

Ag Equipment Intelligence

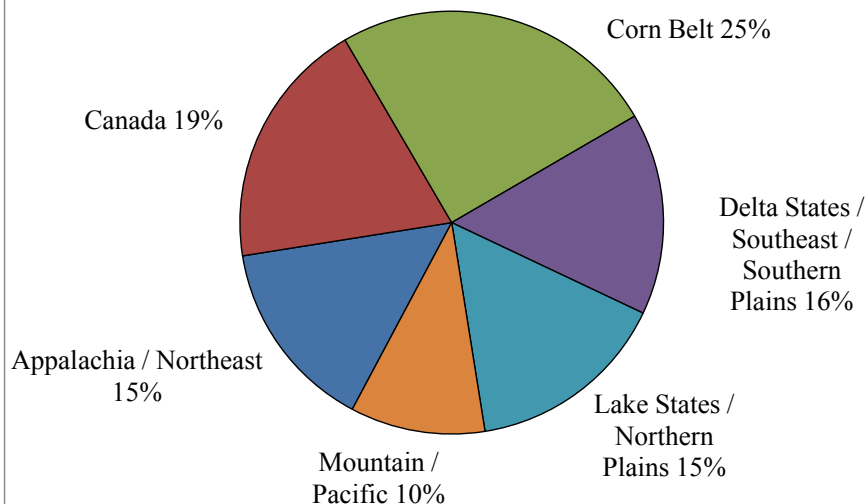
December 2017 Dealer Sentiments &
Business Conditions Update

Monthly Ag Equipment Intelligence North American Dealer Survey

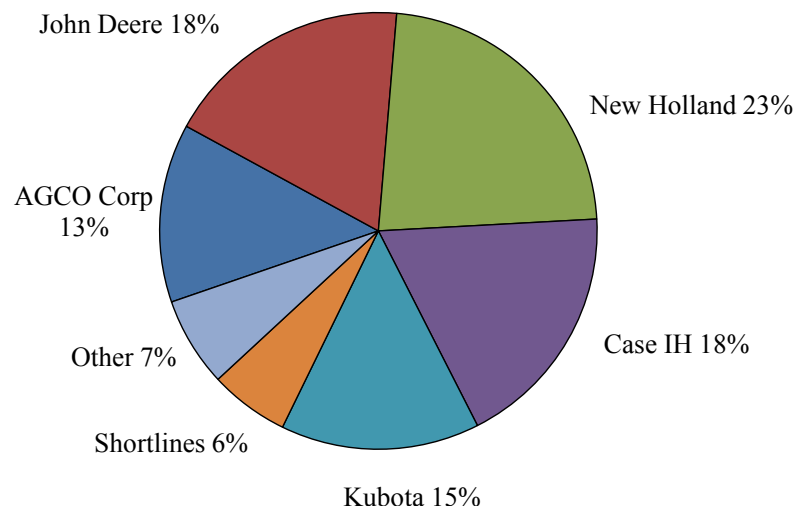
Background:

- We are pleased to announce the results of the November 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 November survey had ~160 respondents representing combined annual revenues of roughly \$5 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 flat y/y in November, inline with October and an improvement from the 2% declines reported in 3Q. A net 1% of dealers beat their sales budgets in November vs the 8% that missed last month. Commercial and consumer lawn equipment sales showed strength, while large equipment demand remains weak.
- **Outlook** –The 2018 forecast is for 2% growth vs the flat growth expected last month and in 3Q. A net 40% of contacts expect growth this month vs the net 32% that expected growth in October.
- **Inventory** – A net 16% of dealers reported new equipment inventories as too high, a slight improvement from the 18% in October. Used equipment inventories remained elevated as a net 16% of dealers reported used inventory as too high, an improvement from the 22% last month. Overall, inventories have come down from 2016 levels.
- **Pricing** – Dealers reported ~flat new equipment pricing as OEM price increases have been offset by discounting at the dealer level. Used pricing improved slightly in the month with contacts reporting large tractors down 4% y/y vs down 5% in October. Combine pricing also improved from October to down 5% y/y vs down 7% in October.

Monthly Sales Growth

- Average dealer sales were reported flat y/y in November, inline with October. A net 1% of dealers beat their sales budgets in November, better than the 8% that missed last month.
- A net 10% of dealers reported they are more optimistic vs the net 1% of dealers that were more optimistic in October and the best reading since January. Optimism and sales versus expectations have shown sequential improvement over the past five months.

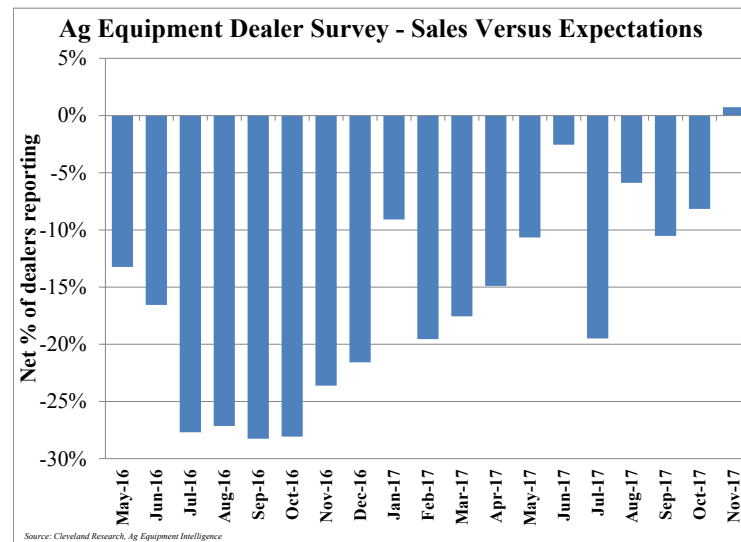
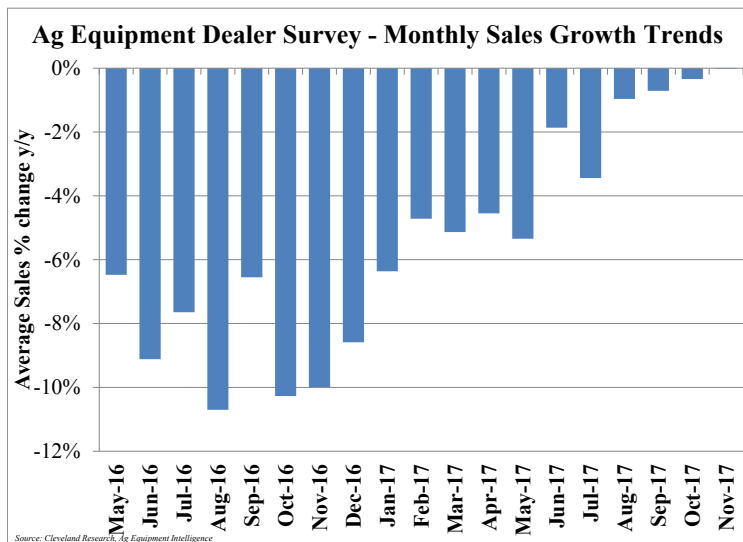
N. American Farm Equipment Dealer Survey - Average Dealer Sales Growth																			
% Change y/y	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17
AGCO	-1%	-19%	-7%	-22%	-12%	-12%	-12%	-5%	-13%	-4%	-11%	-2%	-13%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

Source: Cleveland Research, Ag Equipment Intelligence

N. American Farm Equipment Dealer Survey - Sales Versus Expectations																			
% of Dealers Reporting	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17
Better than expected	21%	22%	15%	14%	14%	16%	8%	11%	16%	11%	12%	16%	19%	16%	16%	21%	21%	18%	21%
In line with expectations	46%	40%	43%	44%	44%	40%	61%	57%	59%	58%	58%	54%	52%	65%	48%	52%	47%	55%	60%
Worse than expected	34%	38%	42%	41%	42%	44%	31%	32%	25%	31%	30%	30%	30%	19%	36%	27%	32%	27%	20%
Net % (Better - Worse)	-13%	-17%	-28%	-27%	-28%	-28%	-24%	-22%	-9%	-20%	-18%	-15%	-11%	-3%	-19%	-6%	-11%	-8%	1%

Source: Cleveland Research, Ag Equipment Intelligence

Monthly Sales Growth Continued



N. American Farm Equipment Dealer Survey - Average Dealer Revenue Growth Trends																			
% of Dealers Reporting	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17
Positive Sales Growth	29%	27%	20%	19%	22%	18%	20%	26%	27%	25%	32%	34%	39%	37%	33%	41%	43%	41%	43%
Flat Sales	16%	23%	21%	19%	22%	15%	23%	17%	22%	31%	23%	19%	18%	32%	19%	21%	22%	20%	21%
Negative Sales Growth	55%	50%	59%	62%	56%	67%	58%	58%	52%	45%	45%	47%	43%	32%	48%	38%	35%	38%	36%
Net % Reporting Growth	-26%	-23%	-39%	-43%	-33%	-48%	-38%	-32%	-25%	-20%	-13%	-13%	-4%	5%	-15%	4%	7%	3%	7%
Average % Change y/y	-6%	-9%	-8%	-11%	-7%	-10%	-10%	-9%	-6%	-5%	-5%	-5%	-5%	-2%	-3%	-1%	-1%	0%	0%

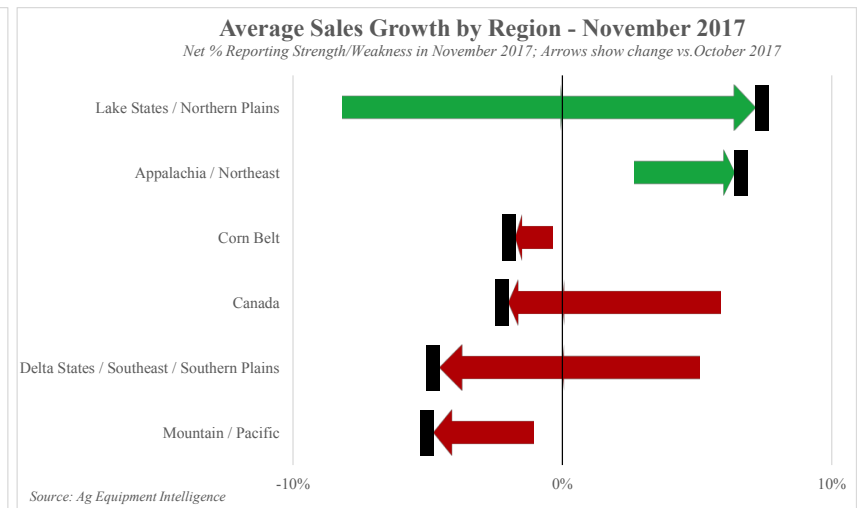
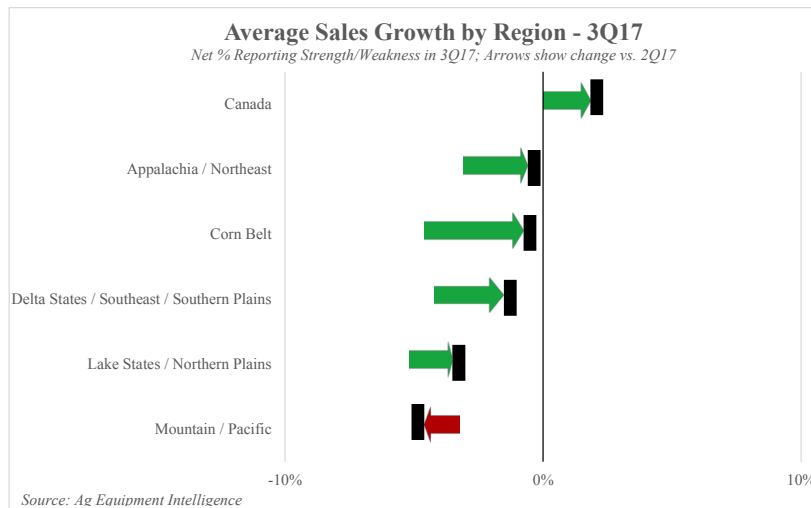
Source: Cleveland Research

Optimism/Sentiment vs. Last Month																			
% of Dealers Reporting	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17
More Optimistic	22%	11%	16%	11%	14%	13%	15%	17%	31%	21%	26%	17%	19%	23%	21%	23%	23%	22%	24%
Same	51%	60%	44%	52%	49%	53%	60%	58%	48%	60%	47%	53%	61%	58%	47%	52%	51%	56%	63%
Less Optimistic	27%	30%	40%	36%	38%	34%	25%	26%	20%	19%	27%	30%	20%	19%	32%	26%	26%	22%	14%
Net % Dealer Optimism	-4%	-19%	-24%	-25%	-24%	-21%	-10%	-9%	11%	1%	-1%	-13%	-2%	4%	-11%	-3%	-4%	1%	10%

Source: Cleveland Research

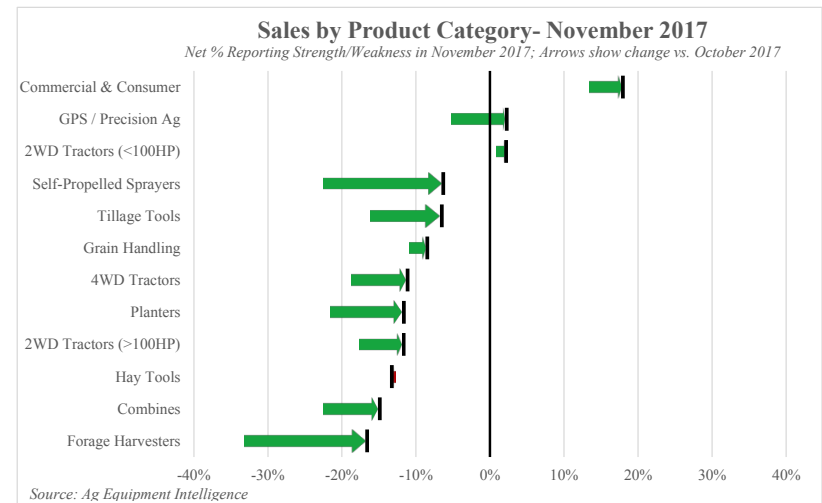
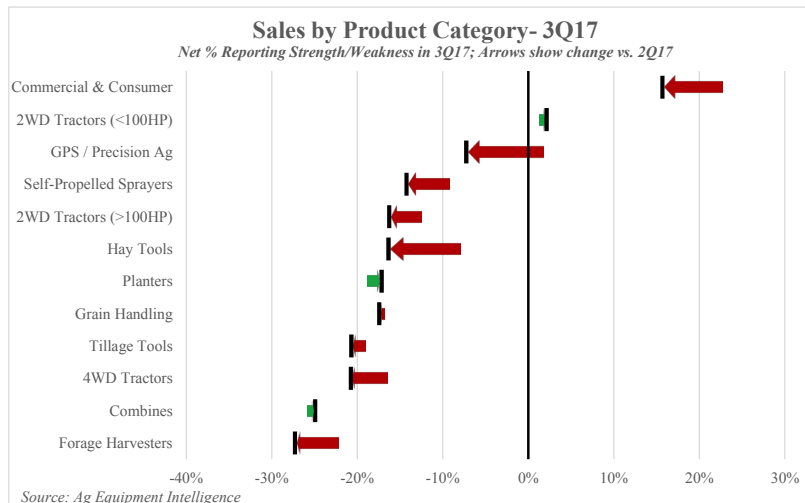
Monthly Sales Growth by Region

- Sales trends by region fell in 4 of the 6 regions from October, but remain inline with prior trend. The Lake States / Northern Plains region was the strongest region in the month and saw the greatest improvement from October. Trends in the Mountain / Pacific region were weak in the month, inline with prior trend.

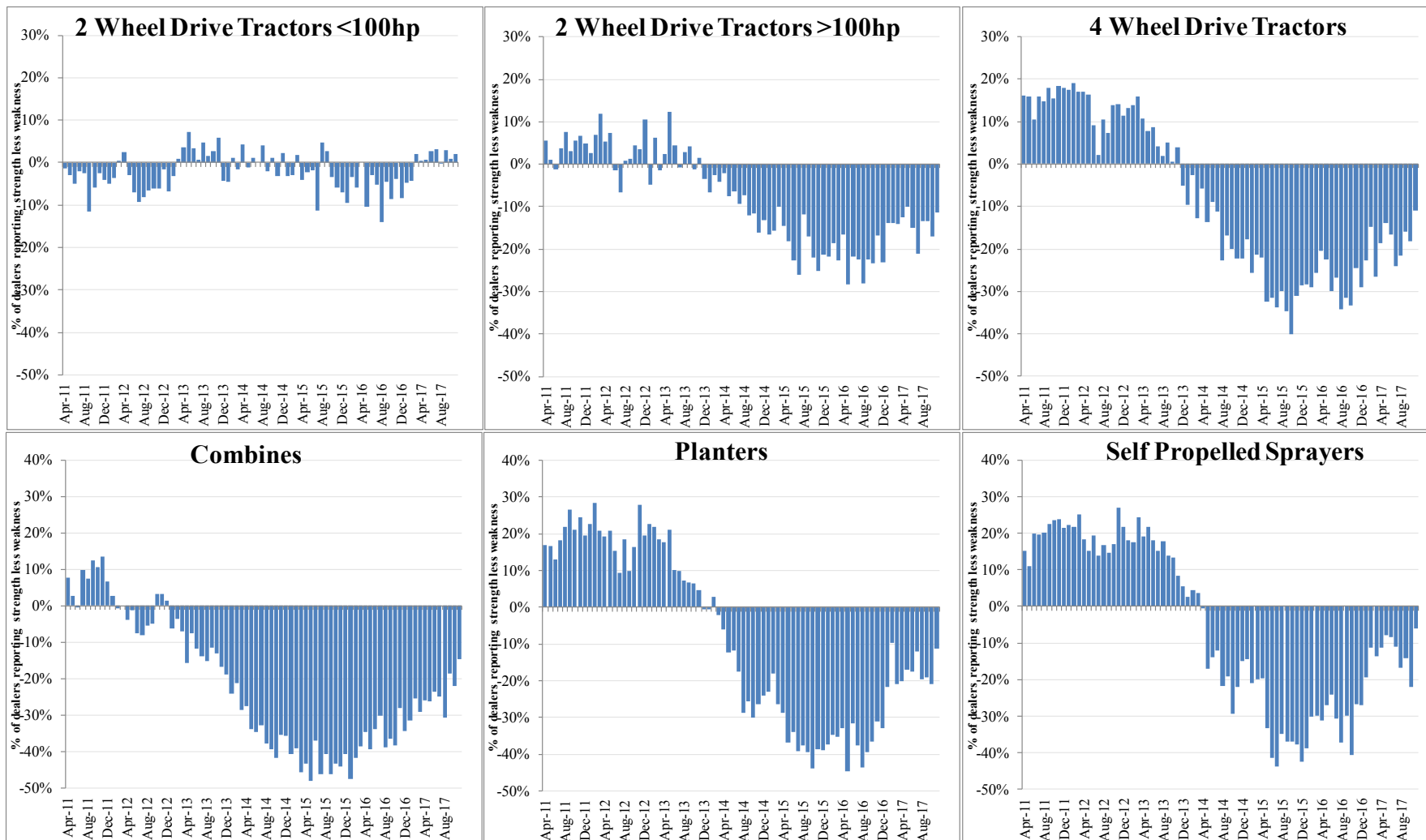


Equipment Category Sales Trends

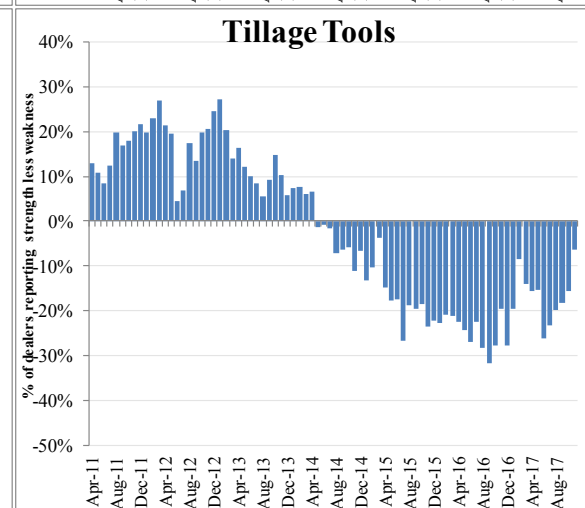
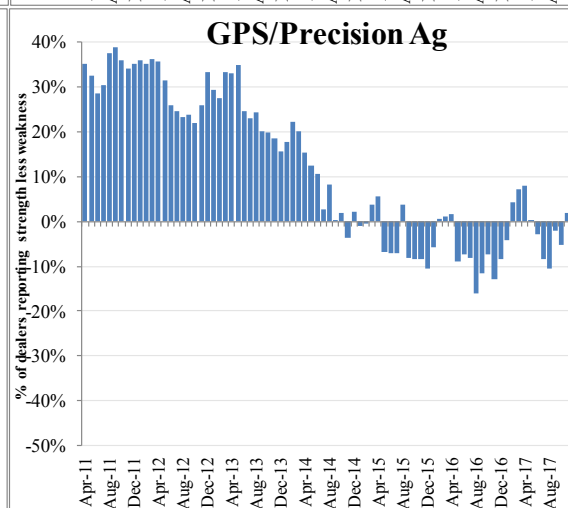
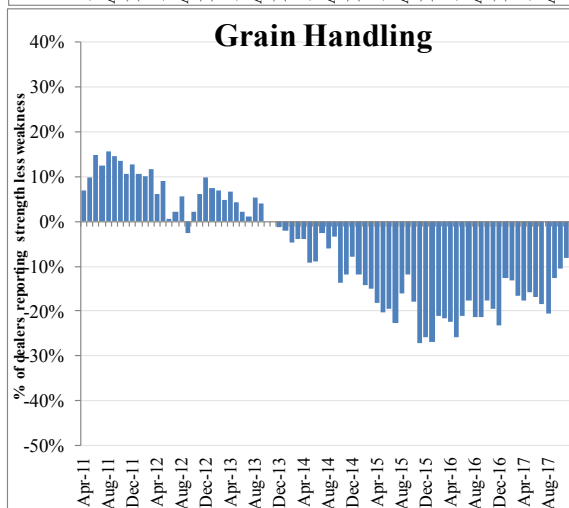
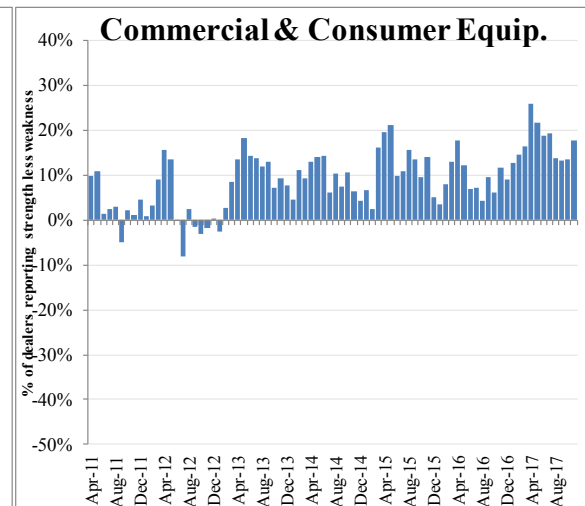
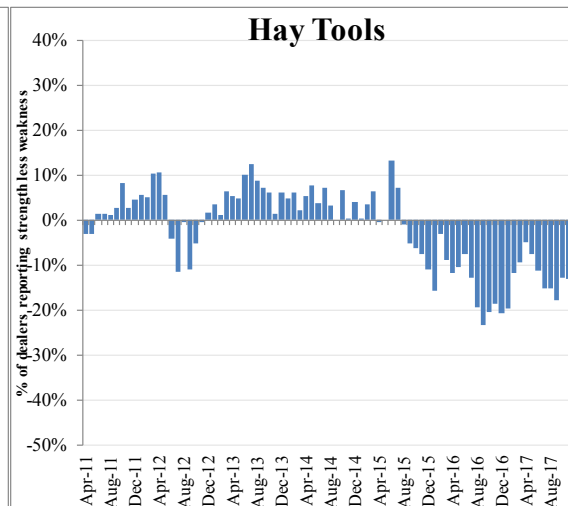
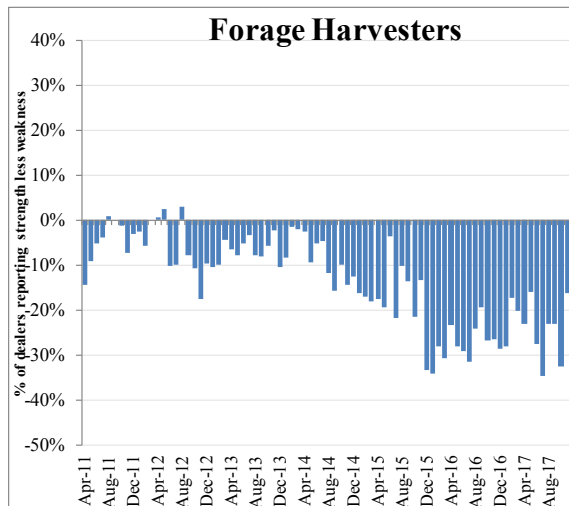
- All equipment categories showed improvement in November from prior month. This marks the first month since January in which all categories saw sequential improvement. Commercial & consumer saw continued strength, while large equipment remains weak.
- Commentary suggests large equipment demand improved in November and dealers are optimistic that this trend will continue into 2018.



Equipment Category Sales Trends



Equipment Category Sales Trends (Continued)



Average Dealer Sales Outlook

- The 2018 forecast is for 2% y/y growth with a net 40% of contacts expecting growth, up from the 32% of contacts expecting growth in October. Dealers are more optimistic on 2018 as November trends were better than expected but remain cautious as commodity prices continue to pressure farmer income.
- John Deere recently forecast NAFTA ag equipment sales up 5-10% in 2018. The company projects its Ag & Turf segment sales to be at 90% of mid-cycle in FY18, while large ag products in N. America are expected to be at only 75% of forecast mid-cycle levels.

N. American Farm Equipment Dealer Survey - 2018 Sales Forecast					
% change y/y	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17
AGCO	0%	2%	1%	0%	3%
John Deere	1%	7%	4%	5%	4%
New Holland	2%	-4%	-1%	-3%	2%
Case IH	0%	1%	1%	4%	3%
Kubota	0%	1%	-1%	-2%	1%
Shortlines/Other	-3%	0%	0%	3%	-5%
Overall	-3%	0%	1%	0%	2%

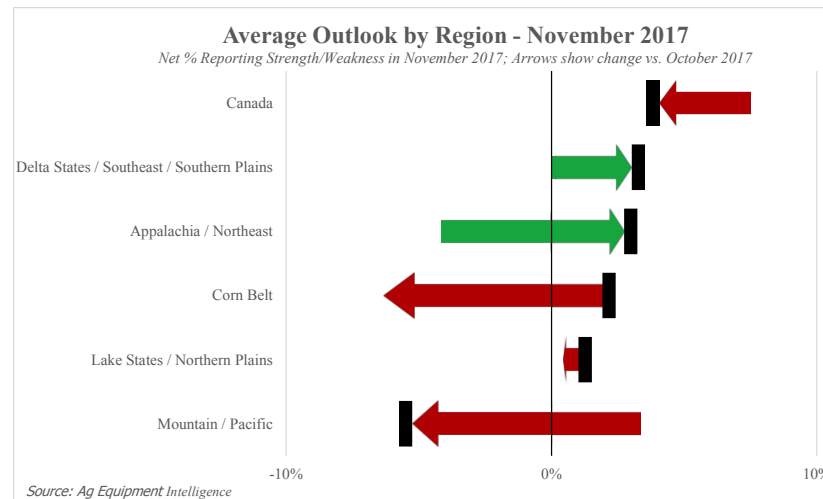
Source: Cleveland Research, Ag Equipment Intelligence

Most Interesting Commentary - Monthly Sales and Outlook

- *Compact tractors and light industrial products led the way. Hay tool sales were worse than expected in 2017 due to the low price of hay. Cotton equipment has been our bestseller by far.*
- *The strong growth for new equipment in November caught me by surprise. I anticipate this strength to carry us through 4Q.*
- *Used equipment demand was very strong in November. We did see a drop in new equipment sales that was largely a timing issue as things move into December.*
- *A lot of sales that could have been in November or December will likely end up being in February or March due to product unavailability.*
- *It seems the general consensus among working people is that the economy is better. Businesses and personal revenue has been higher so I feel there will be more year end purchases this year.*
- *Margins are down from last year and we are having to work harder and fight more with other dealers for sales. Our manufacturer issued a very slight price increase effective mid-November.*
- *We are seeing year end sales being pushed into 2018 but many customers are late in their trade cycles and will need to update equipment.*
- *Many customers who claimed they weren't buying this year decided to buy this month. The interest in hay tools was higher than it has been all fall.*
- *There is a lack of manufacturer support for dealers that are swimming in inventory and need discounts to help move it.*
- *Used tractors are very difficult to move, especially when competing against lower price imports.*
- *Sales are up and therefore, the cost of doing business is up. We believe customers have better attitudes going into 2018 and higher crop yields should help as well.*
- *We have seen improvement in outlook, quoting, and retail orders. We expect that to accelerate through year's end and into 2018.*

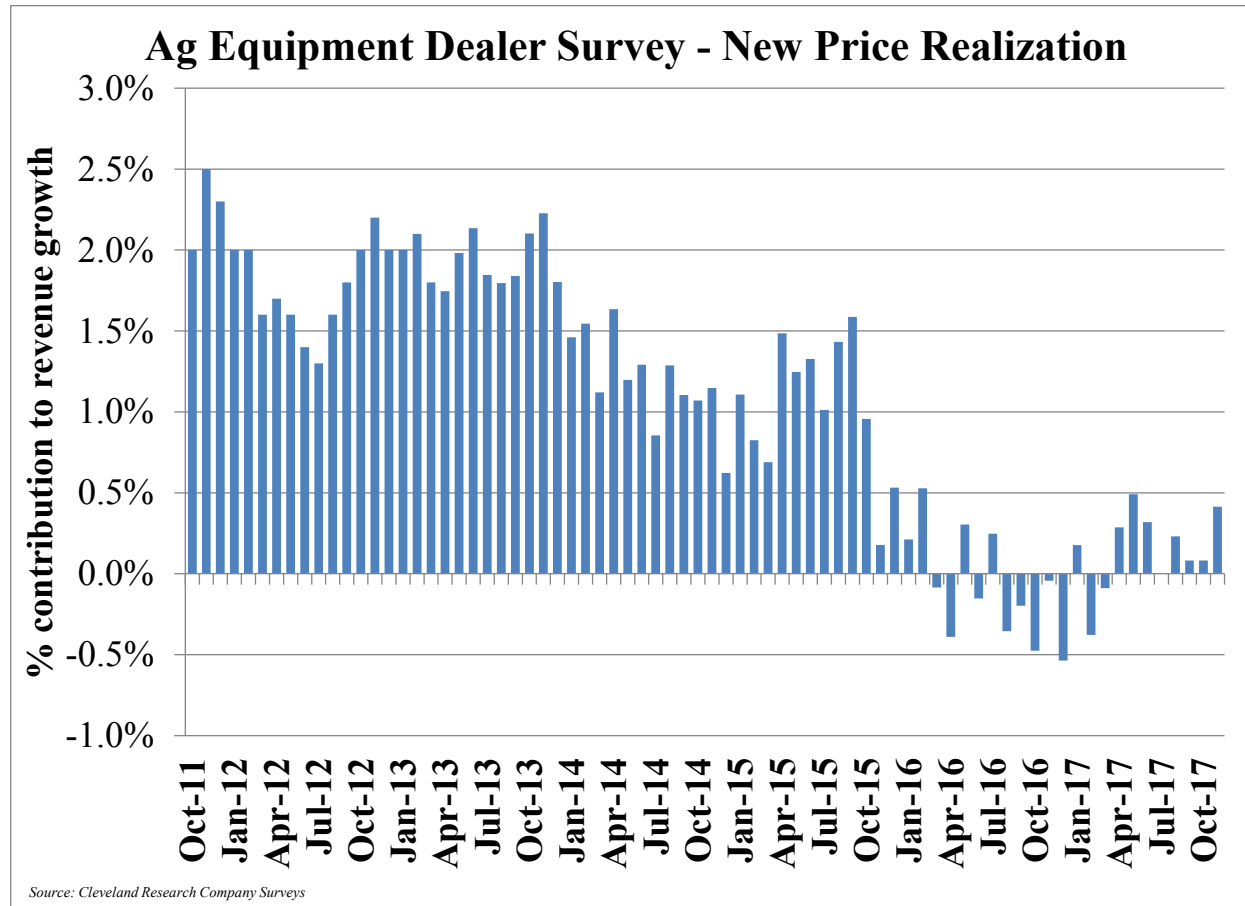
2017 Sales Outlook

- The 2018 outlook in November was mixed with sequential improvement in 2 of the 6 regions. Canada posted the highest outlook in the month and the Appalachia/ Northeast region saw the greatest sequential improvement from October.
- The 2018 outlook in November for flat growth is inline with the YTD average forecast. Dealers are optimistic about 2018 following the better than expected October and November sales performances.



Pricing Trends

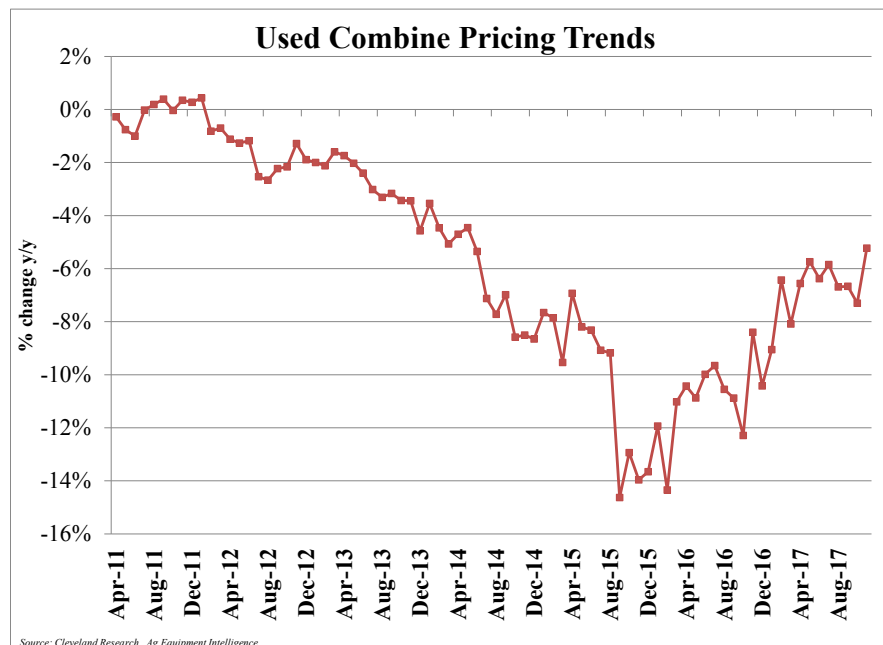
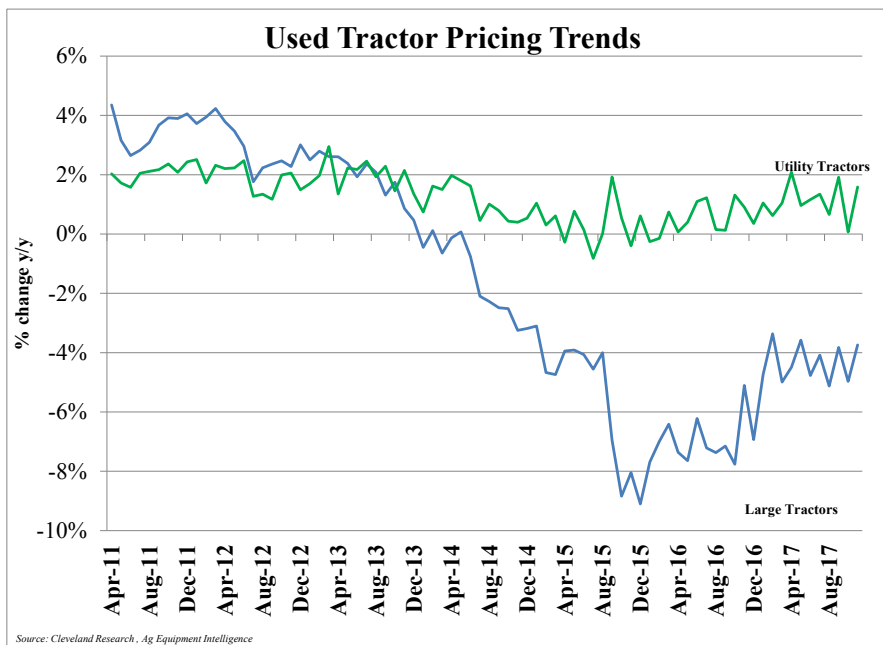
- Dealers reported relatively flat pricing over the last two years as incentive programs have more than offset list price increases. Commentary suggests modest manufacturer list price increases in the 0.5-1% range.



Used Equipment Pricing

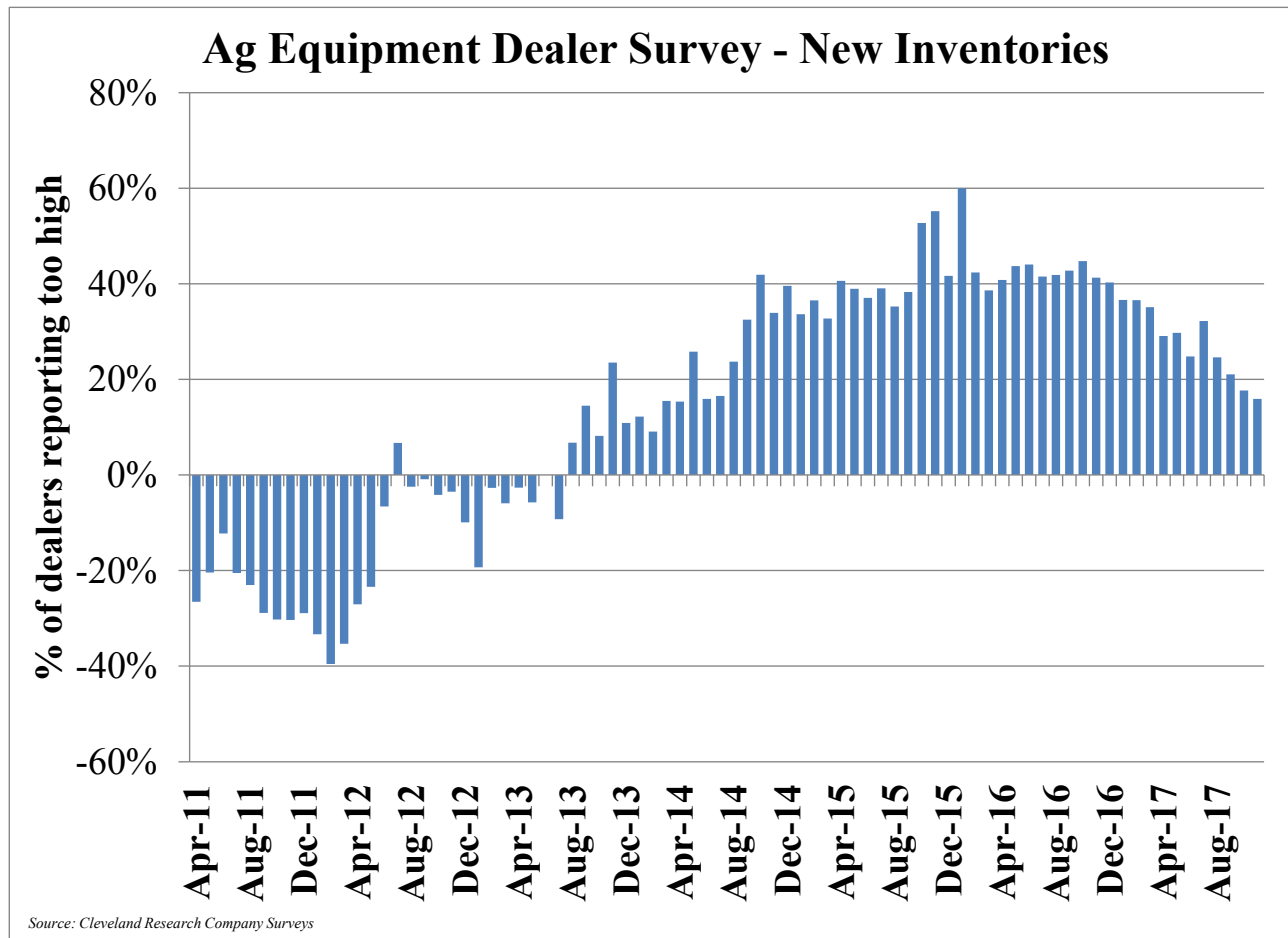
- Pricing trends improved in the month. Large tractors were reported down 4% y/y, an improvement from the 5% declines in October. Combine pricing also improved to down 5%, better than October's down 7% y/y.

Used Tractor and Combine Values (Y/Y)																			
	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17
Compact (<40HP)	1%	2%	2%	1%	1%	2%	2%	1%	1%	1%	1%	2%	2%	2%	1%	1%	2%	0%	2%
Utility (40-100HP)	0%	1%	1%	(0%)	(0%)	1%	0%	0%	1%	0%	1%	2%	0%	0%	1%	0%	1%	0%	1%
Row Crop (100HP+)	(7%)	(5%)	(6%)	(6%)	(6%)	(6%)	(4%)	(5%)	(3%)	(2%)	(3%)	(4%)	(3%)	(4%)	(3%)	(4%)	(2%)	(4%)	(3%)
4WD Tractors	(9%)	(8%)	(8%)	(9%)	(8%)	(10%)	(7%)	(9%)	(6%)	(4%)	(7%)	(5%)	(4%)	(6%)	(5%)	(6%)	(5%)	(6%)	(5%)
Combines	(11%)	(10%)	(10%)	(11%)	(11%)	(12%)	(8%)	(10%)	(9%)	(6%)	(8%)	(7%)	(6%)	(6%)	(6%)	(7%)	(7%)	(7%)	(5%)



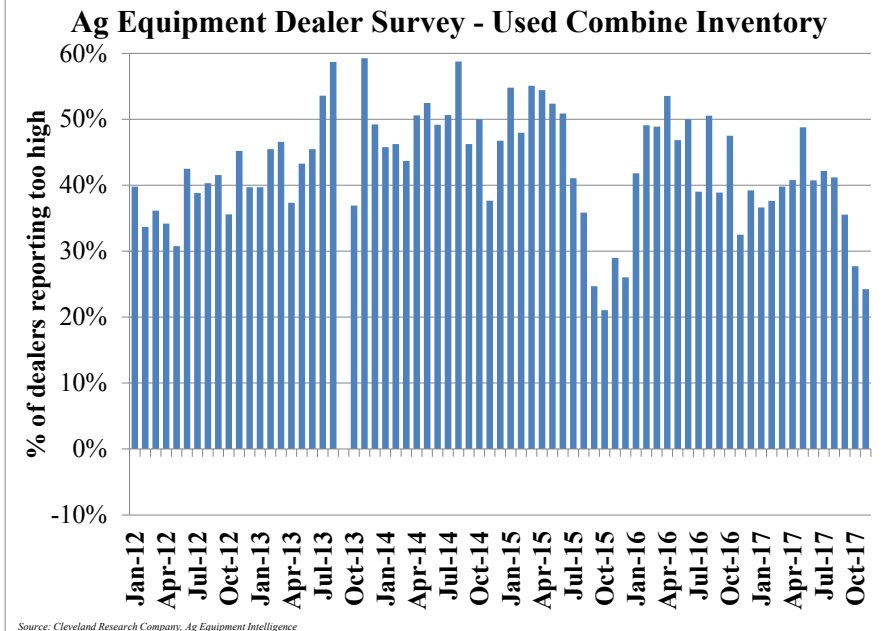
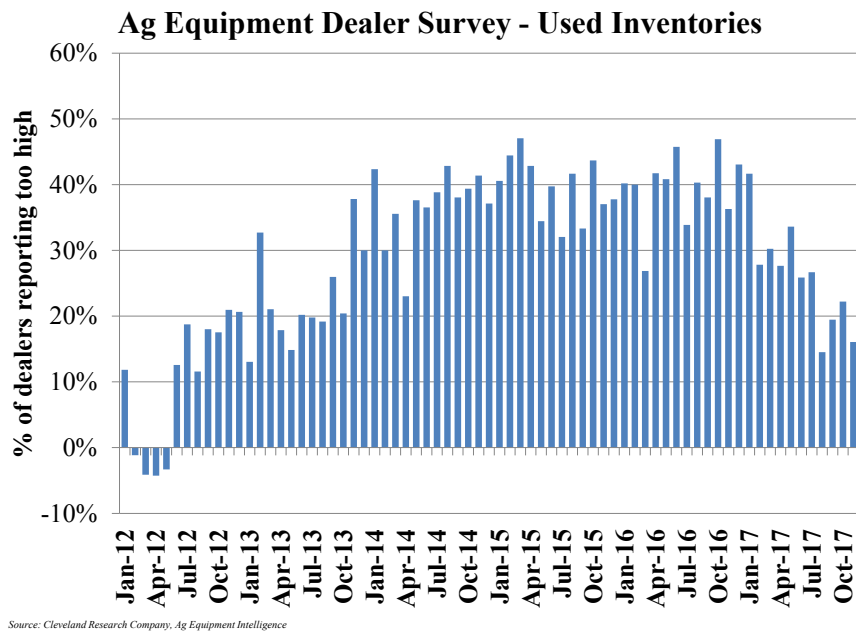
New Equipment Inventory Levels

- A net 16% of dealers reported new equipment inventories too high (32% too high, 52% about right, 16% too low), better than the 18% in October. New inventory levels have been elevated for over 3 years, but have come down over the past year.



Used Equipment Inventory Levels

- A net 16% of dealers reported used equipment inventory as too high (30% too high, 56% about right, 14% too low), better than the 22% reporting heightened inventory in October and better than the 26% average YTD. Used combine inventory levels were reported as too high by a net 24% of dealers in November, better than the 28% in October.



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-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%	-6%	-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	5,946	4,250	1,981	243	12,420	2,224	455	10%	-6%	-37%	10%	-6%	-33%	18%
Feb-16	6,429	3,372	1,185	222	11,208	1,407	241	21%	4%	-39%	-36%	3%	-39%	-40%
Mar-16	12,453	5,110	1,905	258	19,726	2,163	346	28%	6%	-25%	-48%	12%	-29%	-26%
Apr-16	17,726	5,578	2,539	336	26,179	2,875	464	7%	-14%	-19%	-22%	-2%	-19%	-30%
May-16	17,191	5,617	1,969	234	25,011	2,203	332	7%	0%	-1%	-10%	5%	-2%	-40%
Jun-16	16,094	6,273	1,966	247	24,580	2,213	565	3%	-4%	-18%	-18%	-1%	-18%	13%
Jul-16	13,342	5,494	1,875	152	20,863	2,027	619	-7%	-22%	-24%	-43%	-14%	-26%	-23%
Aug-16	11,600	5,049	1,314	102	18,065	1,416	562	18%	-1%	-26%	-39%	7%	-27%	-17%
Sep-16	12,664	5,449	1,759	200	20,072	1,959	620	16%	2%	-9%	-20%	9%	-10%	-27%
Oct-16	13,816	6,799	2,716	610	23,941	3,326	579	7%	0%	-17%	18%	2%	-12%	-27%
Nov-16	7,416	3,651	903	205	12,175	1,108	293	21%	-2%	-22%	-8%	9%	-20%	-15%
Dec-16	10,343	6,326	2,071	328	19,068	2,399	687	18%	-1%	-19%	-36%	5%	-22%	-22%
Jan-17	6,821	3,854	1,396	147	12,218	1,543	289	15%	-9%	-30%	-40%	-2%	-31%	-36%
Feb-17	7,868	3,319	1,335	199	12,721	1,534	276	22%	-2%	13%	-10%	13%	9%	15%
Mar-17	13,950	5,328	1,790	338	21,406	2,128	457	12%	4%	-6%	31%	9%	-2%	32%
Apr-17	19,473	5,595	2,425	441	27,934	2,866	504	10%	0%	-4%	31%	7%	0%	9%
May-17	19,588	5,825	1,606	254	27,273	1,860	372	14%	4%	-18%	9%	9%	-16%	12%
Jun-17	18,107	6,313	1,590	191	26,201	1,781	595	13%	1%	-19%	-23%	7%	-20%	5%
Jul-17	13,806	5,583	1,443	136	20,968	1,579	656	3%	2%	-23%	-11%	1%	-22%	6%
Aug-17	11,985	5,229	1,222	170	18,606	1,392	679	3%	4%	-7%	67%	3%	-2%	21%
Sep-17	11,613	5,082	1,409	266	18,370	1,675	643	-8%	-7%	-20%	33%	-8%	-14%	4%
Oct-17	15,404	6,991	3,748	709	26,852	4,457	845	11%	3%	38%	16%	12%	34%	46%
Nov-17	8,152	4,109	952	187	13,400	1,139	334	10%	13%	5%	-9%	10%	3%	14%

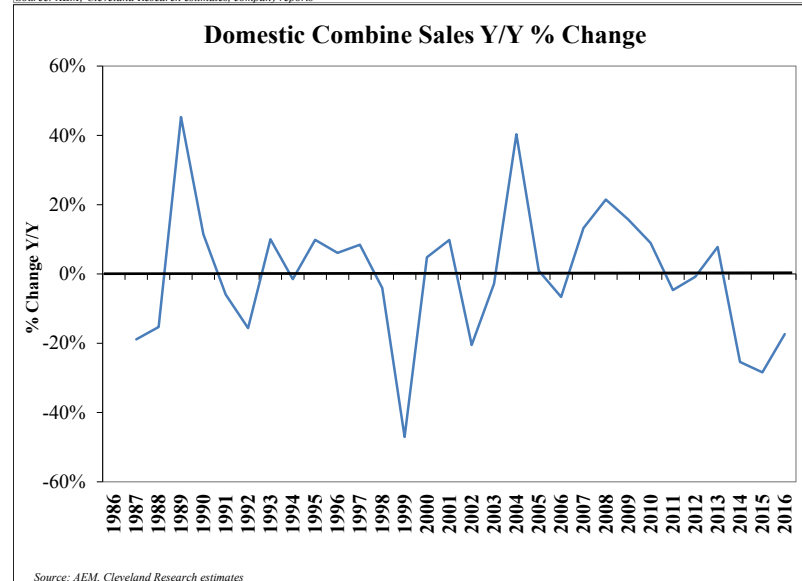
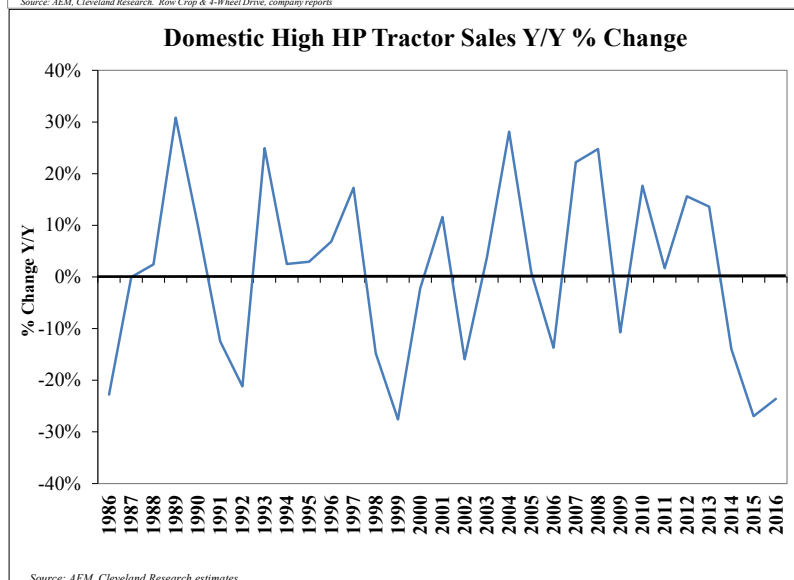
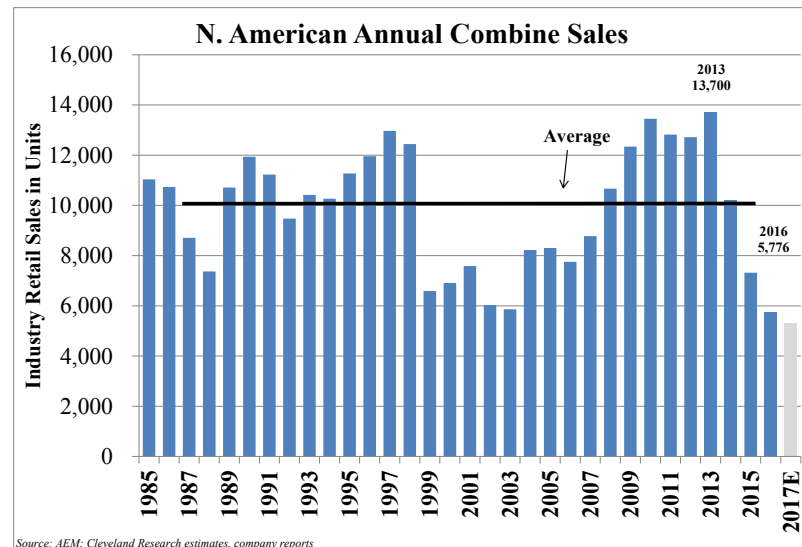
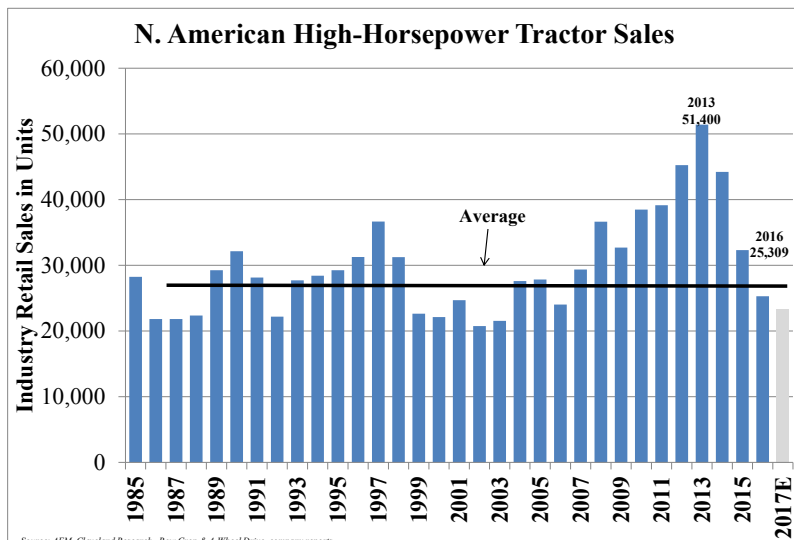
Source: AEM; Cleveland Research Company estimates. High hp tractors are row crop & 4-wheel drive.

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-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%	62%	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	59%	66%	52%	29%	60%	49%	24%
Jul-16	81,046	41,621	12,765	920	136,352	13,685	1,580	59%	66%	53%	27%	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%
Dec-16	81,456	39,339	11,955	985	133,735	12,940	1,082	56%	62%	54%	31%	57%	51%	19%
Jan-17	83,153	39,248	11,838	1,024	135,263	12,862	1,099	57%	63%	55%	34%	58%	52%	20%
Feb-17	84,464	39,659	11,692	1,105	136,920	12,797	1,345	57%	63%	54%	37%	58%	52%	24%
Mar-17	83,854	41,907	11,428	1,072	138,261	12,500	1,432	56%	67%	53%	35%	59%	51%	25%
Apr-17	80,239	38,000	10,705	980	129,924	11,685	1,427	53%	61%	50%	31%	55%	47%	25%
May-17	79,064	37,377	10,363	985	127,789	11,348	1,604	52%	59%	49%	31%	53%	47%	28%
Jun-17	77,022	36,209	10,372	924	124,527	11,296	1,731	50%	57%	50%	29%	51%	47%	30%
Jul-17	77,490	36,223	10,210	1,001	124,924	11,211	1,604	50%	57%	50%	32%	52%	48%	27%
Aug-17	76,934	36,868	10,541	1,045	125,388	11,586	1,615	49%	58%	52%	32%	52%	49%	27%
Sep-17	75,112	36,376	11,022	1,104	123,614	12,126	1,483	49%	58%	55%	34%	51%	52%	25%
Oct-17	78,973	34,502	9,554	862	123,891	10,416	1,052	51%	55%	46%	25%	51%	43%	17%

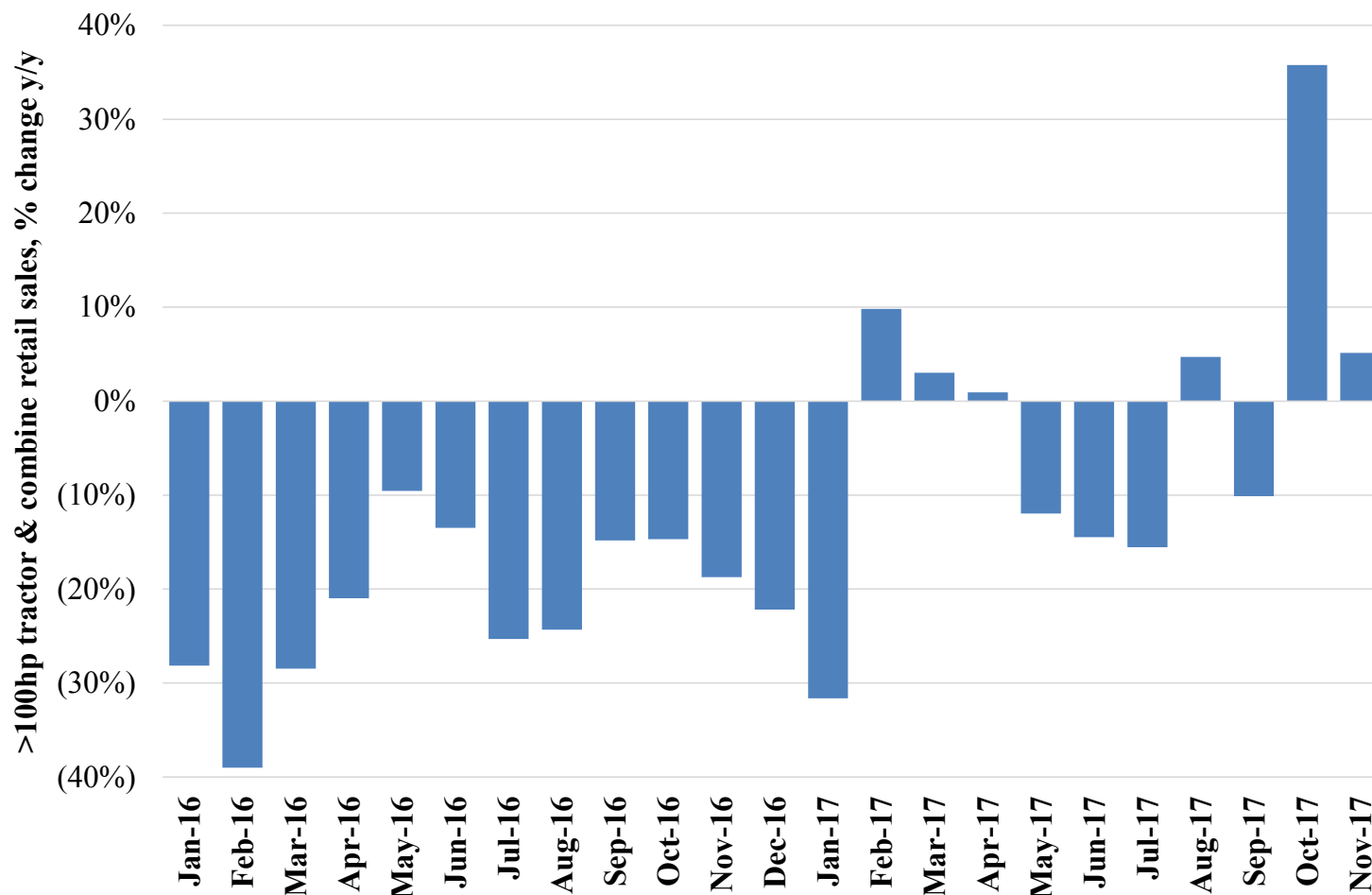
Source: AEM; Cleveland Research Company estimates

Annual Agricultural Equipment Industry Sales (1985 - 2016)



North America Large Ag Equipment Sales

N. American High Horsepower Tractor & Combine Sales

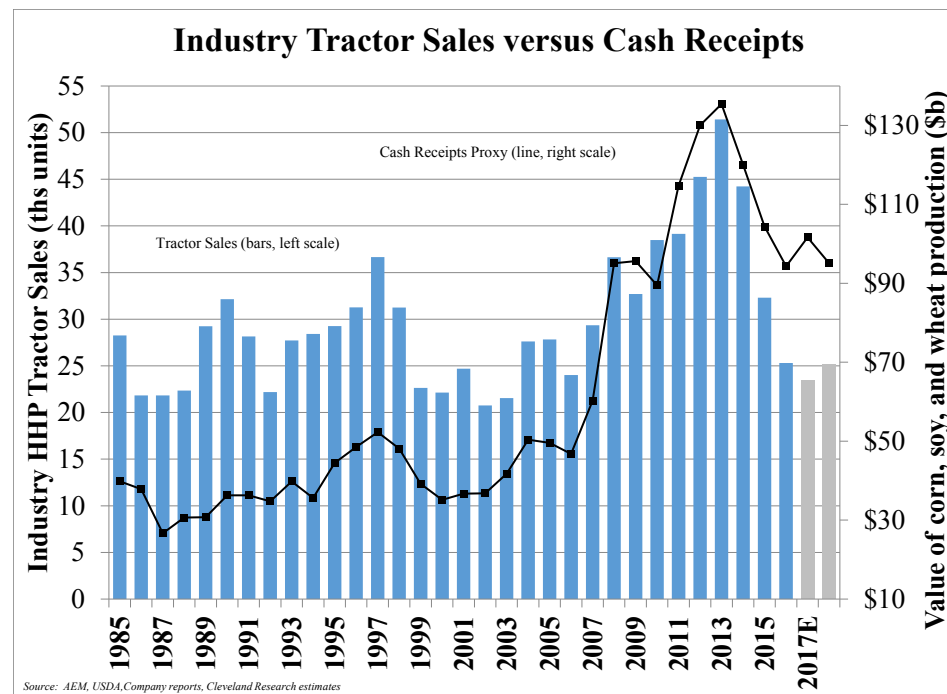


Source: AEM, CRC estimates

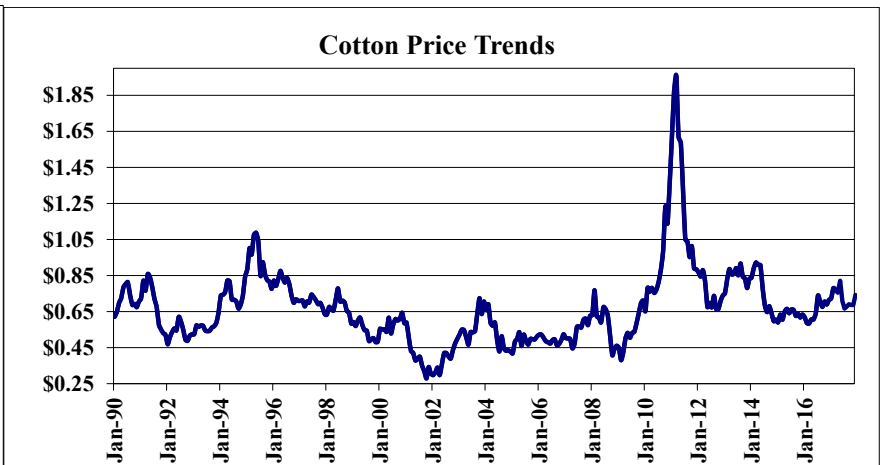
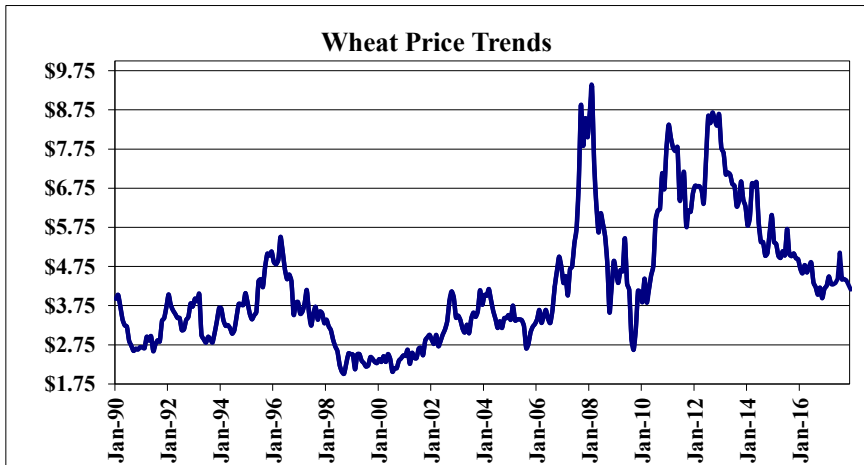
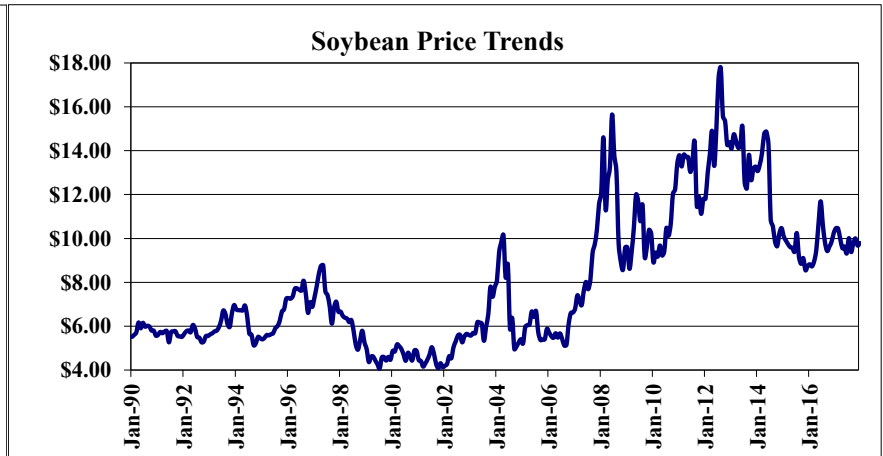
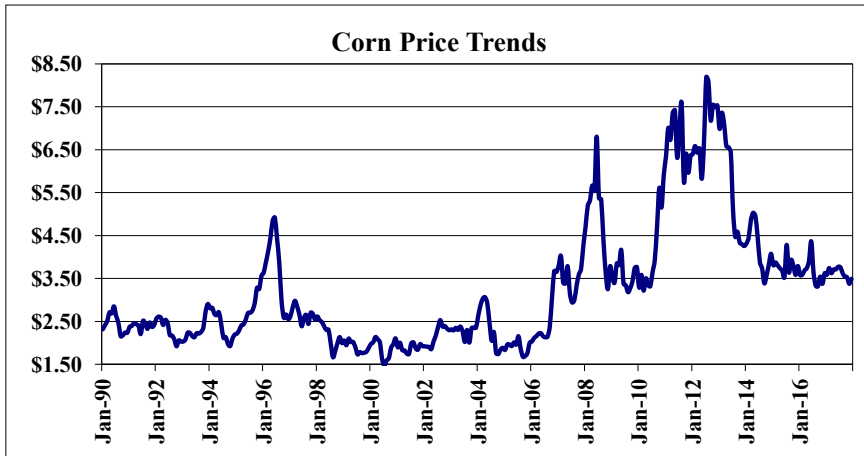
Commodity Prices – Cash Receipts vs. Next Year Equipment Sales

USDA's November 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 December crop report was largely unchanged from November with cash receipts proxy forecast down 6% y/y in 2017/18. Wheat cash receipt forecasts are down 11% y/y, corn forecasts down 9% y/y, and soybean forecasts are flat.



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 2017

US Corn Balance Sheet - USDA Long Term Forecast (Feb 2017)														
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	83	82	82	81	80	80	79	79	79	78
Yield (bu/acre)	158	171	168	175	175	173	175	177	179	181	183	185	187	189
Beginning Stocks (MM bu)	821	1,232	1,731	1,737	2,295	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	14,578	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
Total Supply (MM bu)	14,686	15,480	15,399	16,940	16,922	16,483	16,563	16,528	16,514	16,603	16,568	16,638	16,692	16,730
Feed & Residual (MM Bu)	5,036	5,315	5,130	5,500	5,575	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	6,920	6,985	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	5,450	5,525	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	12,420	12,560	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	1,925	1,975	2,000	2,025	2,050	2,075	2,100	2,125	2,150	2,175
Total Use	13,454	13,747	13,663	14,645	14,485	14,270	14,370	14,425	14,480	14,580	14,635	14,715	14,795	14,845
Ending Stocks	1,232	1,731	1,738	2,295	2,437	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%	15.7%	16.8%	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	8.1	8.7	8.1	7.9	7.6	7.3	7.2	6.9	6.8	6.7	6.6
Average Farm Price (\$/bu)	\$4.46	\$3.70	\$3.61	\$3.40	\$3.20	\$3.35	\$3.35	\$3.45	\$3.50	\$3.55	\$3.60	\$3.65	\$3.65	\$3.70
Value of Production	\$61,677	\$52,599	\$49,100	\$51,503	\$46,650	\$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%	-9%	2%	1%	3%	2%	3%	1%	3%	0%	2%

U.S. Soybean Balance Sheet - USDA Long Term Forecast (Feb 2017)														
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	83	90	85	85	85	85	85	85	85	85	85
Harvested	76	83	82	83	90	84	84	84	84	84	84	84	84	84
Yield Per Harvested Acre (Bushels)	44	48	48	52	50	48	49	49	50	50	51	51	52	52
Beginning Stocks	141	92	191	197	301	396	326	306	291	300	309	317	330	338
Production	3,358	3,927	3,926	4,307	4,425	4,070	4,090	4,130	4,195	4,240	4,280	4,325	4,365	4,405
Imports	72	33	24	25	25	30	30	30	30	30	30	30	30	30
Total Supplies	3,571	4,052	4,141	4,528	4,752	4,496	4,446	4,466	4,516	4,570	4,619	4,672	4,725	4,773
Crush	1,734	1,873	1,886	1,925	1,940	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	2,225	2,085	2,040	2,055	2,070	2,090	2,110	2,125	2,150	2,150
Seed & Residual	98	145	121	128	128	129	130	130	131	131	132	132	132	132
Total Use	3,479	3,861	3,943	4,093	4,306	4,169	4,140	4,175	4,216	4,261	4,302	4,342	4,387	4,412
Ending Stocks	92	191	197	435	445	326	306	291	300	309	317	330	338	361
Stocks/Use	2.7%	4.9%	5.0%	10.6%	10.3%	7.8%	7.4%	7.0%	7.1%	7.2%	7.4%	7.6%	7.7%	8.2%
Average Price (\$/bu)	\$13.00	\$10.10	\$8.95	\$9.55	\$9.30	\$9.40	\$9.40	\$9.45	\$9.45	\$9.50	\$9.55	\$9.55	\$9.55	\$9.55
Value of Production	\$43,654	\$39,663	\$35,138	\$41,132	\$41,153	\$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%	0%	-7%	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 2017 (continued)

U.S. Wheat Balance Sheet - USDA Long Term Forecast (Feb 2017)

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	46	49	50	50	50	50	50	50	50	50
Harvested	45	46	47	44	38	42	42	42	42	42	42	42	42	42
Yield Per Harvested Acre (Bushels)	47	44	44	53	46	48	48	48	49	49	50	50	50	51
Beginning Stocks	718	590	752	976	1,181	993	892	832	784	742	707	679	658	654
Production	2,134	2,026	2,062	2,310	1,741	1,976	2,012	2,029	2,045	2,062	2,079	2,096	2,113	2,129
Imports	169	144	113	115	150	125	125	125	130	135	140	145	150	155
Total Supplies	3,021	2,760	2,927	3,400	3,071	3,094	3,029	2,986	2,959	2,939	2,926	2,920	2,921	2,938
Food	955	960	957	955	950	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	190	120	190	180	170	170	170	170	170	170	170
Exports	1,176	855	775	1,035	975	975	975	985	995	1,005	1,015	1,025	1,025	1,035
Total Use	2,431	2,007	1,952	2,241	2,111	2,202	2,197	2,202	2,217	2,232	2,247	2,262	2,267	2,282
Ending Stocks	590	753	976	1,159	960	892	832	784	742	707	679	658	654	656
Stocks/Use	24.3%	37.5%	50.0%	51.7%	45.5%	40.5%	37.9%	35.6%	33.5%	31.7%	30.2%	29.1%	28.9%	28.8%
Average Price (\$/bu)	\$6.87	\$5.99	\$4.89	\$3.90	\$4.60	\$4.30	\$4.50	\$4.70	\$4.70	\$4.80	\$4.90	\$5.00	\$5.00	\$5.00
Value of Production	\$14,661	\$12,136	\$10,083	\$9,009	\$8,009	\$8,497	\$9,054	\$9,536	\$9,612	\$9,898	\$10,187	\$10,480	\$10,565	\$10,645
% change y/y	-16%	-17%	-17%	-11%	-11%	6%	7%	5%	1%	3%	3%	3%	1%	1%

Total Acreage and Value of U.S. Corn, Soy and Wheat Production - USDA February 2017 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	227	224	224	223	223	223	222	222	221	221
Harvested (mm acres)	209	212	210	213	210	208	207	206	206	206	205	205	205	204
Yield (bu/acre)	92	95	93	102	99	97	98	99	100	101	102	103	103	104
Production	19,321	20,169	19,589	21,765	20,744	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	\$4.67	\$4.62	\$4.66	\$4.68	\$4.79	\$4.83	\$4.89	\$4.95	\$4.99	\$5.00	\$5.04
Value of Production	\$119,992	\$104,398	\$94,320	\$101,644	\$95,811	\$94,107	\$95,405	\$97,848	\$99,514	\$101,724	\$103,243	\$105,275	\$105,975	\$107,414
% change y/y	-11%	-13%	-10%	8%	-6%	-2%	1%	3%	2%	2%	1%	2%	1%	1%

Source: USDA, Cleveland Research estimates

U.S. Acreage Planted Per Crop Year

