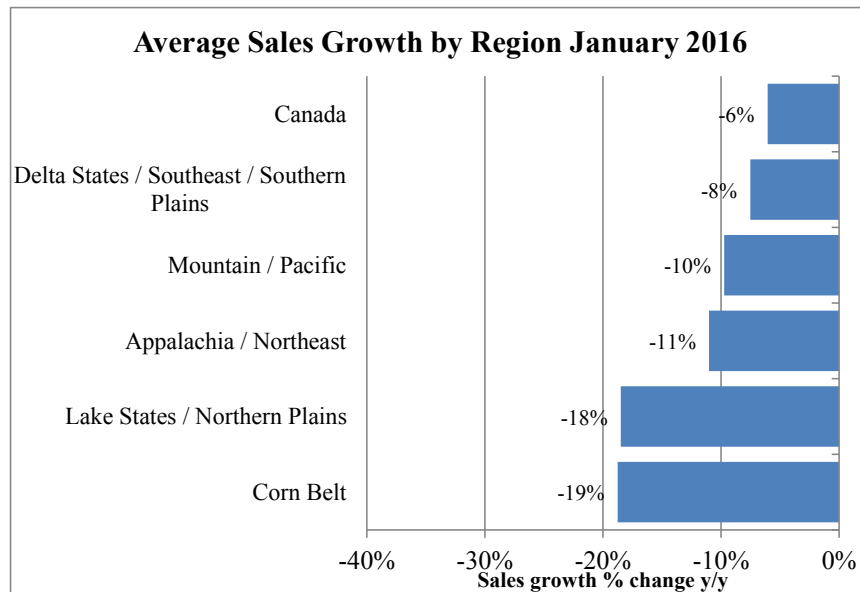
**Optimism/Sentiment vs. Last Month**

% of Dealers Reporting	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
More Optimistic	12%	9%	14%	14%	12%	13%	14%	11%	12%	8%	10%	8%	11%	13%
Same	52%	50%	42%	47%	48%	58%	52%	45%	51%	60%	52%	48%	46%	51%
Less Optimistic	36%	41%	43%	40%	40%	30%	35%	43%	37%	33%	38%	44%	43%	36%
<b>Net % Dealer Optimism</b>	<b>-25%</b>	<b>-31%</b>	<b>-29%</b>	<b>-26%</b>	<b>-26%</b>	<b>-18%</b>	<b>-21%</b>	<b>-32%</b>	<b>-26%</b>	<b>-25%</b>	<b>-28%</b>	<b>-35%</b>	<b>-31%</b>	<b>-24%</b>

Source: Cleveland Research

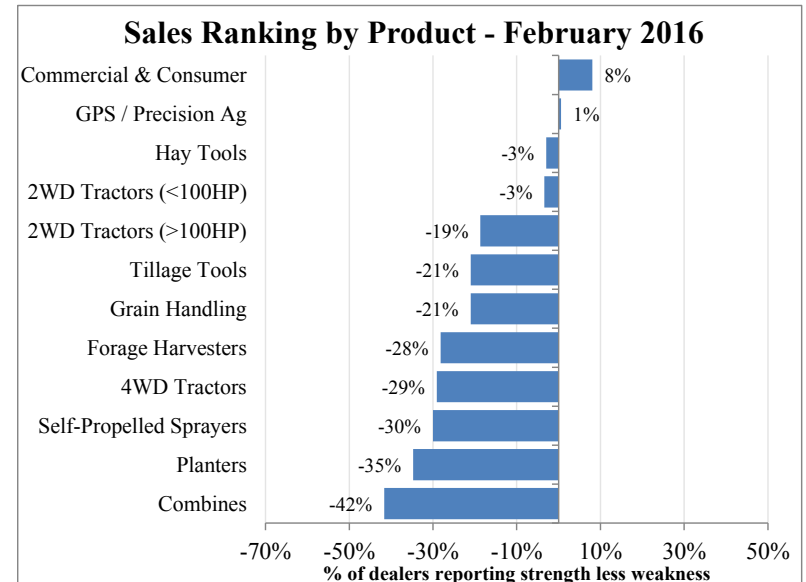
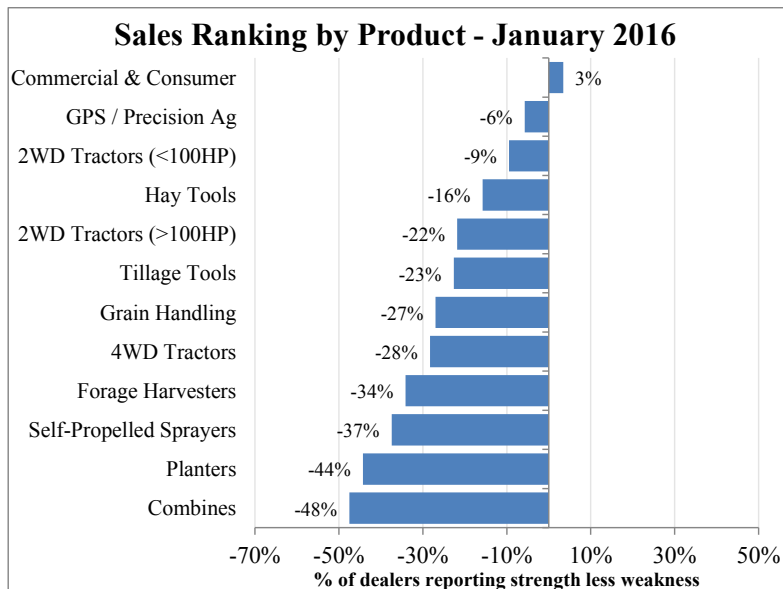
# Monthly Sales Growth by Region

- Sales were down in all regions in February with Canada showcasing the largest decline at 19% y/y. The Corn Belt and Lake States / Northern Plains also posted double digit declines in the month. The Mountain / Pacific and Appalachia / Northeast regions had the strongest showing in the month with declines of only 2%.

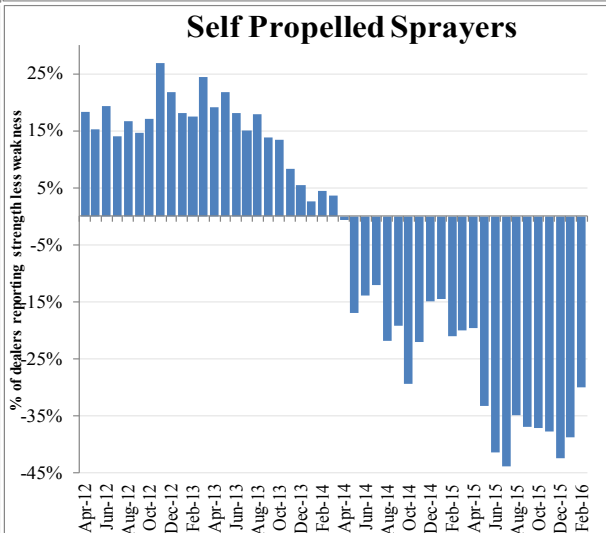
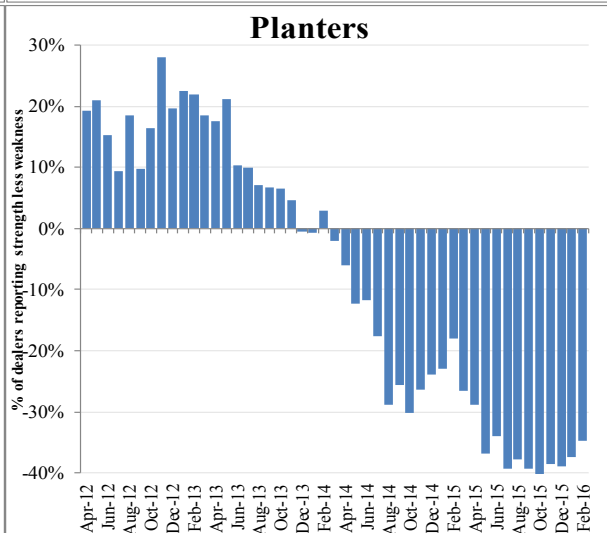
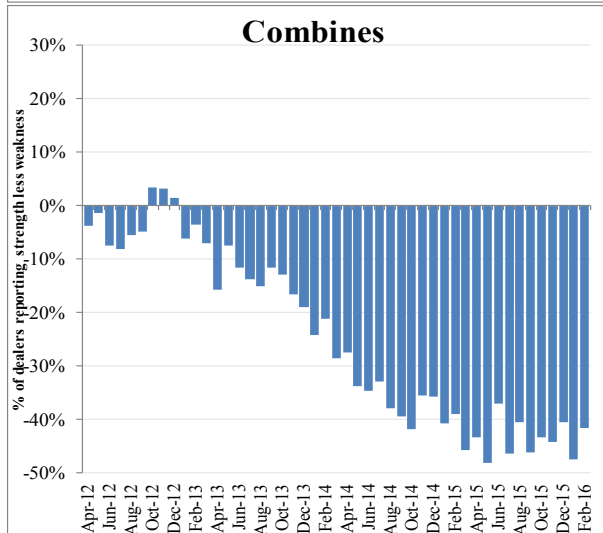
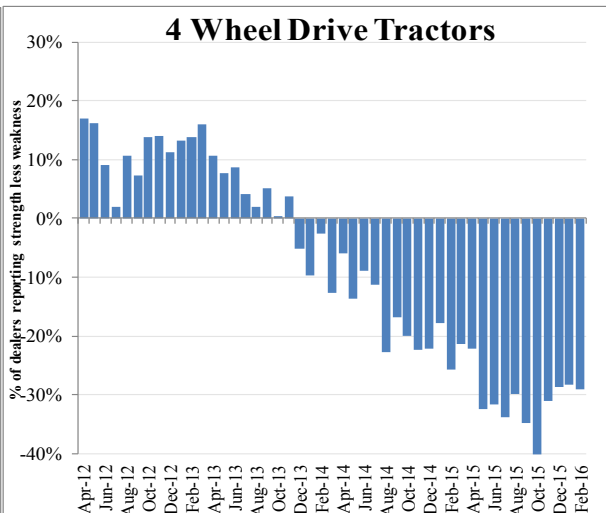
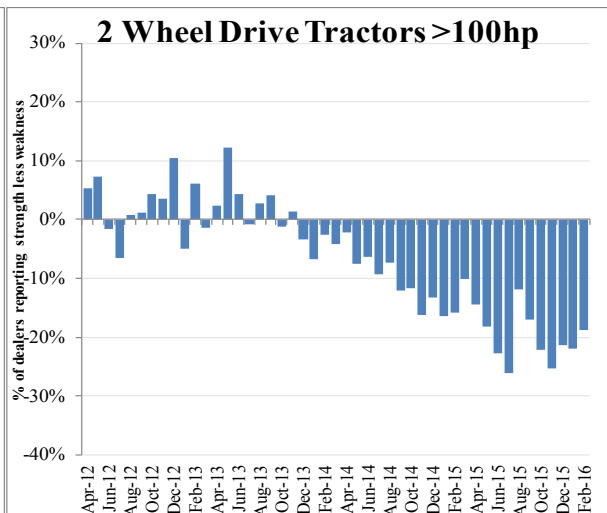
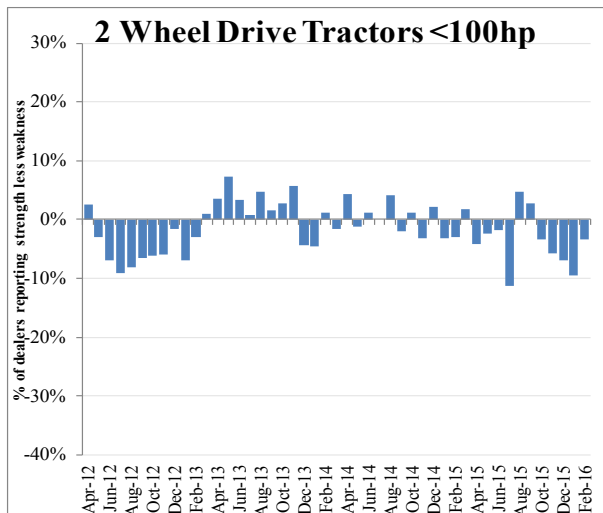


# Equipment Category Sales Trends

- Commercial & consumer lawn equipment continues to show strength in contrast to declines in other categories (combines, planters, and sprayers in particular). We continue to see significant headwinds to large equipment sales. Notably, every category improved from January's readings with the exception of 4WD tractors which weakened slightly.

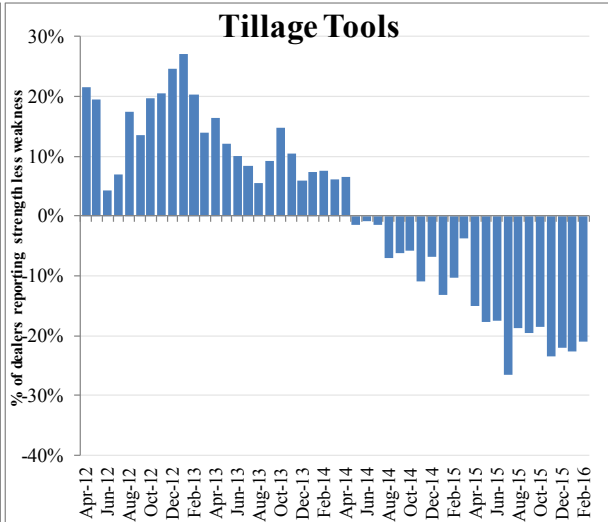
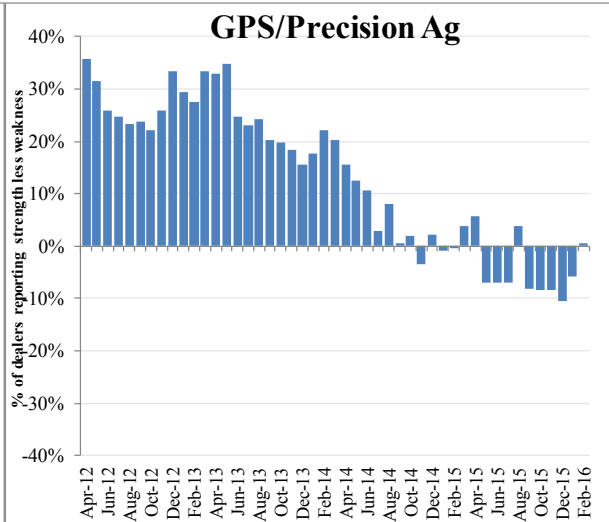
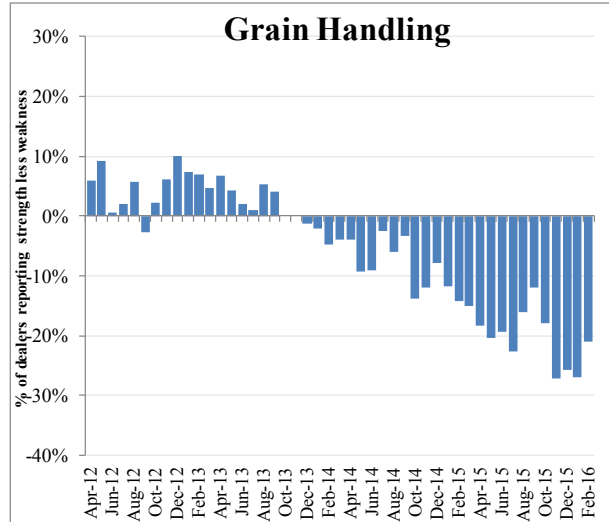
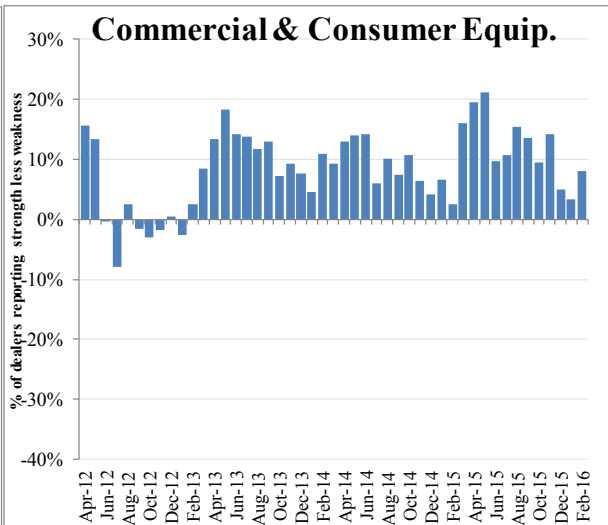
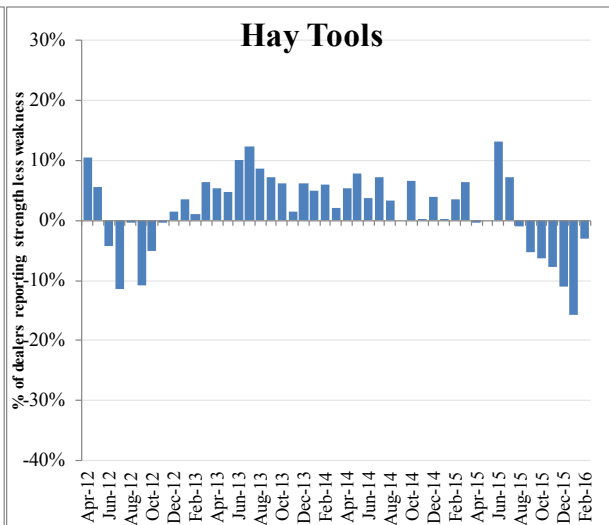
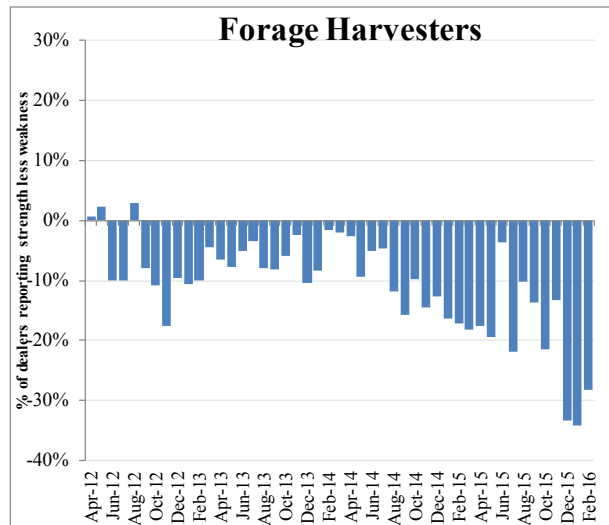


# Equipment Category Sales Trends





# Equipment Category Sales Trends (Continued)



## Most Interesting Commentary - Monthly Sales and Outlook

- *Producers have a general lack of cash flow, and are holding out until the very end of their equipment's life cycle before deciding to make a purchase.*
- *Small equipment continues to trend well, we're having a lot of success in that department. That is in stark contrast to our cash crop business. Row-crop farmers are suffering in this environment.*
- *Seeding tools were our biggest movers in the first two months of the year. Not many planters sold.*
- *I believe a lot of 2015 purchases were made with cash and assets carried over from 2014, but as commodity prices have remained low for a prolonged period we're seeing assets dwindling and balance sheets much less apt to stomach equipment purchases. I think the next 10 months will be much lower than 2015.*
- *I think we're going to see some competitive dealers that haven't reduced their inventory introducing fire sales to move aged pieces in the coming months. I wouldn't be shocked to see pricing step down again.*
- *Local bankers are cutting off farmers spending opportunities, and pressuring operating notes. We thought our cash crop customer would pick up closer to spring, but they're being told not to spend and holding tight.*
- *New Holland continues to offer strong incentive programs, while Kubota has been uncompetitive in 2016.*
- *There are still too many used 4WD tractors and combines on the market, but more recently we've seen used round hay baler inventory become elevated.*
- *OEMs appear to be holding off on changing programs to be more competitive in the current market, and are ok with slowing production. I think they're forecasting a lot of lease returns coming back into the market.*
- *My customers know dealerships are going to get desperate, and are holding off for better pricing.*
- *It was a slow start to the year, and I think we're seeing things soften even more.*
- *Outside of a difficult commodity pricing environment I think the farmer psyche has been impacted by a volatile stock market, international uncertainty, and a tense political race.*
- *Managing inventory turns has been difficult in this environment; historical sales are no longer a good indicator of future demand, as they had been over the last 10 years. Attempting to forecasting demand in a declining environment continues to be a challenging endeavor.*
- *OEM has asked us to move inventory to other dealerships, as they try to fill requests rather than build new product. We are seeing this happen to a greater extent with tillage equipment.*

## Average Dealer Sales Outlook

- Dealers forecast 2016 sales down 10% y/y, a slight improvement from the 11% decline forecast in January. A net 42% of dealers are forecasting a sales decline ( 25% increase, 8% about the same, 67% decline).
- The second table below details the 2016 industry outlooks from Deere and AGCO.

N. American Farm Equipment Dealer Survey - Full Year Sales Forecast						
% change y/y	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
AGCO	-9%	-8%	-7%	-9%	-10%	-6%
John Deere	-6%	-10%	-9%	-8%	-12%	-10%
New Holland	-5%	-12%	-9%	-13%	-6%	-11%
Case IH	-7%	-8%	-10%	-10%	-12%	-15%
Kubota	3%	3%	4%	2%	-7%	5%
Shortlines/Other	-9%	-15%	-8%	-6%	-12%	0%
<b>Overall</b>	<b>-6%</b>	<b>-9%</b>	<b>-9%</b>	<b>-9%</b>	<b>-11%</b>	<b>-10%</b>

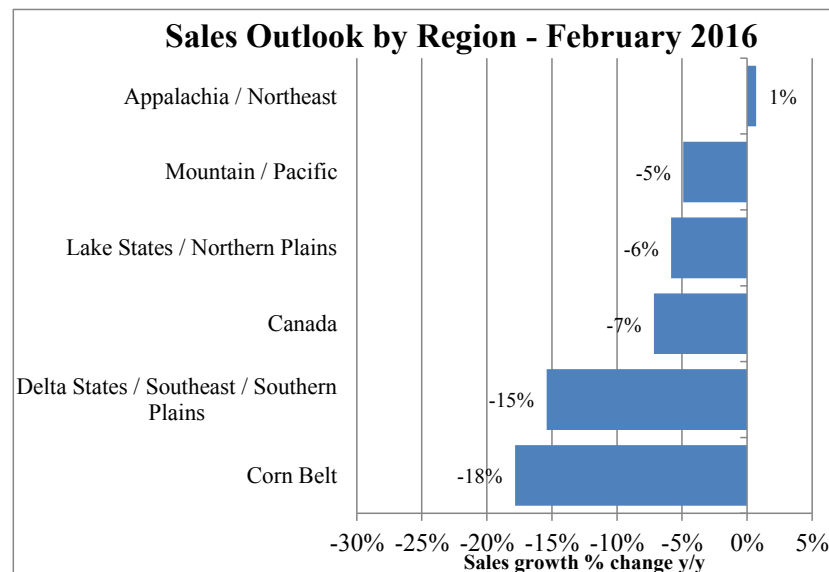
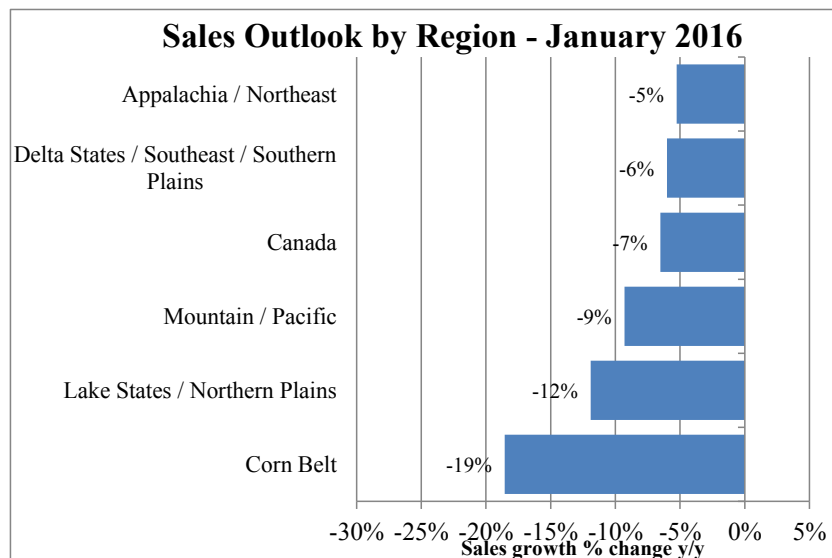
Source: Cleveland Research, AEI

2016 Ag Equipment Industry Sales Outlook (units)			
Geography	Deere	CNH Industrial	AGCO Corp.
N. America	Down 15-20%	Tractors (5%); Combines (15-20%)	Down 10-15%
Western Europe	Flat to Down 5%	Tractors Flat, Combines (0-5%)	Flat to Down 5%
Latin America	Down 10-15%	Tractors (15%), Combines (Flat-5%)	Down 10-15%
CIS or ROW	na	na	na
Asia	Flat to Down Slightly	Tractors (0-5%), Combines 0-5%	na

Source: Company reports, CRC estimates

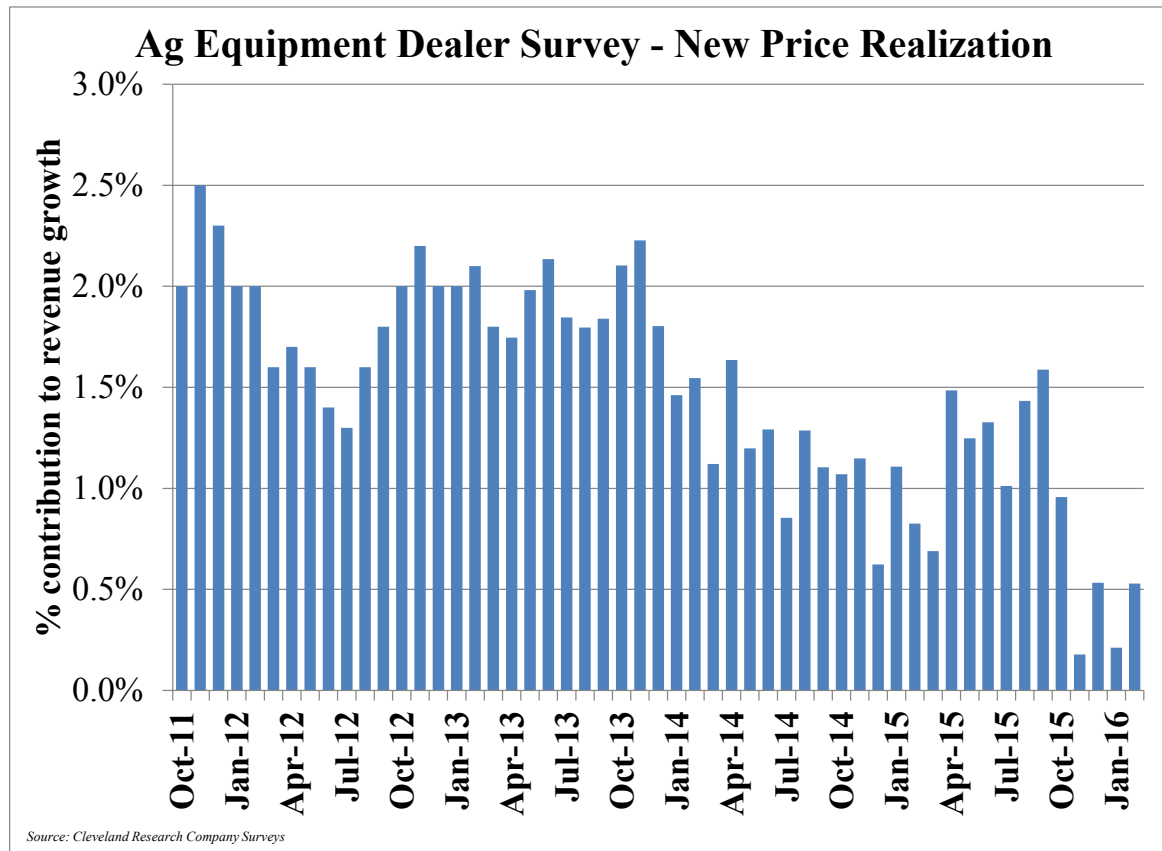
# 2016 Sales Outlook

- Most regions are anticipating lower sales in 2016 with Corn Belt continuing to forecast the weakest demand at down ~20% y/y. The Lake States / Northern Plains also are forecasting double-digit sales declines. Notably the Appalachia/Northeast region is forecasting growth of 1% for 2016, the only region estimating growth.



# Pricing Trends

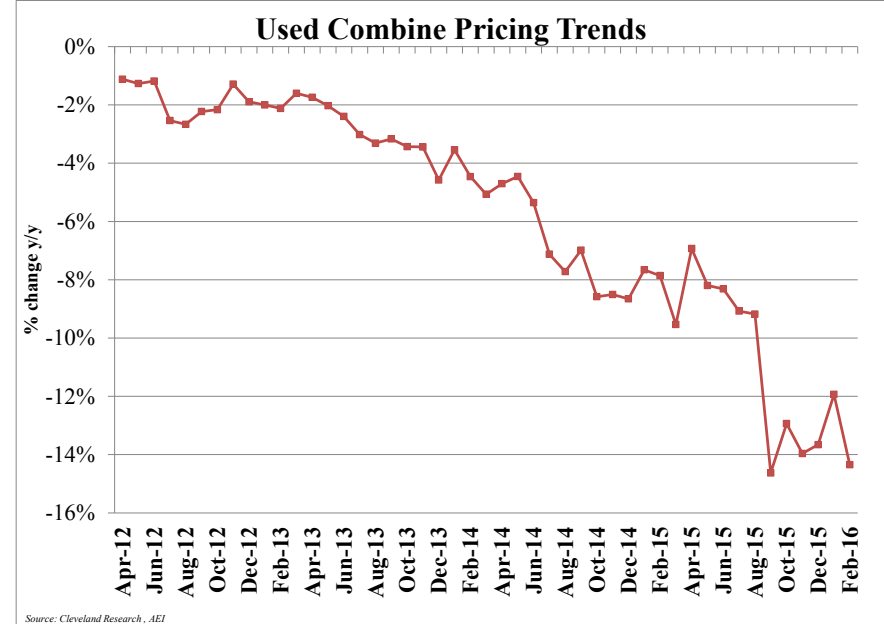
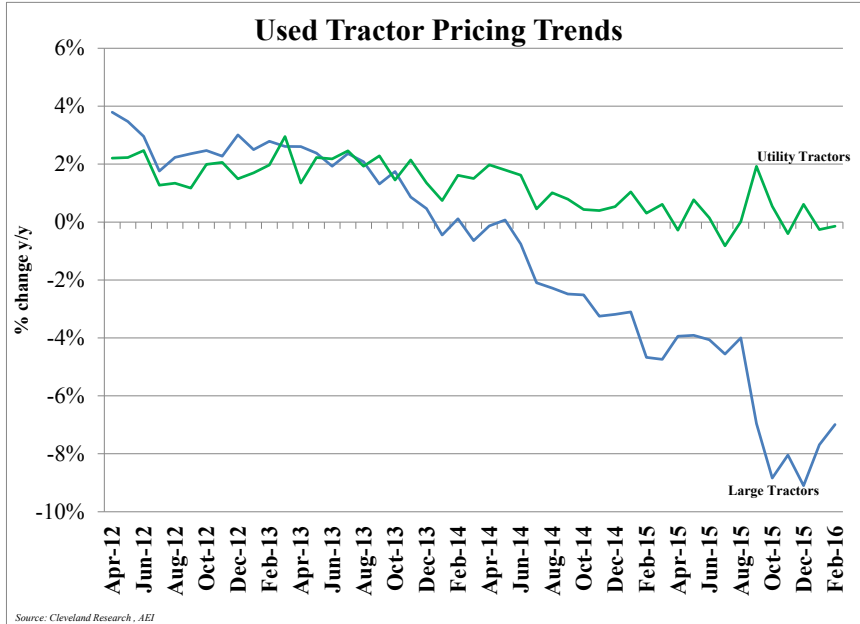
- Dealers report several OEMs pushed through small price increases in 4Q (~0.5-1.0%), with respondents reporting pricing in February improving slightly at 0.5% y/y. The effect of the strong US dollar on Canadian exchange rate has also, played a part in pricing inflation within North America.



# Used Equipment Pricing

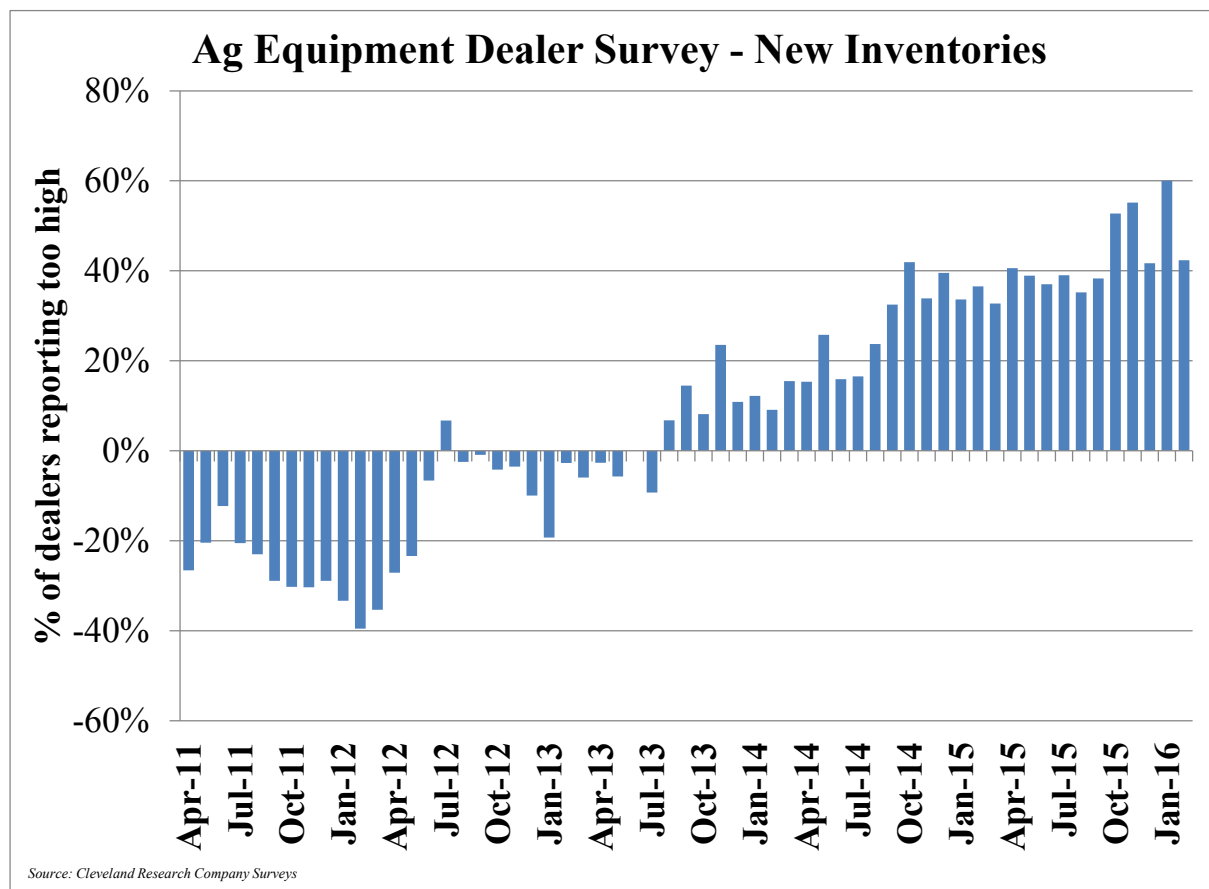
- February saw relatively flat pricing for small tractors, inline with the past few months. Large tractors were reported down 7% y/y on average slightly better than the 8% reported in January and 9% reported in 4Q. Used combine pricing was down 14% y/y a deterioration from January, but inline with 4Q.

Used Tractor and Combine Values (Y/Y)						
	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
Compact (<40HP)	2%	1%	(1%)	0%	(1%)	0%
Utility (40-100HP)	2%	0%	(0%)	1%	0%	(1%)
Row Crop (100HP+)	(4%)	(6%)	(7%)	(7%)	(6%)	(5%)
4WD Tractors	(9%)	(11%)	(9%)	(11%)	(10%)	(9%)
Combines	(15%)	(13%)	(14%)	(14%)	(12%)	(14%)



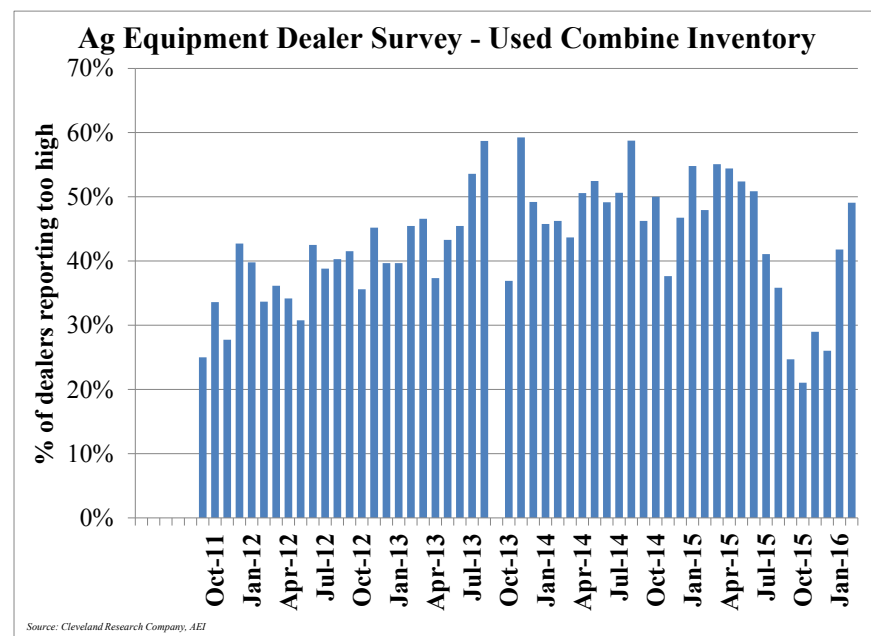
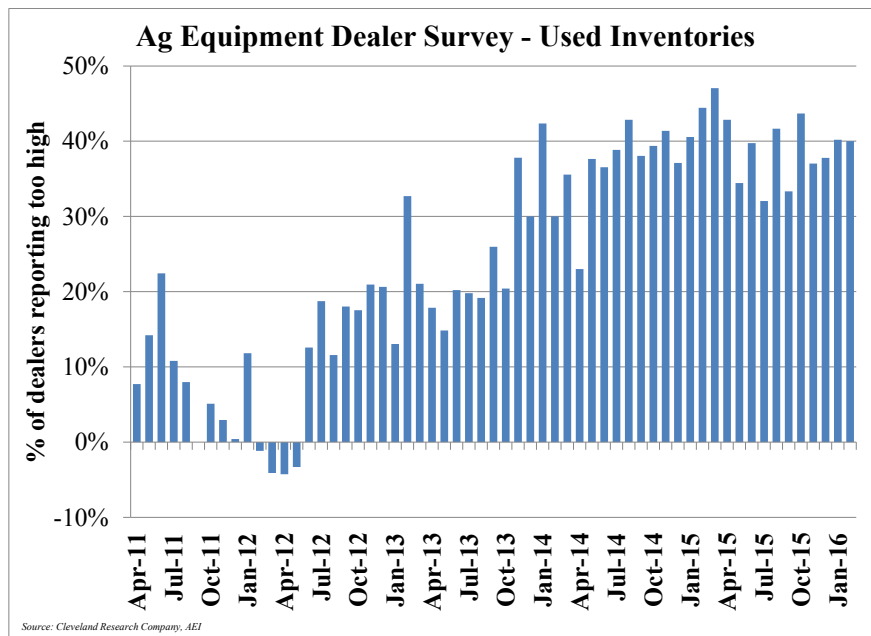
## New Equipment Inventory Levels

- A net 42% of dealers reported new equipment inventories are too high (47% too high, 48% about right, 2% too low) vs 60% (62% too high, 36% about right, 2% too low) in January and an average 50% in 4Q. This marks 18 months of new inventory levels reported as too high by more than a net 30% of dealers.



# Used Equipment Inventory Levels

- A net 40% of dealers reported used equipment inventory as too high (45% too high, 50% about right, 5% too low) inline with January (47% too high, 46% about right, 7% too low).
- Used combine inventory levels increased in February with a net 49% of dealers reporting inventories as too high, worse than the 42% reporting elevated inventory in January. The last two months appear to have signaled a trend reversal in the used combine market, as inventory had been improving/stabilizing from March to December before weakening at the beginning of the year. Given the continuation of monthly budget misses it appears that combine sale assumptions were overestimated.





# North American Farm Equipment Industry Retail Sales

NORTH AMERICAN FARM EQUIPMENT RETAIL SALES														
	Units							% change year-over-year						
	< 40 HP	Utility	Row Crop	4-Wheel	Total Tractor	Row Crop & 4WD	Combines	< 40 HP	Utility	Row Crop	4-Wheel	Total Tractor	Row Crop & 4WD	Combines
Nov-13	5,646	3,871	2,646	643	12,806	3,289	897	9%	-3%	7%	2%	4%	6%	25%
Dec-13	7,623	6,903	4,919	960	20,405	5,879	1,538	-7%	10%	13%	7%	3%	12%	36%
Jan-14	4,755	4,152	3,303	631	12,841	3,934	824	1%	2%	12%	-7%	3%	8%	33%
Feb-14	5,308	3,745	2,423	575	12,051	2,998	526	4%	1%	-6%	-14%	0%	-8%	-15%
Mar-14	10,108	5,110	3,155	655	19,028	3,810	899	22%	3%	-9%	-7%	9%	-9%	-25%
Apr-14	14,191	6,010	3,752	745	24,698	4,497	996	2%	7%	-13%	-12%	0%	-13%	-13%
May-14	16,828	6,586	2,928	474	26,816	3,402	669	-2%	6%	-16%	-14%	-2%	-16%	-24%
Jun-14	15,245	6,488	2,733	408	24,874	3,141	837	13%	2%	-16%	-25%	5%	-18%	-25%
Jul-14	11,245	5,934	3,206	389	20,774	3,595	1,034	5%	7%	1%	-21%	4%	-2%	-30%
Aug-14	9,691	5,444	2,575	371	18,081	2,946	946	4%	9%	-9%	-37%	2%	-14%	-24%
Sep-14	11,333	6,193	3,276	492	21,294	3,768	1,142	32%	28%	-2%	-14%	23%	-4%	-11%
Oct-14	10,950	7,085	4,920	733	23,688	5,653	983	14%	6%	-17%	-40%	1%	-21%	-41%
Nov-14	5,857	4,177	1,891	354	12,279	2,245	450	4%	8%	-29%	-45%	-4%	-32%	-50%
Dec-14	8,089	7,473	3,730	512	19,804	4,242	920	6%	8%	-24%	-47%	-3%	-28%	-40%
Jan-15	5,382	4,506	3,124	220	13,232	3,344	384	13%	9%	-5%	-65%	3%	-15%	-53%
Feb-15	5,305	3,250	1,955	348	10,858	2,303	399	0%	-13%	-19%	-39%	-10%	-23%	-24%
Mar-15	9,735	4,851	2,547	500	17,633	3,047	470	-4%	-5%	-19%	-24%	-7%	-20%	-48%
Apr-15	16,624	6,461	3,131	430	26,646	3,561	664	17%	8%	-17%	-42%	8%	-21%	-33%
May-15	16,028	5,643	1,994	260	23,925	2,254	549	-5%	-14%	-32%	-45%	-11%	-34%	-18%
Jun-15	15,664	6,558	2,411	300	24,933	2,711	505	3%	1%	-12%	-26%	0%	-14%	-40%
Jul-15	14,342	7,097	2,473	272	24,184	2,745	807	28%	20%	-23%	-30%	16%	-24%	-22%
Aug-15	9,688	5,120	1,771	167	16,746	1,938	679	0%	-6%	-31%	-55%	-7%	-34%	-28%
Sep-15	10,787	5,394	1,941	250	18,372	2,191	848	-5%	-13%	-41%	-49%	-14%	-42%	-26%
Oct-15	12,876	6,855	3,263	515	23,509	3,778	799	18%	-3%	-34%	-30%	-1%	-33%	-19%
Nov-15	5,940	3,697	1,164	221	11,022	1,385	344	1%	-11%	-38%	-38%	-10%	-38%	-24%
Dec-15	8,693	6,350	2,559	515	18,117	3,074	886	7%	-15%	-31%	1%	-9%	-28%	-4%
Jan-16	5,647	4,261	1,981	242	12,131	2,223	457	5%	-5%	-37%	10%	-8%	-34%	19%
Feb-16	6,404	3,386	1,186	222	11,198	1,408	241	21%	4%	-39%	-36%	3%	-39%	-40%

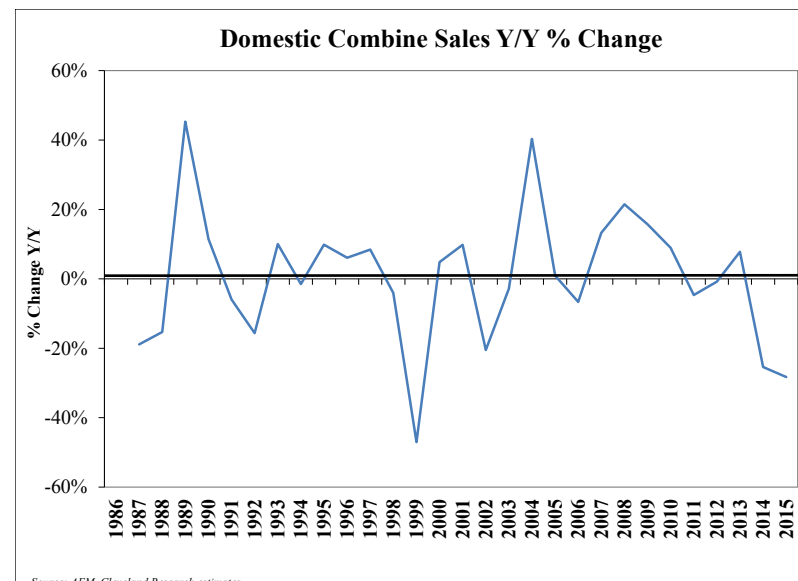
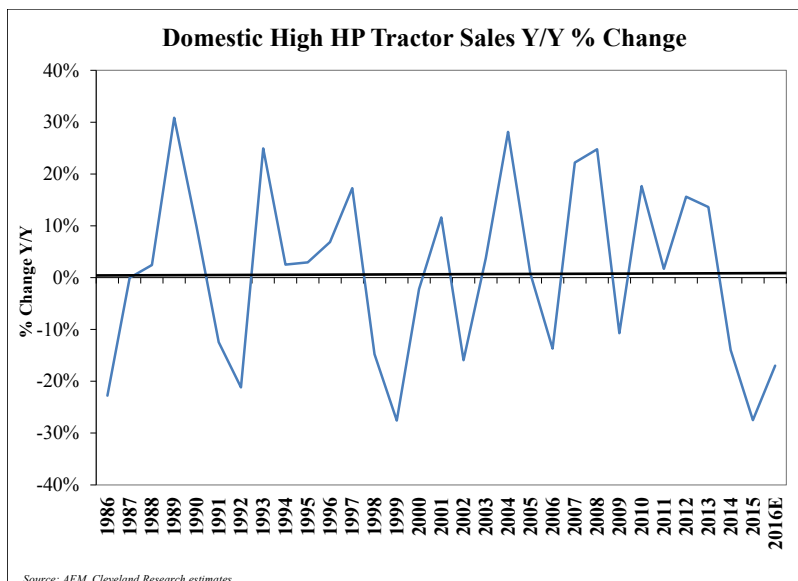
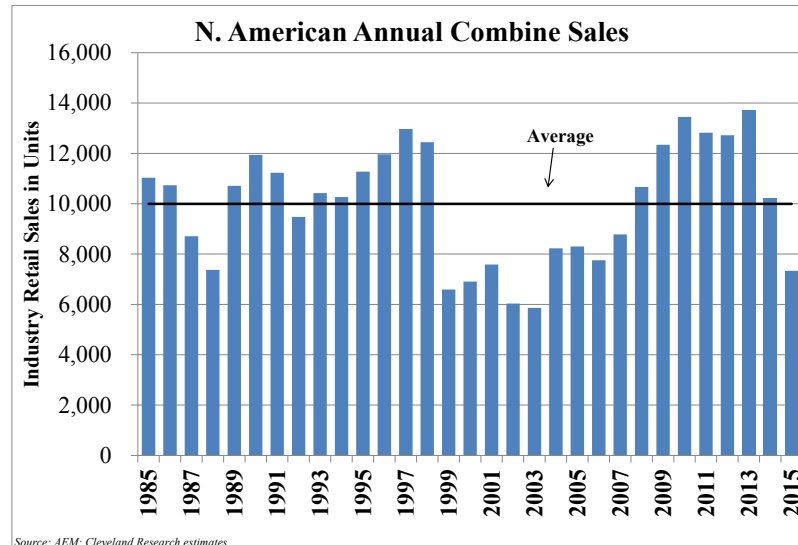
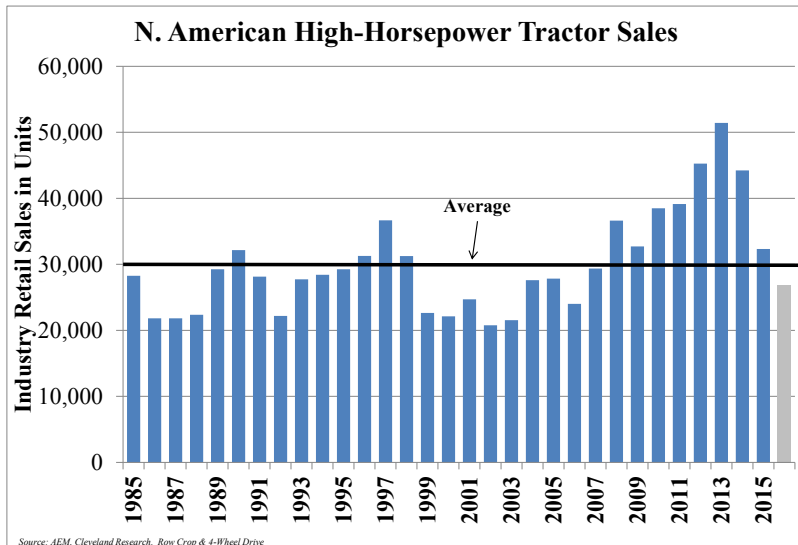
Source: AEM; Cleveland Research Company estimates. High hp tractors are row crop & 4-wheel drive.

# North American Farm Equipment Industry Inventory

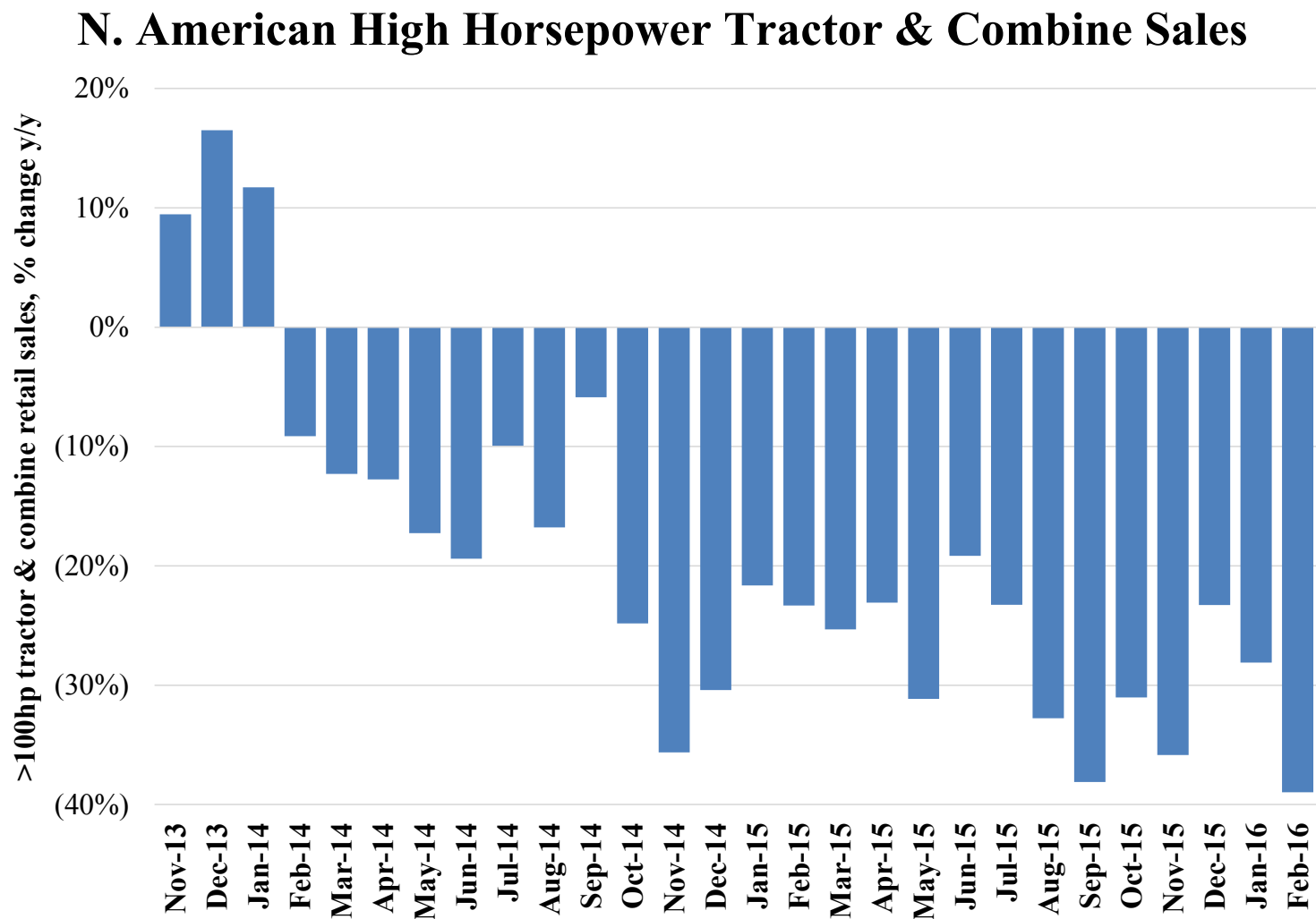
NORTH AMERICAN FARM EQUIPMENT INVENTORY														
	Inventory (Units)							Inventory to 12-mo. Sales						
	< 40 HP	Utility	Row Crop	4-Wheel	Total Tractor	Row Crop & 4WD	Combines	<40HP	Util	RC	4-WD	Total Tractor	Row Crop & 4WD	Comb
<b>Oct-13</b>	63,364	31,876	14,009	2,094	111,343	16,103	2,222	55%	50%	33%	25%	49%	32%	17%
<b>Nov-13</b>	67,922	33,406	14,847	2,312	118,487	17,159	2,343	59%	53%	35%	27%	52%	34%	18%
<b>Dec-13</b>	67,863	32,028	13,318	2,049	115,258	15,367	2,083	59%	50%	31%	24%	50%	30%	15%
<b>Jan-14</b>	69,111	33,240	12,620	2,028	116,999	14,648	1,681	60%	52%	29%	24%	51%	28%	12%
<b>Feb-14</b>	71,514	34,326	13,267	2,046	121,153	15,313	2,063	62%	54%	31%	25%	53%	30%	15%
<b>Mar-14</b>	71,249	35,256	14,058	2,218	122,781	16,276	2,456	61%	55%	33%	27%	53%	32%	18%
<b>Apr-14</b>	69,986	35,615	13,298	2,117	121,016	15,415	2,467	60%	55%	31%	26%	52%	31%	18%
<b>May-14</b>	66,364	34,755	13,505	2,255	116,879	15,760	2,734	57%	54%	32%	28%	51%	32%	21%
<b>Jun-14</b>	62,025	34,004	14,531	2,294	112,854	16,825	3,101	53%	52%	35%	29%	49%	34%	24%
<b>Jul-14</b>	61,829	34,393	14,836	2,159	113,217	16,995	3,144	52%	53%	36%	27%	49%	35%	25%
<b>Aug-14</b>	62,466	35,692	15,060	2,193	115,411	17,253	3,360	53%	54%	37%	29%	49%	36%	28%
<b>Sep-14</b>	61,811	35,926	16,185	2,399	116,321	18,584	2,891	51%	54%	40%	32%	49%	38%	24%
<b>Oct-14</b>	63,713	35,965	14,640	1,802	116,120	16,442	2,187	52%	53%	37%	25%	49%	35%	19%
<b>Nov-14</b>	67,691	37,110	14,840	1,652	121,293	16,492	2,046	55%	55%	38%	24%	51%	36%	19%
<b>Dec-14</b>	69,876	35,550	14,638	1,426	121,490	16,064	1,674	57%	52%	39%	22%	51%	36%	16%
<b>Jan-15</b>	73,716	35,405	13,934	1,439	124,494	15,373	1,713	59%	51%	37%	24%	53%	35%	18%
<b>Feb-15</b>	78,177	36,676	13,981	1,436	130,270	15,417	1,820	63%	54%	38%	25%	55%	36%	19%
<b>Mar-15</b>	81,662	37,881	14,179	1,346	135,068	15,525	2,040	66%	56%	39%	24%	58%	37%	22%
<b>Apr-15</b>	80,348	37,047	13,193	1,353	131,941	14,546	2,116	64%	54%	37%	26%	56%	35%	24%
<b>May-15</b>	78,880	37,037	13,177	1,400	130,494	14,577	2,058	63%	55%	38%	28%	56%	36%	23%
<b>Jun-15</b>	76,286	36,584	13,006	1,416	127,292	14,422	2,276	61%	54%	37%	29%	55%	36%	27%
<b>Jul-15</b>	72,876	35,232	12,507	1,354	121,969	13,861	2,218	56%	51%	37%	28%	52%	36%	27%
<b>Aug-15</b>	74,247	36,442	12,555	1,343	124,587	13,898	2,232	58%	53%	38%	29%	53%	37%	28%
<b>Sep-15</b>	65,844	37,545	12,551	1,374	117,314	13,925	2,001	51%	56%	39%	32%	51%	38%	26%
<b>Oct-15</b>	75,042	37,885	11,906	1,266	126,099	13,172	1,504	58%	56%	39%	31%	54%	38%	20%
<b>Nov-15</b>	79,228	39,911	12,983	1,317	133,439	14,300	1,492	61%	60%	44%	33%	58%	43%	20%
<b>Dec-15</b>	82,737	41,363	13,140	1,189	138,429	14,329	1,277	63%	63%	46%	30%	60%	44%	17%
<b>Jan-16</b>	86,618	42,352	12,727	1,129	142,826	13,856	1,169	66%	65%	47%	28%	63%	44%	16%

Source: AEM; Cleveland Research Company estimates

# Annual Agricultural Equipment Industry Sales (1985 - 2015)



# North America Large Ag Equipment Sales

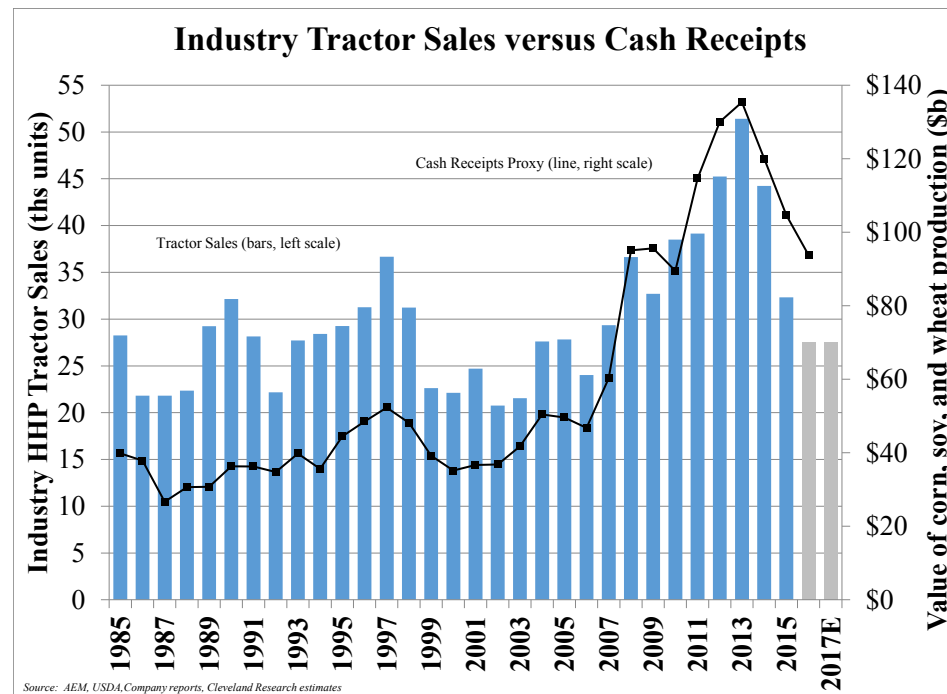


Source: AEM, CRC estimates

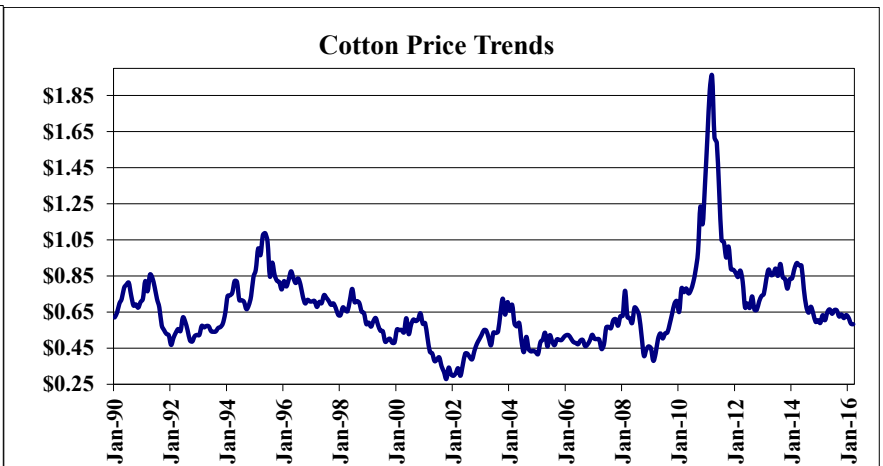
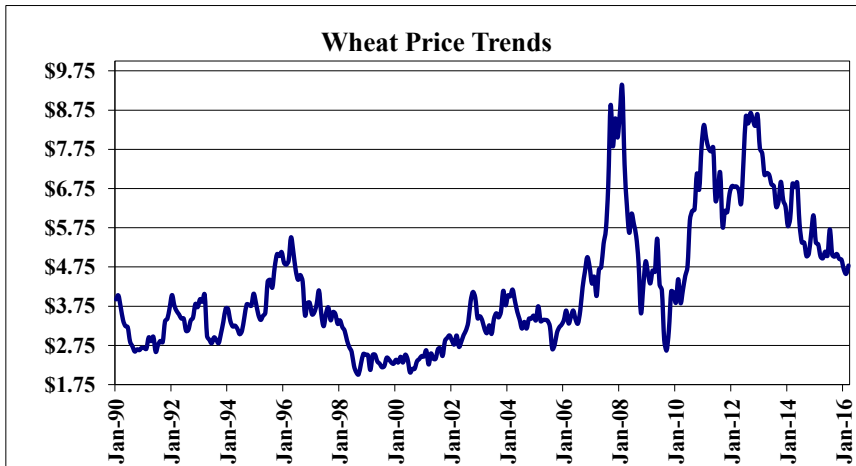
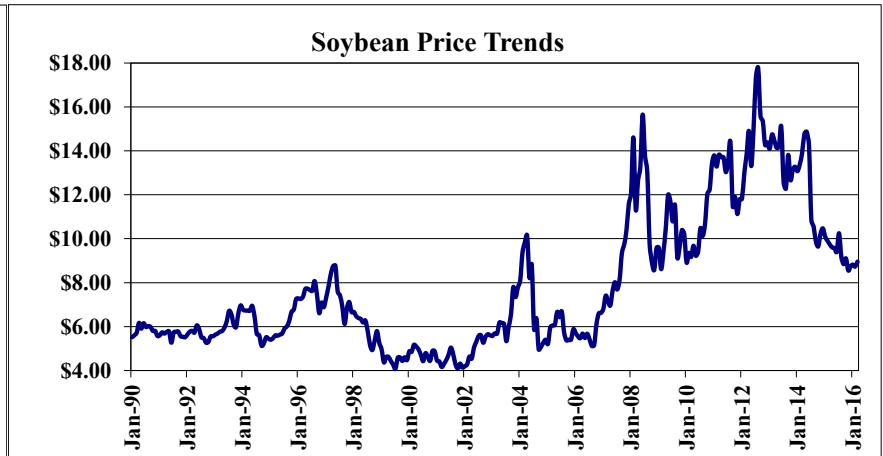
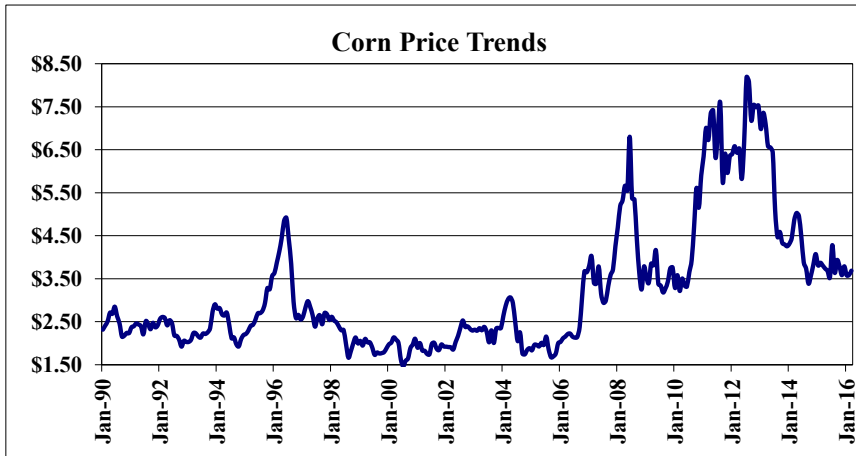
# Commodity Prices – Cash Receipts vs. Next Year Equipment Sales

**USDA's March WASDE Update Highlights** – The following chart illustrates the historical relationship between the value of production of corn, soybeans, and wheat in the U.S. compared to annual industry sales of high horsepower tractors.

USDA's March crop report was roughly inline with February, with our cash receipts proxy forecast down 10% y/y in 2015/2016 compared to a decline of 13% in 2014/2015.



# Long Term Commodity Price Trends



# Commodity Trends – Long Run Supply and Demand Projections

US Corn, Soy, and Wheat Supply and Demand - Long Term Annual Forecast 2016

## US Corn Balance Sheet - USDA Long Term Forecast (Feb 2016)

Millions of bushels	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Planted	95	91	88	91	90	90	90	90	90	89	89	88	88
Harvested	88	83	81	83	83	83	83	82	82	81	81	80	80
Yield (bu/acre)	158	171	169	168	170	172	174	176	178	180	182	184	186
Beginning Stocks (MM bu)	821	1,232	1,731	1,760	1,755	1,730	1,740	1,755	1,775	1,785	1,790	1,785	1,735
Production (MM bu)	13,829	14,216	13,654	13,900	14,035	14,200	14,355	14,465	14,535	14,610	14,680	14,740	14,900
Imports (MM bu)	36	32	30	30	30	30	30	30	30	30	30	30	30
<b>Total Supply (MM bu)</b>	<b>14,686</b>	<b>15,480</b>	<b>15,415</b>	<b>15,690</b>	<b>15,820</b>	<b>15,960</b>	<b>16,125</b>	<b>16,250</b>	<b>16,340</b>	<b>16,425</b>	<b>16,500</b>	<b>16,555</b>	<b>16,665</b>
Feed & Residual (MM Bu)	5,036	5,315	5,300	5,450	5,550	5,650	5,750	5,850	5,925	6,000	6,075	6,150	6,225
Food, Seed, & Industrial Total	6,501	6,568	6,555	6,585	6,615	6,595	6,595	6,550	6,530	6,485	6,465	6,445	6,425
Ethanol & By-Products	5,134	5,209	5,175	5,200	5,225	5,200	5,200	5,150	5,125	5,075	5,050	5,025	5,000
Domestic Use	11,537	11,883	11,855	12,035	12,165	12,245	12,345	12,400	12,455	12,485	12,540	12,595	12,650
Exports	1,917	1,864	1,800	1,900	1,925	1,975	2,025	2,075	2,100	2,150	2,175	2,225	2,275
<b>Total Use</b>	<b>13,454</b>	<b>13,747</b>	<b>13,655</b>	<b>13,935</b>	<b>14,090</b>	<b>14,220</b>	<b>14,370</b>	<b>14,475</b>	<b>14,555</b>	<b>14,635</b>	<b>14,715</b>	<b>14,820</b>	<b>14,925</b>
Ending Stocks	1,232	1,731	1,760	1,755	1,730	1,740	1,755	1,775	1,785	1,790	1,785	1,735	1,740
Ending Stocks/Use	9.2%	12.6%	12.9%	12.6%	12.3%	12.2%	12.2%	12.3%	12.3%	12.2%	12.1%	11.7%	11.7%
Weeks Carryover	4.8	6.5	6.7	6.5	6.4	6.4	6.4	6.4	6.4	6.4	6.3	6.1	6.1
<b>Average Farm Price (\$/bu)</b>	<b>\$4.46</b>	<b>\$3.70</b>	<b>\$3.65</b>	<b>\$3.60</b>	<b>\$3.65</b>	<b>\$3.70</b>	<b>\$3.70</b>	<b>\$3.70</b>	<b>\$3.70</b>	<b>\$3.70</b>	<b>\$3.70</b>	<b>\$3.75</b>	<b>\$3.75</b>
Value of Production	\$61,677	\$52,599	\$49,837	\$50,040	\$51,228	\$52,540	\$53,114	\$53,521	\$53,780	\$54,057	\$54,316	\$55,275	\$55,875
% change y/y	-17%	-15%	-5%	0%	2%	3%	1%	1%	0%	1%	0%	2%	1%

## U.S. Soybean Balance Sheet - USDA Long Term Forecast (Feb 2016)

Millions of bushels	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Planted	77	83	83	82	82	82	82	82	81	81	81	81	81
Harvested	76	83	82	81	81	81	81	81	80	80	80	80	80
Yield Per Harvested Acre (Bushels)	44	48	48	47	47	48	48	49	49	50	50	51	51
Beginning Stocks	141	92	191	465	421	382	348	323	299	275	270	270	265
Production	3,358	3,927	3,981	3,785	3,810	3,850	3,890	3,920	3,940	3,980	4,020	4,035	4,065
Imports	72	33	30	30	30	30	30	30	30	30	30	30	30
<b>Total Supplies</b>	<b>3,571</b>	<b>4,052</b>	<b>4,202</b>	<b>4,280</b>	<b>4,261</b>	<b>4,262</b>	<b>4,268</b>	<b>4,273</b>	<b>4,269</b>	<b>4,285</b>	<b>4,320</b>	<b>4,335</b>	<b>4,360</b>
Crush	1,734	1,873	1,890	1,910	1,920	1,940	1,960	1,980	1,995	2,005	2,020	2,030	2,045
Exports	1,647	1,843	1,715	1,825	1,835	1,850	1,860	1,870	1,875	1,885	1,905	1,915	1,925
Seed & Residual	98	145	133	124	124	124	125	124	124	125	125	125	124
<b>Total Use</b>	<b>3,479</b>	<b>3,861</b>	<b>3,738</b>	<b>3,859</b>	<b>3,879</b>	<b>3,914</b>	<b>3,945</b>	<b>3,974</b>	<b>3,994</b>	<b>4,015</b>	<b>4,050</b>	<b>4,070</b>	<b>4,094</b>
Ending Stocks	92	191	465	421	382	348	323	299	275	270	270	265	266
Stocks/Use	2.7%	4.9%	12.4%	10.9%	9.8%	8.9%	8.2%	7.5%	6.9%	6.7%	6.7%	6.5%	6.5%
<b>Average Price (\$/bu)</b>	<b>\$13.00</b>	<b>\$10.10</b>	<b>\$8.90</b>	<b>\$8.65</b>	<b>\$8.80</b>	<b>\$8.95</b>	<b>\$9.00</b>	<b>\$9.10</b>	<b>\$9.20</b>	<b>\$9.20</b>	<b>\$9.20</b>	<b>\$9.30</b>	<b>\$9.35</b>
Value of Production	\$43,654	\$39,663	\$35,431	\$32,740	\$33,528	\$34,458	\$35,010	\$35,672	\$36,248	\$36,616	\$36,984	\$37,526	\$38,008
% change y/y	0%	-9%	-11%	-8%	2%	3%	2%	2%	2%	1%	1%	1%	1%

# Commodity Trends – Long Run Supply and Demand Projections (Cont.)

## US Corn, Soy, and Wheat Supply and Demand - Long Term Annual Forecast 2016 (continued)

### U.S. Wheat Balance Sheet - USDA Long Term Forecast (Feb 2016)

Millions of bushels	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Planted	56	57	55	53	51	52	52	52	52	52	52	52	52
Harvested	45	46	47	45	43	44	44	44	44	44	44	44	44
Yield Per Harvested Acre (Bushels)	47	44	44	46	46	47	47	47	48	48	48	49	49
Beginning Stocks	718	590	753	911	928	842	784	739	707	688	677	669	669
Production	2,134	2,026	2,052	2,060	2,000	2,035	2,050	2,065	2,080	2,095	2,110	2,130	2,140
Imports	169	144	125	125	130	135	140	145	150	155	160	165	170
<b>Total Supplies</b>	<b>3,021</b>	<b>2,760</b>	<b>2,930</b>	<b>3,096</b>	<b>3,058</b>	<b>3,012</b>	<b>2,974</b>	<b>2,949</b>	<b>2,937</b>	<b>2,938</b>	<b>2,947</b>	<b>2,964</b>	<b>2,979</b>
Food	955	960	967	974	981	988	995	1,002	1,009	1,016	1,023	1,030	1,037
Seed	77	81	72	69	70	70	70	70	70	70	70	70	70
Feed&residual	223	111	180	225	215	210	200	190	180	175	175	175	175
Exports	1,176	855	800	900	950	960	970	980	990	1,000	1,010	1,020	1,030
<b>Total Use</b>	<b>2,431</b>	<b>2,007</b>	<b>2,019</b>	<b>2,168</b>	<b>2,216</b>	<b>2,228</b>	<b>2,235</b>	<b>2,242</b>	<b>2,249</b>	<b>2,261</b>	<b>2,278</b>	<b>2,295</b>	<b>2,312</b>
Ending Stocks	590	753	911	928	842	784	739	707	688	677	669	669	667
Stocks/Use	24.3%	37.5%	45.1%	42.8%	38.0%	35.2%	33.1%	31.5%	30.6%	29.9%	29.4%	29.2%	28.8%
<b>Average Price (\$/bu)</b>	<b>\$6.87</b>	<b>\$5.99</b>	<b>\$5.00</b>	<b>\$4.40</b>	<b>\$4.50</b>	<b>\$4.60</b>	<b>\$4.65</b>	<b>\$4.70</b>	<b>\$4.75</b>	<b>\$4.80</b>	<b>\$4.85</b>	<b>\$4.90</b>	<b>\$4.95</b>
Value of Production	\$14,661	\$12,136	\$10,260	\$9,064	\$9,000	\$9,361	\$9,533	\$9,706	\$9,880	\$10,056	\$10,234	\$10,437	\$10,593
% change y/y	-16%	-17%	-15%	-12%	-1%	4%	2%	2%	2%	2%	2%	2%	1%

### Total Acreage and Value of U.S. Corn, Soy and Wheat Production - USDA February 2016 Projection

Total Corn, Soy, Wheat	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Planted (mm acres)	228	231	226	226	223	223	223	223	222	222	221	220	220
Harvested (mm acres)	209	212	210	209	206	207	207	207	206	205	205	204	204
Yield (bu/acre)	92	95	94	95	96	97	98	99	100	101	102	103	104
Production	19,321	20,169	19,687	19,745	19,845	20,085	20,295	20,450	20,555	20,685	20,810	20,905	21,105
Average Price (\$/bu)	\$6.21	\$5.18	\$4.85	\$4.65	\$4.72	\$4.80	\$4.81	\$4.84	\$4.86	\$4.87	\$4.88	\$4.94	\$4.95
<b>Value of Production</b>	<b>\$119,992</b>	<b>\$104,398</b>	<b>\$95,528</b>	<b>\$91,844</b>	<b>\$93,756</b>	<b>\$96,359</b>	<b>\$97,656</b>	<b>\$98,898</b>	<b>\$99,908</b>	<b>\$100,729</b>	<b>\$101,534</b>	<b>\$103,238</b>	<b>\$104,476</b>
% change y/y	-11%	-13%	-8%	-4%	2%	3%	1%	1%	1%	1%	1%	2%	1%

Source: USDA, Cleveland Research estimates



# U.S. Acreage Planted Per Crop Year

