

Ag Equipment Intelligence

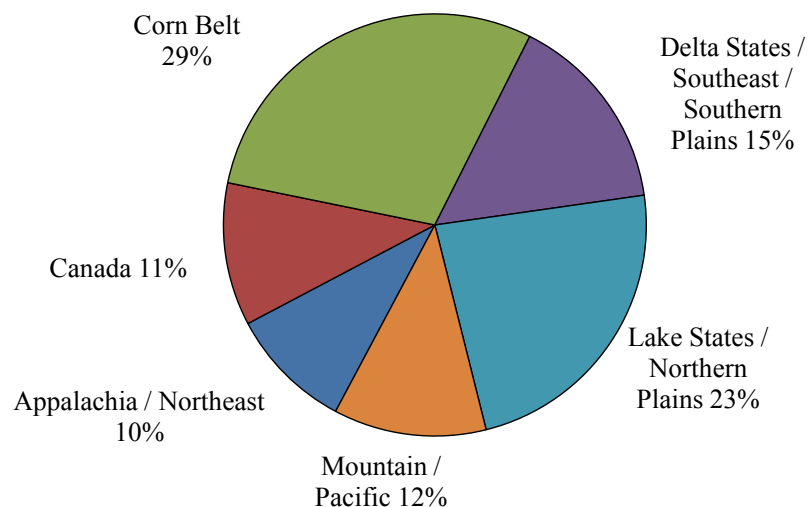
August 2018 Dealer Sentiments &
Business Conditions Update

Monthly Ag Equipment Intelligence North American Dealer Survey

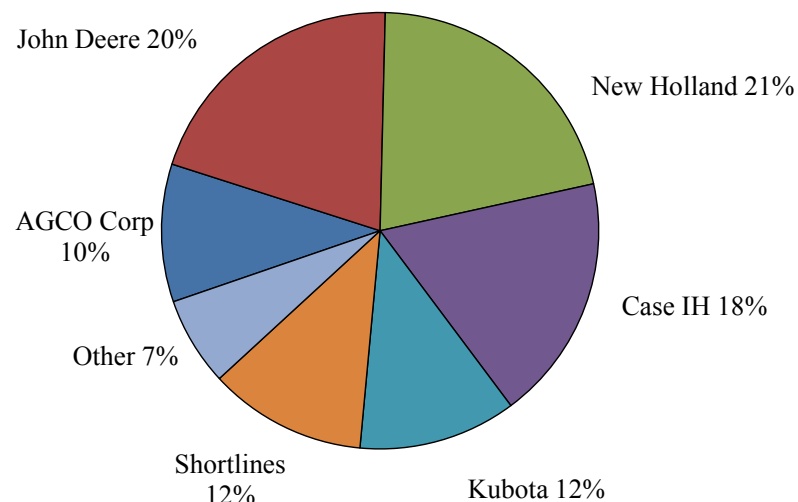
Background:

- We are pleased to announce the results of the July 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 July survey had ~140 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 down 2% year-over-year in July, falling from the flat growth in June, and the first month of declines in 10 months. A net 15% of dealers missed their sales budgets in July vs the net 13% in June. Commercial and consumer lawn equipment sales were strong, while large equipment demand remains weak but has seen improvement over the last year.
- **Outlook** –The 2018 forecast is for 1% year-over-year growth, in line with June, and the initial 2019 forecast is also for 1% growth. A net 13% of contacts reported that they expect growth in 2018 in July, well below the net 32% of contacts expecting growth in June.
- **Inventory** – New equipment inventory levels were higher in July with a net 21% of dealers reporting inventories were “too high” vs. the 14% in June. Used equipment inventory levels improved from June with a net 19% of dealers reporting used inventory as “too high” vs. the net 25% last month. Overall, inventories have come down from 2016 levels.
- **Pricing** – Used equipment pricing improved for small tractors while large equipment values were unchanged. Large tractor pricing was reported down 3% year-over-year and combine pricing was reported down 5%, in line with June. New equipment price realization has shown improvement YTD.

Monthly Sales Growth

- Sales in July were reported down 2% year-over-year with a net 15% of dealers that missed plan, slightly worse than the net 13% that missed plan in June on flat sales growth. This is the first month of year-over-year declines since September 2017.
- A net 5% of dealers reported more optimism in July versus the 9% of dealers that were less optimistic in June. Optimism has been mixed over the last several months, likely reflecting cautious sentiment on trade and commodity prices.

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

% Change y/y	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
AGCO	-2%	-13%	-1%	-3%	0%	-5%	2%	0%	4%	0%	1%	6%	-3%	6%	-8%	1%
John Deere	-4%	-1%	-1%	-2%	3%	5%	2%	-1%	4%	1%	0%	1%	-1%	1%	1%	-3%
New Holland	-13%	-4%	-1%	-6%	0%	-4%	-11%	3%	0%	0%	-3%	-7%	-6%	3%	-2%	-8%
Case IH	-3%	-16%	-2%	-5%	-2%	-8%	-4%	-7%	-3%	-1%	-1%	-3%	-1%	0%	-3%	-1%
Kubota	2%	1%	0%	8%	12%	-4%	14%	10%	10%	5%	3%	3%	12%	6%	6%	4%
Shortlines/Other	-9%	-1%	-1%	-1%	-1%	3%	0%	-1%	-5%	-5%	-4%	2%	-11%	-1%	0%	-5%
Total	-5%	-5%	-2%	-3%	-1%	-1%	0%	0%	1%	0%	0%	0%	0%	2%	0%	-2%

Source: Cleveland Research, Ag Equipment Intelligence

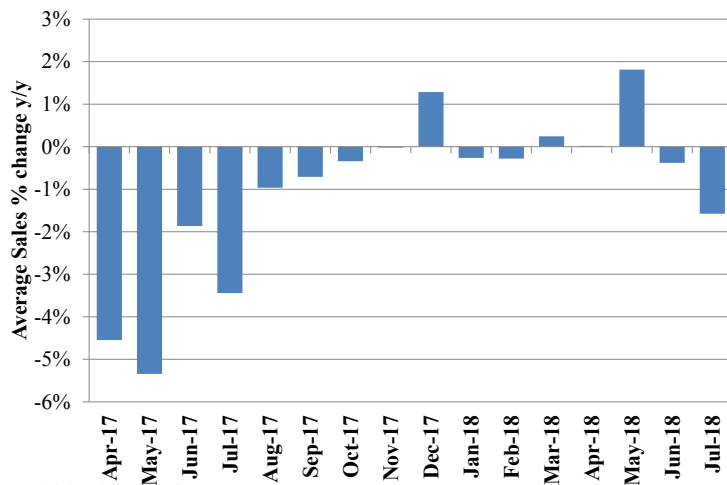
N. American Farm Equipment Dealer Survey - Sales Versus Expectations

% of Dealers Reporting	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
Better than expected	16%	19%	16%	16%	21%	21%	18%	21%	18%	13%	13%	11%	10%	22%	17%	10%
In line with expectations	54%	52%	65%	48%	52%	47%	55%	60%	62%	65%	61%	60%	61%	50%	53%	66%
Worse than expected	30%	30%	19%	36%	27%	32%	27%	20%	20%	22%	26%	29%	29%	28%	30%	24%
Net % (Better - Worse)	-15%	-11%	-3%	-19%	-6%	-11%	-8%	1%	-1%	-9%	-13%	-18%	-18%	-6%	-13%	-14%

Source: Cleveland Research, Ag Equipment Intelligence

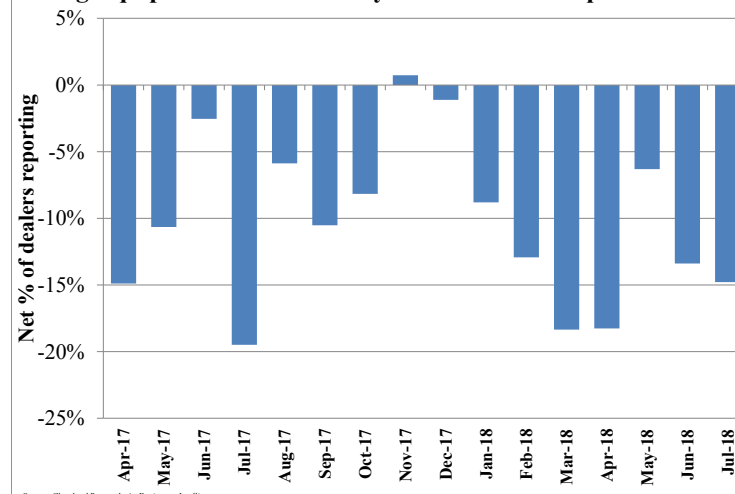
Monthly Sales Growth Continued

Ag Equipment Dealer Survey - Monthly Sales Growth Trends



Source: Cleveland Research, Ag Equipment Intelligence

Ag Equipment Dealer Survey - Sales Versus Expectations



Source: Cleveland Research, Ag Equipment Intelligence

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

% of Dealers Reporting	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
Positive Sales Growth	34%	39%	37%	33%	41%	43%	41%	43%	41%	36%	31%	36%	38%	53%	45%	46%
Flat Sales	19%	18%	32%	19%	21%	22%	20%	21%	22%	28%	31%	32%	29%	25%	27%	17%
Negative Sales Growth	47%	43%	32%	48%	38%	35%	38%	36%	37%	36%	38%	32%	33%	23%	29%	37%
Net % Reporting Growth	-13%	-4%	5%	-15%	4%	7%	3%	7%	4%	0%	-7%	4%	5%	30%	16%	10%
Average % Change y/y	-5%	-5%	-2%	-3%	-1%	-1%	0%	0%	1%	0%	0%	0%	0%	2%	0%	-2%

Source: Cleveland Research

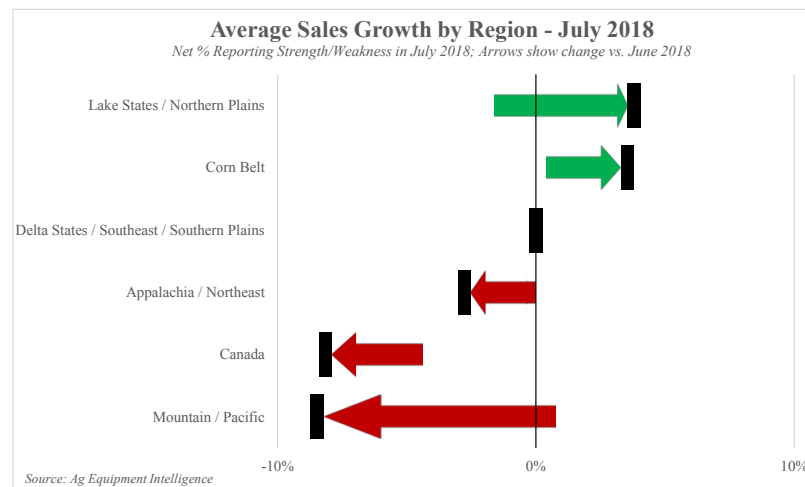
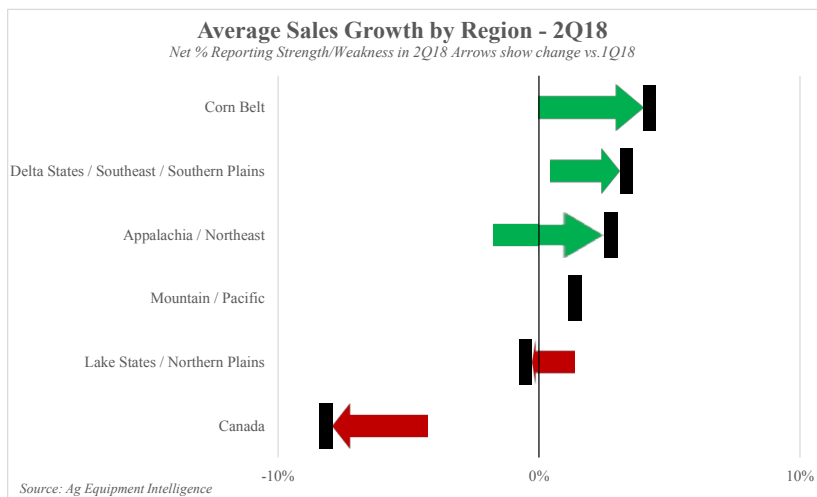
Optimism/Sentiment vs. Last Month

% of Dealers Reporting	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
More Optimistic	17%	19%	23%	21%	23%	23%	22%	24%	28%	21%	21%	24%	26%	24%	21%	29%
Same	53%	61%	58%	47%	52%	51%	56%	63%	53%	58%	58%	51%	54%	50%	48%	48%
Less Optimistic	30%	20%	19%	32%	26%	26%	22%	14%	19%	21%	21%	25%	20%	26%	30%	23%
Net % Dealer Optimism	-13%	-2%	4%	-11%	-3%	-4%	1%	10%	9%	1%	0%	-1%	6%	-2%	-9%	5%

Source: Cleveland Research

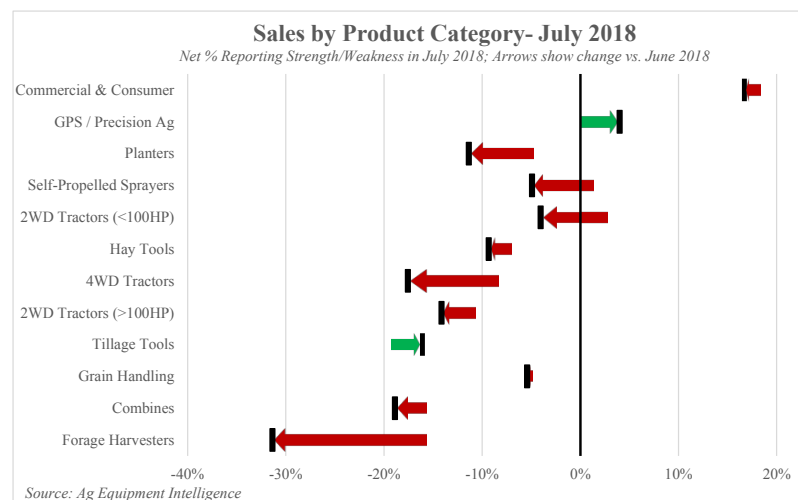
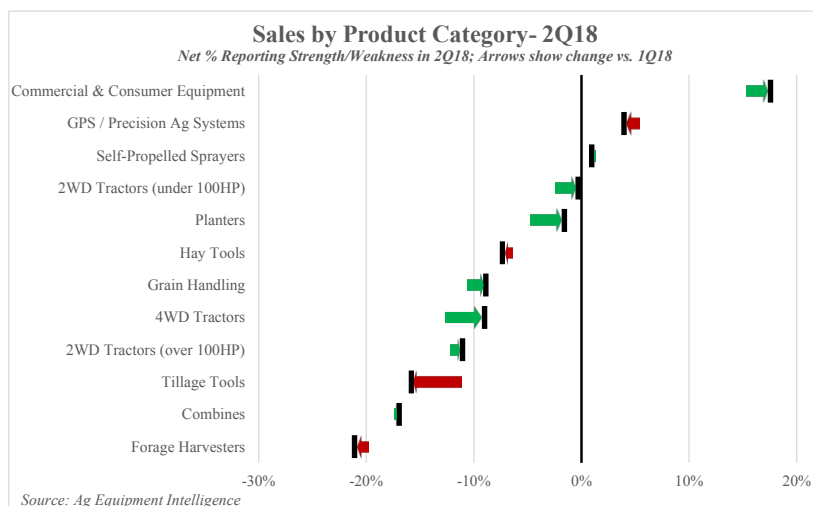
Monthly Sales Growth by Region

- Sales trends by region slowed in half of the regions in July vs improvement in half of the regions in 2Q. The Lake States/ Northern Plains and the Corn Belt regions saw improvement while the Mountain/ Pacific region saw the greatest declines from last month.

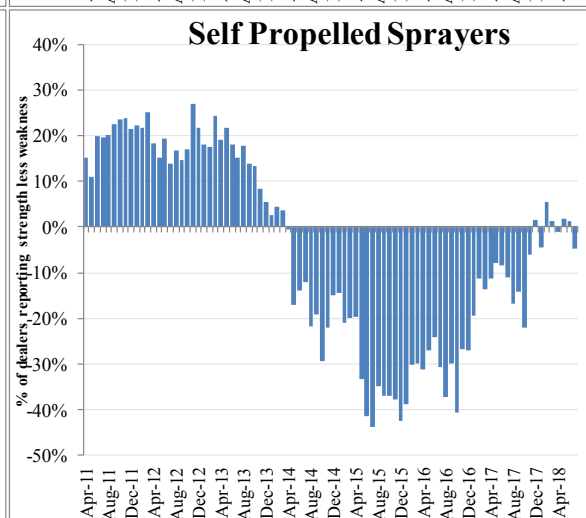
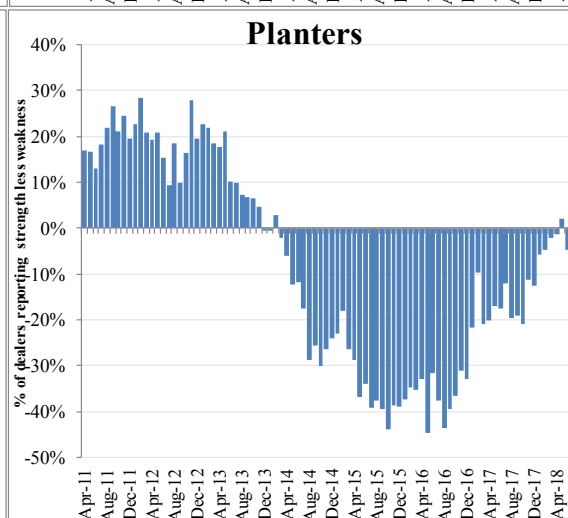
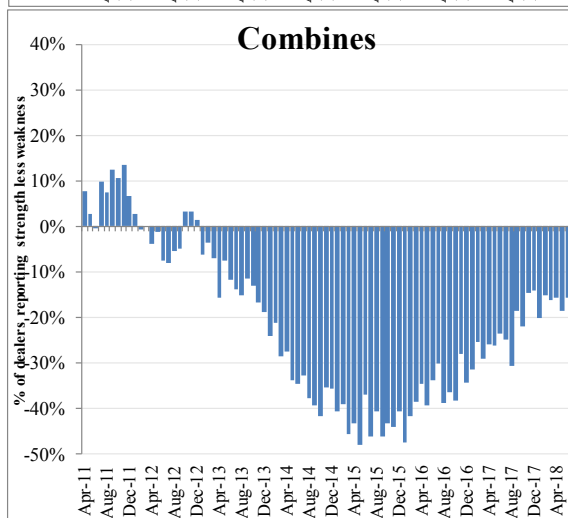
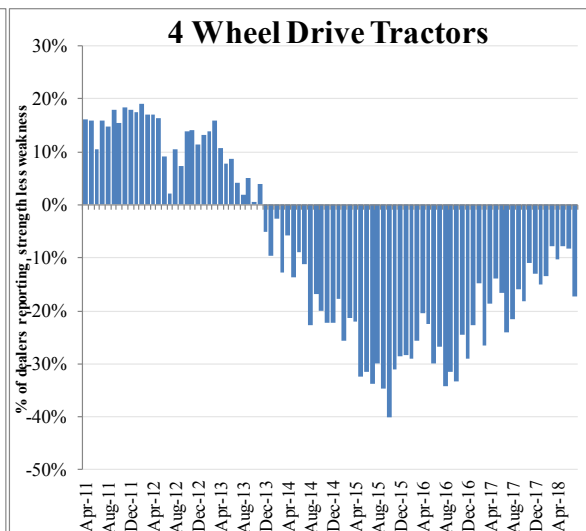
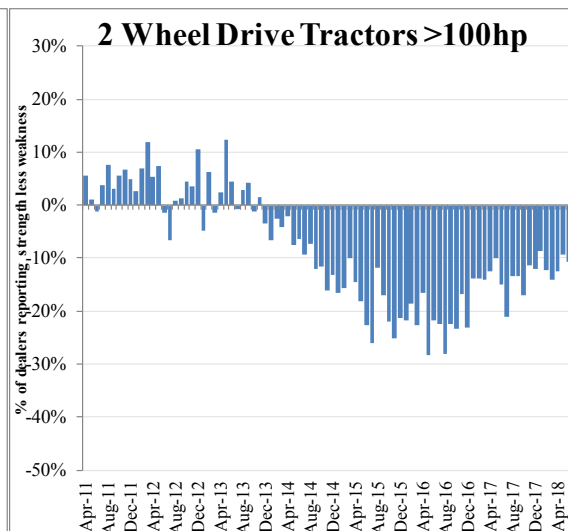
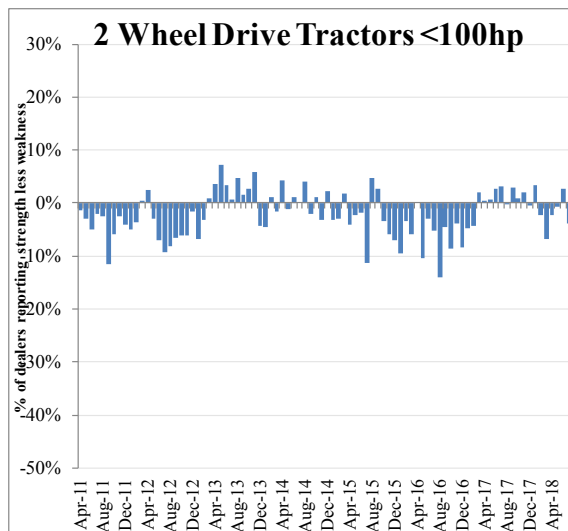


Equipment Category Sales Trends

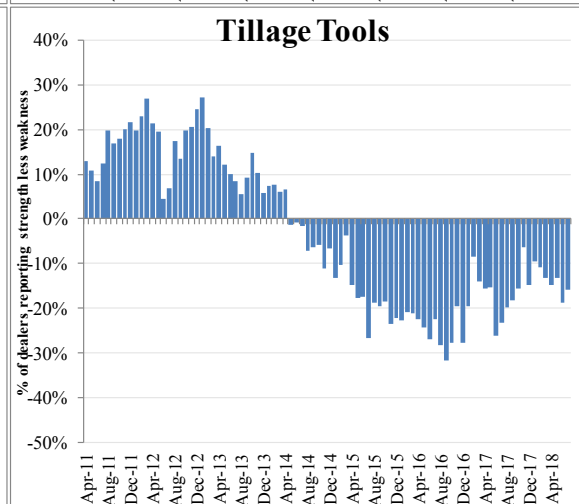
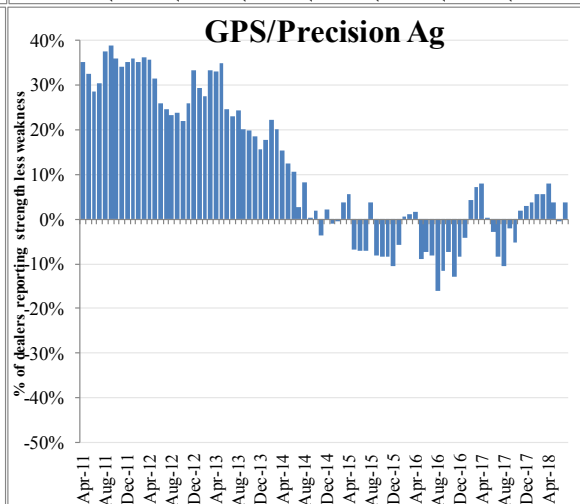
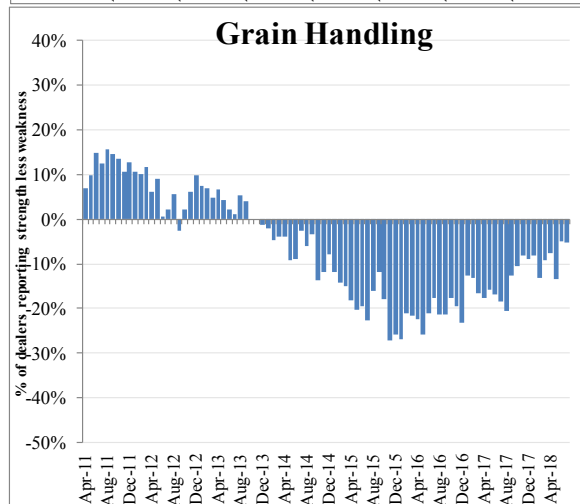
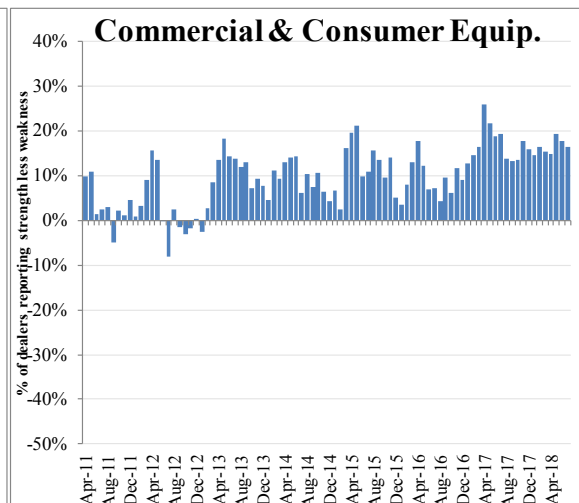
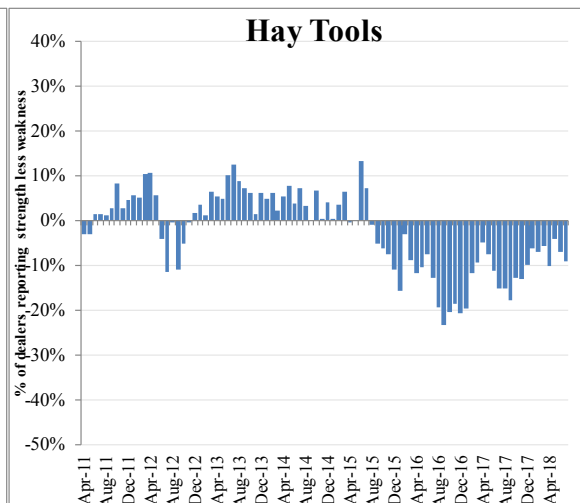
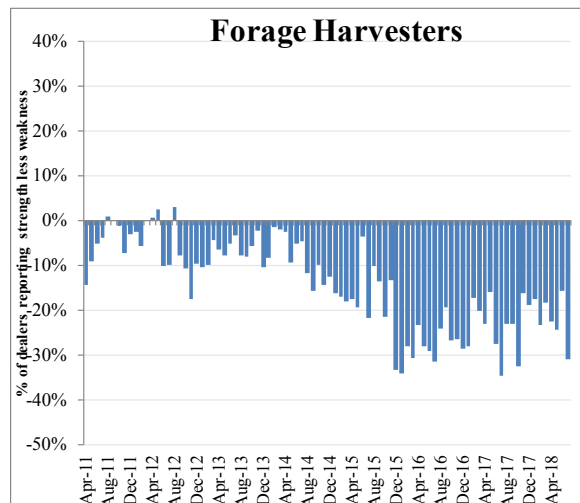
- Sales trends by product category deteriorated from June and 2Q following overall sequential improvement in 1Q. Most of the equipment categories declined in July, with the exception of GPS/Precision Ag and tillage tools.
- Forage Harvesters and 4WD tractors saw the greatest sequential declines in July. Commentary suggests large equipment inventories remain too high while small tractor inventories are too low.



Equipment Category Sales Trends



Equipment Category Sales Trends (Continued)



Average Dealer Sales Outlook

- The 2018 forecast is for 1% year-over-year growth, in line with last month, with a net 13% of contacts expecting growth, a deterioration from the 32% last month. The initial 2019 forecast is for 1% year-over-year growth with a net 26% of contacts expecting growth.
- 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	Mar-18	Apr-18	May-18	Jun-18	Jul-18
AGCO	0%	2%	1%	0%	3%	-1%	-4%	4%	0%	-2%	5%	1%	2%
John Deere	1%	7%	4%	5%	4%	2%	4%	1%	3%	-5%	-10%	3%	5%
New Holland	2%	-4%	-1%	-3%	2%	-2%	1%	0%	0%	3%	4%	1%	-9%
Case IH	0%	1%	1%	4%	3%	4%	0%	-4%	-5%	5%	3%	3%	-4%
Kubota	0%	1%	-1%	-2%	1%	2%	1%	-1%	2%	3%	6%	2%	4%
Shortlines/Other	-3%	0%	0%	3%	-5%	4%	1%	-3%	3%	3%	0%	-1%	-3%
Overall	-3%	0%	1%	0%	2%	2%	2%	1%	1%	2%	2%	1%	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 to up 5%
Western Europe	Up 5-10%	Tractors (5-10%); Combines up 5%	Flat
Latin America	Flat to up 5%	Tractors 0-5%; Combines up 0-5%	Flat
Asia	Flat	Tractors up 5%; Combines up 10%	na

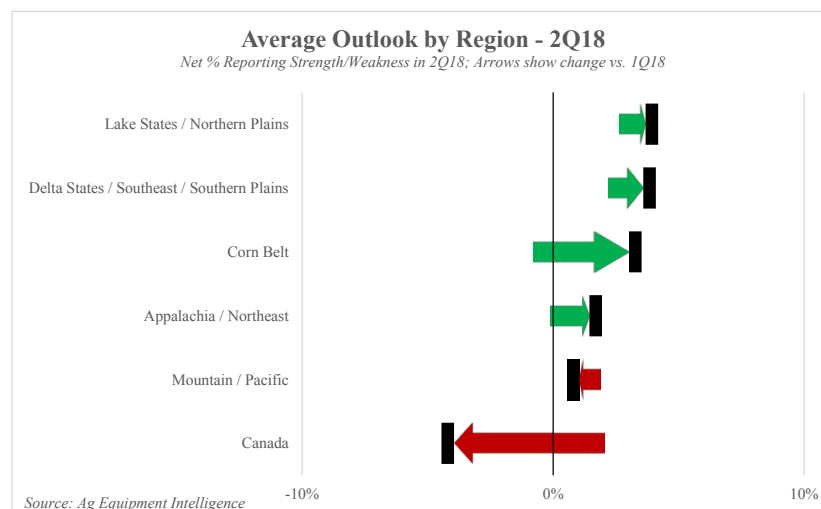
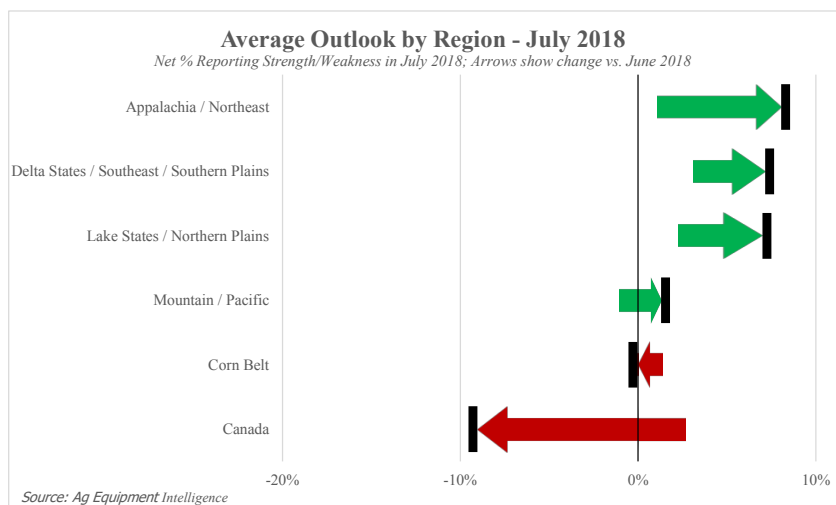
Source: Company reports, CRC estimates

Most Interesting Commentary - Monthly Sales and Outlook

- *Poor commodity prices are holding sales back. Today, corn sells for a dollar less than in 1Q, while soybean pricing is down almost \$3.*
- *We had the worst July in the history of our company dating back to 1939, even with five more locations than we had back then.*
- *The month of July was significantly down but our order book is up double digits, so we expect to see an uptick in coming months.*
- *Quoting activity was strong in July, in line with previous months, but we are still waiting for the customer to pull the trigger on purchases.*
- *Small equipment sales are running ahead of plan while large equipment trends are below our expectations.*
- *List prices are up, but we have aggressive programming to maintain and grow market share.*
- *We are seeing price increases of 4%, but we won't see the reflection of the increases in numbers until 4Q.*
- *Dairy prices continue to weight on our business. It has been a tough year for the mid-size farms. We do not anticipate an uptick in 2019, but anticipate more dairy farms exiting the business.*
- *We are less optimistic on 2018 and 2019 as farmers continue to lose money due to weak grain prices.*
- *Used hay tools are selling but aggressive pricing is driving that.*
- *Used combine inventories are too high, while used and new tractors are too low.*
- *Used equipment sales remain weak, despite lower pricing, but have improved notably from previous years.*

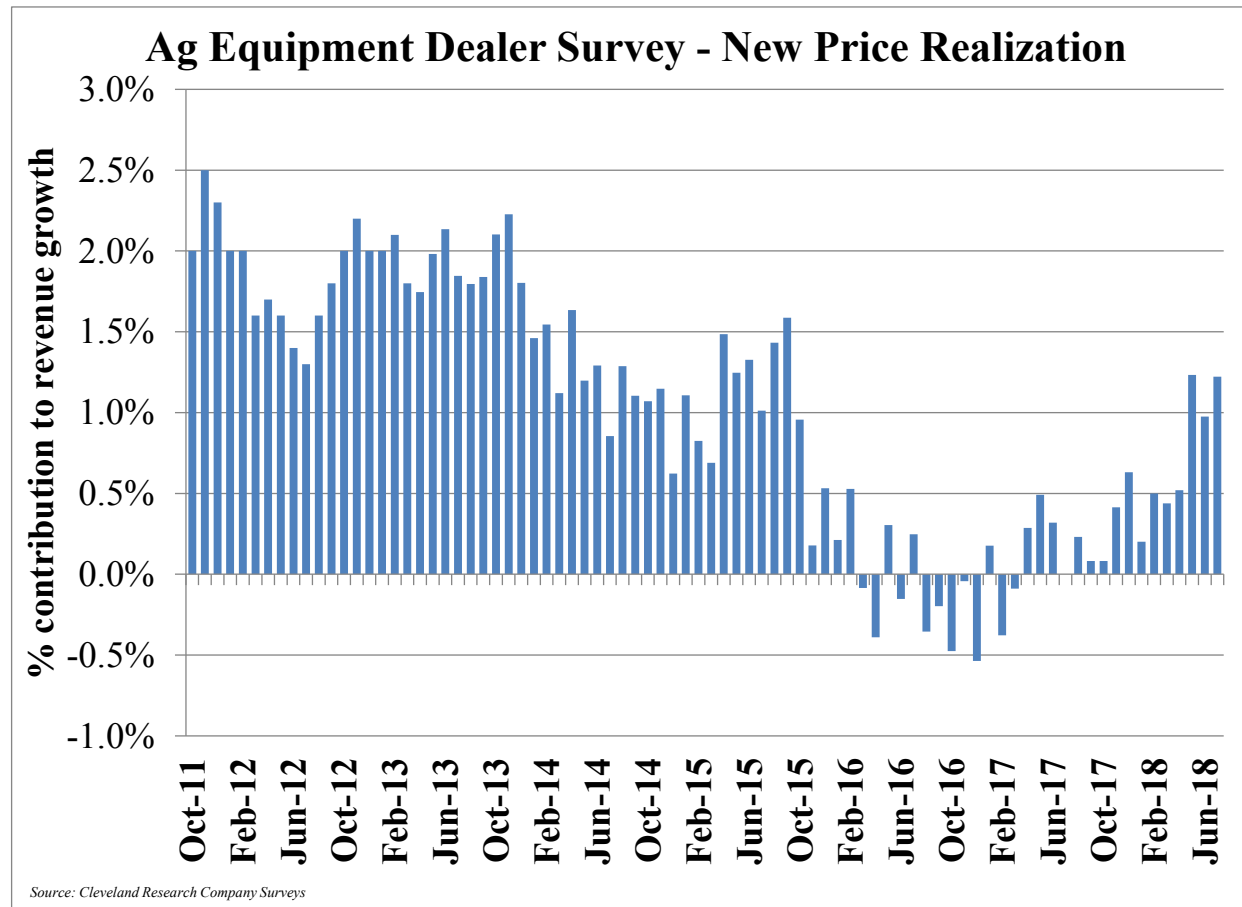
2018 Sales Outlook

- The 2018 outlook in July saw sequential improvement in 4 of the 6 regions. The Appalachia / Northeast region saw the greatest improvement while Canada saw further deterioration from 2Q.
- The initial 2019 outlook is for 1% growth with forecasts for slight declines in Canada and the Corn Belt offsetting expectations for low single digit growth in the remainder of regions.



Pricing Trends

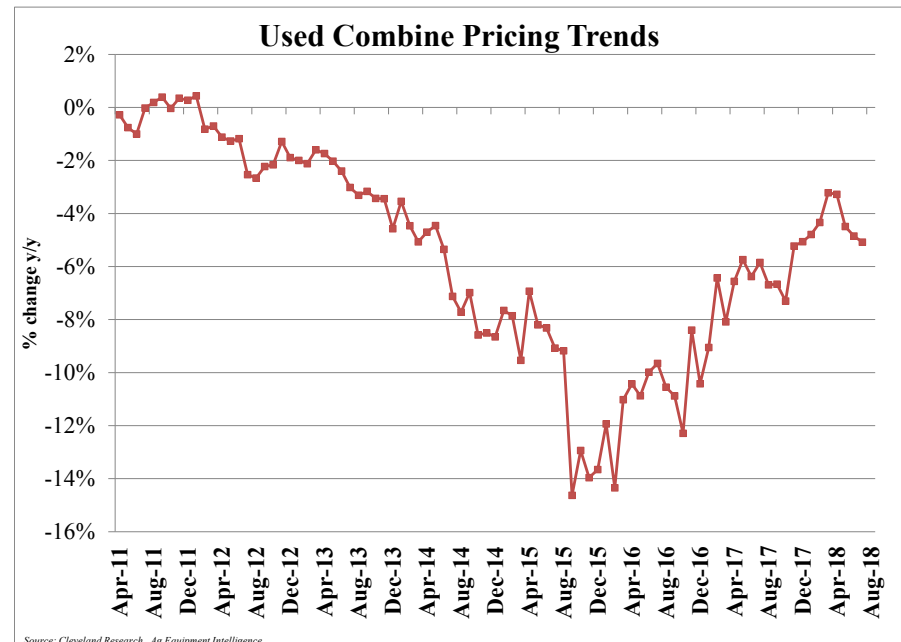
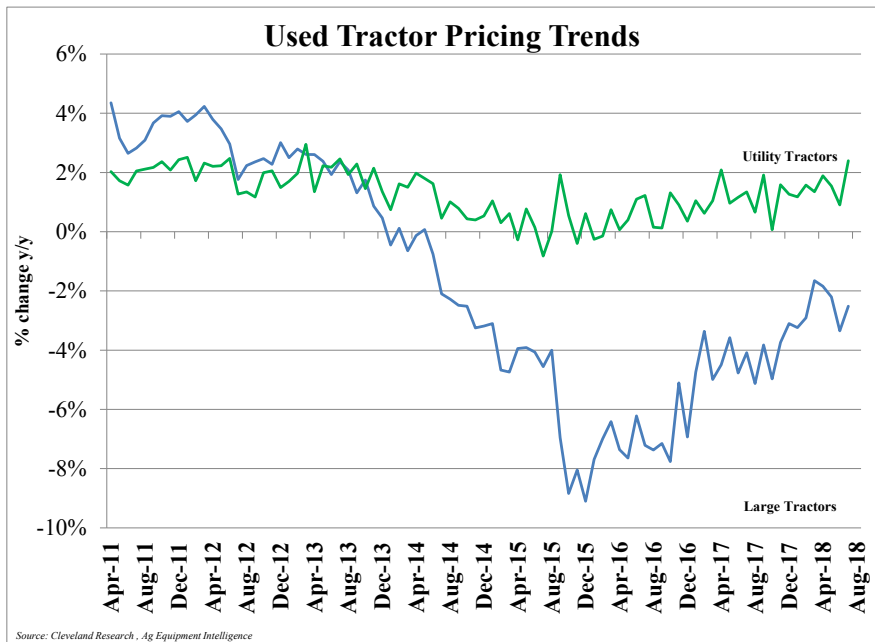
- Price realization has shown improvement over the past few months. Commentary suggests dealers continue to receive price increases from manufacturers and expect to see an impact in 2H18.



Used Equipment Pricing

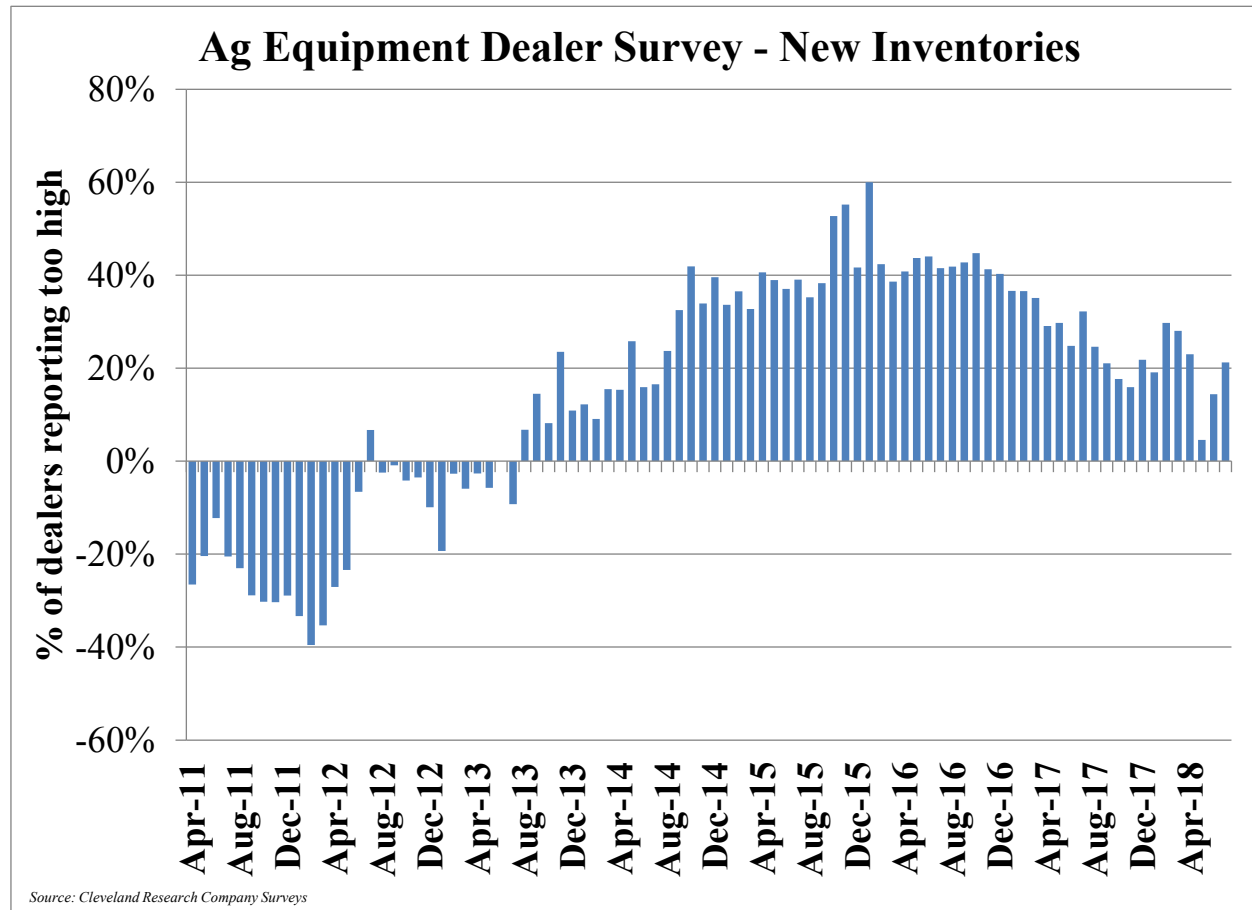
- Large used equipment pricing was in line with June, with large tractor pricing reported down 3% year-over-year while combine pricing was reported down 5%. Utility and compact tractors saw improvement with each reported up 2% year-over-year vs. up 1% last month.

Used Tractor and Combine Values (Y/Y)																
	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18
Compact (<40HP)	2%	2%	2%	1%	1%	2%	0%	2%	1%	1%	2%	1%	2%	2%	1%	2%
Utility (40-100HP)	2%	0%	0%	1%	0%	1%	0%	1%	1%	1%	1%	1%	1%	1%	1%	2%
Row Crop (100HP+)	(4%)	(3%)	(4%)	(3%)	(4%)	(2%)	(4%)	(3%)	(2%)	(2%)	(2%)	(1%)	(2%)	(1%)	(3%)	(1%)
4WD Tractors	(5%)	(4%)	(6%)	(5%)	(6%)	(5%)	(6%)	(5%)	(4%)	(4%)	(4%)	(2%)	(2%)	(3%)	(4%)	(4%)
Combines	(7%)	(6%)	(6%)	(6%)	(7%)	(7%)	(7%)	(5%)	(5%)	(5%)	(4%)	(3%)	(3%)	(4%)	(5%)	(5%)



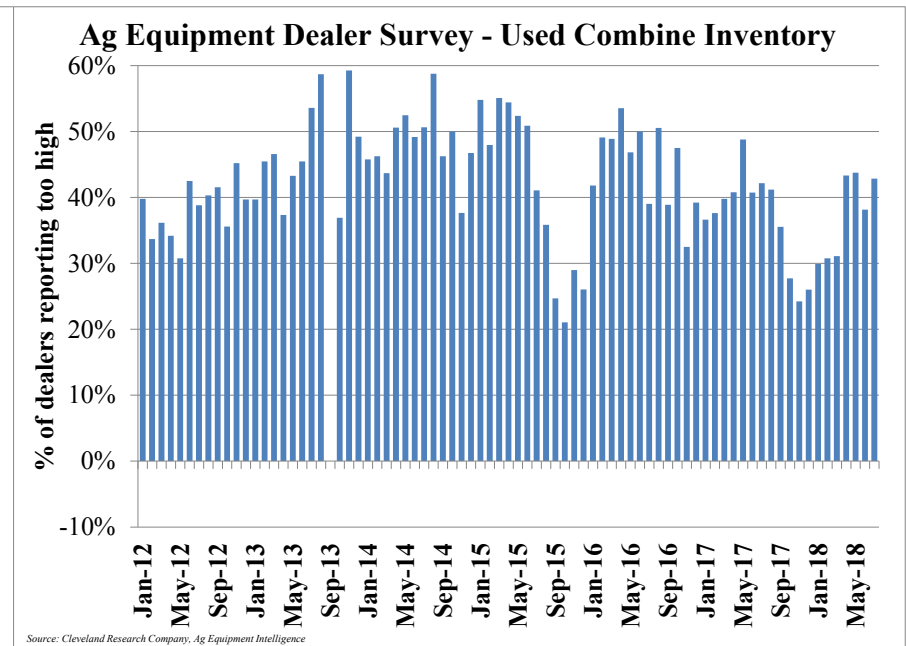
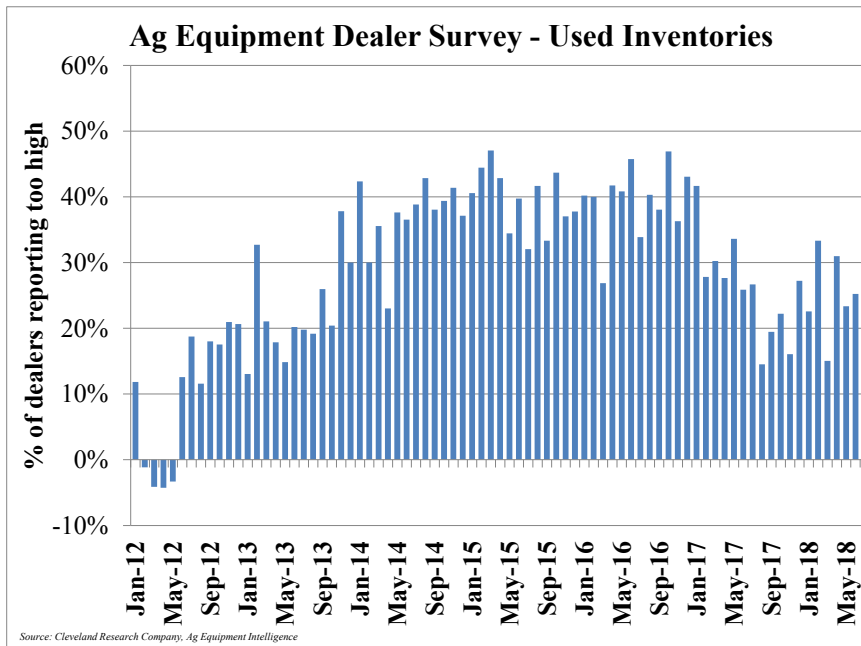
New Equipment Inventory Levels

- New equipment inventory levels were higher in July with a net 21% of dealers reporting inventories too high (35% too high, 50% in line, 14% too low) vs the 14% in June.



Used Equipment Inventory Levels

- A net 19% of dealers reported used equipment inventory as too high, below the 25% in June. Used combine inventory remained elevated in the month with a net 43% of dealers reporting inventories as too high in July, higher than the net 38% in June.



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	13,704	5,361	1,786	338	21,189	2,124	457	10%	5%	-6%	31%	7%	-2%	32%
Apr-17	19,358	5,883	2,416	426	28,083	2,842	504	9%	5%	-5%	27%	7%	-1%	9%
May-17	19,428	5,987	1,595	254	27,264	1,849	372	13%	7%	-19%	9%	9%	-16%	12%
Jun-17	17,918	6,520	1,586	191	26,215	1,777	593	11%	4%	-19%	-23%	7%	-20%	5%
Jul-17	13,561	5,902	1,439	136	21,038	1,575	656	2%	7%	-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%
Mar-18	14,407	5,340	1,879	318	21,944	2,197	395	5%	0%	5%	-6%	4%	3%	-14%
Apr-18	19,350	6,257	2,343	386	28,336	2,729	709	0%	6%	-3%	-9%	1%	-4%	41%
May-18	22,932	6,327	1,882	275	31,416	2,157	452	18%	6%	18%	8%	15%	17%	22%
Jun-18	20,538	6,777	1,853	244	29,412	2,097	697	15%	4%	17%	28%	12%	18%	18%
Jul-18	15,778	5,852	1,871	238	23,739	2,109	851	16%	-1%	30%	75%	13%	34%	30%

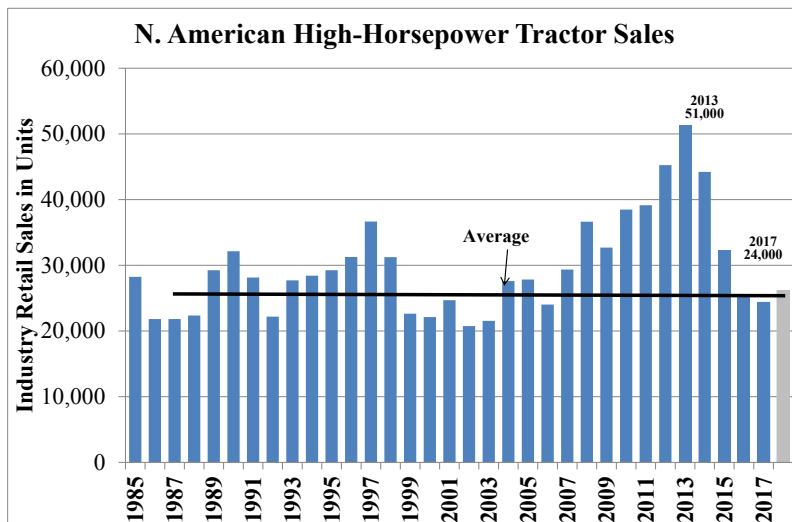
Source: AEM; Cleveland Research Company estimates. High hp tractors are row crop & 4-wheel drive.

North American Farm Equipment Industry Inventory

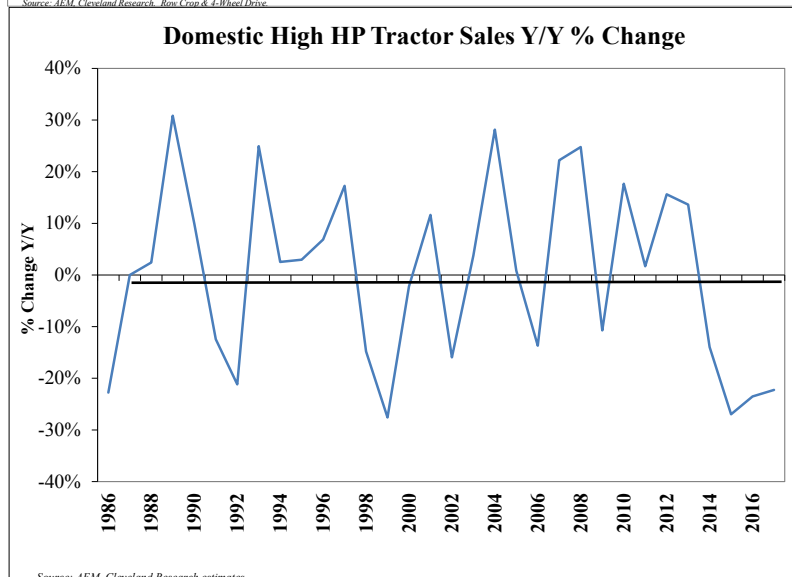
NORTH AMERICAN FARM EQUIPMENT INVENTORY														
	Inventory (Units)							Inventory to 12-mo. Sales						
	< 40 HP	Utility	Row Crop	4-Wheel	Total Tractor	Row Crop & 4WD	Combines	<40HP	Util	RC	4-WD	Total Tractor	Row Crop & 4WD	Comb
Dec-15	82,737	41,363	13,140	1,189	138,429	14,329	1,277	63%	63%	46%	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%	59%	51%	25%
Apr-17	80,239	38,000	10,705	980	129,924	11,685	1,427	53%	60%	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	50%	57%	52%	33%	52%	49%	27%
Sep-17	75,112	36,376	11,022	1,104	123,614	12,126	1,483	49%	57%	55%	34%	51%	52%	25%
Oct-17	78,973	34,502	9,554	862	123,891	10,416	1,052	51%	54%	46%	26%	51%	43%	17%
Nov-17	84,909	35,100	10,194	977	131,180	11,171	974	54%	54%	49%	29%	54%	46%	15%
Dec-17	90,166	35,080	10,191	922	136,359	11,113	959	57%	54%	49%	27%	56%	46%	15%
Jan-18	95,198	35,476	10,137	905	141,716	11,042	1,128	61%	55%	49%	26%	58%	45%	18%
Feb-18	101,479	37,637	10,590	935	150,641	11,525	1,333	65%	58%	51%	27%	61%	48%	21%
Mar-18	103,354	38,556	11,004	963	153,877	11,967	1,548	66%	60%	53%	28%	63%	49%	25%
Apr-18	102,049	38,808	10,826	933	152,616	11,759	1,527	65%	60%	52%	27%	62%	49%	23%
May-18	94,678	38,846	10,908	997	145,429	11,905	1,750	59%	59%	52%	29%	58%	49%	27%
Jun-18	92,274	38,227	10,997	1,100	142,598	12,097	1,908	57%	58%	52%	31%	56%	49%	28%

Source: AEM; Cleveland Research Company estimates

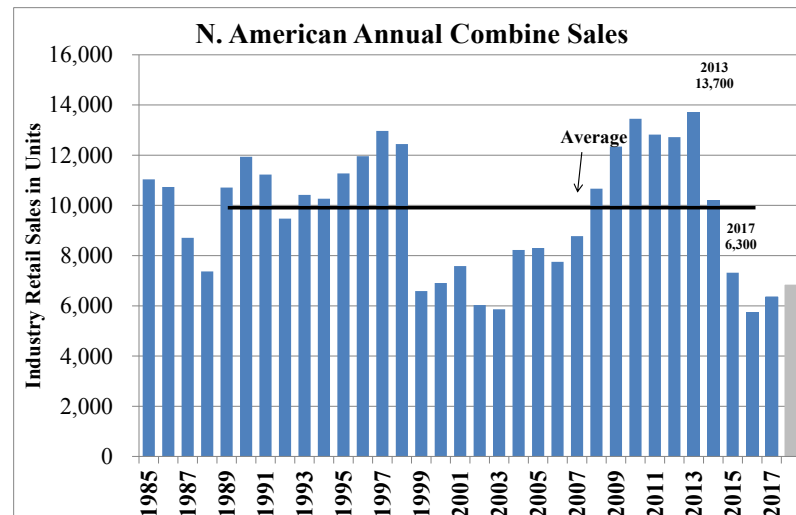
Annual Agricultural Equipment Industry Sales (1985 - 2017)



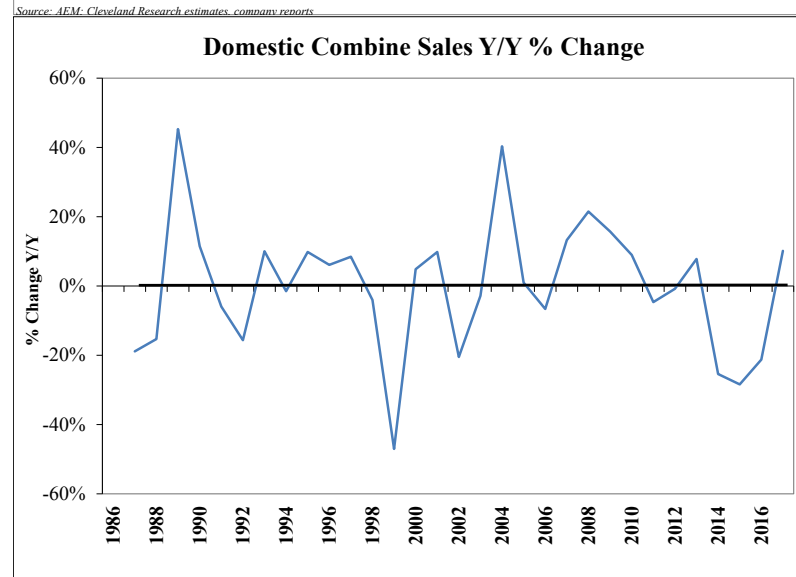
Source: AEM, Cleveland Research, Row Crop & 4-Wheel Drive



Source: AEM, Cleveland Research estimates

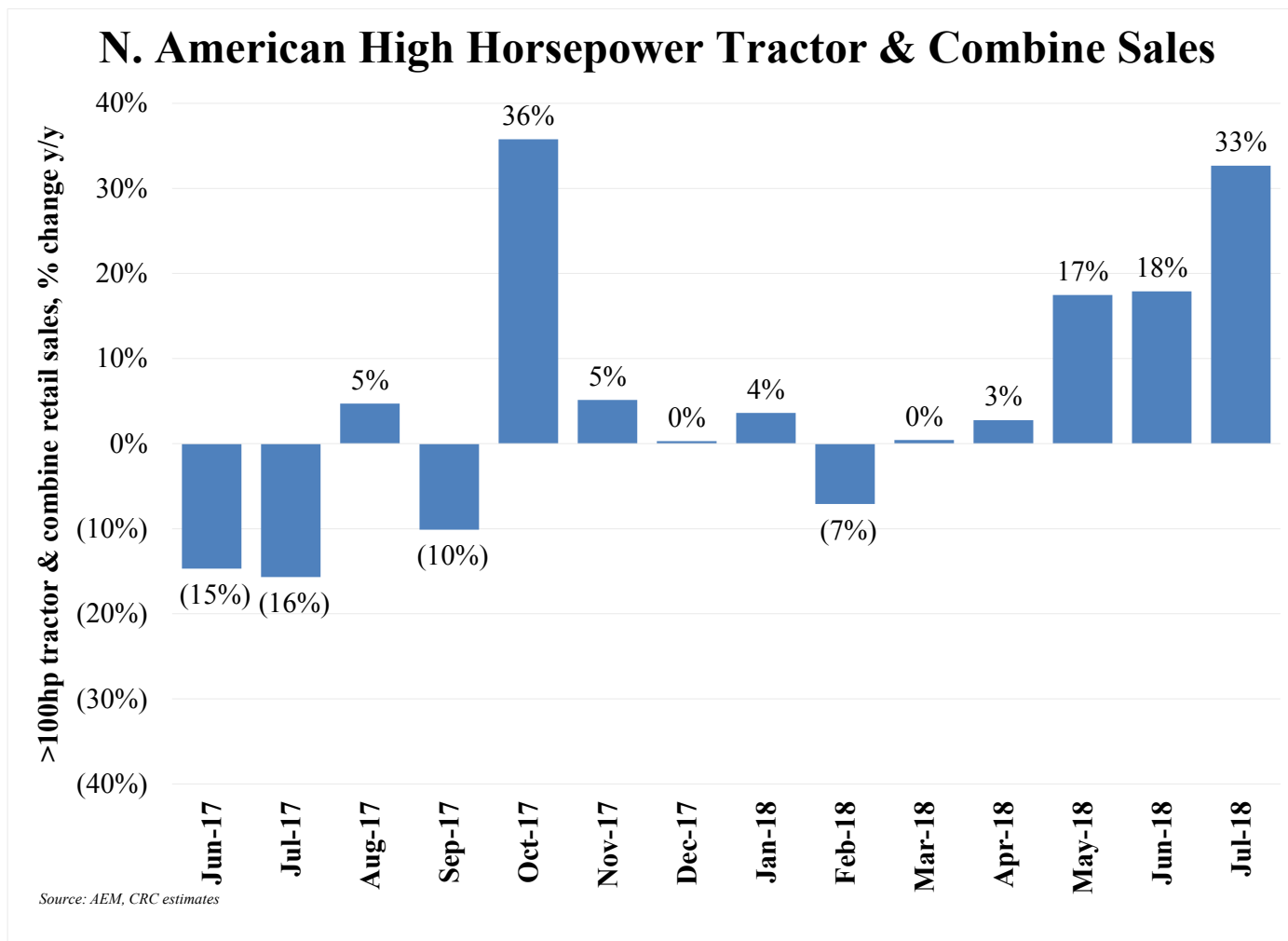


Source: AEM, Cleveland Research estimates, company reports



Source: AEM, Cleveland Research estimates

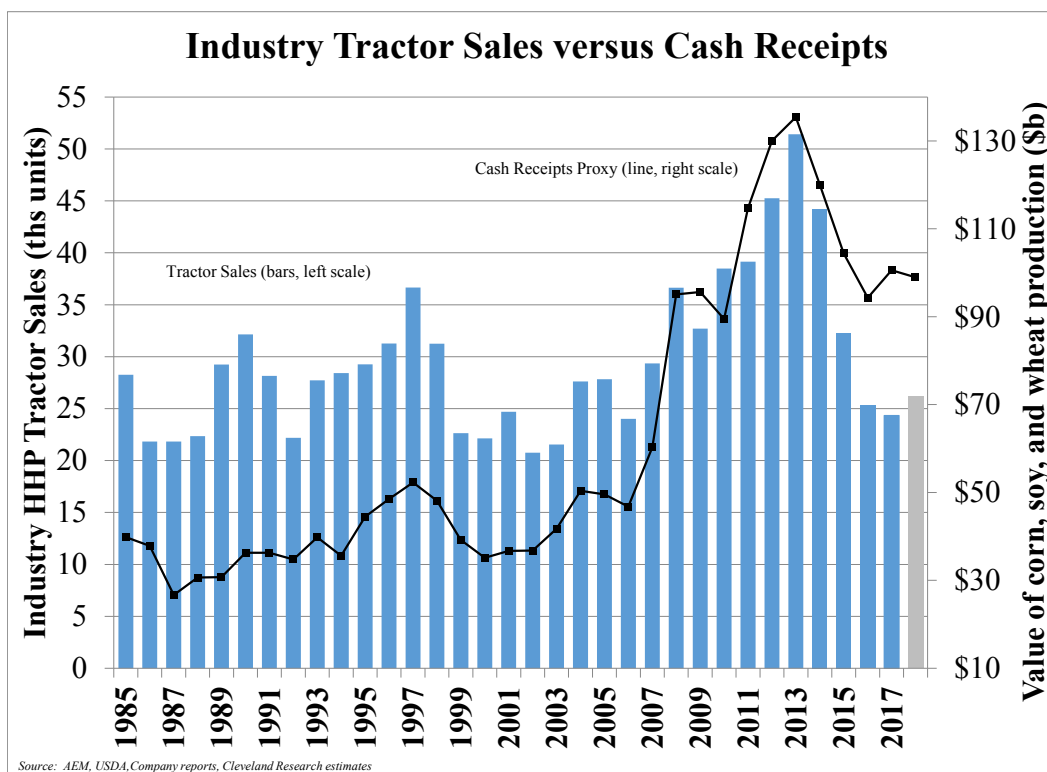
North America Large Ag Equipment Sales



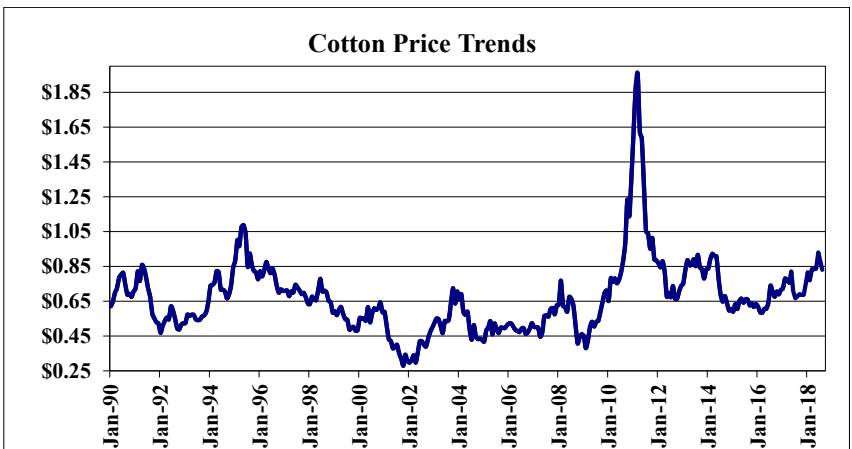
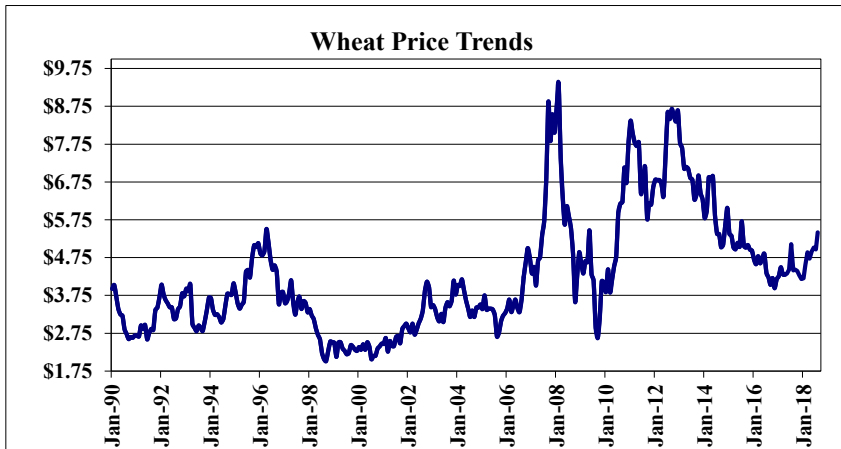
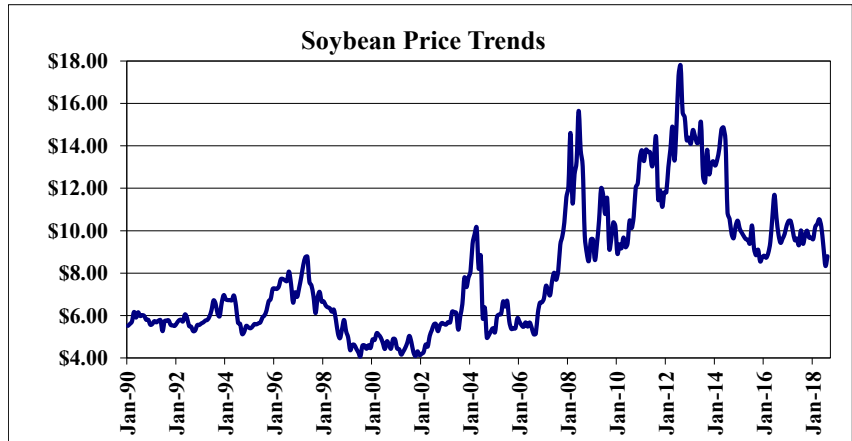
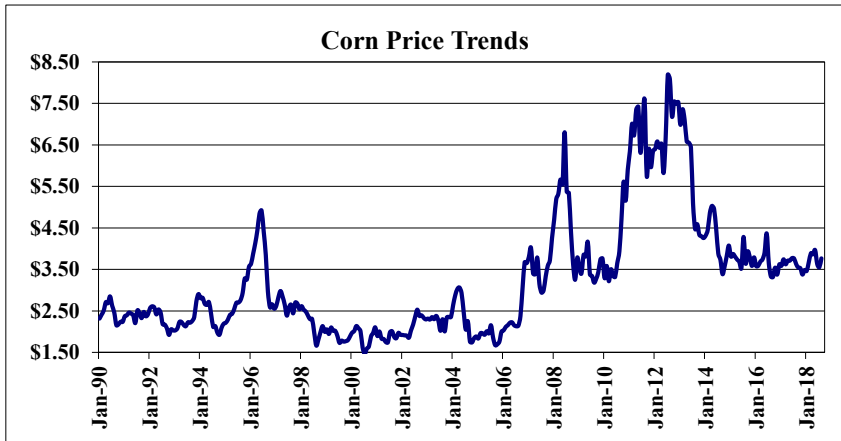
Commodity Prices – Cash Receipts vs. Next Year Equipment Sales

USDA's August 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 August crop report was unchanged from July with 2018/19 cash receipts proxy forecast up 4%. Corn cash receipt forecasts deteriorated and are now for 6% growth vs 9% last month, wheat forecasts are now up 16% vs up 11% in July, while soybean forecasts are now for down 1% vs down 3% year-over-year in July.



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	89	90	90	90	90	89	89	88	88	88
Harvested	81	87	83	82	83	83	82	82	81	81	81	80	80
Yield (bu/acre)	168	175	177	178	176	178	180	182	184	186	188	190	192
Beginning Stocks (MM bu)	1,731	1,737	2,293	2,027	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	14,586	14,515	14,680	14,755	14,920	14,900	15,065	15,130	15,200	15,360
Imports (MM bu)	67	57	40	50	50	50	50	50	50	50	50	50	50
Total Supply (MM bu)	15,399	16,942	16,937	16,664	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	5,450	5,525	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	7,060	7,105	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	5,600	5,625	5,550	5,525	5,525	5,500	5,475	5,475	5,450	5,425	5,400
Domestic Use	11,765	12,354	12,510	12,630	12,625	12,715	12,770	12,910	12,915	13,000	13,060	13,095	13,205
Exports	1,898	2,293	2,400	2,350	1,950	1,975	2,025	2,050	2,075	2,100	2,125	2,175	2,200
Total Use	13,663	14,647	14,910	14,980	14,575	14,690	14,795	14,960	14,990	15,100	15,185	15,270	15,405
Ending Stocks	1,738	2,295	2,027	1,684	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%	13.6%	11.2%	17.8%	18.0%	17.9%	17.8%	17.5%	17.4%	17.3%	17.1%	17.0%
Weeks Carryover	6.6	8.1	7.1	5.8	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	\$3.40	\$3.60	\$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	\$49,654	\$52,510	\$48,625	\$49,178	\$50,167	\$50,728	\$51,405	\$52,728	\$52,955	\$53,960	\$55,296
% change y/y	-7%	4%	-2%	6%	-7%	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	90	91	92	92	92	92	92	92	92	92
Harvested	82	83	90	89	90	91	91	91	91	91	91	91	91
Yield Per Harvested Acre (Bushels)	48	52	49	52	49	50	50	51	51	52	52	53	53
Beginning Stocks	191	197	302	430	376	351	324	323	325	328	321	324	331
Production	3,926	4,296	4,392	4,586	4,410	4,475	4,550	4,595	4,645	4,665	4,715	4,760	4,810
Imports	24	22	22	25	25	25	25	25	25	25	25	25	25
Total Supplies	4,141	4,515	4,715	5,040	4,811	4,851	4,899	4,943	4,995	5,018	5,061	5,109	5,166
Crush	1,886	1,899	2,040	2,060	1,985	2,005	2,025	2,050	2,075	2,095	2,120	2,145	2,165
Exports	1,936	2,174	2,110	2,060	2,335	2,380	2,410	2,425	2,450	2,460	2,475	2,490	2,515
Seed & Residual	121	128	128	128	140	141	142	142	142	142	142	143	143
Total Use	3,943	4,214	4,286	4,256	4,460	4,526	4,577	4,617	4,667	4,697	4,737	4,778	4,823
Ending Stocks	197	301	430	785	351	324	323	325	328	321	324	331	342
Stocks/Use	5.0%	7.1%	10.0%	18.4%	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	\$9.35	\$8.90	\$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	\$41,065	\$40,815	\$41,675	\$42,289	\$43,225	\$43,653	\$44,592	\$45,484	\$45,971	\$46,648	\$47,138
% change y/y	-11%	16%	1%	-1%	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	48	46	47	47	47	47	48	48	48	48
Harvested	47	44	38	40	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	1,100	813	739	714	690	667	648	650	658	667
Production	2,062	2,309	1,741	1,877	1,869	1,928	1,944	1,960	1,976	2,032	2,048	2,064	2,077
Imports	113	118	157	135	130	130	130	130	130	120	120	120	120
Total Supplies	2,927	3,402	3,079	3,112	2,812	2,797	2,788	2,780	2,773	2,800	2,818	2,842	2,864
Food	957	949	964	970	950	950	955	960	960	965	965	970	975
Seed	67	61	64	62	63	63	63	63	65	65	65	65	65
Feed&residual	152	156	48	120	100	110	110	110	110	120	120	130	140
Exports	775	1,055	901	1,025	960	960	970	980	990	1,000	1,010	1,010	1,010
Total Use	1,952	2,222	1,978	2,177	2,073	2,083	2,098	2,113	2,125	2,150	2,160	2,175	2,190
Ending Stocks	976	1,181	1,100	935	739	714	690	667	648	650	658	667	674
Stocks/Use	50.0%	53.2%	55.6%	42.9%	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	\$4.73	\$5.10	\$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	\$8,235	\$9,573	\$8,971	\$9,447	\$9,720	\$9,996	\$10,078	\$10,363	\$10,445	\$10,526	\$10,800
% change y/y	-17%	-11%	-8%	16%	-6%	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	210	212	213	213	213	212	213	212	212	212
Yield (bu/acre)	93	102	99	100	98	99	100	101	101	102	103	104	105
Production	19,589	21,753	20,737	21,049	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	\$4.77	\$4.89	\$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	\$98,954	\$102,898	\$99,271	\$100,914	\$103,112	\$104,377	\$106,075	\$108,574	\$109,371	\$111,134	\$113,234
% change y/y	-10%	7%	-2%	4%	-4%	2%	2%	1%	2%	2%	1%	2%	2%

Source: USDA, Cleveland Research estimates

U.S. Acreage Planted Per Crop Year

