

# ***Ag Equipment Intelligence***

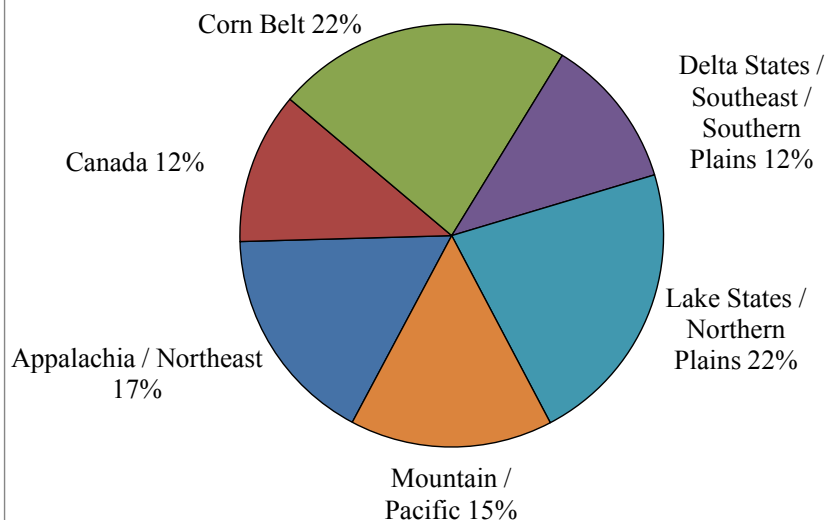
January 2017 Dealer Sentiments &  
Business Conditions Update

# Monthly Ag Equipment Intelligence North American Dealer Survey

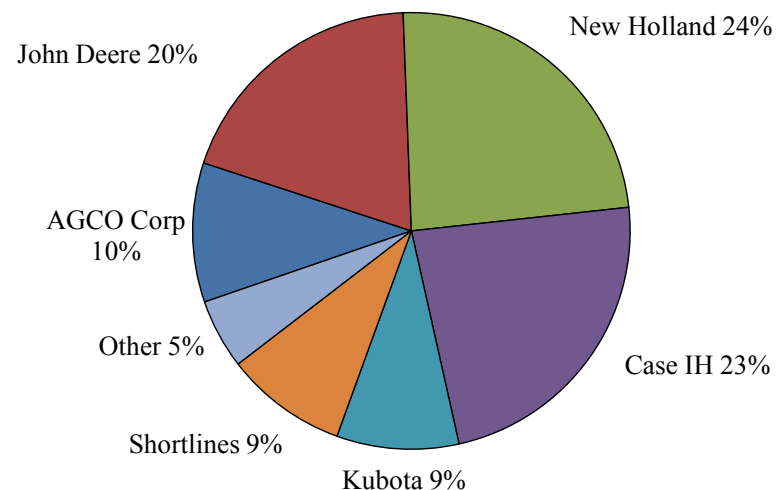
## Background:

- We are pleased to announce the results of the December 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 December survey had ~160 respondents representing combined annual revenues of roughly \$6 billion. Participants represent 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.

## Highlights / Summary Thoughts

- **Sales** – Average dealer sales were reported down 10% y/y in December, inline with November as a net 22% of dealers missed their sales budget in the month, similar to November. A net 32% of dealers reported a sales decline in the month, better than the net 38% citing a decline in November. Commercial and consumer lawn equipment sales continue to show strength, while large equipment demand remains very weak.
- **Outlook** –The 2017 sales forecast was projected at down 4%, inline with the prior forecast as cash receipt forecasts improved slightly and sentiment has grown more optimistic over the last ~2 months.
- **Inventory** – A net 40% of dealers reported new equipment inventories as too high, relatively inline with November. Used inventory levels worsened with a net 43% of dealers reporting inventory as too high vs. 36% last month.
- **Pricing** – Dealers reported relatively flat new equipment pricing as OEM price increases have been offset by greater discounting at the dealer level. Used large tractors were reported down ~7% y/y on average, worse than the down 6% reported in November. Used combine pricing was down 10% y/y vs down 8% in November.

# Monthly Sales Growth

- Average dealer sales were reported down 10% y/y in December, inline with November. A net 22% of dealers missed their sales budgets in December, slightly better than the 24% that missed in November.
- A net 9% of dealers reported they are less optimistic about overall business conditions, relatively inline with the 10% in November. We have seen an improvement in sentiment over the past ~2-3 months.

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

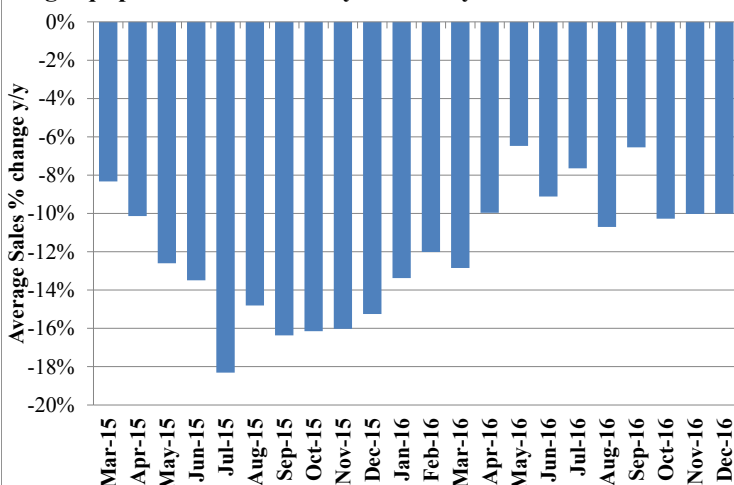
Source: Cleveland Research, AEI

N. American Farm Equipment Dealer Survey - Sales Versus Expectations																						
% of Dealers Reporting	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
Better than expected	20%	27%	23%	21%	18%	16%	19%	15%	12%	19%	12%	15%	20%	24%	21%	22%	15%	14%	14%	16%	8%	11%
In line with expectations	50%	44%	39%	48%	45%	56%	53%	43%	51%	47%	52%	47%	52%	48%	46%	40%	43%	44%	44%	40%	60%	57%
Worse than expected	28%	29%	36%	31%	36%	28%	28%	41%	37%	34%	35%	38%	28%	29%	34%	38%	42%	41%	42%	44%	32%	32%
Net % (Better - Worse)	-8%	-2%	-13%	-10%	-18%	-12%	-9%	-26%	-25%	-15%	-23%	-22%	-8%	-5%	-13%	-17%	-28%	-27%	-28%	-28%	-24%	-22%

Source: Cleveland Research, AEI

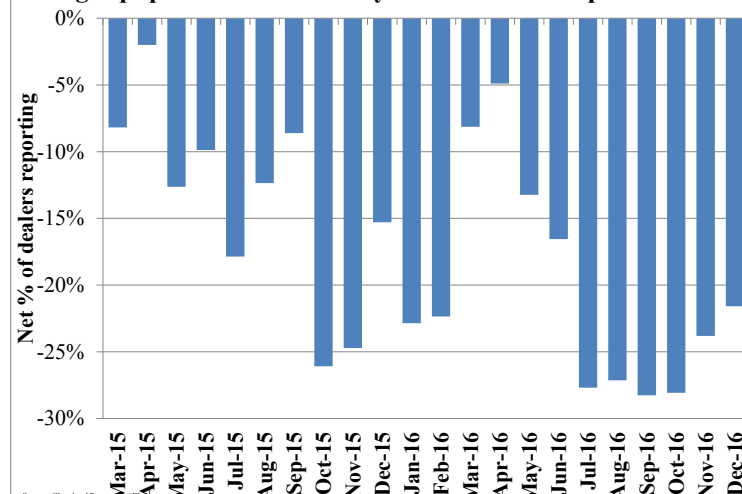
# Monthly Sales Growth Continued

**Ag Equipment Dealer Survey - Monthly Sales Growth Trends**



Source: Cleveland Research, LLC

**Ag Equipment Dealer Survey - Sales Versus Expectations**



Source: Cleveland Research, LLC

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

% of Dealers Reporting	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
Positive Sales Growth	20%	27%	29%	26%	20%	19%	24%	20%	16%	18%	14%	20%	23%	27%	29%	27%	20%	19%	22%	18%	19%	26%
Flat Sales	50%	11%	17%	11%	16%	16%	16%	15%	17%	10%	22%	20%	17%	23%	16%	23%	21%	19%	22%	15%	23%	17%
Negative Sales Growth	28%	62%	54%	63%	64%	65%	60%	65%	67%	72%	64%	60%	60%	50%	55%	50%	59%	62%	56%	67%	58%	58%
Net % Reporting Growth	-8%	-35%	-25%	-37%	-43%	-46%	-35%	-46%	-52%	-54%	-50%	-40%	-37%	-23%	-26%	-23%	-39%	-43%	-33%	-48%	-39%	-32%
Average % Change y/y	-8%	-10%	-13%	-13%	-18%	-15%	-16%	-16%	-16%	-15%	-13%	-12%	-13%	-10%	-6%	-9%	-8%	-11%	-7%	-10%	-10%	-10%

Source: Cleveland Research

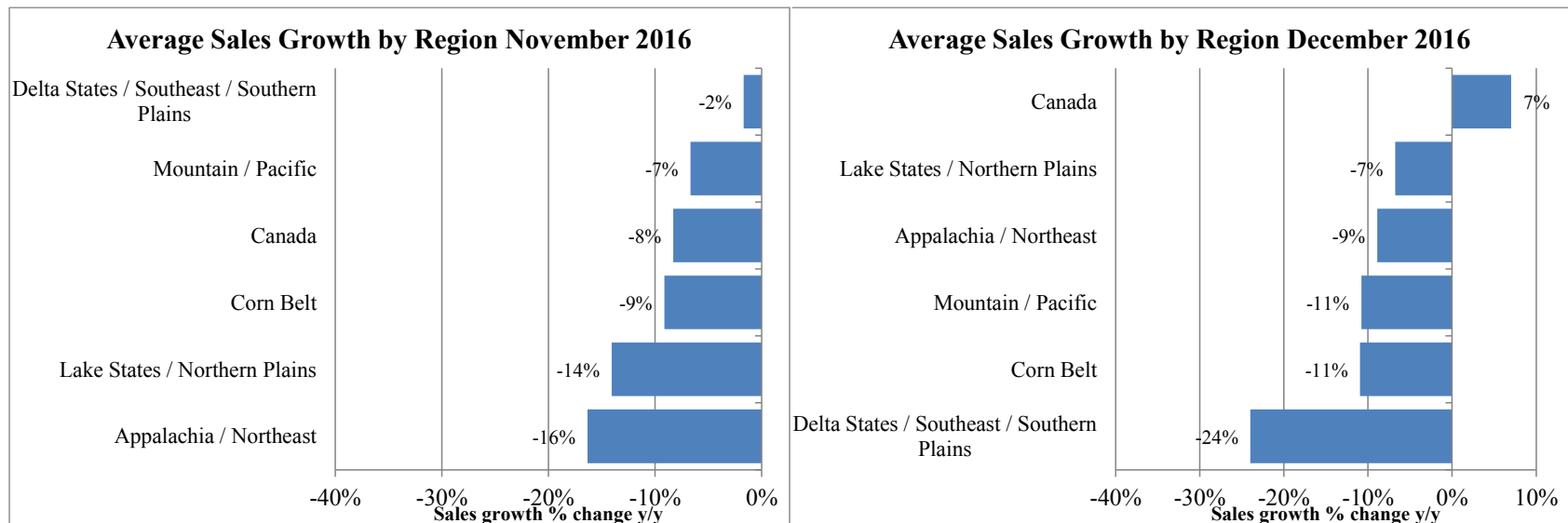
**Optimism/Sentiment vs. Last Month**

% of Dealers Reporting	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
More Optimistic	14%	14%	12%	13%	14%	11%	12%	8%	10%	8%	11%	13%	17%	15%	22%	11%	16%	11%	14%	13%	15%	17%
Same	42%	47%	48%	58%	52%	45%	51%	60%	52%	48%	46%	51%	55%	59%	51%	60%	44%	52%	49%	53%	60%	58%
Less Optimistic	43%	40%	40%	30%	35%	43%	37%	33%	38%	44%	43%	36%	28%	26%	27%	30%	40%	36%	38%	34%	25%	26%
Net % Dealer Optimism	-29%	-26%	-26%	-18%	-21%	-32%	-26%	-25%	-28%	-35%	-31%	-24%	-11%	-11%	-4%	-19%	-24%	-25%	-24%	-21%	-10%	-9%

Source: Cleveland Research

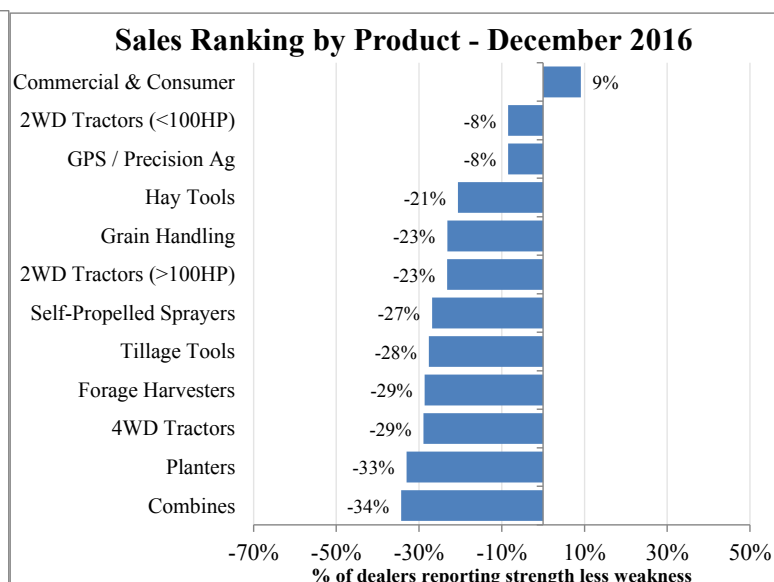
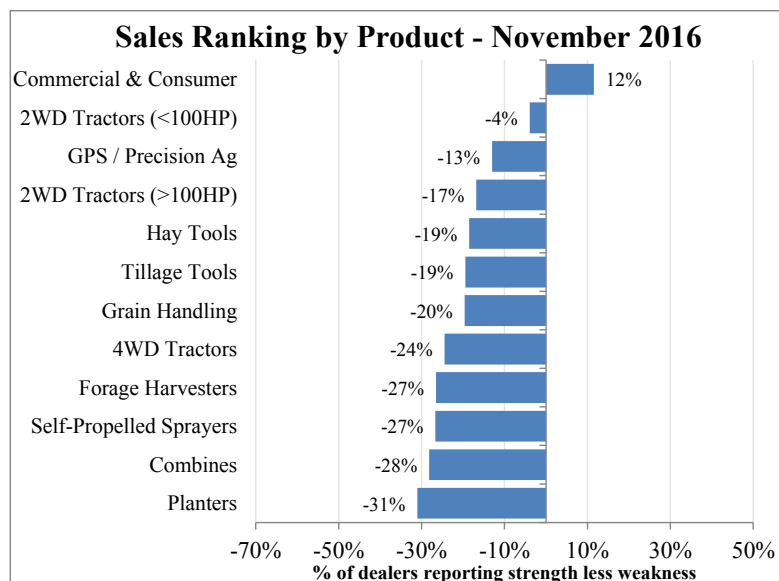
# Monthly Sales Growth by Region

- Sales trends by region were mostly negative in the month, with the exception of Canada which has shown improvement over the past few months. The Delta States/Southeast/Southern Plains region showed the largest decline in the month.

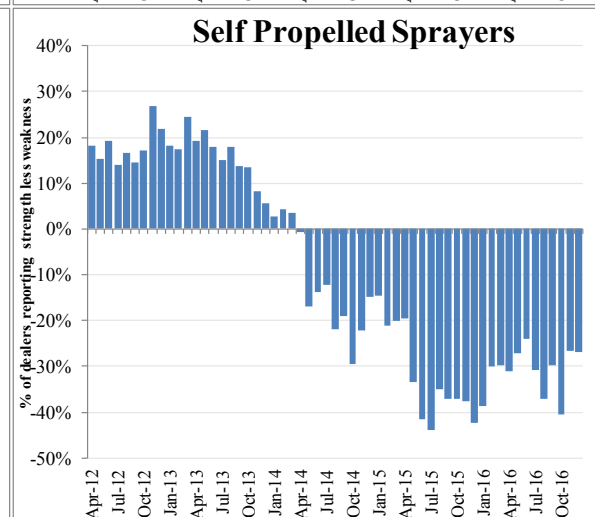
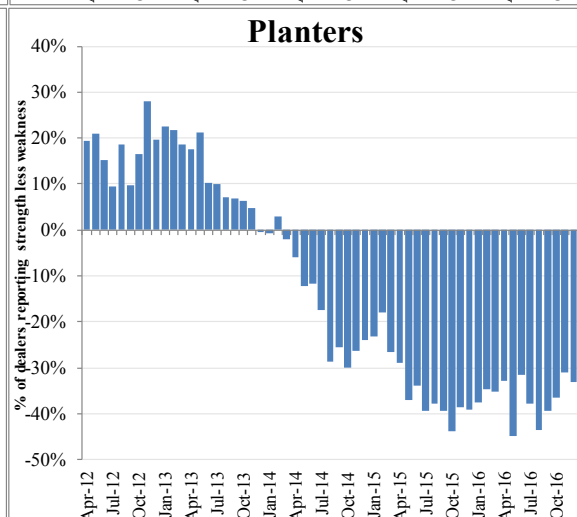
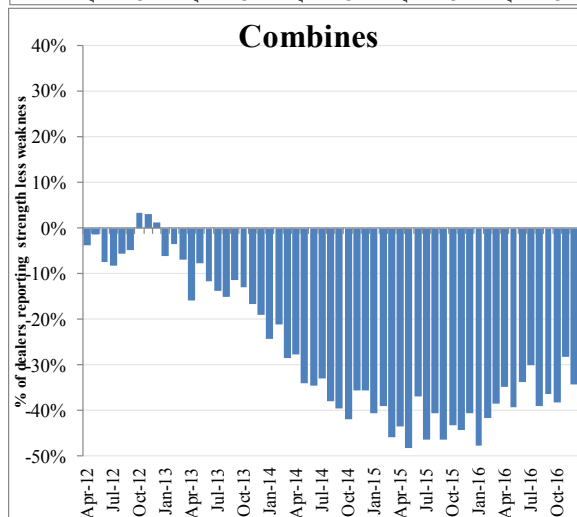
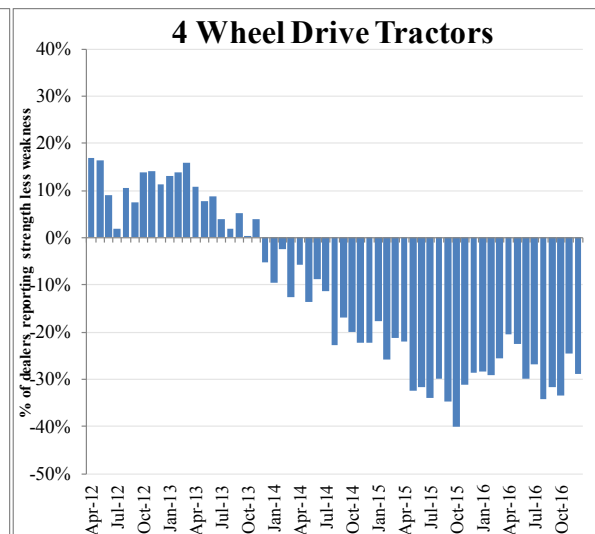
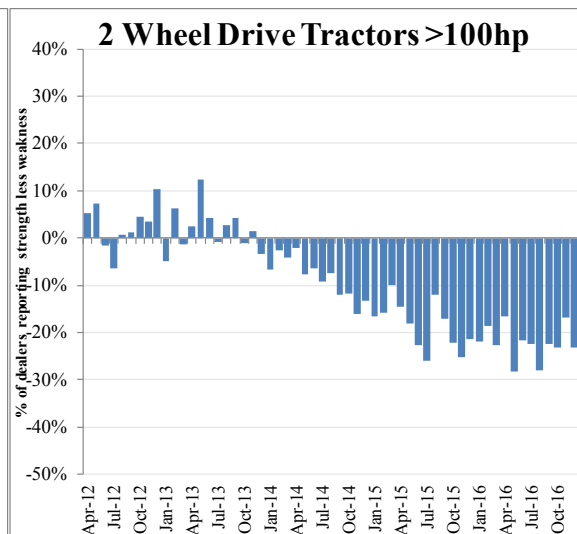
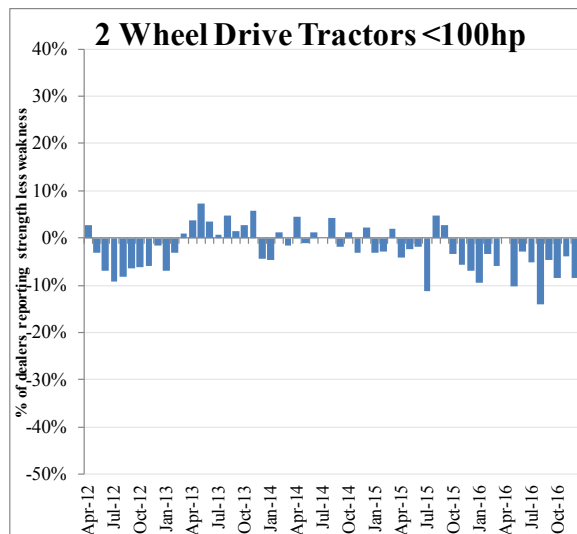


# Equipment Category Sales Trends

- Commercial & consumer lawn equipment continues to show strength in contrast to declines in other categories (planters, combines, sprayers, and harvesters in particular). While GPS / Precision AG equipment had seen strength in the 1H16, trends have deteriorated over the past few months. We continue to see significant headwinds to large equipment sales.

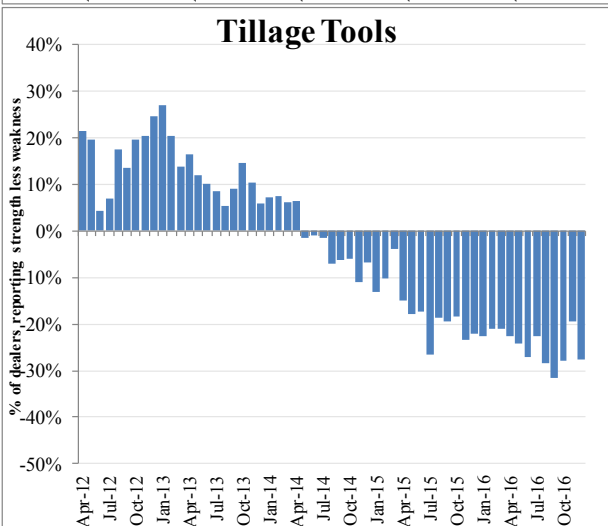
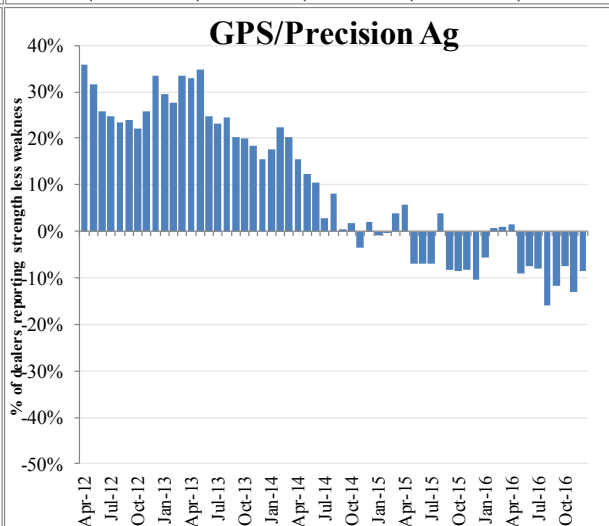
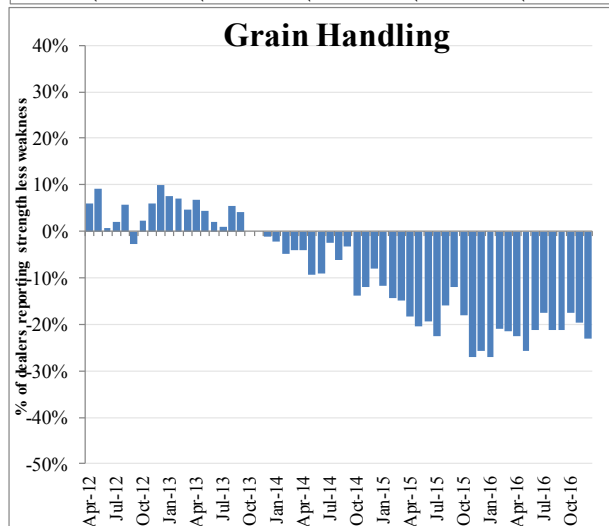
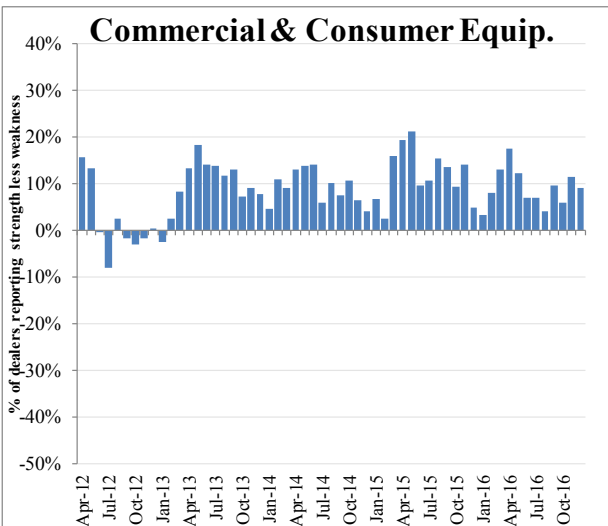
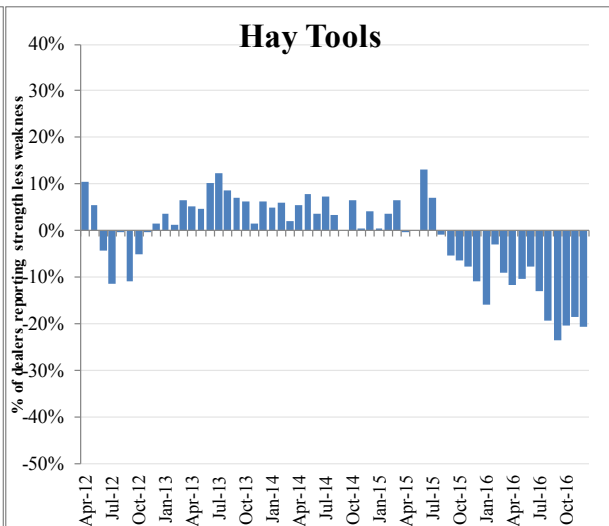
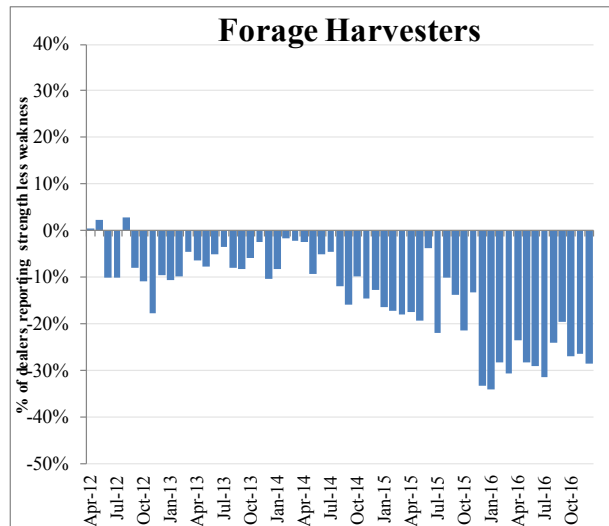


# Equipment Category Sales Trends





# Equipment Category Sales Trends (Continued)



# Most Interesting Commentary - Monthly Sales and Outlook

- *New equipment sales were up, particularly for <150 hp tractors, but used equipment sales were down considerably.*
- *We were pleasantly surprised by the strong equipment sales over the last 6-8 weeks.*
- *We didn't see the last minute buying that usually comes at year end which we attribute to Section 179 being ongoing. Farmers likely bought earlier in the year.*
- *Heavy rains throughout the year really impacted crop production, hindering new equipment sales, but parts business came in above expectations.*
- *We saw more online auction buying in the month vs dealership purchases.*
- *We are being forced to discount to absorb part of the price increases we are getting from manufacturers. We are seeing price increases of ~1%.*
- *Commodity prices are still very low, so customers are still not spending money. We will likely have one more year of this market with prices beginning to inch higher towards the end of the year.*
- *We have way too many used round hay balers and don't have the support from manufacturer programs needed to move them.*
- *Used tractor leases have been a big help in moving our used 140hp+ units*
- *Late model high horsepower tractor inventory is too high.*
- *We are planning to run our used combine, planter, and hhp tractor inventories very lean in 2017.*
- *Our expectations for 2017 for new equipment sales are down 5-10%, and we believe down 10% is more realistic.*
- *We don't anticipate a notable change until grain, dairy, and cattle pricing firms.*
- *Year end sales were worse than expected and with the current crop prices, I do not expect any change in demand in 2017.*
- *Customers coming in the door have a more positive attitude. They are not necessarily buying more than before, but have a more positive outlook.*

## Average Dealer Sales Outlook

- The 2017 sales growth forecast was reported at down 4% on average, inline with last month's forecast following improvements in cash receipt forecasts over the past 2-3 months.
- The bottom right table details the 2017 industry outlooks from Deere and AGCO. CNHI has not provided 2017 guidance yet.

N. American Farm Equipment Dealer Survey - 2017 Sales Forecast						
% change y/y	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
AGCO	-1%	-2%	-20%	-10%	-8%	-2%
John Deere	-11%	-4%	-15%	-1%	-6%	-5%
New Holland	-4%	-3%	-21%	-3%	-5%	-4%
Case IH	-14%	-6%	-20%	-12%	2%	-13%
Kubota	6%	-24%	4%	-3%	-6%	-2%
Shortlines/Other	-3%	-5%	-19%	-2%	0%	-10%
<b>Overall</b>	<b>-8%</b>	<b>-7%</b>	<b>-8%</b>	<b>-5%</b>	<b>-4%</b>	<b>-4%</b>

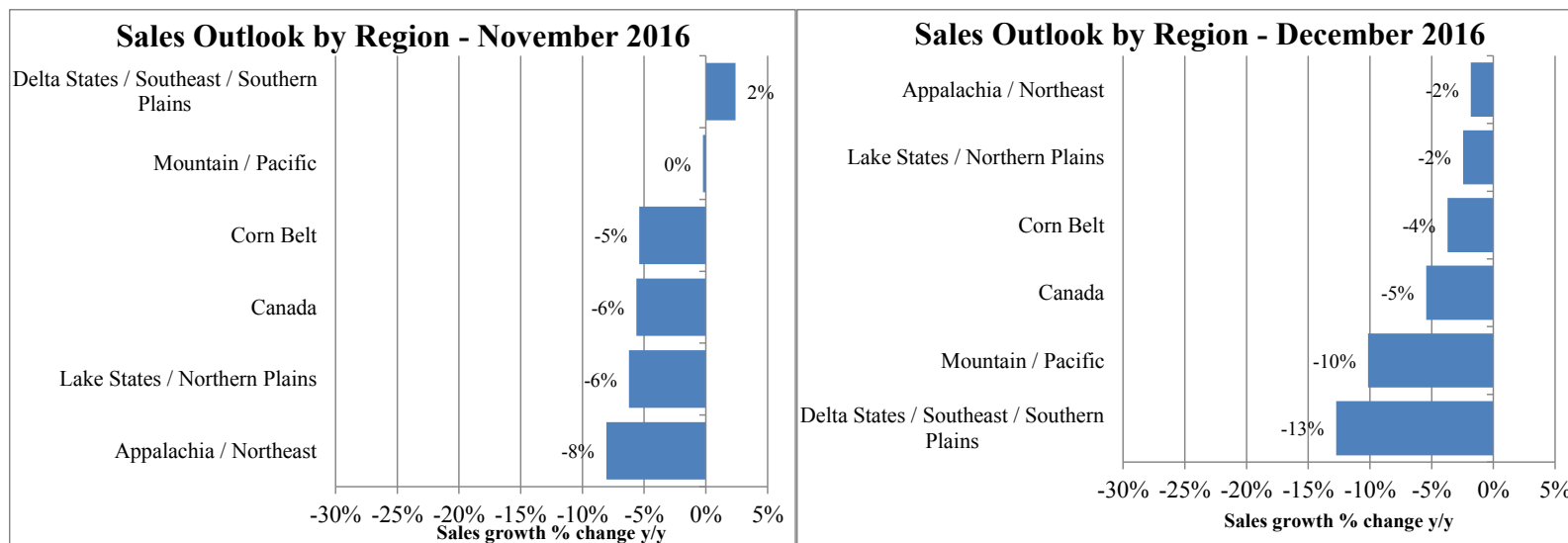
Source: Cleveland Research, AEI

2017 Ag Equipment Industry Sales Outlook (units)		
Geography	Deere	AGCO Corp.
N. America	Down 5-10%	Down 5-10%; HHP Down 10%
Western Europe	Down ~5%	Flat to Down 5%
Latin America	Up 15%	Up 10%
CIS or ROW	na	na
Asia	Flat to up Slightly	na

Source: Company reports, CRC estimates

# 2017 Sales Outlook

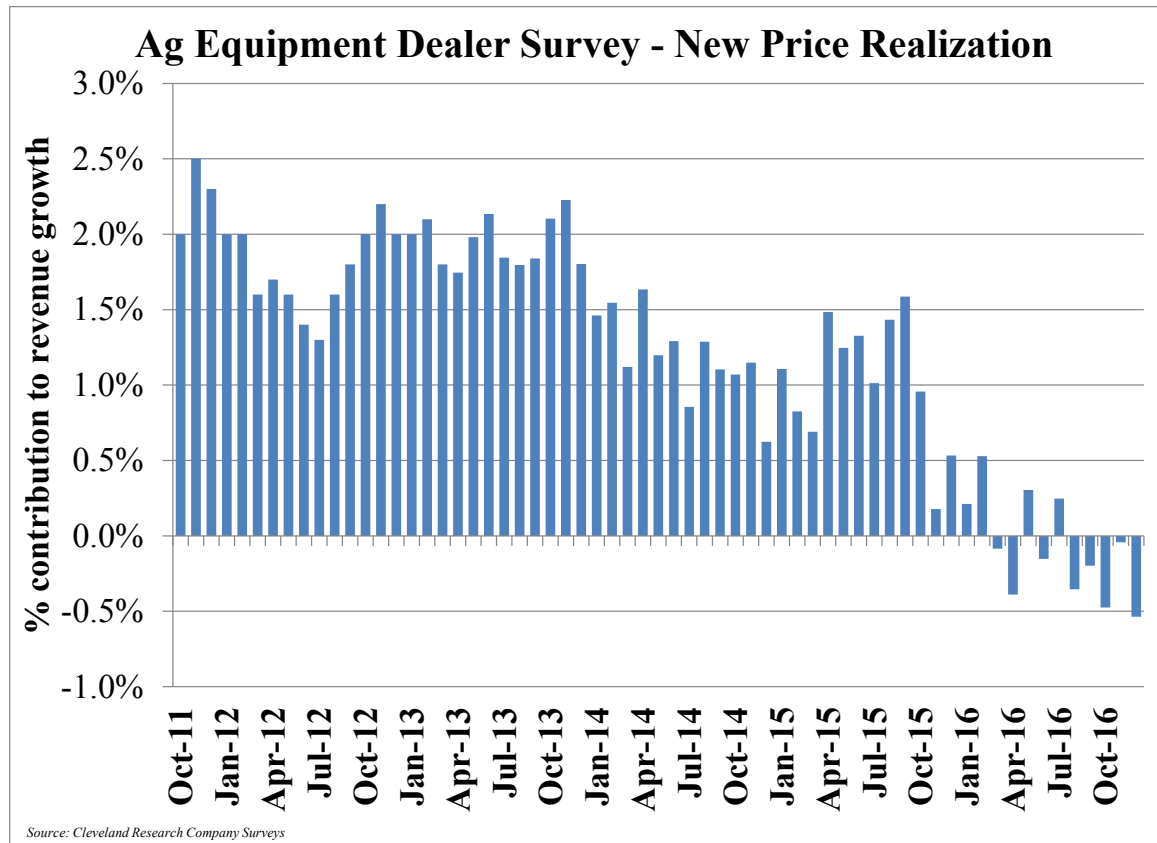
- The 2017 outlook in December was similar to November with initial forecasts in the range of down 2% to down 13%. Dealers noted an increased optimism with customers, but remain hesitant to call this a trend until commodity prices improve.



*Note: November forecasts are for 2017*

# Pricing Trends

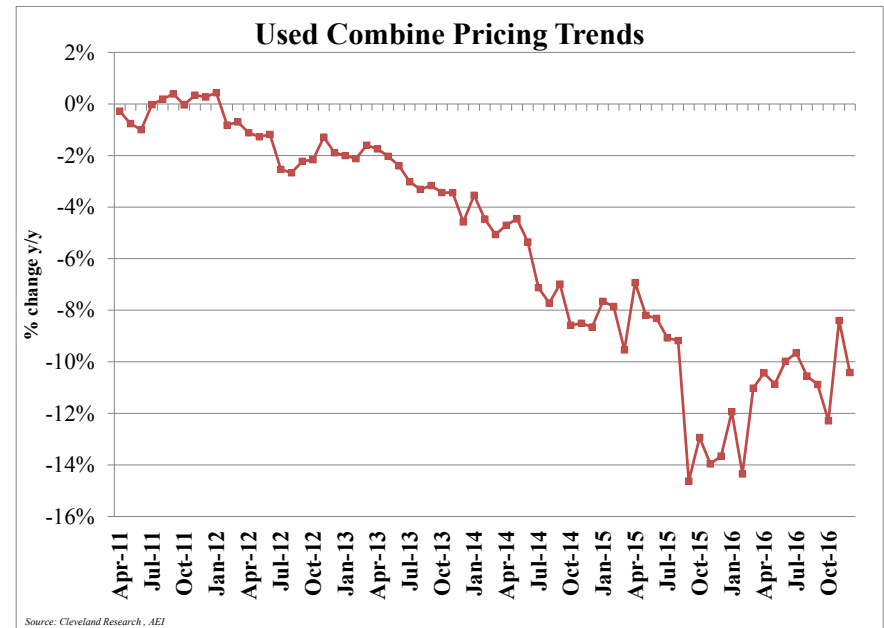
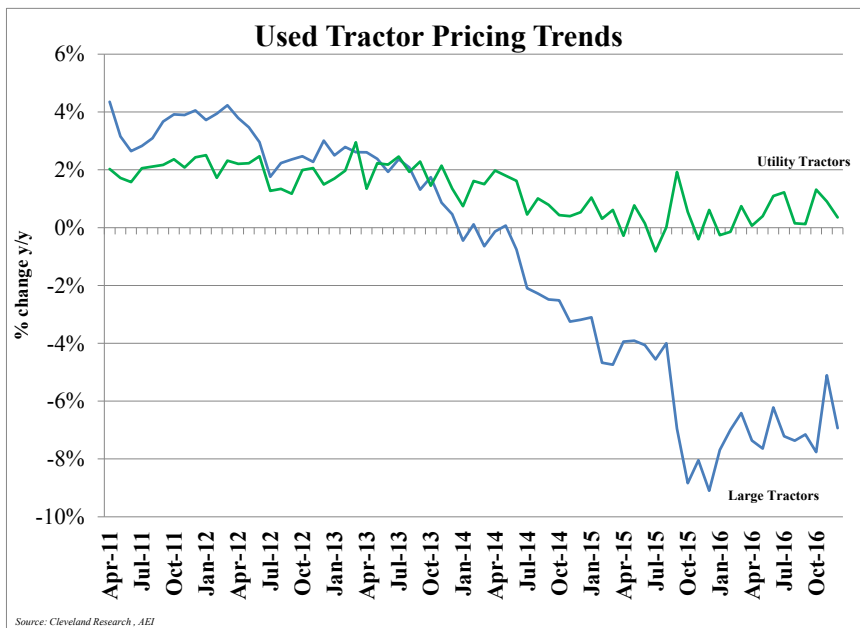
- Dealers reported relatively flat pricing over the last few months as incentive programs have more than offset list price increases. Commentary in the month suggests that incentive programs are slowing.



# Used Equipment Pricing

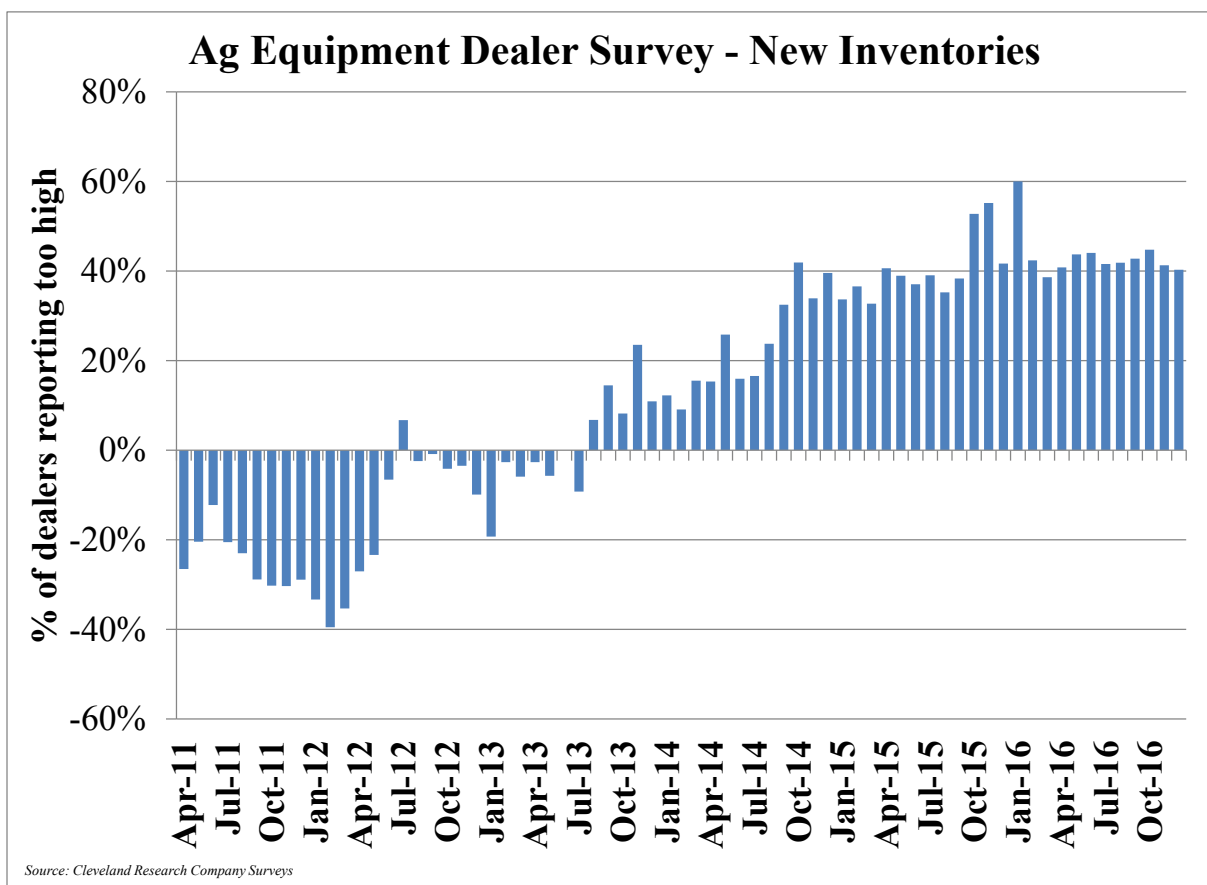
- Pricing trends deteriorated slightly across categories in the month. Large tractors were reported down ~7% y/y on average, slightly worse than the 6% reported in November. Combine pricing was down 10% y/y, worse than the 8% decline in November.

Used Tractor and Combine Values (Y/Y)																
	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
Compact (<40HP)	2%	1%	(1%)	0%	(1%)	0%	1%	0%	1%	2%	2%	1%	1%	2%	2%	1%
Utility (40-100HP)	2%	0%	(0%)	1%	0%	(1%)	0%	0%	0%	1%	1%	(0%)	(0%)	1%	0%	0%
Row Crop (100HP+)	(4%)	(6%)	(7%)	(7%)	(6%)	(5%)	(5%)	(6%)	(7%)	(5%)	(6%)	(6%)	(6%)	(6%)	(4%)	(5%)
4WD Tractors	(9%)	(11%)	(9%)	(11%)	(10%)	(9%)	(8%)	(8%)	(9%)	(8%)	(8%)	(9%)	(8%)	(10%)	(7%)	(9%)
Combines	(15%)	(13%)	(14%)	(14%)	(12%)	(14%)	(11%)	(10%)	(11%)	(10%)	(10%)	(11%)	(11%)	(12%)	(8%)	(10%)



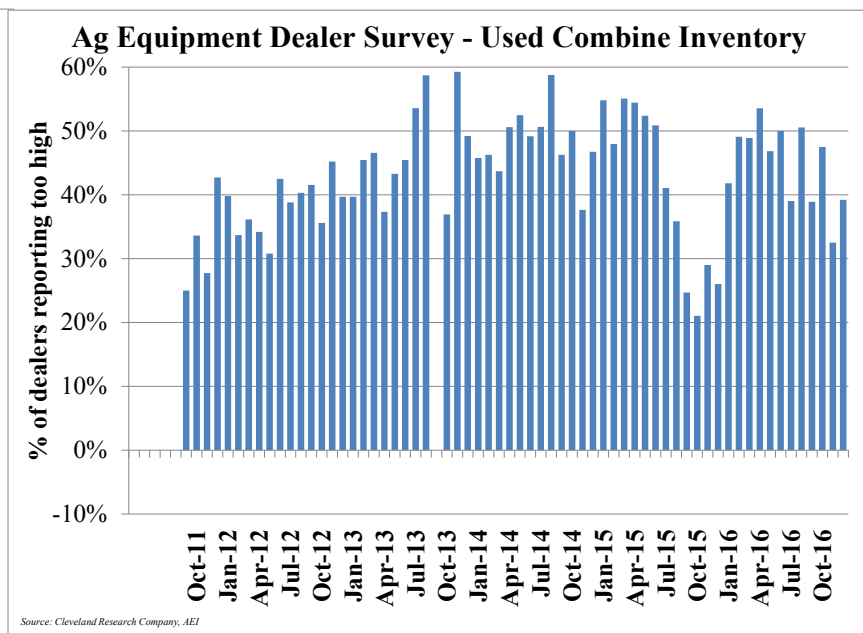
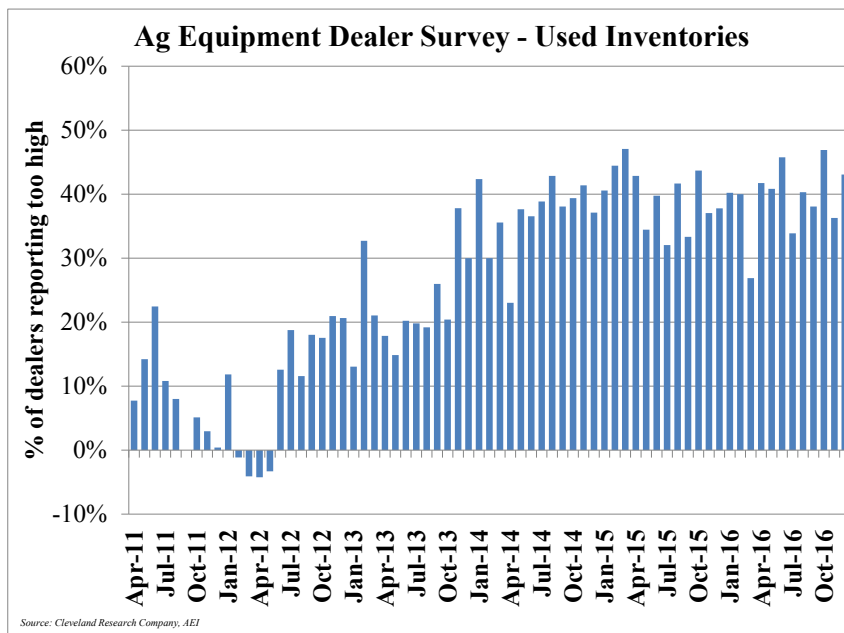
# New Equipment Inventory Levels

- A net 40% of dealers reported new equipment inventories are too high (45% too high, 50% about right, 5% too low), relatively inline with November's net 41% of inventories reported too high. New inventory levels have been reported as too high for nearly 3 years.



# Used Equipment Inventory Levels

- A net 43% of dealers reported used equipment inventory as too high (47% too high, 49% about right, 4% too low), worse than the 36% reporting heightened inventory in November (44% too high, 48% about right, 8% too low). Used combine inventory levels were reported as too high by a net 39% of dealers in December, compared to November's reading of 33% and October's 48%.





# 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	
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	9,702	4,799	2,539	499	17,539	3,038	470	-4%	0%	-20%	-24%	-8%	-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	15,679	6,526	2,409	300	24,914	2,709	502	3%	1%	-12%	-26%	0%	-14%	-40%	
Jul-15	14,372	7,039	2,469	268	24,148	2,737	806	28%	19%	-23%	-31%	16%	-24%	-22%	
Aug-15	9,800	5,087	1,768	167	16,822	1,935	679	1%	-7%	-31%	-55%	-7%	-34%	-28%	
Sep-15	10,917	5,348	1,934	249	18,448	2,183	845	-4%	-14%	-41%	-49%	-13%	-42%	-26%	
Oct-15	12,897	6,792	3,266	515	23,470	3,781	796	18%	-4%	-34%	-30%	-1%	-33%	-19%	
Nov-15	6,112	3,728	1,159	222	11,221	1,381	343	4%	-11%	-39%	-37%	-9%	-38%	-24%	
Dec-15	8,755	6,376	2,567	516	18,214	3,083	883	8%	-15%	-31%	1%	-8%	-27%	-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%	
Mar-16	12,453	5,136	1,909	259	19,757	2,168	350	28%	7%	-25%	-48%	13%	-29%	-26%	
Apr-16	17,713	5,586	2,548	337	26,184	2,885	465	7%	-14%	-19%	-22%	-2%	-19%	-30%	
May-16	17,201	5,634	1,976	234	25,045	2,210	333	7%	0%	-1%	-10%	5%	-2%	-39%	
Jun-16	15,794	6,594	1,974	223	24,585	2,197	567	1%	1%	-18%	-26%	-1%	-19%	13%	
Jul-16	13,344	5,418	1,833	152	20,747	1,985	619	-7%	-23%	-26%	-43%	-14%	-27%	-23%	
Aug-16	11,600	5,068	1,315	102	18,085	1,417	563	18%	0%	-26%	-39%	8%	-27%	-17%	
Sep-16	12,632	5,491	1,768	203	20,094	1,971	621	16%	3%	-9%	-18%	9%	-10%	-27%	
Oct-16	13,850	6,819	2,722	612	24,003	3,334	579	7%	0%	-17%	19%	2%	-12%	-27%	
Nov-16	7,382	3,656	907	205	12,150	1,112	294	21%	-2%	-22%	-8%	8%	-19%	-14%	
Dec-16	10,343	6,326	2,071	328	19,068	2,399	687	18%	-1%	-19%	-36%	5%	-22%	-22%	

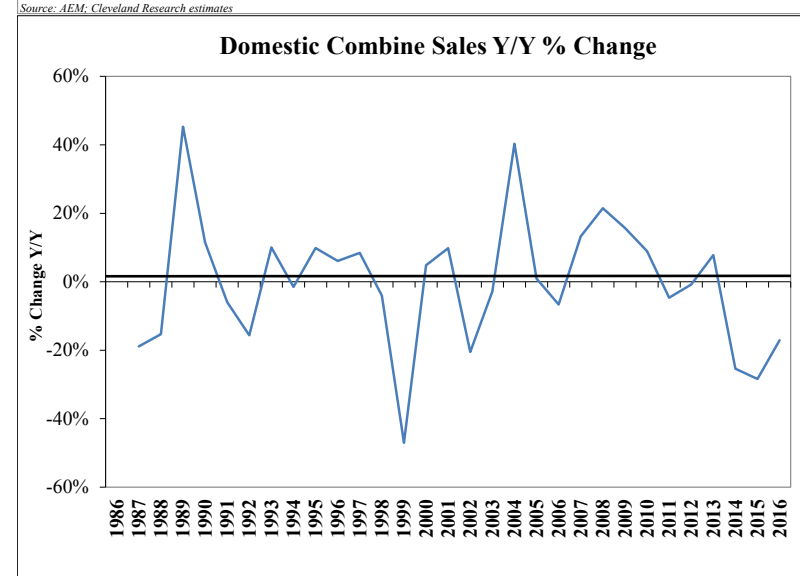
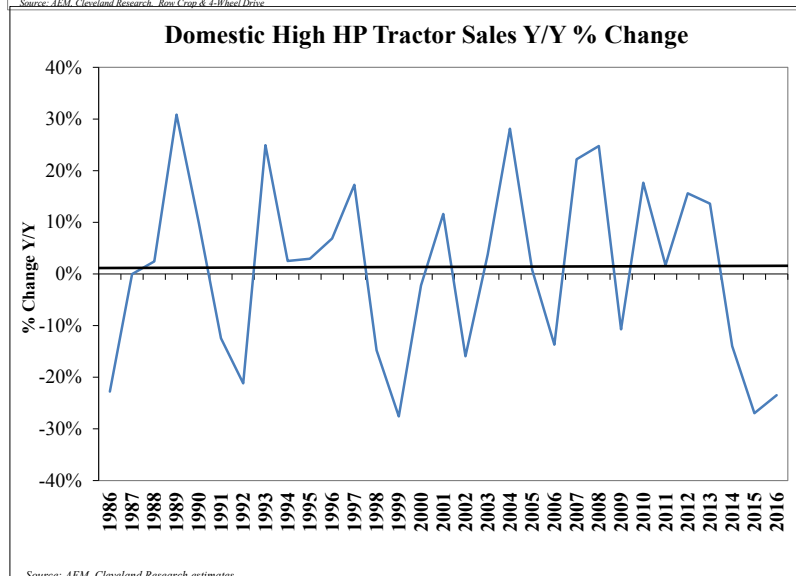
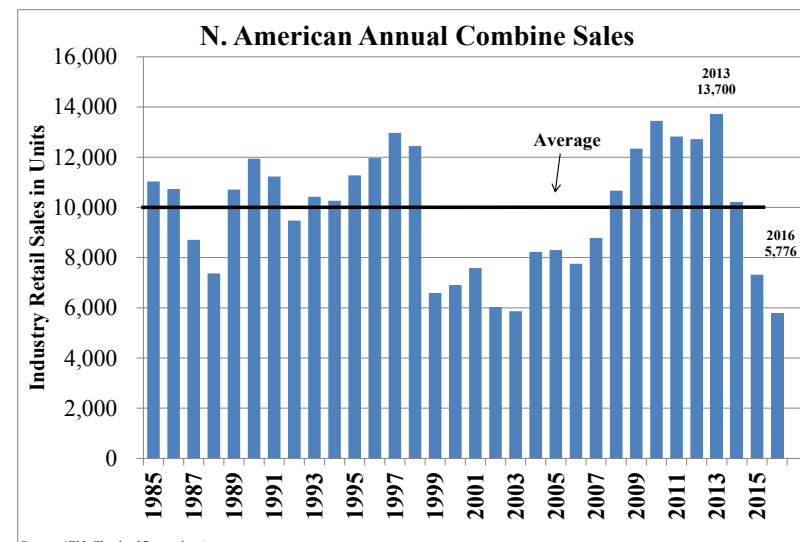
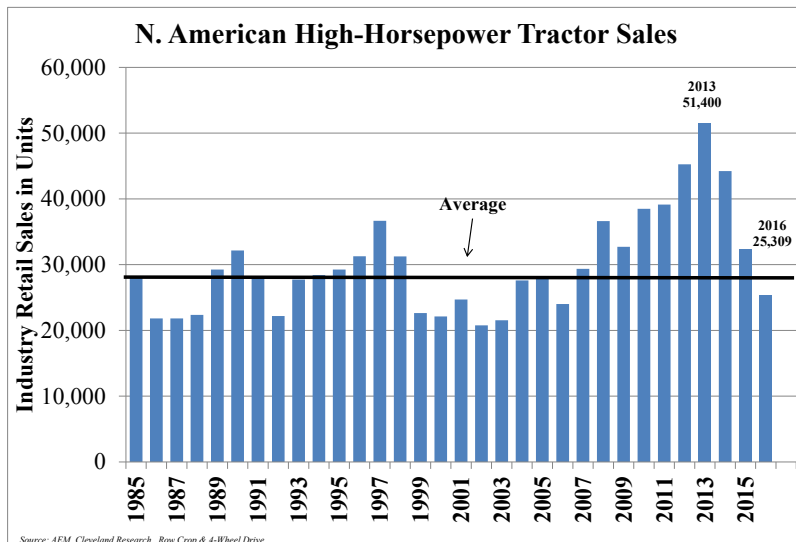
Source: AEM; Cleveland Research Company estimates. High hp tractors are row crop & 4-wheel drive.

# North American Farm Equipment Industry Inventory

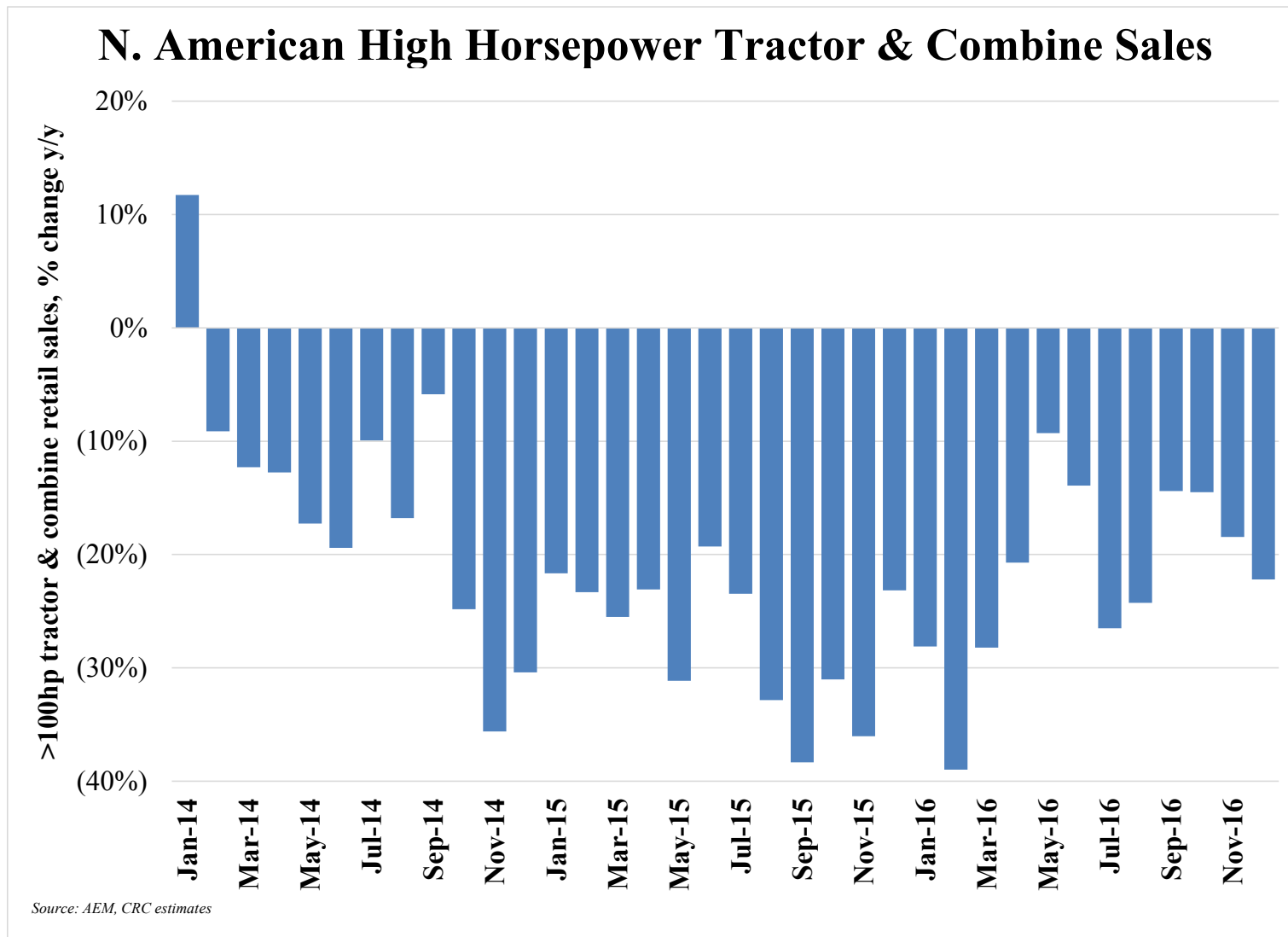
NORTH AMERICAN FARM EQUIPMENT INVENTORY														
	Inventory (Units)							Inventory to 12-mo. Sales						
	< 40 HP	Utility	Row Crop	4-Wheel	Total Tractor	Row Crop & 4WD	Combines	<40HP	Util	RC	4-WD	Total Tractor	Row Crop & 4WD	Comb
Dec-13	67,863	32,028	13,318	2,049	115,258	15,367	2,083	59%	50%	31%	24%	50%	30%	15%
Jan-14	69,111	33,240	12,620	2,028	116,999	14,648	1,681	60%	52%	29%	24%	51%	28%	12%
Feb-14	71,514	34,326	13,267	2,046	121,153	15,313	2,063	62%	54%	31%	25%	53%	30%	15%
Mar-14	71,249	35,256	14,058	2,218	122,781	16,276	2,456	61%	55%	33%	27%	53%	32%	18%
Apr-14	69,986	35,615	13,298	2,117	121,016	15,415	2,467	60%	55%	31%	26%	52%	31%	18%
May-14	66,364	34,755	13,505	2,255	116,879	15,760	2,734	57%	54%	32%	28%	51%	32%	21%
Jun-14	62,025	34,004	14,531	2,294	112,854	16,825	3,101	53%	52%	35%	29%	49%	34%	24%
Jul-14	61,829	34,393	14,836	2,159	113,217	16,995	3,144	52%	53%	36%	27%	49%	35%	25%
Aug-14	62,466	35,692	15,060	2,193	115,411	17,253	3,360	53%	54%	37%	29%	49%	36%	28%
Sep-14	61,811	35,926	16,185	2,399	116,321	18,584	2,891	51%	54%	40%	32%	49%	38%	24%
Oct-14	63,713	35,965	14,640	1,802	116,120	16,442	2,187	52%	53%	37%	25%	49%	35%	19%
Nov-14	67,691	37,110	14,840	1,652	121,293	16,492	2,046	55%	55%	38%	24%	51%	36%	19%
Dec-14	69,876	35,550	14,638	1,426	121,490	16,064	1,674	57%	52%	39%	22%	51%	36%	16%
Jan-15	73,716	35,405	13,934	1,439	124,494	15,373	1,713	59%	51%	37%	24%	53%	35%	18%
Feb-15	78,177	36,676	13,981	1,436	130,270	15,417	1,820	63%	54%	38%	25%	55%	36%	19%
Mar-15	81,662	37,881	14,179	1,346	135,068	15,525	2,040	66%	56%	39%	24%	58%	37%	22%
Apr-15	80,348	37,047	13,193	1,353	131,941	14,546	2,116	64%	54%	37%	26%	56%	35%	24%
May-15	78,880	37,037	13,177	1,400	130,494	14,577	2,058	63%	55%	38%	28%	56%	36%	23%
Jun-15	76,286	36,584	13,006	1,416	127,292	14,422	2,276	61%	54%	37%	29%	55%	36%	27%
Jul-15	72,876	35,232	12,507	1,354	121,969	13,861	2,218	56%	51%	37%	28%	52%	36%	27%
Aug-15	74,247	36,442	12,555	1,343	124,587	13,898	2,232	58%	53%	38%	29%	53%	37%	28%
Sep-15	65,844	37,545	12,551	1,374	117,314	13,925	2,001	51%	56%	39%	32%	51%	38%	26%
Oct-15	75,042	37,885	11,906	1,266	126,099	13,172	1,504	57%	56%	39%	31%	54%	38%	20%
Nov-15	79,228	39,911	12,983	1,317	133,439	14,300	1,492	61%	60%	44%	33%	58%	43%	20%
Dec-15	82,737	41,363	13,140	1,189	138,429	14,329	1,277	63%	63%	46%	30%	60%	44%	17%
Jan-16	86,618	42,352	12,727	1,129	142,826	13,856	1,169	66%	65%	47%	28%	63%	44%	16%
Feb-16	92,071	44,704	13,298	1,097	151,170	14,395	1,281	69%	68%	50%	28%	66%	48%	18%
Mar-16	93,703	45,127	13,327	1,131	153,288	14,458	1,281	69%	69%	52%	31%	66%	49%	18%
Apr-16	90,381	44,499	13,136	1,115	149,131	14,251	1,312	66%	69%	52%	31%	65%	50%	19%
May-16	86,451	43,931	13,015	1,152	144,549	14,167	1,492	63%	68%	52%	33%	62%	49%	22%
Jun-16	82,264	42,688	12,928	1,005	138,885	13,933	1,593	60%	66%	52%	29%	60%	49%	24%
Jul-16	81,046	41,621	12,765	920	136,352	13,685	1,580	59%	66%	53%	28%	60%	50%	24%
Aug-16	79,823	41,683	12,962	998	135,466	13,960	1,671	57%	66%	55%	30%	59%	52%	26%
Sep-16	78,438	41,007	12,671	1,103	133,219	13,774	1,428	56%	65%	54%	34%	58%	52%	23%
Oct-16	77,609	39,058	11,417	1,013	129,097	12,430	1,118	55%	62%	50%	30%	56%	47%	19%
Nov-16	80,250	39,972	12,075	1,059	133,356	13,134	1,105	56%	63%	53%	32%	57%	51%	19%

Source: AEM; Cleveland Research Company estimates

# Annual Agricultural Equipment Industry Sales (1985 - 2015)



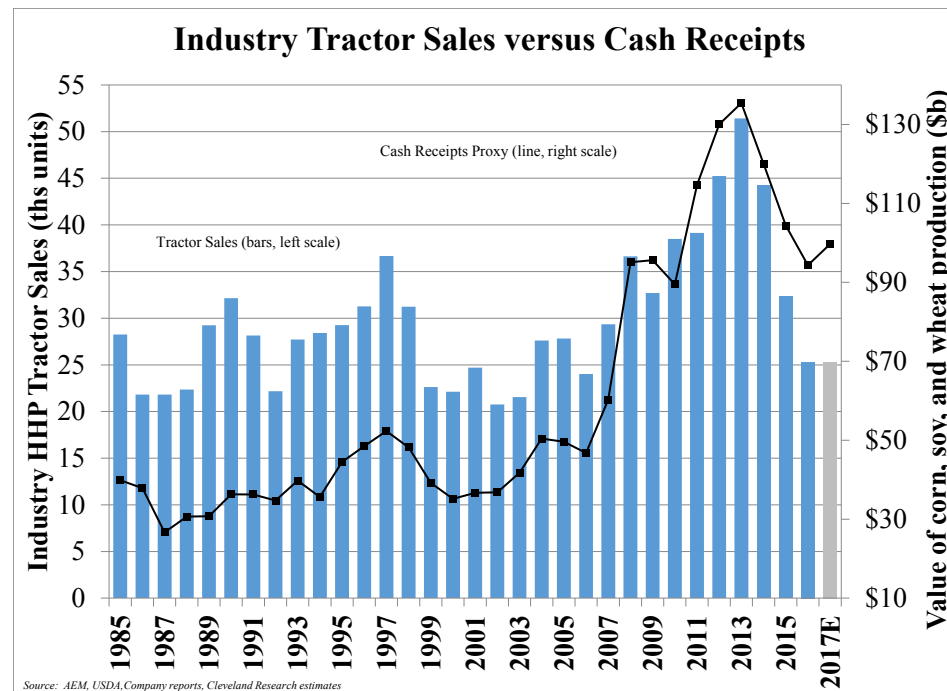
# North America Large Ag Equipment Sales



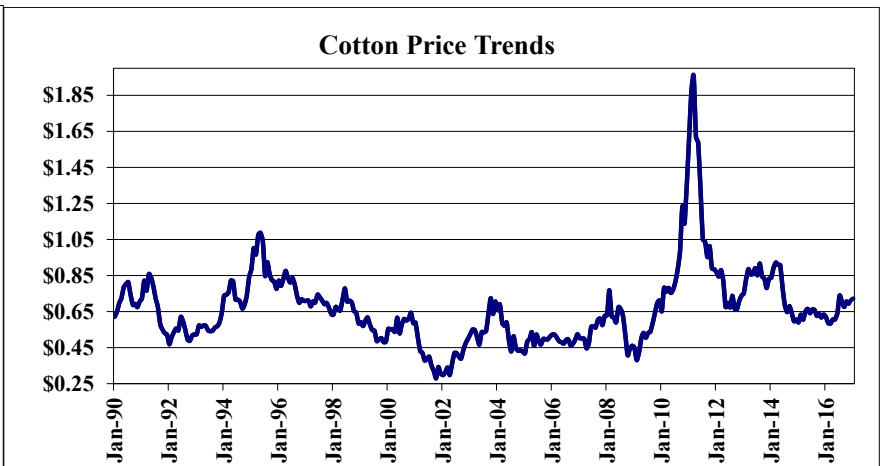
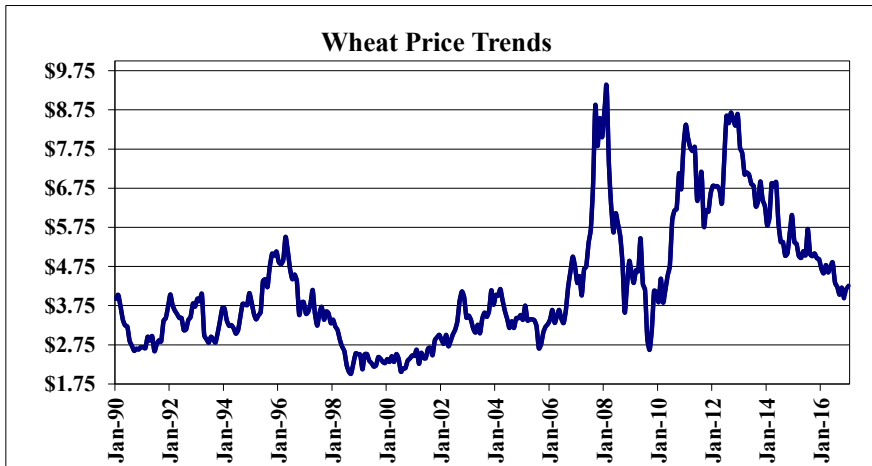
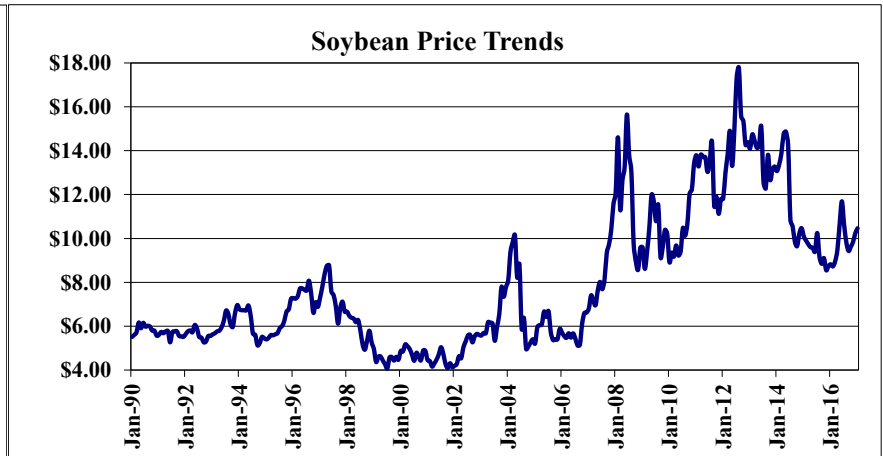
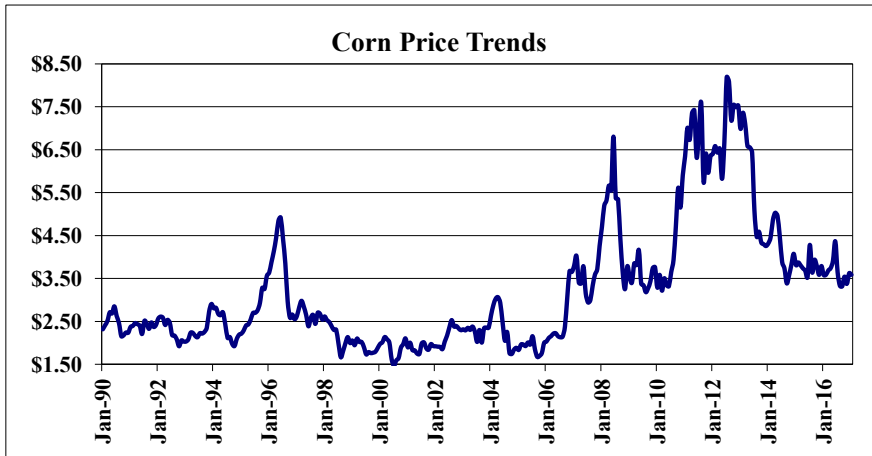
# Commodity Prices – Cash Receipts vs. Next Year Equipment Sales

**USDA's January 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 January crop report was better than December, with cash receipts proxy forecast up 8% y/y in 2016/2017 vs. prior estimate of up 7%. Corn and soybean price forecasts increased 1% from December's estimate and wheat pricing was forecast up 3% from December.



# 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 (Nov 2016- Early Release)														
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	2026/2027
Planted	95	91	88	94	90	90	90	89	88	88	87	87	87	86
Harvested	88	83	81	87	82	82	82	81	80	80	79	79	79	78
Yield (bu/acre)	158	171	168	175	171	173	175	177	179	181	183	185	187	189
Beginning Stocks (MM bu)	821	1,232	1,731	1,737	2,403	2,298	2,213	2,193	2,104	2,033	2,023	1,933	1,923	1,896
Production (MM bu)	13,829	14,216	13,601	15,148	14,060	14,135	14,300	14,285	14,360	14,520	14,495	14,655	14,719	14,784
Imports (MM bu)	36	32	67	55	50	50	50	50	50	50	50	50	50	50
<b>Total Supply (MM bu)</b>	<b>14,686</b>	<b>15,480</b>	<b>15,399</b>	<b>16,940</b>	<b>16,513</b>	<b>16,483</b>	<b>16,563</b>	<b>16,528</b>	<b>16,514</b>	<b>16,603</b>	<b>16,568</b>	<b>16,638</b>	<b>16,692</b>	<b>16,730</b>
Feed & Residual (MM Bu)	5,036	5,315	5,130	5,600	5,500	5,500	5,600	5,625	5,700	5,800	5,850	5,950	6,025	6,075
Food, Seed, & Industrial Total	6,501	6,568	6,635	6,760	6,765	6,795	6,770	6,775	6,730	6,705	6,685	6,640	6,620	6,595
Ethanol & By-Products	5,134	5,209	5,206	5,325	5,325	5,350	5,325	5,325	5,275	5,250	5,225	5,175	5,150	5,125
Domestic Use	11,537	11,883	11,765	12,360	12,265	12,295	12,370	12,400	12,430	12,505	12,535	12,590	12,645	12,670
Exports	1,917	1,864	1,898	2,225	1,950	1,975	2,000	2,025	2,050	2,075	2,100	2,125	2,150	2,175
<b>Total Use</b>	<b>13,454</b>	<b>13,747</b>	<b>13,663</b>	<b>14,585</b>	<b>14,215</b>	<b>14,270</b>	<b>14,370</b>	<b>14,425</b>	<b>14,480</b>	<b>14,580</b>	<b>14,635</b>	<b>14,715</b>	<b>14,795</b>	<b>14,845</b>
Ending Stocks	1,232	1,731	1,738	2,355	2,298	2,213	2,193	2,104	2,033	2,023	1,933	1,923	1,896	1,885
Ending Stocks/Use	9.2%	12.6%	12.7%	16.1%	16.2%	15.5%	15.3%	14.6%	14.0%	13.9%	13.2%	13.1%	12.8%	12.7%
Weeks Carryover	4.8	6.5	6.6	8.4	8.4	8.1	7.9	7.6	7.3	7.2	6.9	6.8	6.7	6.6
<b>Average Farm Price (\$/bu)</b>	<b>\$4.46</b>	<b>\$3.70</b>	<b>\$3.61</b>	<b>\$3.40</b>	<b>\$3.30</b>	<b>\$3.35</b>	<b>\$3.35</b>	<b>\$3.45</b>	<b>\$3.50</b>	<b>\$3.55</b>	<b>\$3.60</b>	<b>\$3.65</b>	<b>\$3.65</b>	<b>\$3.70</b>
Value of Production	\$61,677	\$52,599	\$49,100	\$51,503	\$46,398	\$47,352	\$47,905	\$49,283	\$50,260	\$51,546	\$52,182	\$53,491	\$53,724	\$54,701
% change y/y	-17%	-15%	-7%	5%	-10%	2%	1%	3%	2%	3%	1%	3%	0%	2%
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	2026/2027
Planted	77	83	83	84	86	85	85	85	85	85	85	85	85	85
Harvested	76	83	82	83	85	84	84	84	84	84	84	84	84	84
Yield Per Harvested Acre (Bushels)	44	48	48	53	48	48	49	49	50	50	51	51	52	52
Beginning Stocks	141	92	191	197	480	396	326	306	291	300	309	317	330	338
Production	3,358	3,927	3,926	4,361	4,050	4,070	4,090	4,130	4,195	4,240	4,280	4,325	4,365	4,405
Imports	72	33	24	30	30	30	30	30	30	30	30	30	30	30
<b>Total Supplies</b>	<b>3,571</b>	<b>4,052</b>	<b>4,141</b>	<b>4,588</b>	<b>4,560</b>	<b>4,496</b>	<b>4,446</b>	<b>4,466</b>	<b>4,516</b>	<b>4,570</b>	<b>4,619</b>	<b>4,672</b>	<b>4,725</b>	<b>4,773</b>
Crush	1,734	1,873	1,886	1,930	1,935	1,955	1,970	1,990	2,015	2,040	2,060	2,085	2,105	2,130
Exports	1,647	1,843	1,936	2,050	2,100	2,085	2,040	2,055	2,070	2,090	2,110	2,125	2,150	2,150
Seed & Residual	98	145	121	128	130	129	130	130	131	131	132	132	132	132
<b>Total Use</b>	<b>3,479</b>	<b>3,861</b>	<b>3,943</b>	<b>4,108</b>	<b>4,165</b>	<b>4,169</b>	<b>4,140</b>	<b>4,175</b>	<b>4,216</b>	<b>4,261</b>	<b>4,302</b>	<b>4,342</b>	<b>4,387</b>	<b>4,412</b>
Ending Stocks	92	191	197	480	396	326	306	291	300	309	317	330	338	361
Stocks/Use	2.7%	4.9%	5.0%	11.7%	9.5%	7.8%	7.4%	7.0%	7.1%	7.3%	7.4%	7.6%	7.7%	8.2%
<b>Average Price (\$/bu)</b>	<b>\$13.00</b>	<b>\$10.10</b>	<b>\$8.95</b>	<b>\$9.45</b>	<b>\$9.35</b>	<b>\$9.40</b>	<b>\$9.40</b>	<b>\$9.45</b>	<b>\$9.45</b>	<b>\$9.50</b>	<b>\$9.55</b>	<b>\$9.55</b>	<b>\$9.55</b>	<b>\$9.55</b>
Value of Production	\$43,654	\$39,663	\$35,138	\$41,211	\$37,868	\$38,258	\$38,446	\$39,029	\$39,643	\$40,280	\$40,874	\$41,304	\$41,686	\$42,068
% change y/y	0%	-9%	-11%	17%	-8%	1%	0%	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	2026/2027
Planted	56	57	55	50	49	49	50	50	50	50	50	50	50	50
Harvested	45	46	47	44	41	42	42	42	42	42	42	42	42	42
Yield Per Harvested Acre (Bushels)	47	44	44	53	47	48	48	48	49	49	50	50	50	51
Beginning Stocks	718	590	752	976	1,143	993	892	832	784	742	707	679	658	654
Production	2,134	2,026	2,062	2,310	1,936	1,976	2,012	2,029	2,045	2,062	2,079	2,096	2,113	2,129
Imports	169	144	113	125	120	125	125	125	130	135	140	145	150	155
<b>Total Supplies</b>	<b>3,021</b>	<b>2,760</b>	<b>2,927</b>	<b>3,410</b>	<b>3,199</b>	<b>3,094</b>	<b>3,029</b>	<b>2,986</b>	<b>2,959</b>	<b>2,939</b>	<b>2,926</b>	<b>2,920</b>	<b>2,921</b>	<b>2,938</b>
Food	955	960	957	963	965	970	975	980	985	990	995	1,000	1,005	1,010
Seed	77	81	67	61	66	67	67	67	67	67	67	67	67	67
Feed&residual	223	111	152	225	200	190	180	170	170	170	170	170	170	170
Exports	1,176	855	775	975	975	975	975	985	995	1,005	1,015	1,025	1,025	1,035
<b>Total Use</b>	<b>2,431</b>	<b>2,007</b>	<b>1,952</b>	<b>2,224</b>	<b>2,206</b>	<b>2,202</b>	<b>2,197</b>	<b>2,202</b>	<b>2,217</b>	<b>2,232</b>	<b>2,247</b>	<b>2,262</b>	<b>2,267</b>	<b>2,282</b>
Ending Stocks	590	753	976	1,186	993	892	832	784	742	707	679	658	654	656
Stocks/Use	24.3%	37.5%	50.0%	53.3%	45.0%	40.5%	37.9%	35.6%	33.5%	31.7%	30.2%	29.1%	28.9%	28.8%
<b>Average Price (\$/bu)</b>	<b>\$6.87</b>	<b>\$5.99</b>	<b>\$4.89</b>	<b>\$3.80</b>	<b>\$4.00</b>	<b>\$4.30</b>	<b>\$4.50</b>	<b>\$4.70</b>	<b>\$4.70</b>	<b>\$4.80</b>	<b>\$4.90</b>	<b>\$5.00</b>	<b>\$5.00</b>	<b>\$5.00</b>
Value of Production	\$14,661	\$12,136	\$10,083	\$8,778	\$7,744	\$8,497	\$9,054	\$9,536	\$9,612	\$9,898	\$10,187	\$10,480	\$10,565	\$10,645
% change y/y	-16%	-17%	-17%	-13%	-12%	10%	7%	5%	1%	3%	3%	3%	1%	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	2026/2027
Planted (mm acres)	228	231	226	228	224	224	224	223	223	223	222	222	221	221
Harvested (mm acres)	209	212	210	214	208	208	207	206	206	206	205	205	205	204
Yield (bu/acre)	92	95	93	102	96	97	98	99	100	101	102	103	103	104
Production	19,321	20,169	19,589	21,819	20,046	20,181	20,402	20,444	20,600	20,822	20,854	21,076	21,197	21,318
Average Price (\$/bu)	\$6.21	\$5.18	\$4.81	\$4.65	\$4.59	\$4.66	\$4.68	\$4.79	\$4.83	\$4.89	\$4.95	\$4.99	\$5.00	\$5.04
<b>Value of Production</b>	<b>\$119,992</b>	<b>\$104,398</b>	<b>\$94,320</b>	<b>#####</b>	<b>\$92,010</b>	<b>\$94,107</b>	<b>\$95,405</b>	<b>\$97,848</b>	<b>\$99,514</b>	<b>\$101,724</b>	<b>\$103,243</b>	<b>\$105,275</b>	<b>\$105,975</b>	<b>\$107,414</b>
% change y/y	-11%	-13%	-10%	8%	-9%	2%	1%	3%	2%	2%	1%	2%	1%	1%

Source: USDA, Cleveland Research estimates



# U.S. Acreage Planted Per Crop Year

