

Ag Equipment Intelligence

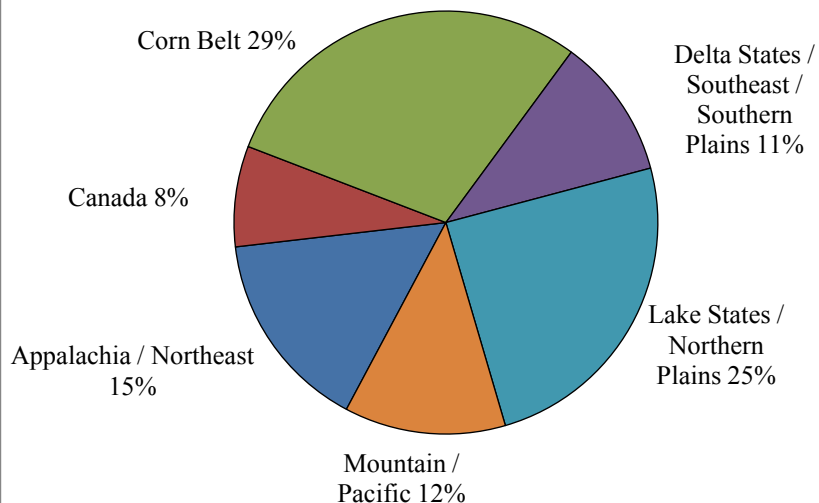
March 2018 Dealer Sentiments &
Business Conditions Update

Monthly Ag Equipment Intelligence North American Dealer Survey

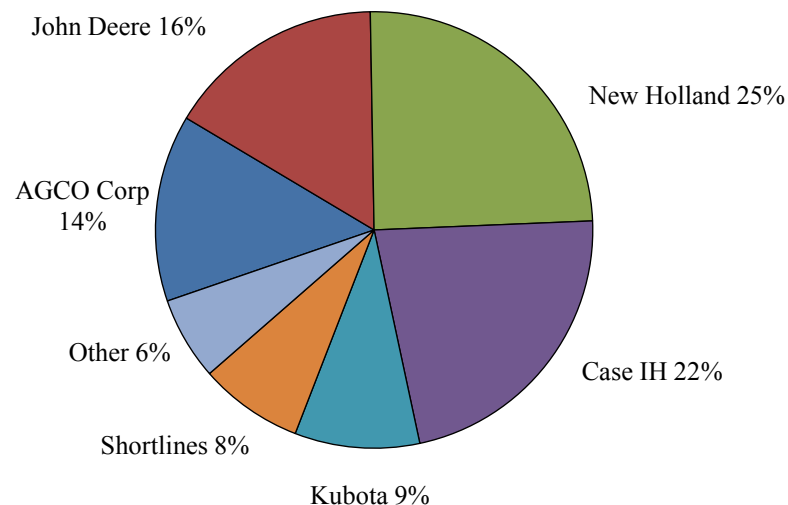
Background:

- 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 ~130 respondents representing combined annual revenues of roughly \$4 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 February, inline with January. A net 13% of dealers missed their sales budgets in February, down from the 9% that missed plan last month. Commercial and consumer lawn equipment sales showed strength, while large equipment demand remains weak but saw improvement in 2017.
- **Outlook** –The 2018 forecast is for 1% y/y growth, below the 2% in January, with a net 10% of contacts expecting growth, below the 33% of contacts expecting growth in 4Q. 40% of contacts believe the tax bill will have a moderate (1-5%) positive impact on sales of machinery equipment in 2018.
- **Inventory** – A net 30% of dealers reported new equipment inventories as too high, worse than the net 19% in January. Used equipment inventories remained elevated as a net 33% of dealers reported used inventory as too high vs the 23% last month. Overall, inventories have come down from 2016 levels.
- **Pricing** – Pricing trends improved in the month. Tractor pricing trends were unchanged from January with large tractors reported down 3% y/y. Combine pricing improved to down 4% vs down 5% last month.

Monthly Sales Growth

- Average dealer sales were reported flat y/y in February, inline with January. A net 13% of dealers missed their sales budgets in February, below the 9% that missed plan last month. Commentary suggests softer demand in February and less attractive programming.
- The same amount of dealers reported more optimism as those reporting less optimism in February, worse than the net 9% of dealers that were more optimistic in January. Optimism and sales versus expectations both fell in the month as many dealers saw a pull forward of demand in December.

N. American Farm Equipment Dealer Survey - Average Dealer Sales Growth

% Change y/y	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	Dec-17	Jan-18	Feb-18
AGCO	-22%	-12%	-12%	-12%	-5%	-13%	-4%	-11%	-2%	-13%	-1%	-3%	0%	-5%	2%	0%	4%	0%	1%
John Deere	-17%	-4%	-9%	-11%	-6%	-1%	-7%	-1%	-4%	-1%	-1%	-2%	3%	5%	2%	-1%	4%	1%	0%
New Holland	-11%	-12%	-14%	-9%	-15%	-7%	2%	-12%	-13%	-4%	-1%	-6%	0%	-4%	-11%	3%	0%	0%	-3%
Case IH	-11%	-8%	-11%	-11%	-14%	-8%	-4%	-5%	-3%	-16%	-2%	-5%	-2%	-8%	-4%	-7%	-3%	-1%	-1%
Kubota	1%	4%	1%	-1%	5%	-5%	2%	7%	2%	1%	0%	8%	12%	-4%	14%	10%	10%	5%	3%
Shortlines/Other	-22%	-22%	-11%	-7%	-14%	-9%	5%	4%	-9%	-1%	-1%	-1%	-1%	3%	0%	-1%	-5%	-5%	-4%
Total	-11%	-7%	-10%	-10%	-9%	-6%	-5%	-5%	-5%	-5%	-2%	-3%	-1%	-1%	0%	0%	1%	0%	0%

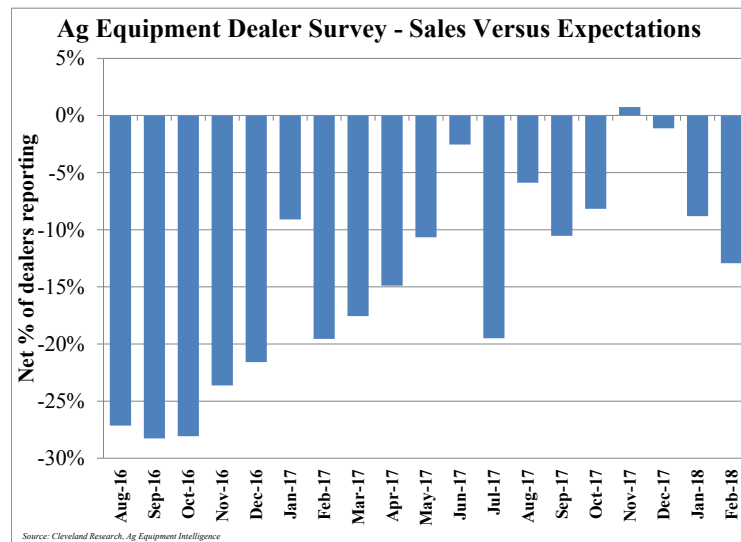
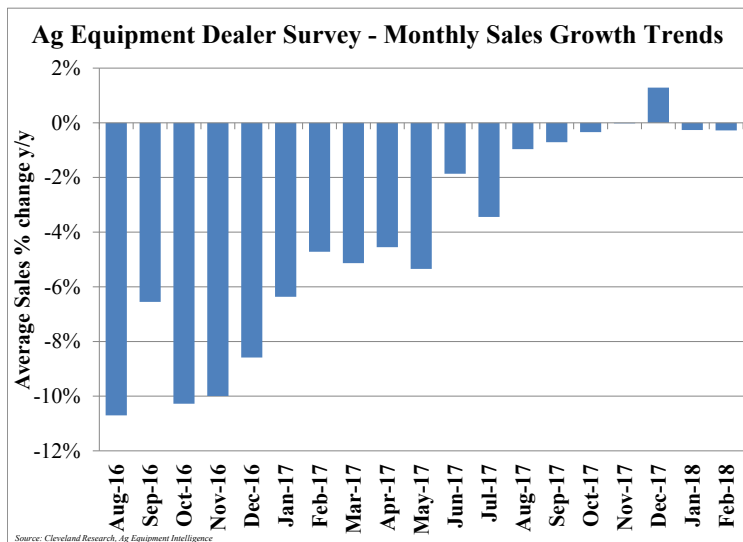
Source: Cleveland Research, Ag Equipment Intelligence

N. American Farm Equipment Dealer Survey - Sales Versus Expectations

% of Dealers Reporting	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	Dec-17	Jan-18	Feb-18
Better than expected	14%	14%	16%	8%	11%	16%	11%	12%	16%	19%	16%	16%	21%	21%	18%	21%	18%	13%	13%
In line with expectations	44%	44%	40%	61%	57%	59%	58%	58%	54%	52%	65%	48%	52%	47%	55%	60%	62%	65%	61%
Worse than expected	41%	42%	44%	31%	32%	25%	31%	30%	30%	30%	19%	36%	27%	32%	27%	20%	20%	22%	26%
Net % (Better - Worse)	-27%	-28%	-28%	-24%	-22%	-9%	-20%	-18%	-15%	-11%	-3%	-19%	-6%	-11%	-8%	1%	-1%	-9%	-13%

Source: Cleveland Research, Ag Equipment Intelligence

Monthly Sales Growth Continued



N. American Farm Equipment Dealer Survey - Average Dealer Revenue Growth Trends																			
% of Dealers Reporting	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	Dec-17	Jan-18	Feb-18
Positive Sales Growth	19%	22%	18%	20%	26%	27%	25%	32%	34%	39%	37%	33%	41%	43%	41%	43%	41%	36%	31%
Flat Sales	19%	22%	15%	23%	17%	22%	31%	23%	19%	18%	32%	19%	21%	22%	20%	21%	22%	28%	31%
Negative Sales Growth	62%	56%	67%	58%	58%	52%	45%	45%	47%	43%	32%	48%	38%	35%	38%	36%	37%	36%	38%
Net % Reporting Growth	-43%	-33%	-48%	-38%	-32%	-25%	-20%	-13%	-13%	-4%	5%	-15%	4%	7%	3%	7%	4%	0%	-7%
Average % Change y/y	-11%	-7%	-10%	-10%	-9%	-6%	-5%	-5%	-5%	-5%	-2%	-3%	-1%	-1%	0%	0%	1%	0%	0%

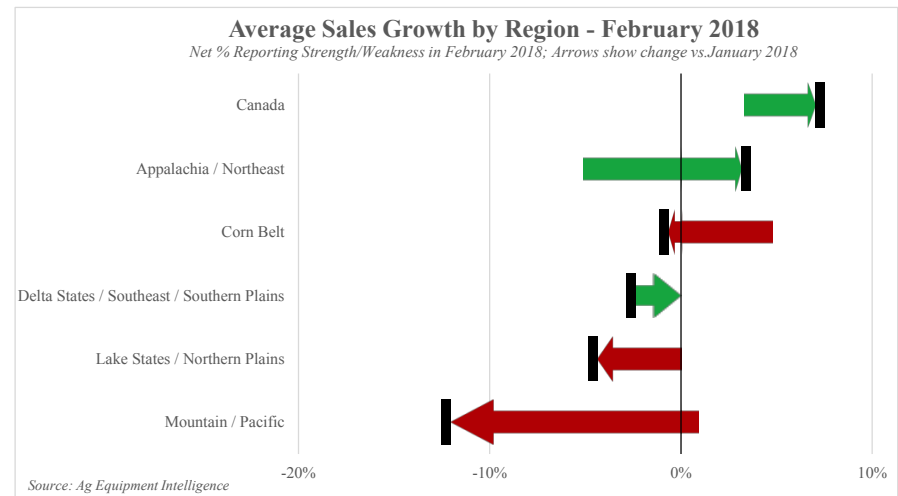
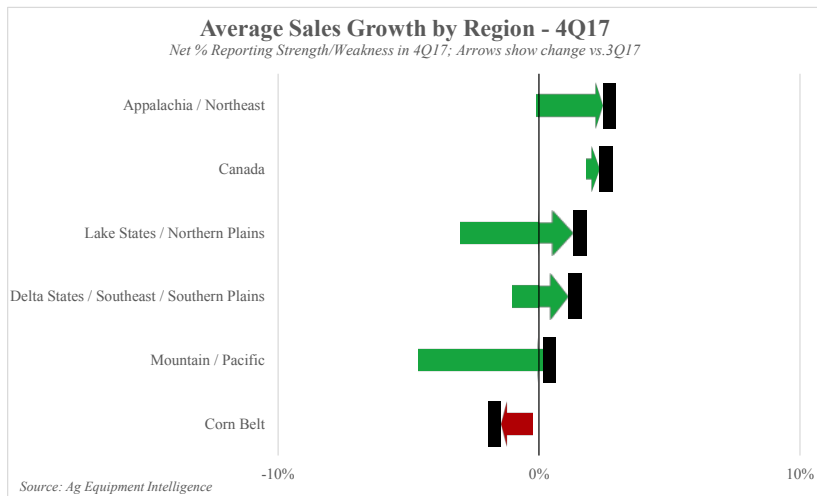
Source: Cleveland Research

Optimism/Sentiment vs. Last Month																			
% of Dealers Reporting	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	Dec-17	Jan-18	Feb-18
More Optimistic	11%	14%	13%	15%	17%	31%	21%	26%	17%	19%	23%	21%	23%	23%	22%	24%	28%	21%	21%
Same	52%	49%	53%	60%	58%	48%	60%	47%	53%	61%	58%	47%	52%	51%	56%	63%	53%	58%	58%
Less Optimistic	36%	38%	34%	25%	26%	20%	19%	27%	30%	20%	19%	32%	26%	26%	22%	14%	19%	21%	21%
Net % Dealer Optimism	-25%	-24%	-21%	-10%	-9%	11%	1%	-1%	-13%	-2%	4%	-11%	-3%	-4%	1%	10%	9%	1%	0%

Source: Cleveland Research

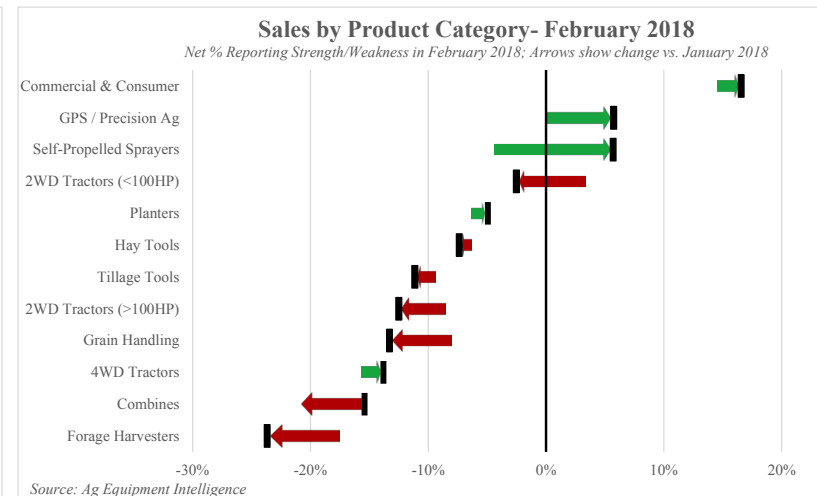
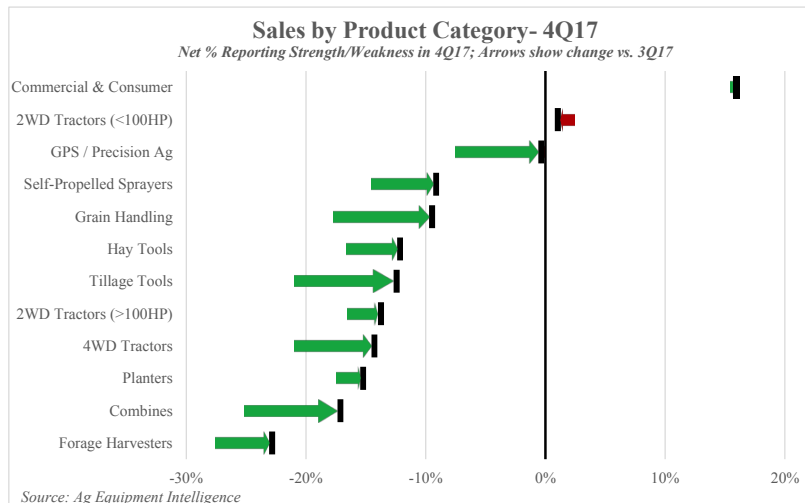
Monthly Sales Growth by Region

- Sales trends by region improved sequentially in half of the regions in February vs improvement in 5 of the 6 regions in 4Q. Canada was the strongest region in the month while the Appalachia / Northeast region saw the greatest improvement from January. The Corn Belt and Mountain / Pacific region saw a sequential softening from January which commentary suggests is weather related.

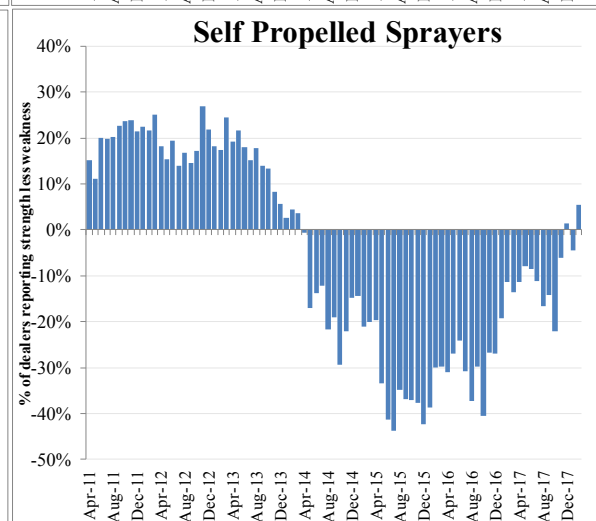
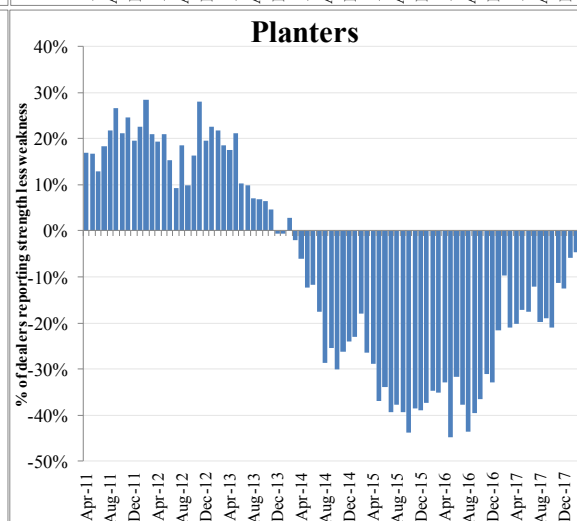
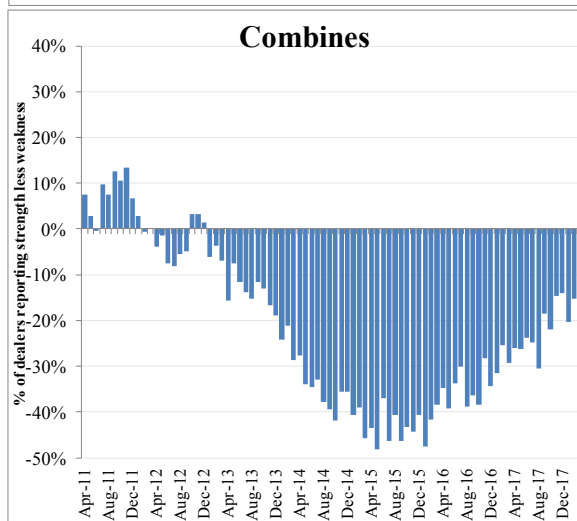
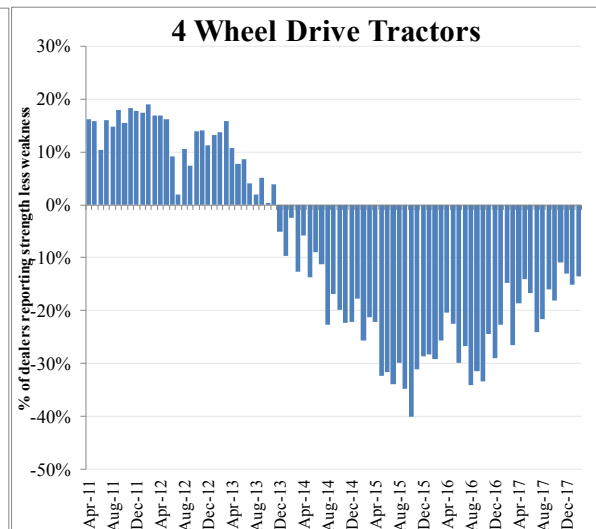
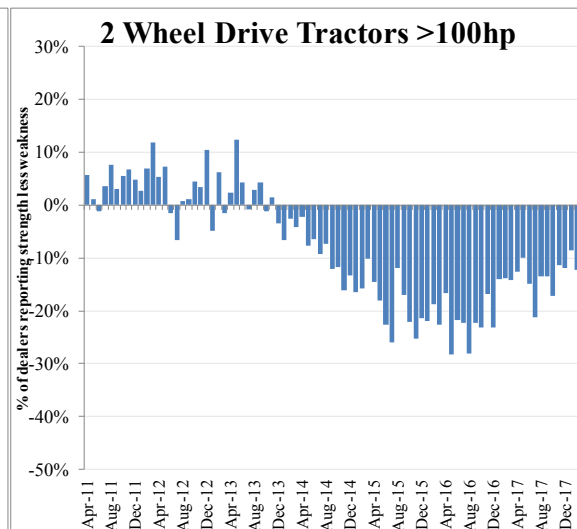
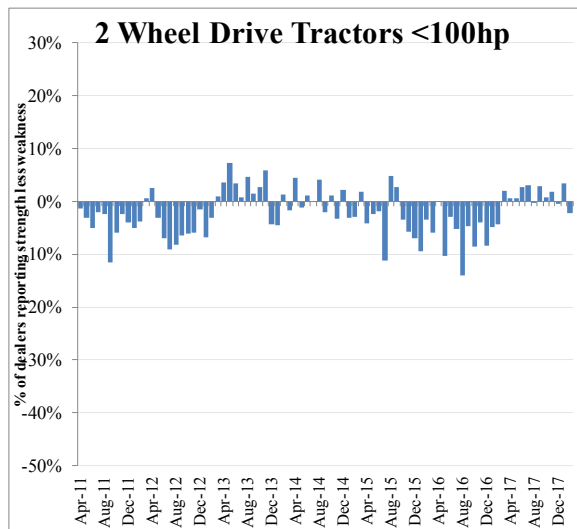


Equipment Category Sales Trends

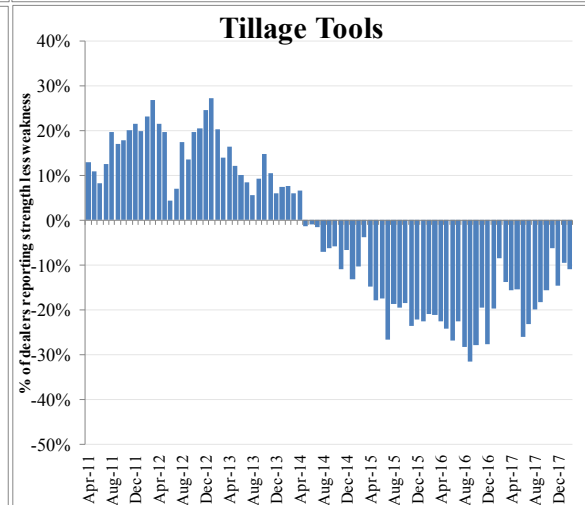
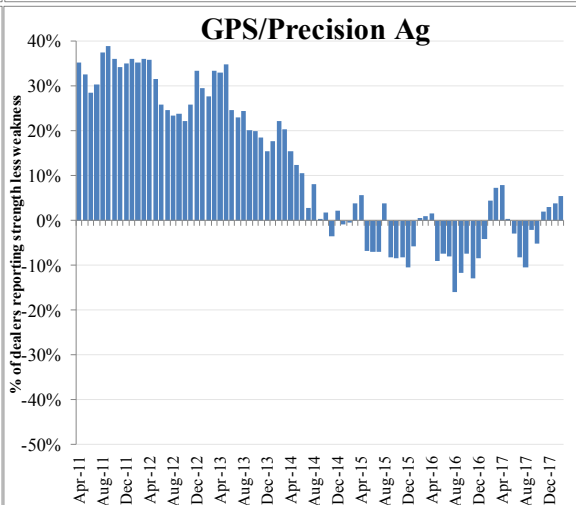
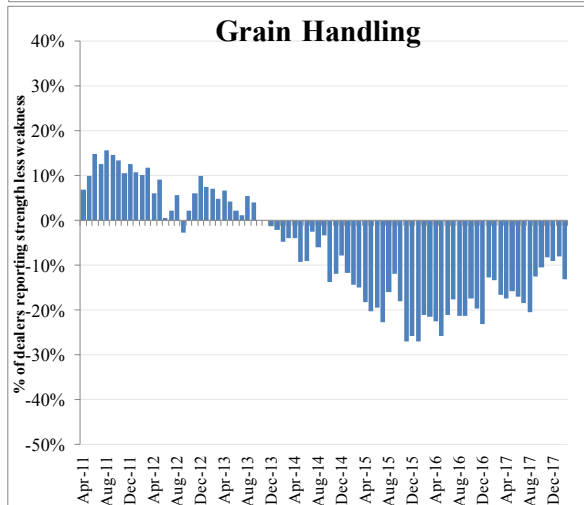
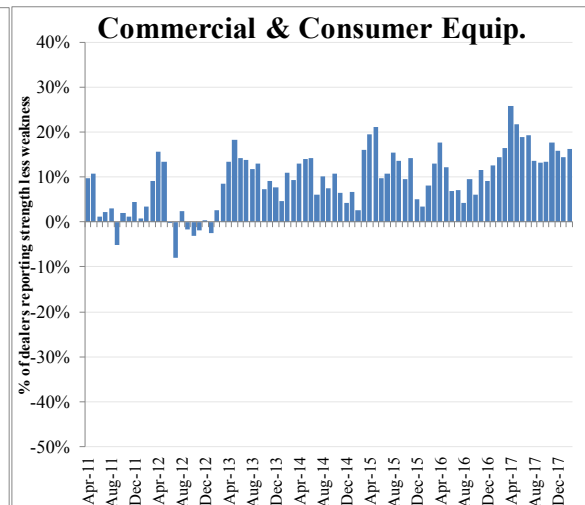
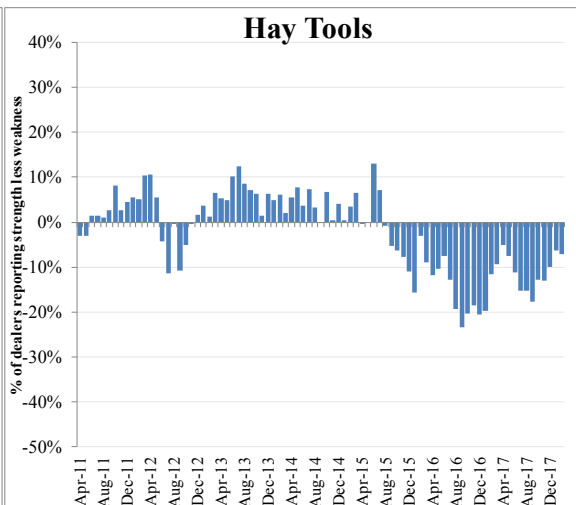
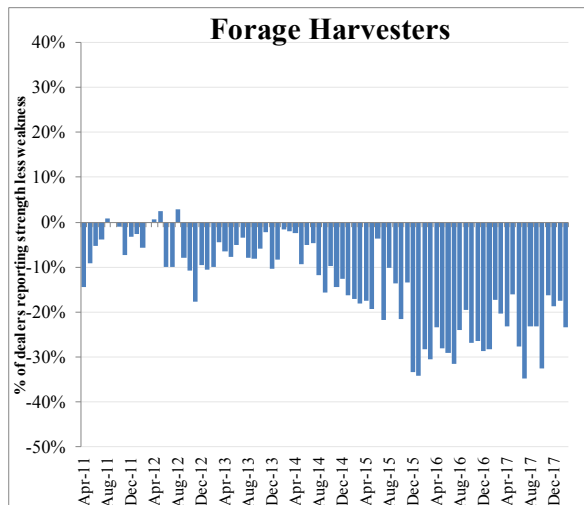
- Sales by product category was mixed in February while nearly all product categories saw sequential improvement from 3Q to 4Q. Commercial & consumer saw continued strength, while large equipment remains weak but saw notable improvement in 2017.
- Commentary suggests self propelled sprayer, small tractors, and precision ag demand improved but combines and large tractor demand remains weak.



Equipment Category Sales Trends



Equipment Category Sales Trends (Continued)



Average Dealer Sales Outlook

- The 2018 forecast is for 1% y/y growth, below the 2% in January, with a net 10% of contacts expecting growth, below the 23% in January and the 33% of contacts expecting growth in 4Q. 40% of contacts believe the tax bill will have a moderate (1-5%) positive impact on sales of machinery equipment in 2018 vs the 45% last month.
- Public ag equipment manufacturers forecast NAFTA ag equipment sales flat to up 10% in 2018. The bottom table details sales outlook by region for John Deere, CNH Industrial, and AGCO Corp.

N. American Farm Equipment Dealer Survey - 2018 Sales Forecast								
% change y/y	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18
AGCO	0%	2%	1%	0%	3%	-1%	-4%	4%
John Deere	1%	7%	4%	5%	4%	2%	4%	1%
New Holland	2%	-4%	-1%	-3%	2%	-2%	1%	0%
Case IH	0%	1%	1%	4%	3%	4%	0%	-4%
Kubota	0%	1%	-1%	-2%	1%	2%	1%	-1%
Shortlines/Other	-3%	0%	0%	3%	-5%	4%	1%	-3%
Overall	-3%	0%	1%	0%	2%	2%	2%	1%

Source: Cleveland Research, Ag Equipment Intelligence

2018 Ag Equipment Industry Sales Outlook (units)			
Geography	Deere	CNH Industrial	AGCO Corp.
N. America	Up 10%	Tractors 0-5%; Combines up 10%	Flat; Flat HHP
Western Europe	Up 5%	Tractors up 5%; Combines 0-5%	Flat
Latin America	Flat to up 5%	Tractors 0-5%; Combines up 5%	Flat to up 5%
Asia	Flat	Tractors Flat; Combines 0-5%	na

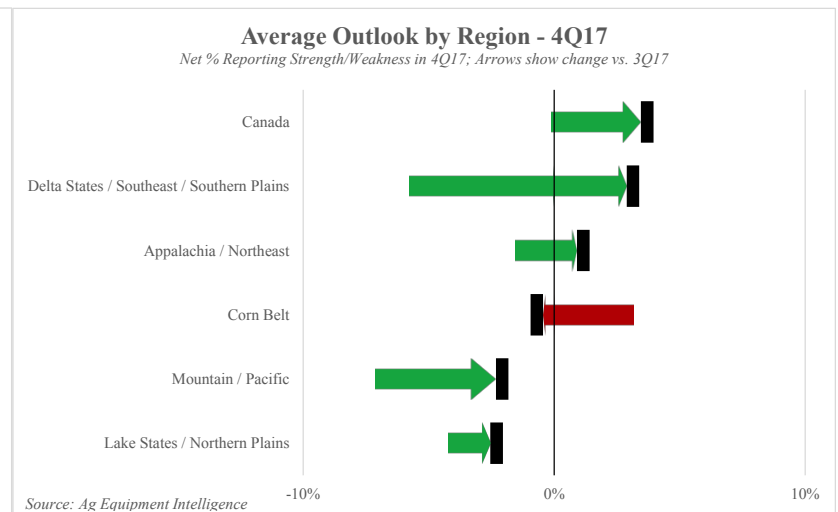
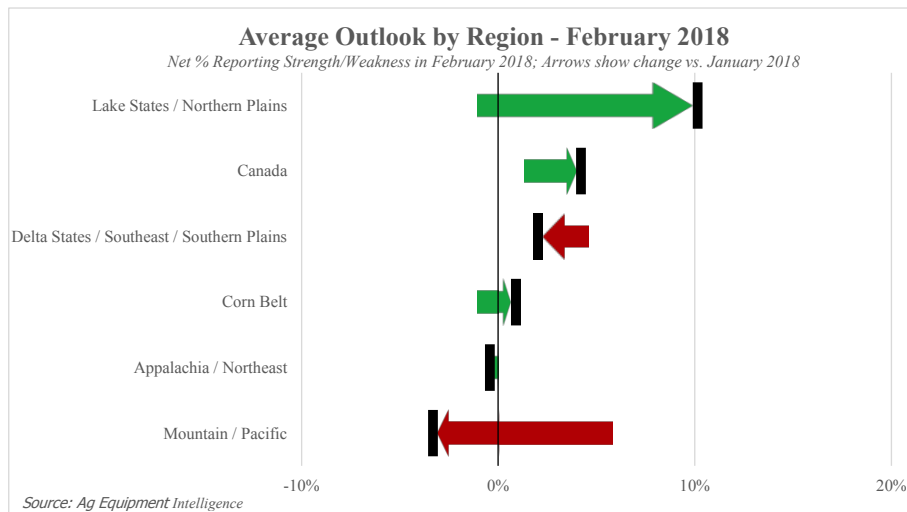
Source: Company reports, CRC estimates

Most Interesting Commentary - Monthly Sales and Outlook

- *February was a bit better than anticipated, but we are still sluggish in large ag equipment and used equipment in general.*
- *We sold a bunch of late model used tractors and self-propelled sprayers in February.*
- *We expected to be under or even with overall sales from the year before, and sales came in below those expectations.*
- *We had the best ever discounts and programming and the farmers were very excited, but bankers are still not lending.*
- *February is usually a slow month. We were busy quoting but farmers are a little hesitant to pull the trigger on large equipment.*
- *There was not as much interest as last winter in new products, but we will see once the taxes are finished.*
- *I think the tariffs will deter other countries from buying our products but I do support them. I think it will take about 2-4 years to see an impact.*
- *The imposed tariff on steel and aluminum coming in from foreign countries was a surprise. There will be a ripple effect as the steel prices go up. Commodities like grain and livestock traded to the foreign countries like China will likely go down. It is like a huge snowball going down a mountain but the impact is unknown at this time.*
- *There has been more pricing inquiries in the last 10 days than the previous 2 months which we think could be related to the announcement on tariffs.*
- *We are much more optimistic because of general buyer mood and good traffic and sales.*
- *Milk prices continue to decline, markets are declining, the pockets of our customer base are empty, and lenders have stopped lending.*
- *I think the new tax changes will drive some business over the next 12 to 18 months. However, farm income seems to be on a decline.*
- *Dairy pricing is weak and our sales to dairy operators have come to a halt. Cash crop sales are doing better.*
- *Our manufacturer has had substantial price increases and reduced programs from 2017.*
- *So far, the beginning of the year is quite dismal. In order to get back on track, the rest of the year is going to have to be extremely strong. Customers are not being approved for financing and they still have cash flow issues.*
- *Programs in January were not as good for retail customers, but revised programs in February and March are better.*
- *We have too many tractors over 100hp and not enough under 100hp. Used Combines remain a concern as well as hay tools.*

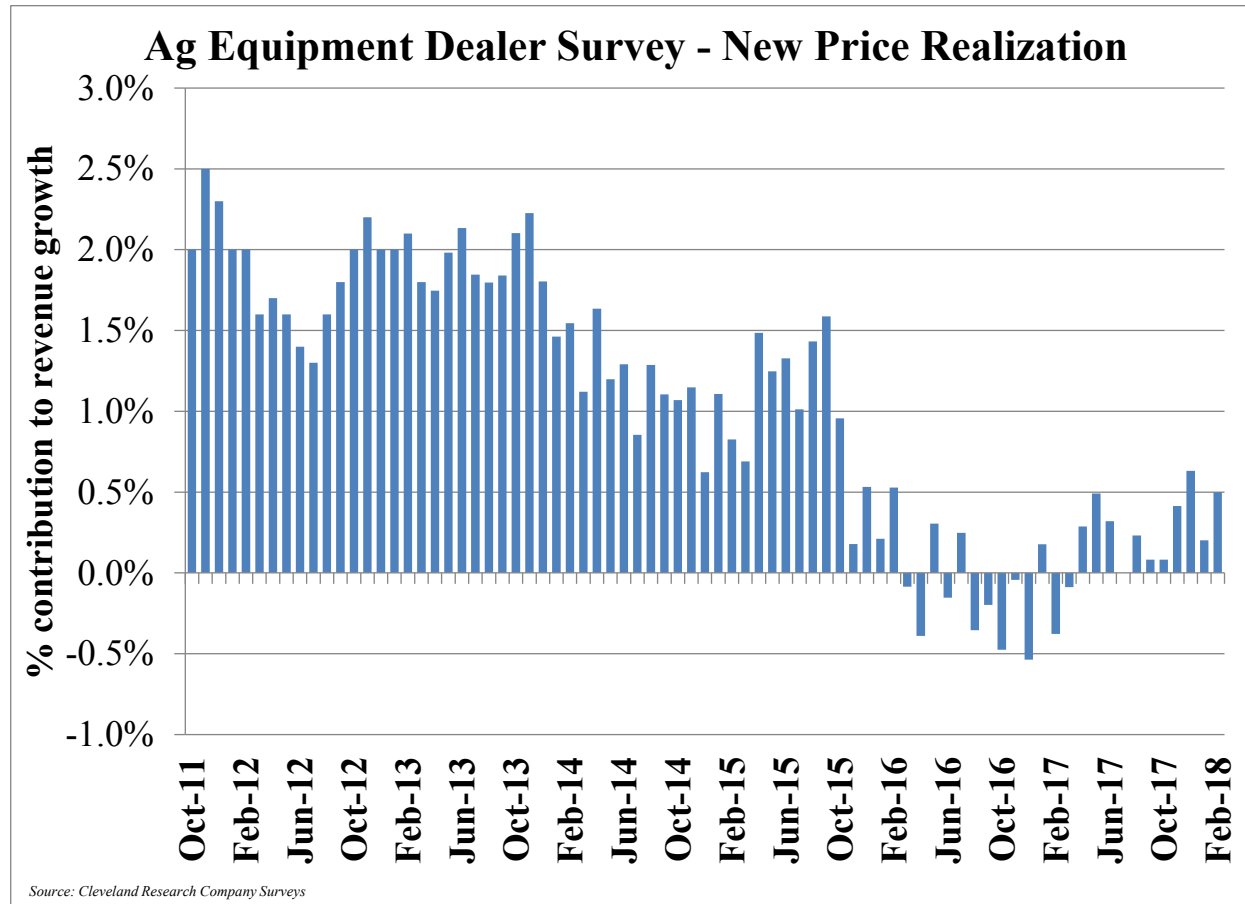
2018 Sales Outlook

- The 2018 outlook in February saw sequential improvement in 3 of the 6 regions, while the outlook improved in all regions except the Corn Belt in 4Q. The Lake States / Northern Plains region posted the highest sales outlook in the month and also saw the greatest sequential improvement from January.
- The 2018 outlook in February for 1% growth is inline with the average growth forecasts collected from July to February. Dealers were less optimistic this month but remain optimistic on the full year.



Pricing Trends

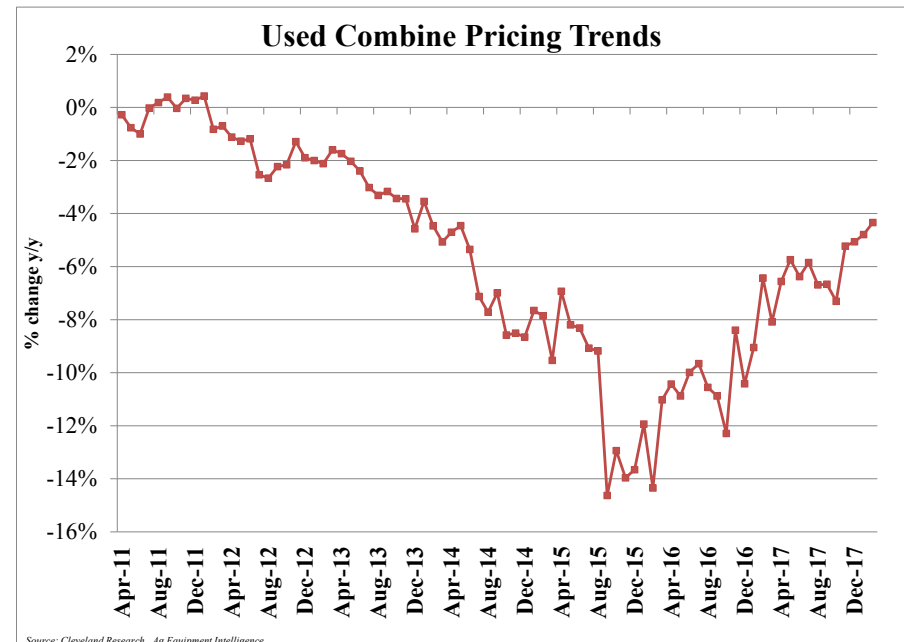
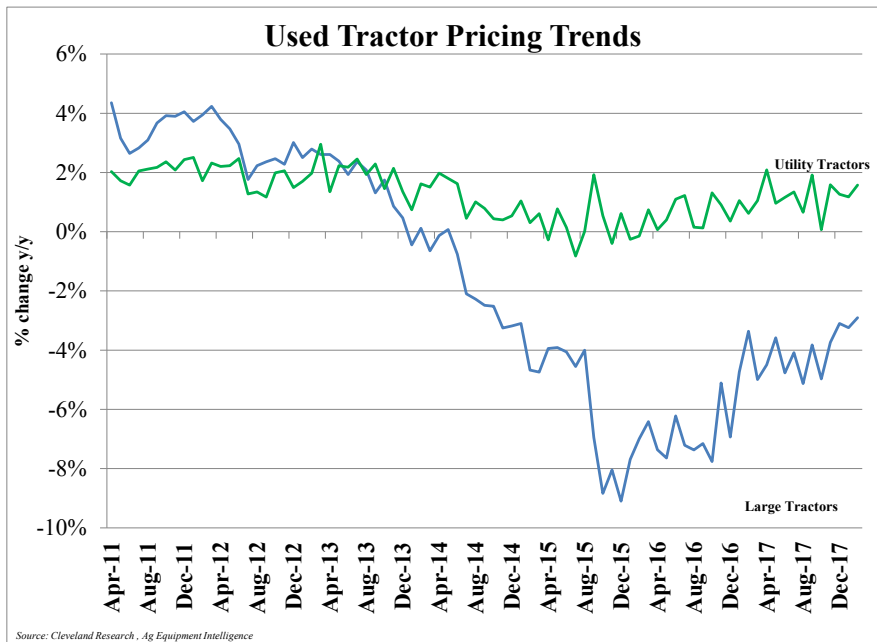
- Pricing trends improved in the month suggesting 1Q price increases have been implemented. Commentary continues to suggest 2-3% price increases were issued in January and February.



Used Equipment Pricing

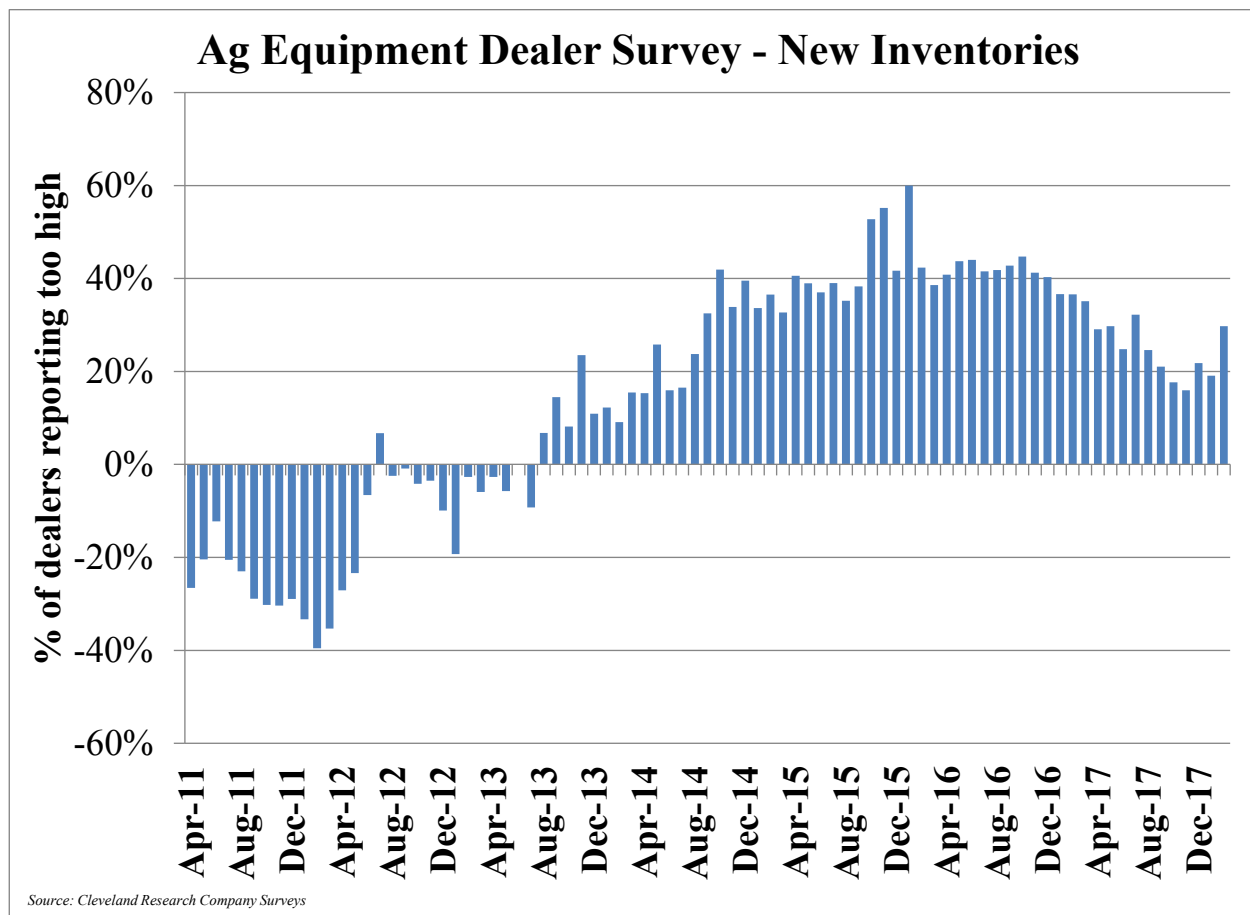
- Tractor pricing trends were unchanged in the month at down 3% while combine pricing improved to down 4% after 3 months of 5% declines.

Used Tractor and Combine Values (Y/Y)																			
	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	Dec-17	Jan-18	Feb-18
Compact (<40HP)	1%	1%	2%	2%	1%	1%	1%	1%	2%	2%	2%	1%	1%	2%	0%	2%	1%	1%	2%
Utility (40-100HP)	(0%)	(0%)	1%	0%	0%	1%	0%	1%	2%	0%	0%	1%	0%	1%	0%	1%	1%	1%	1%
Row Crop (100HP+)	(6%)	(6%)	(6%)	(4%)	(5%)	(3%)	(2%)	(3%)	(4%)	(3%)	(4%)	(3%)	(4%)	(2%)	(4%)	(3%)	(2%)	(2%)	(2%)
4WD Tractors	(9%)	(8%)	(10%)	(7%)	(9%)	(6%)	(4%)	(7%)	(5%)	(4%)	(6%)	(5%)	(6%)	(5%)	(6%)	(5%)	(4%)	(4%)	(4%)
Combines	(11%)	(11%)	(12%)	(8%)	(10%)	(9%)	(6%)	(8%)	(7%)	(6%)	(6%)	(6%)	(7%)	(7%)	(7%)	(5%)	(5%)	(5%)	(4%)



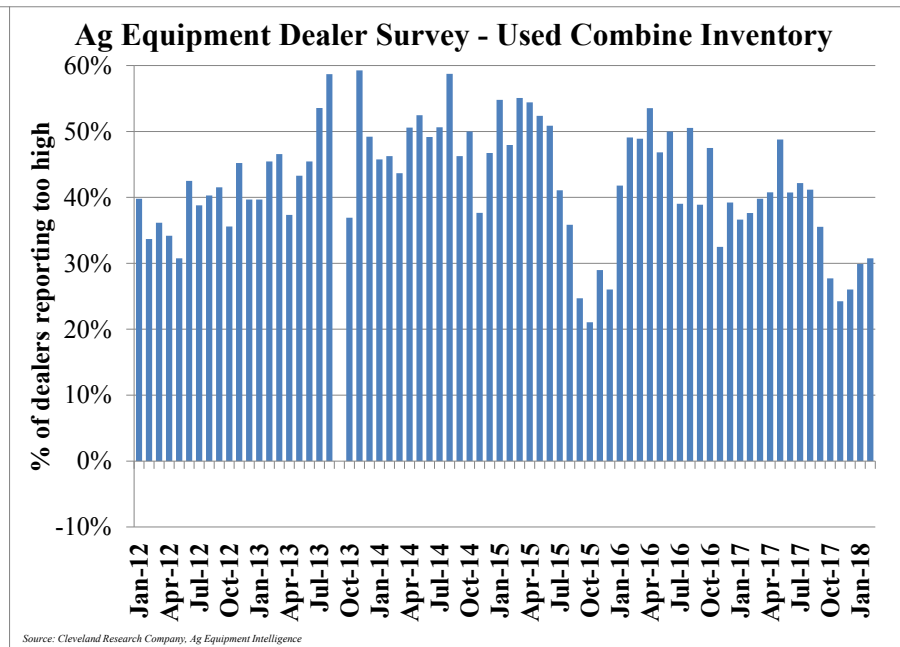
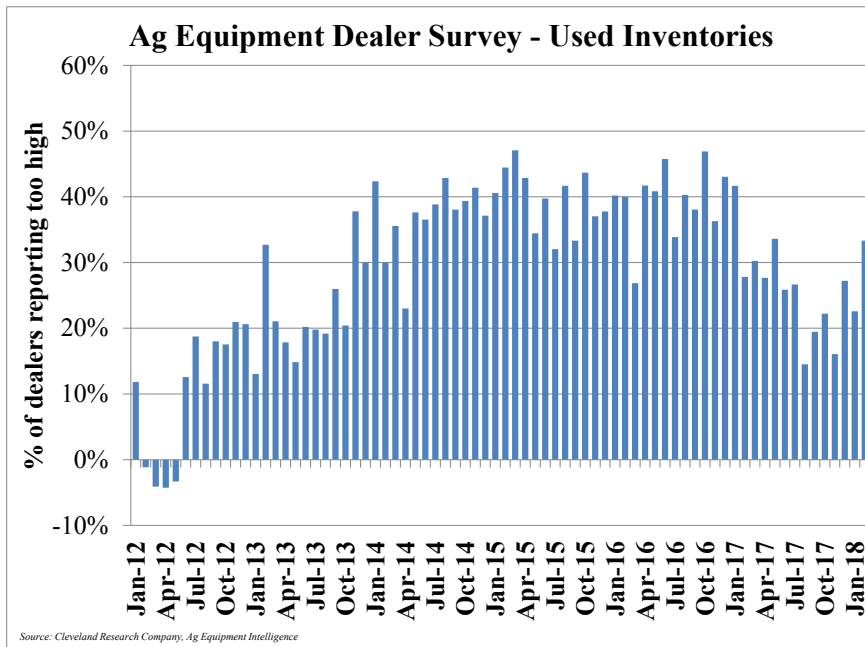
New Equipment Inventory Levels

- A net 30% of dealers reported new equipment inventories too high (36% too high, 59% about right, 6% too low), worse than the 19% in January. Commentary suggests dealer inventory climbed in February due to softer demand as well as less aggressive programming.



Used Equipment Inventory Levels

- A net 33% of dealers reported used equipment inventory as too high (41% too high, 50% about right, 8% too low), increasing from the 23% reporting heightened inventory in January and the 26% average in 2017. Used combine inventory levels were reported as too high by a net 31% of dealers in February, inline with January, and better than the 37% average in 2017.



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-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	10,384	6,301	2,064	325	19,074	2,389	688	19%	-1%	-20%	-37%	5%	-23%	-22%
Jan-17	6,836	3,832	1,392	147	12,207	1,539	289	15%	-10%	-30%	-40%	-2%	-31%	-36%
Feb-17	7,959	3,312	1,339	198	12,808	1,537	254	24%	-2%	13%	-11%	14%	9%	5%
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%
Dec-17	10,964	6,276	1,974	413	19,627	2,387	699	6%	0%	-4%	27%	3%	0%	2%
Jan-18	7,261	3,960	1,423	196	12,840	1,619	275	6%	3%	2%	33%	5%	5%	-5%
Feb-18	7,101	3,313	1,127	221	11,762	1,348	316	-11%	0%	-16%	12%	-8%	-12%	24%

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

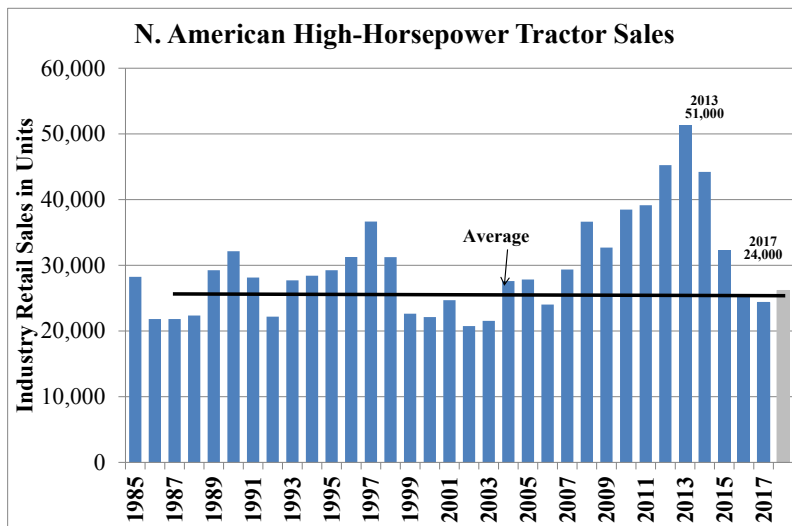
North American Farm Equipment Industry Inventory

NORTH AMERICAN FARM EQUIPMENT INVENTORY

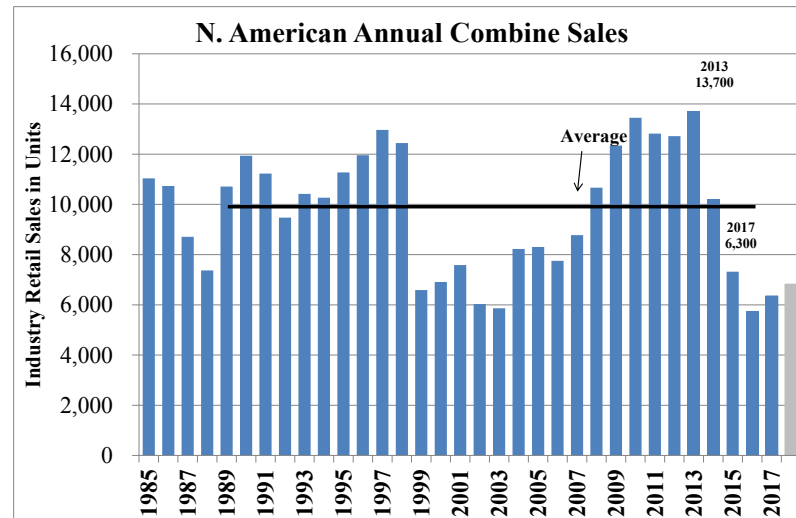
	Inventory (Units)							Inventory to 12-mo. Sales						
	< 40 HP	Utility	Row Crop	4-Wheel	Total Tractor	Row Crop & 4WD	Combines	<40HP	Util	RC	4-WD	Total Tractor	Row Crop & 4WD	Comb
Dec-15	82,737	41,363	13,140	1,189	138,429	14,329	1,277	63%	63%	46%	30%	60%	44%	17%
Jan-16	86,618	42,352	12,727	1,129	142,826	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%	58%	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%	58%	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%	33%	52%	49%	27%
Sep-17	75,112	36,376	11,022	1,104	123,614	12,126	1,483	48%	58%	55%	34%	51%	52%	25%
Oct-17	78,973	34,502	9,554	862	123,891	10,416	1,052	50%	55%	46%	26%	51%	43%	17%
Nov-17	84,909	35,100	10,194	977	131,180	11,171	974	54%	55%	49%	29%	54%	46%	15%
Dec-17	90,166	35,080	10,191	922	136,359	11,113	959	57%	55%	49%	27%	56%	46%	15%
Jan-18	95,198	35,476	10,137	905	141,716	11,042	1,128	60%	56%	48%	26%	58%	45%	18%

Source: AEM; Cleveland Research Company estimates

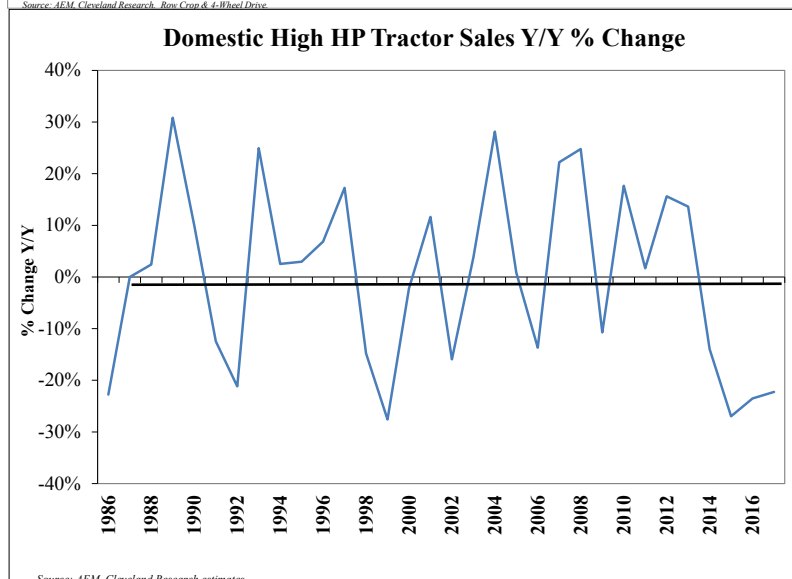
Annual Agricultural Equipment Industry Sales (1985 - 2017)



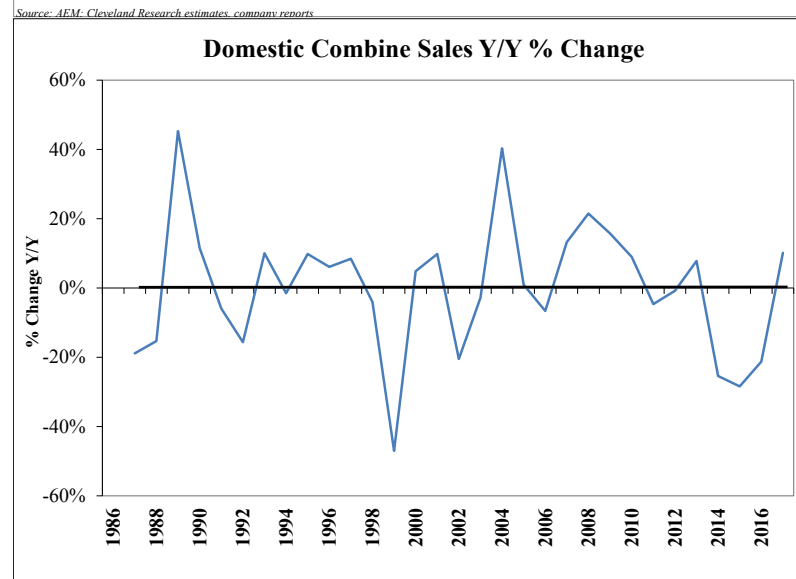
Source: AEM, Cleveland Research, Row Crop & 4-Wheel Drive



Source: AEM, Cleveland Research estimates, company reports

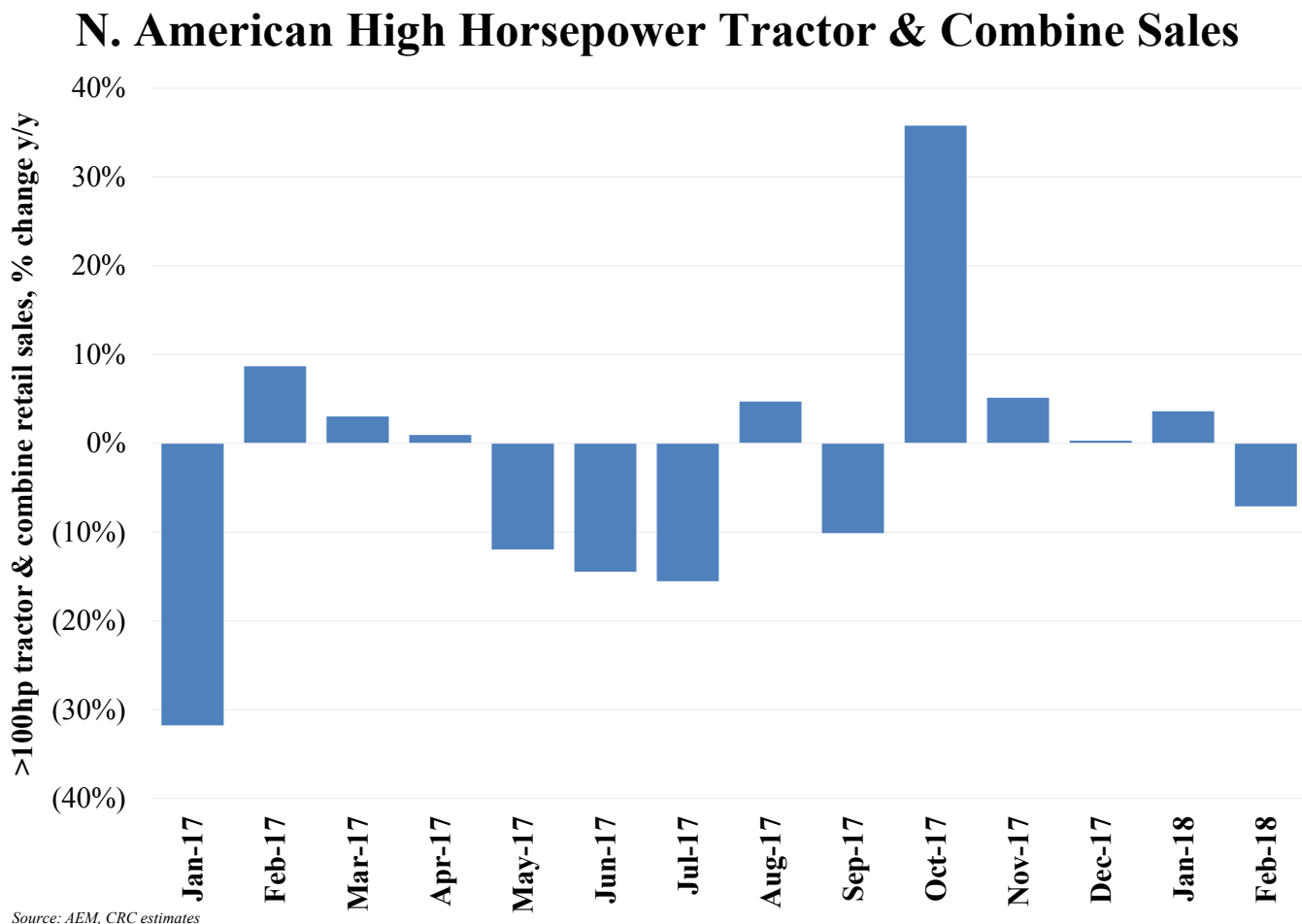


Source: AEM, Cleveland Research estimates



Source: AEM, Cleveland Research estimates

North America Large Ag Equipment Sales

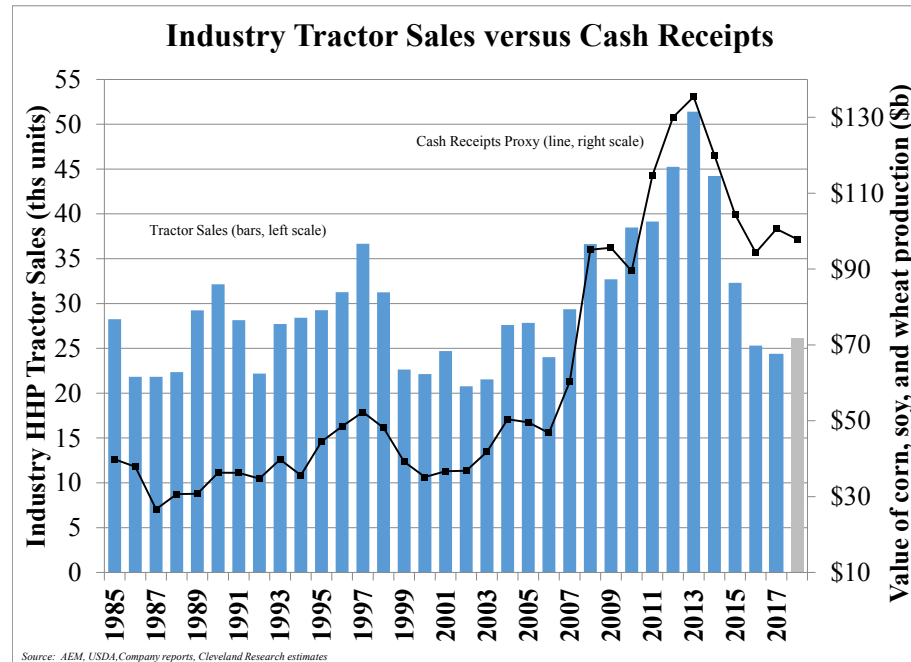


Commodity Prices – Cash Receipts vs. Next Year Equipment Sales

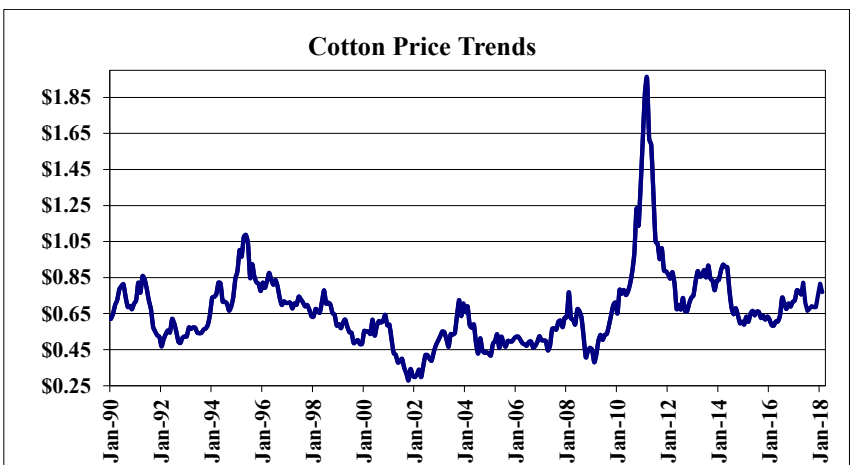
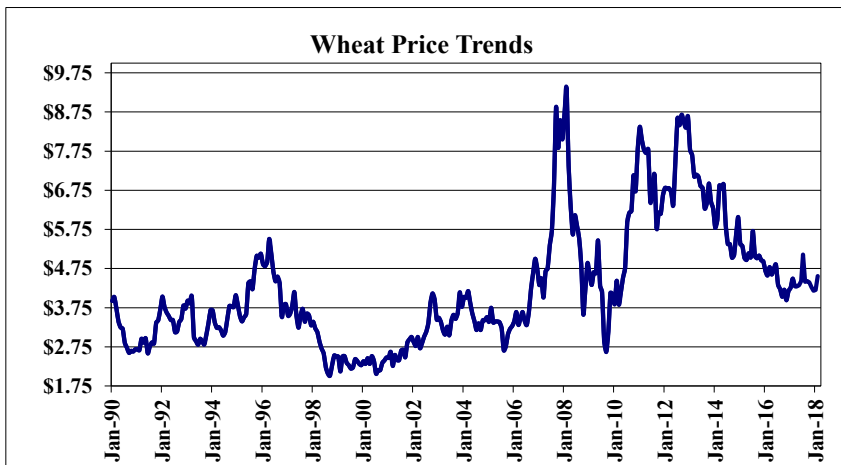
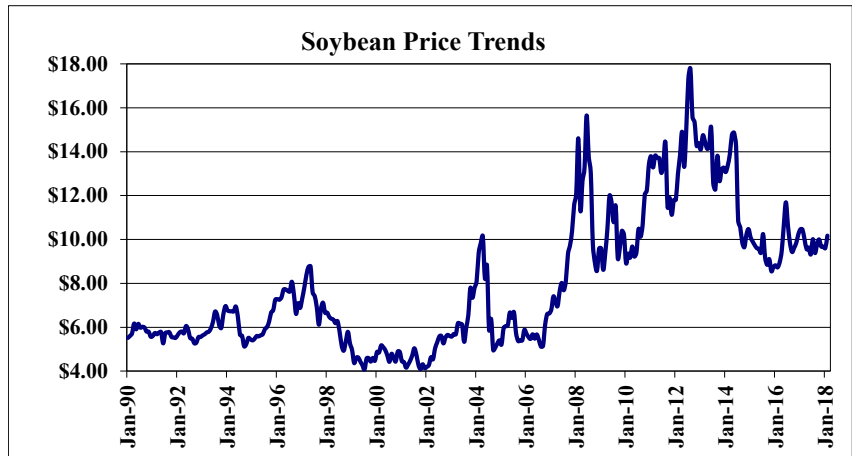
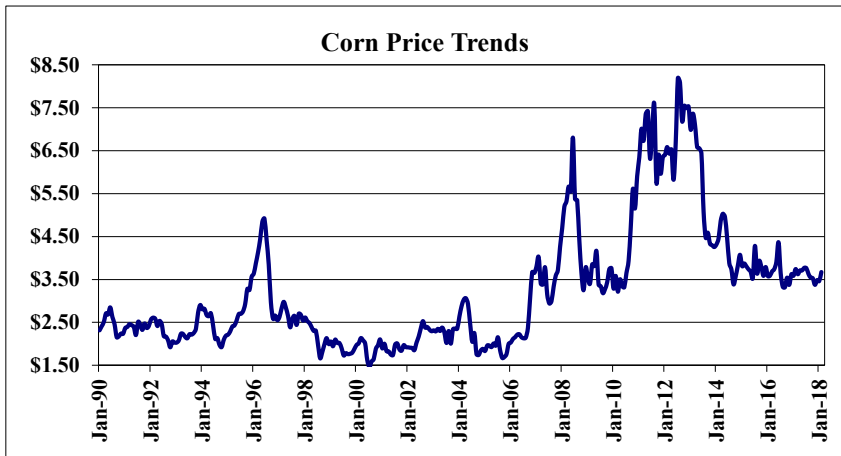
USDA's March WASDE Update Highlights – The following chart illustrates the historical relationship between the value of production of corn, soybeans, and wheat in the U.S. compared to annual industry sales of high horsepower tractors.

USDA's March crop report was similar to February with cash receipts proxy forecast down 3% y/y in 2017/18. Corn cash receipt forecasts improved to down 4% vs down 5% previously on better pricing, while wheat improved to down 10% vs down 11% previously, and soybean forecasts were unchanged at flat y/y.

USDA released its annual long term forecasts in February which highlight 2018/19 cash receipts improving to down 1% and 1-2% growth from 2019/20 to 2027/28.



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 2018

US Corn Balance Sheet - USDA Long Term Forecast (Feb 2018)													
Millions of bushels	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027	2027/2028
Planted	88	94	90	91	90	90	90	90	89	89	88	88	88
Harvested	81	87	83	84	83	83	82	82	81	81	81	80	80
Yield (bu/acre)	168	175	177	174	176	178	180	182	184	186	188	190	192
Beginning Stocks (MM bu)	1,731	1,737	2,293	2,487	2,607	2,597	2,637	2,647	2,657	2,617	2,632	2,627	2,607
Production (MM bu)	13,601	15,148	14,604	14,520	14,515	14,680	14,755	14,920	14,900	15,065	15,130	15,200	15,360
Imports (MM bu)	67	57	50	50	50	50	50	50	50	50	50	50	50
Total Supply (MM bu)	15,399	16,942	16,947	17,057	17,172	17,327	17,442	17,617	17,607	17,732	17,812	17,877	18,017
Feed & Residual (MM Bu)	5,130	5,463	5,550	5,550	5,600	5,700	5,750	5,900	5,925	6,000	6,075	6,125	6,250
Food, Seed, & Industrial Total	6,635	6,891	7,045	7,000	7,025	7,015	7,020	7,010	6,990	7,000	6,985	6,970	6,955
Ethanol & By-Products	5,206	5,463	5,575	5,525	5,550	5,525	5,525	5,500	5,475	5,475	5,450	5,425	5,400
Domestic Use	11,765	12,354	12,595	12,550	12,625	12,715	12,770	12,910	12,915	13,000	13,060	13,095	13,205
Exports	1,898	2,293	2,225	1,900	1,950	1,975	2,025	2,050	2,075	2,100	2,125	2,175	2,200
Total Use	13,663	14,647	14,820	14,450	14,575	14,690	14,795	14,960	14,990	15,100	15,185	15,270	15,405
Ending Stocks	1,738	2,295	2,127	2,607	2,597	2,637	2,647	2,657	2,617	2,632	2,627	2,607	2,612
Ending Stocks/Use	12.7%	15.7%	14.4%	18.0%	17.8%	18.0%	17.9%	17.8%	17.5%	17.4%	17.3%	17.1%	17.0%
Weeks Carryover	6.6	8.1	7.5	9.4	9.3	9.3	9.3	9.2	9.1	9.1	9.0	8.9	8.8
Average Farm Price (\$/bu)	\$3.61	\$3.36	\$3.35	\$3.30	\$3.35	\$3.35	\$3.40	\$3.40	\$3.45	\$3.50	\$3.50	\$3.55	\$3.60
Value of Production	\$49,100	\$50,897	\$48,923	\$47,916	\$48,625	\$49,178	\$50,167	\$50,728	\$51,405	\$52,728	\$52,955	\$53,960	\$55,296
% change y/y	-7%	4%	-4%	-2%	1%	1%	2%	1%	1%	3%	0%	2%	2%

U.S. Soybean Balance Sheet - USDA Long Term Forecast (Feb 2018)													
Millions of bushels	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027	2027/2028
Planted	83	83	90	91	91	92	92	92	92	92	92	92	92
Harvested	82	83	90	90	90	91	91	91	91	91	91	91	91
		0	0										
Yield Per Harvested Acre (Bushels)	48	52	49	48	49	50	50	51	51	52	52	53	53
Beginning Stocks	191	197	302	425	376	351	324	323	325	328	321	324	331
Production	3,926	4,296	4,392	4,360	4,410	4,475	4,550	4,595	4,645	4,665	4,715	4,760	4,810
Imports	24	22	25	25	25	25	25	25	25	25	25	25	25
Total Supplies	4,141	4,515	4,718	4,810	4,811	4,851	4,899	4,943	4,995	5,018	5,061	5,109	5,166
Crush	1,886	1,899	1,960	1,970	1,985	2,005	2,025	2,050	2,075	2,095	2,120	2,145	2,165
Exports	1,936	2,174	2,065	2,325	2,335	2,380	2,410	2,425	2,450	2,460	2,475	2,490	2,515
Seed & Residual	121	128	128	140	140	141	142	142	142	142	142	143	143
Total Use	3,943	4,214	4,163	4,435	4,460	4,526	4,577	4,617	4,667	4,697	4,737	4,778	4,823
Ending Stocks	197	301	555	376	351	324	323	325	328	321	324	331	342
Stocks/Use	5.0%	7.1%	13.3%	8.5%	7.9%	7.2%	7.1%	7.0%	7.0%	6.8%	6.8%	6.9%	7.1%
Average Price (\$/bu)	\$8.95	\$9.47	\$9.30	\$9.40	\$9.45	\$9.45	\$9.50	\$9.50	\$9.60	\$9.75	\$9.75	\$9.80	\$9.80
Value of Production	\$35,138	\$40,683	\$40,846	\$40,984	\$41,675	\$42,289	\$43,225	\$43,653	\$44,592	\$45,484	\$45,971	\$46,648	\$47,138
% change y/y	-11%	16%	0%	0%	2%	1%	2%	1%	2%	2%	1%	1%	1%

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

US Corn, Soy, and Wheat Supply and Demand - Long Term Annual Forecast 2018 (continued)

U.S. Wheat Balance Sheet - USDA Long Term Forecast (Feb 2018)

Millions of bushels	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027	2027/2028
Planted	55	50	46	45	46	47	47	47	47	48	48	48	48
Harvested	47	44	38	38	39	40	40	40	40	41	41	41	41
Yield Per Harvested Acre (Bushels)	44	53	46	47	48	48	49	49	49	50	50	51	51
Beginning Stocks	752	976	1,181	935	813	739	714	690	667	648	650	658	667
Production	2,062	2,309	1,741	1,815	1,869	1,928	1,944	1,960	1,976	2,032	2,048	2,064	2,077
Imports	113	118	155	135	130	130	130	130	130	120	120	120	120
Total Supplies	2,927	3,402	3,076	2,885	2,812	2,797	2,788	2,780	2,773	2,800	2,818	2,842	2,864
Food	957	949	955	950	950	950	955	960	960	965	965	970	975
Seed	67	61	62	62	63	63	63	63	65	65	65	65	65
Feed&residual	152	156	100	110	100	110	110	110	110	120	120	130	140
Exports	775	1,055	925	950	960	960	970	980	990	1,000	1,010	1,010	1,010
Total Use	1,952	2,222	2,042	2,072	2,073	2,083	2,098	2,113	2,125	2,150	2,160	2,175	2,190
Ending Stocks	976	1,181	1,034	813	739	714	690	667	648	650	658	667	674
Stocks/Use	50.0%	53.2%	50.6%	39.2%	35.6%	34.3%	32.9%	31.6%	30.5%	30.2%	30.5%	30.7%	30.8%
Average Price (\$/bu)	\$4.89	\$3.89	\$4.65	\$4.60	\$4.80	\$4.90	\$5.00	\$5.10	\$5.10	\$5.10	\$5.10	\$5.10	\$5.20
Value of Production	\$10,083	\$8,982	\$8,096	\$8,349	\$8,971	\$9,447	\$9,720	\$9,996	\$10,078	\$10,363	\$10,445	\$10,526	\$10,800
% change y/y	-17%	-11%	-10%	3%	7%	5%	3%	3%	1%	3%	1%	1%	3%

Total Acreage and Value of U.S. Corn, Soy and Wheat Production - USDA February 2018 Projection

Total Corn, Soy, Wheat	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027	2027/2028
Planted (mm acres)	226	228	226	227	227	229	229	229	228	228	228	227	227
Harvested (mm acres)	210	213	210	212	212	213	213	213	212	213	212	212	212
Yield (bu/acre)	93	102	99	98	98	99	100	101	101	102	103	104	105
Production	19,589	21,753	20,737	20,695	20,794	21,083	21,249	21,475	21,521	21,762	21,893	22,024	22,247
Average Price (\$/bu)	\$4.81	\$4.62	\$4.72	\$4.70	\$4.77	\$4.79	\$4.85	\$4.86	\$4.93	\$4.99	\$5.00	\$5.05	\$5.09
Value of Production	\$94,320	\$100,562	\$97,865	\$97,249	\$99,271	\$100,914	\$103,112	\$104,377	\$106,075	\$108,574	\$109,371	\$111,134	\$113,234
% change y/y	-10%	7%	-3%	-1%	2%	2%	2%	1%	2%	2%	1%	2%	2%

Source: USDA, Cleveland Research estimates

U.S. Acreage Planted Per Crop Year

