

Ag Equipment Intelligence

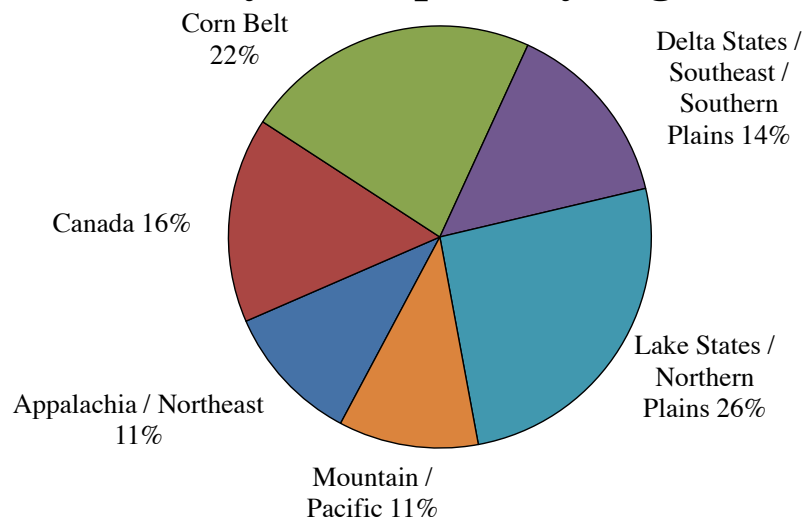
April 2018 Dealer Sentiments &
Business Conditions Update

Monthly Ag Equipment Intelligence North American Dealer Survey

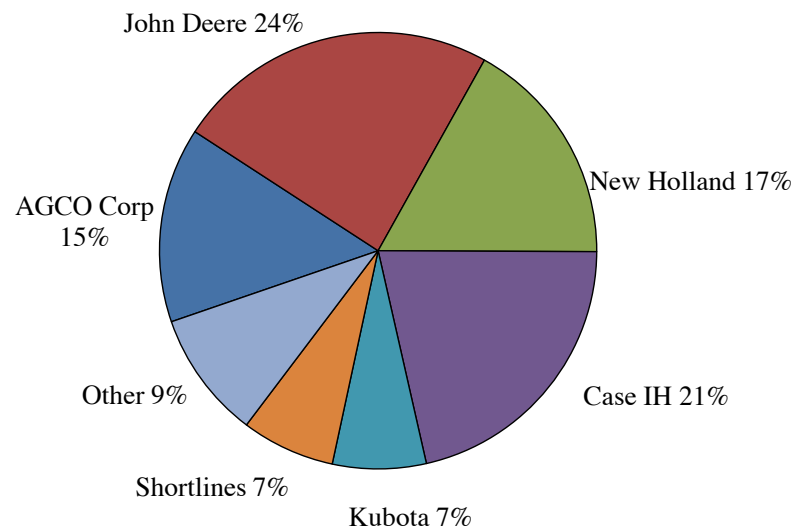
Background:

- We are pleased to announce the results of the March 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 March survey had ~160 respondents representing combined annual revenues of roughly \$6 billion. Participants represent a broad cross section of geographies and brands are summarized in the charts below.

Survey Participants by Region



Participants by Brand



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

Highlights / Summary Thoughts

- **Sales** – Average dealer sales were reported flat y/y in March, inline with February. A net 18% of dealers missed their sales budgets in March, down from the 13% 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, inline with February, with a net 15% of contacts expecting growth, inline with the 16% of contacts expecting growth in 1Q. 58% of contacts do not believe the tax bill will have an impact on sales of machinery equipment in 2018, a change from a net 40% that saw it as a moderate sales tailwind in February.
- **Inventory** – A net 28% of dealers reported new equipment inventories as too high, inline with February. Used equipment inventories improved in the month with a net 15% of dealers reporting used inventory as too high vs the 33% last month. Overall, inventories have come down from 2016 levels.
- **Pricing** – Pricing trends improved in the month. Tractor pricing trends improved from February with large tractors reported down 2% y/y vs down 3% last month. Combine pricing improved to down 3% vs down 4% last month.

Monthly Sales Growth

- Average dealer sales were reported flat y/y in March, inline with February. A net 18% of dealers missed their sales budgets in March, below the 13% that missed plan last month. Commentary suggests sales trends were softer than expected but customer interest remains strong.
- A net 1% of dealers reported less optimism in March, down from the net 7% of dealers that were more optimistic in 4Q. Optimism and sales versus expectations have both declined for four consecutive months.

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

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

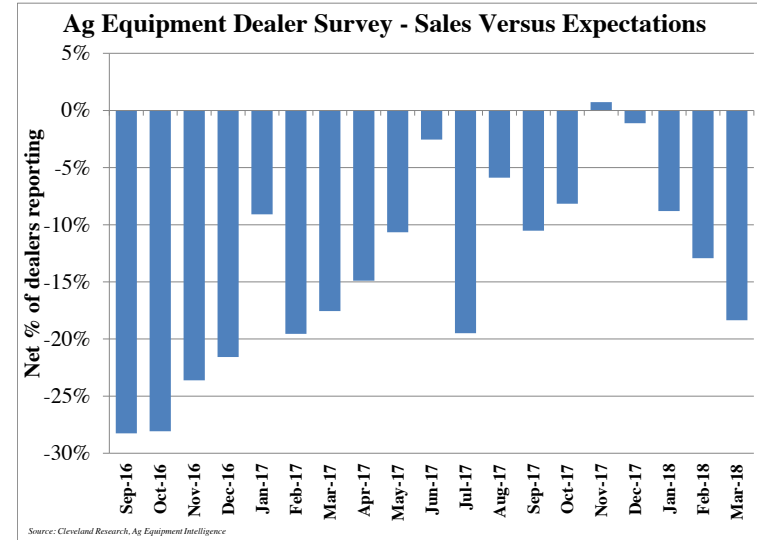
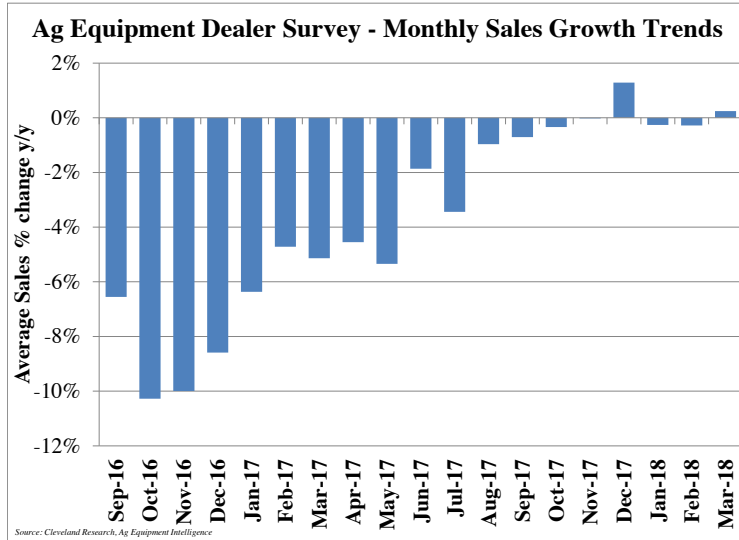
Source: Cleveland Research, Ag Equipment Intelligence

N. American Farm Equipment Dealer Survey - Sales Versus Expectations

% of Dealers Reporting	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	Mar-18
Better than expected	14%	16%	8%	11%	16%	11%	12%	16%	19%	16%	16%	21%	21%	18%	21%	18%	13%	13%	11%
In line with expectations	44%	40%	61%	57%	59%	58%	58%	54%	52%	65%	48%	52%	47%	55%	60%	62%	65%	61%	60%
Worse than expected	42%	44%	31%	32%	25%	31%	30%	30%	30%	19%	36%	27%	32%	27%	20%	20%	22%	26%	29%
Net % (Better - Worse)	-28%	-28%	-24%	-22%	-9%	-20%	-18%	-15%	-11%	-3%	-19%	-6%	-11%	-8%	1%	-1%	-9%	-13%	-18%

Source: Cleveland Research, Ag Equipment Intelligence

Monthly Sales Growth Continued



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

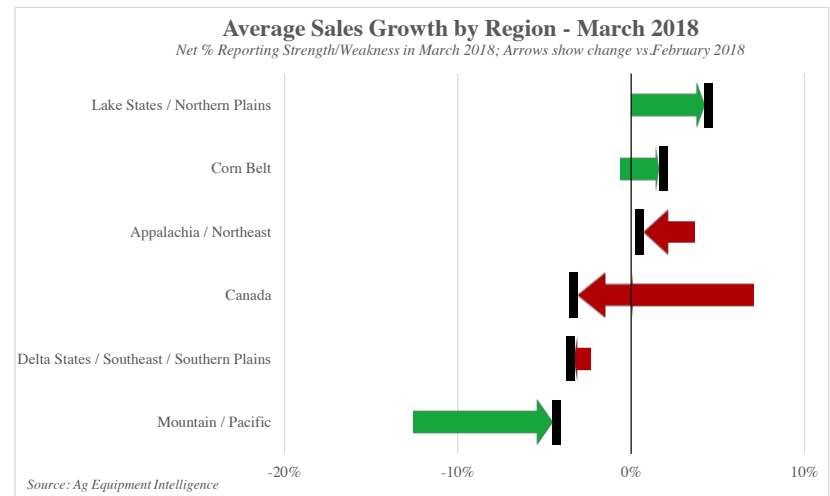
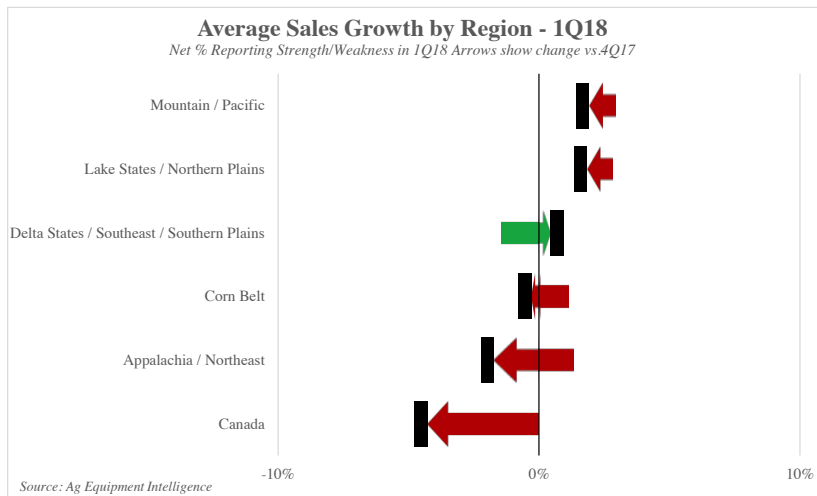
Source: Cleveland Research

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

Source: Cleveland Research

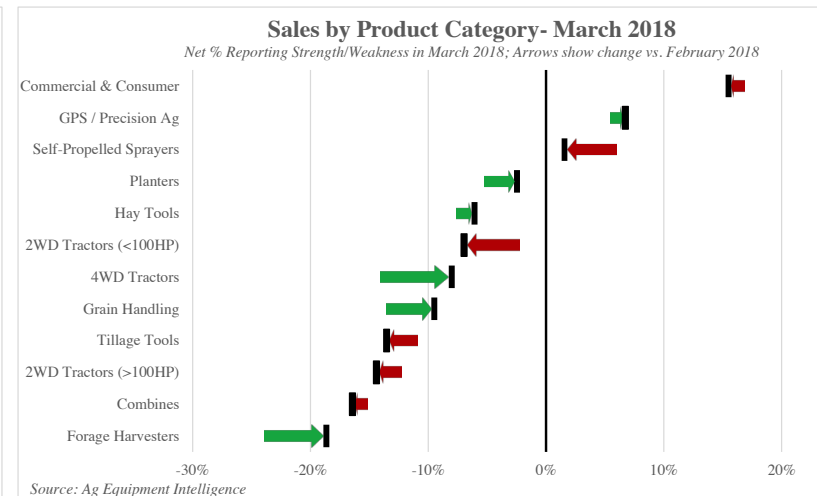
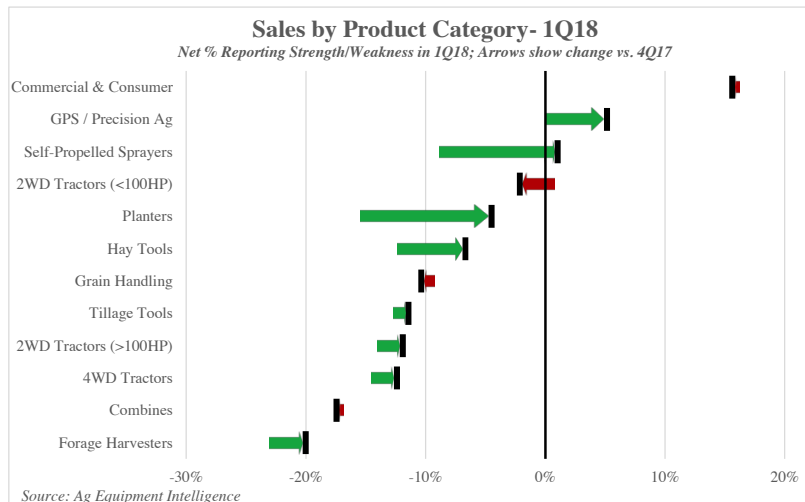
Monthly Sales Growth by Region

- Sales trends by region declined in 5 of the 6 regions in 1Q vs improvement in 5 of the 6 regions in 4Q. The Lake States / Northern Plains region was the strongest region in March while the Mountain / Pacific region saw the greatest improvement from February. Canada saw a sequential deterioration in March and was the weakest region in 1Q.

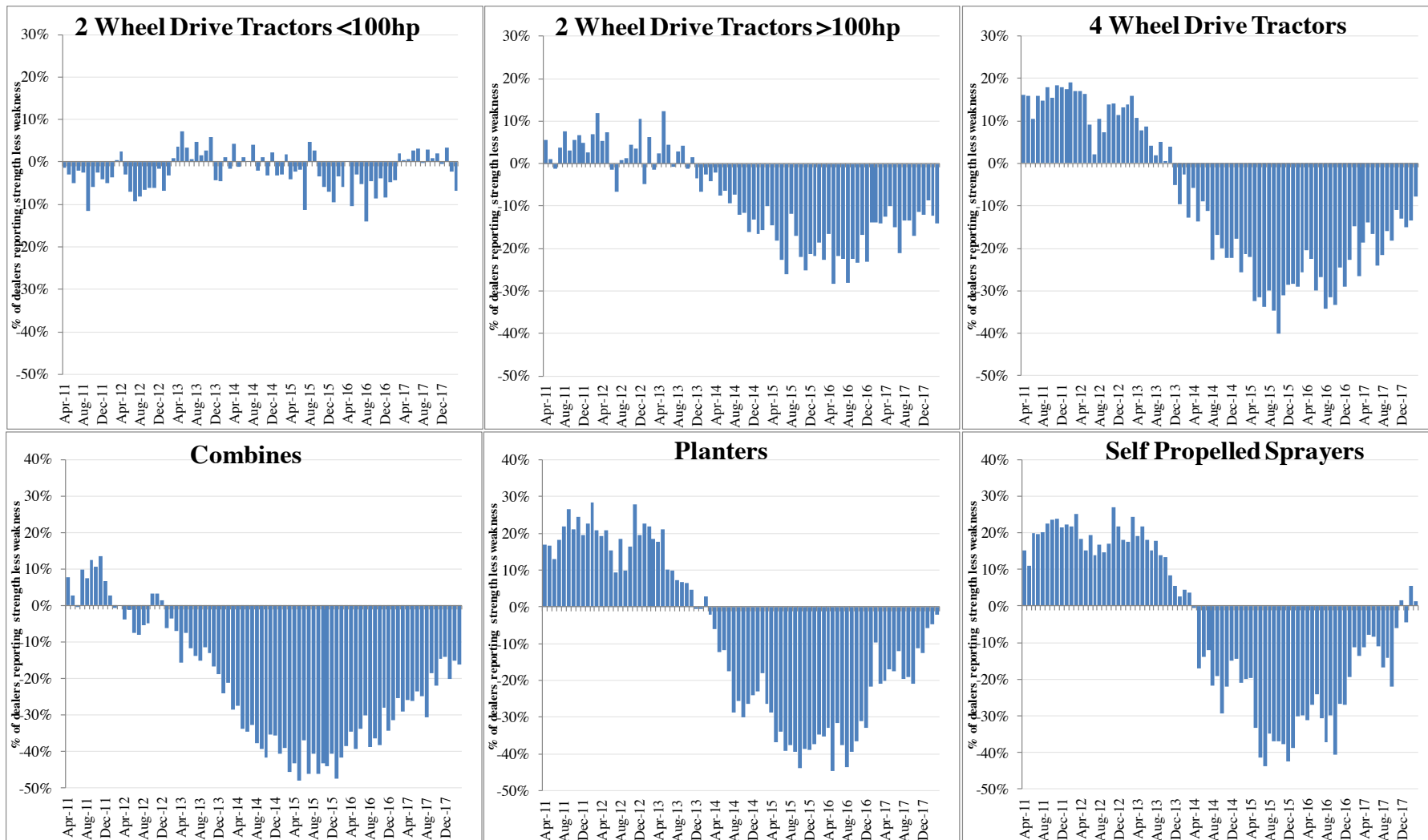


Equipment Category Sales Trends

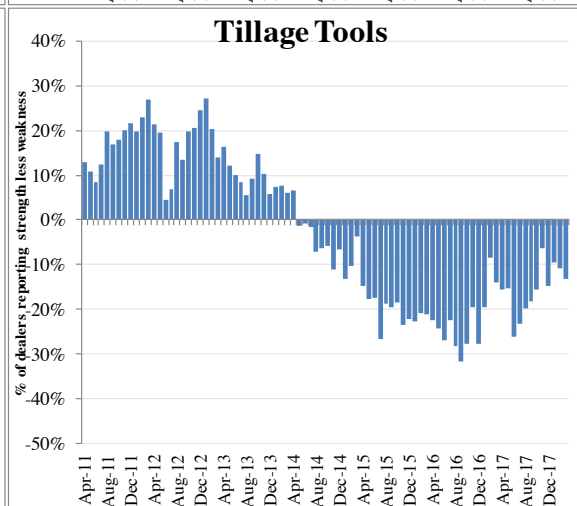
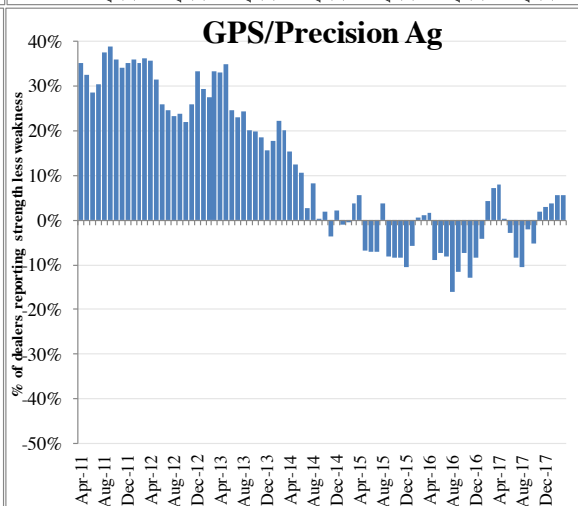
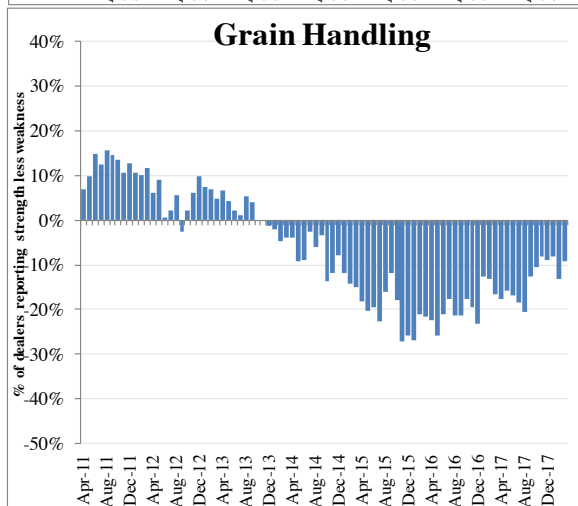
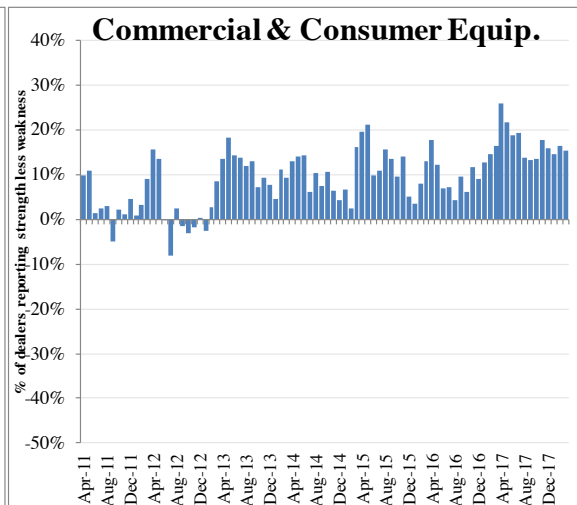
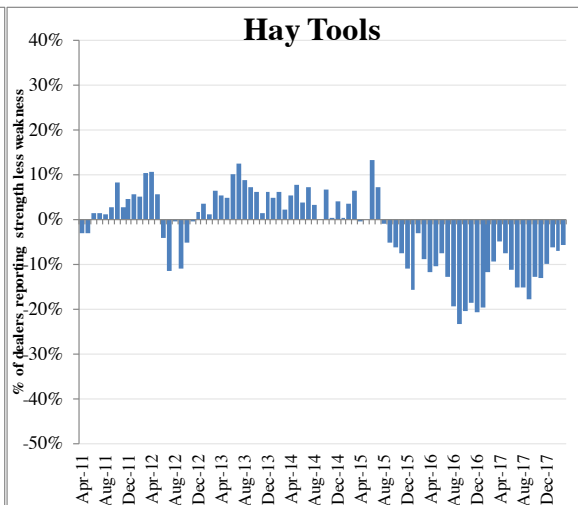
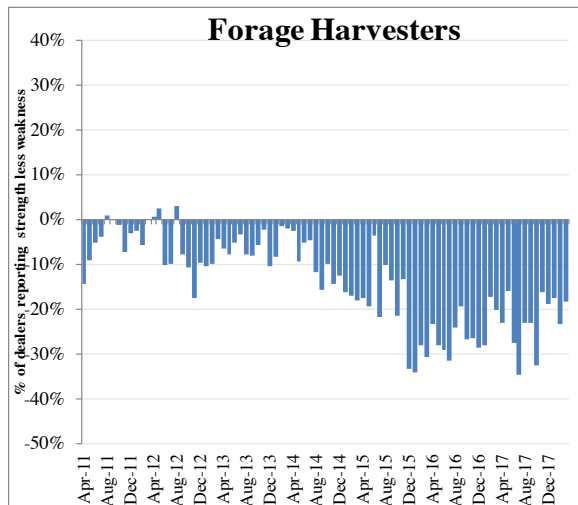
- Sales by product category was mixed in March while nearly all product categories saw sequential improvement from 4Q to 1Q. Commercial & consumer saw continued strength, large equipment has shown improvement, and small tractors (<100hp) saw sequential softening from 4Q.
- Commentary suggests used equipment sales have improved substantially with the exception of combines which continue to weigh on used inventories.



Equipment Category Sales Trends



Equipment Category Sales Trends (Continued)



Average Dealer Sales Outlook

- The 2018 forecast is for 1% y/y growth, inline with February, with a net 15% of contacts expecting growth, better than the 10% in February and inline with the 16% of contacts expecting growth in 1Q. Nearly 60% of contacts do not believe the tax bill will have an impact on sales in 2018.
- 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
AGCO	0%	2%	1%	0%	3%	-1%	-4%	4%	0%
John Deere	1%	7%	4%	5%	4%	2%	4%	1%	3%
New Holland	2%	-4%	-1%	-3%	2%	-2%	1%	0%	0%
Case IH	0%	1%	1%	4%	3%	4%	0%	-4%	-5%
Kubota	0%	1%	-1%	-2%	1%	2%	1%	-1%	2%
Shortlines/Other	-3%	0%	0%	3%	-5%	4%	1%	-3%	3%
Overall	-3%	0%	1%	0%	2%	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; 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

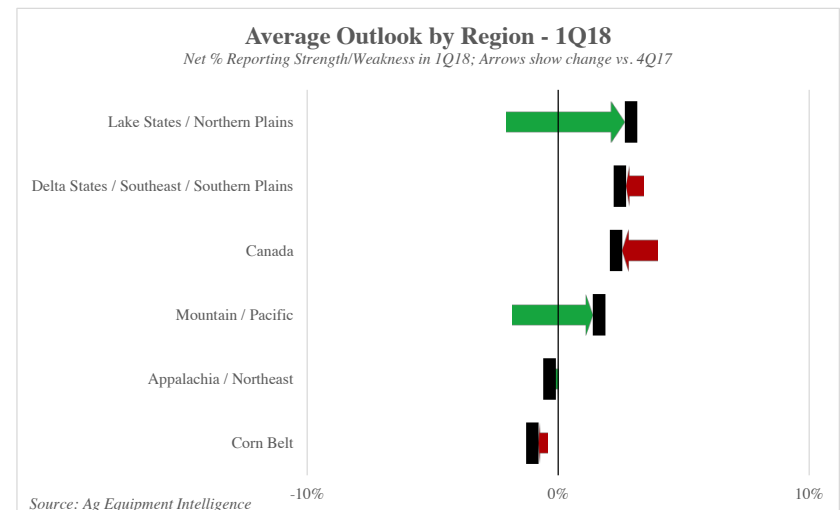
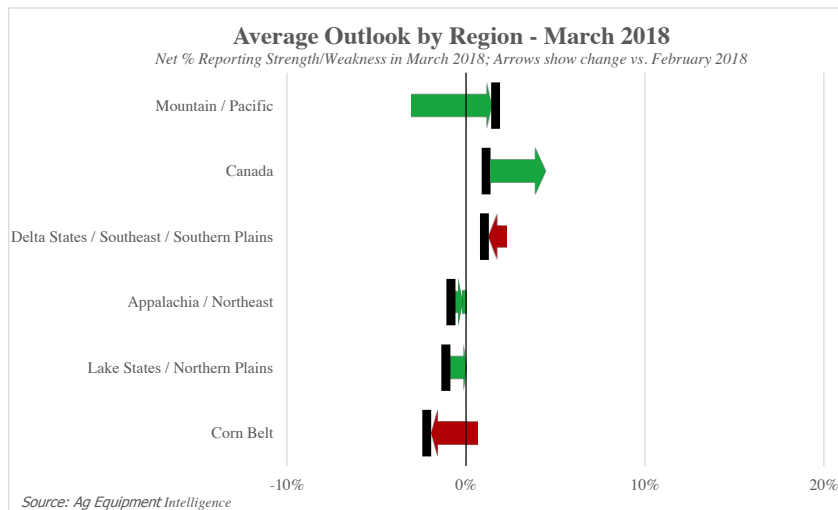
Source: Company reports, CRC estimates

Most Interesting Commentary - Monthly Sales and Outlook

- We see the favorable crop intentions report as a good sign and interest in equipment has improved vs a year ago.
- We are cautiously optimistic because of commodity prices, particularly dairy prices.
- We are more optimistic as customers have the need for equipment after extending time on their current inventory. Service downtimes are beginning to make customers rethink their needs.
- The demand is there but there is no available inventory to be transferred and extremely long lead times on both retail and stock ordered equipment.
- We are hoping the strong spring continues. Trends are positive for under 140hp and hay equipment at the moment.
- Agriculture commodity price uncertainty related to export demand and tariffs combined with customer input cost increases for fuel, chemical, fertilizer, & interest rates leave us less optimistic.
- We feel better about 2018 following the addition of new equipment lines that have been well received in the market.
- New equipment incentives and interest rates have been a little more aggressive, while used equipment interest rates keep rising. This is not helping our turns on used equipment.
- Manufacturer programming is slightly less aggressive than last year at this time.
- We have far too many used combines but all of our other inventory is about right.
- Inventory dollars are about right, but mix is not exactly where we would want it. We have too many 4WD tractors and are short on row crop tractors.
- Customer mood is better- we are seeing a large number of farmers quoting new and used machinery.
- Weather has been a factor as it has been unseasonably cold and snowy. Our business has been slower than usual at this time of year.
- Bucket companies have put surcharges on their attachments.
- Everyone has announced steel surcharges effective immediately. We are seeing increases in the 5-8% range.

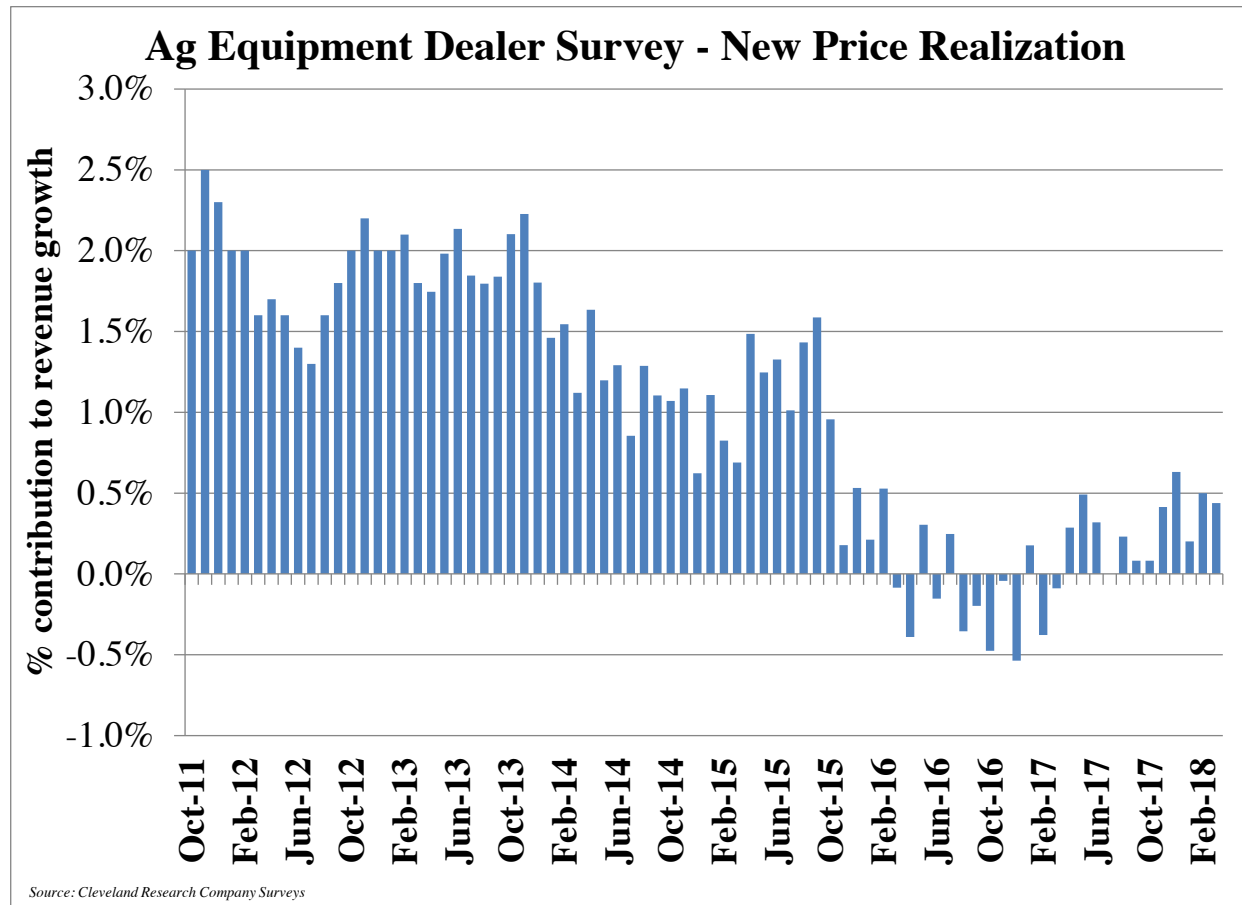
2018 Sales Outlook

- The 2018 outlook in March saw sequential improvement in 4 of the 6 regions, while the outlook declined 4 of the 6 regions in 1Q. The Lake States / Northern Plains region posted the highest sales outlook in the quarter and also saw the greatest sequential improvement from 4Q.
- The 2018 outlook in March for 1% growth is inline with the average growth forecasts collected from July to March. Dealers noted more uncertainty this month as a result of the recently announced tariffs.



Pricing Trends

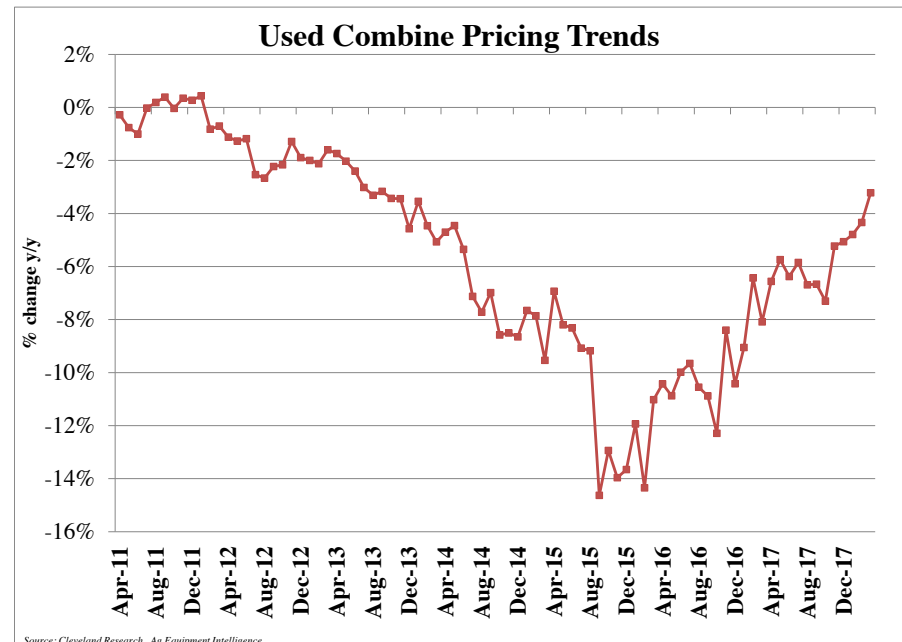
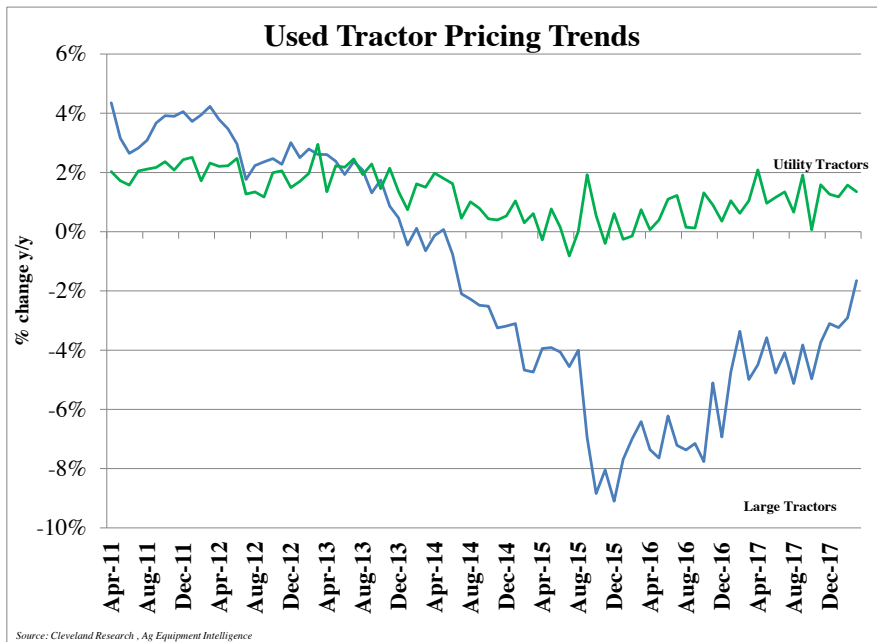
- Pricing trends were stable in the month suggesting 1Q price increases have been implemented. Commentary suggests dealers have seen surcharges on steel anywhere from 5-8% as a result of the recently announced tariffs.



Used Equipment Pricing

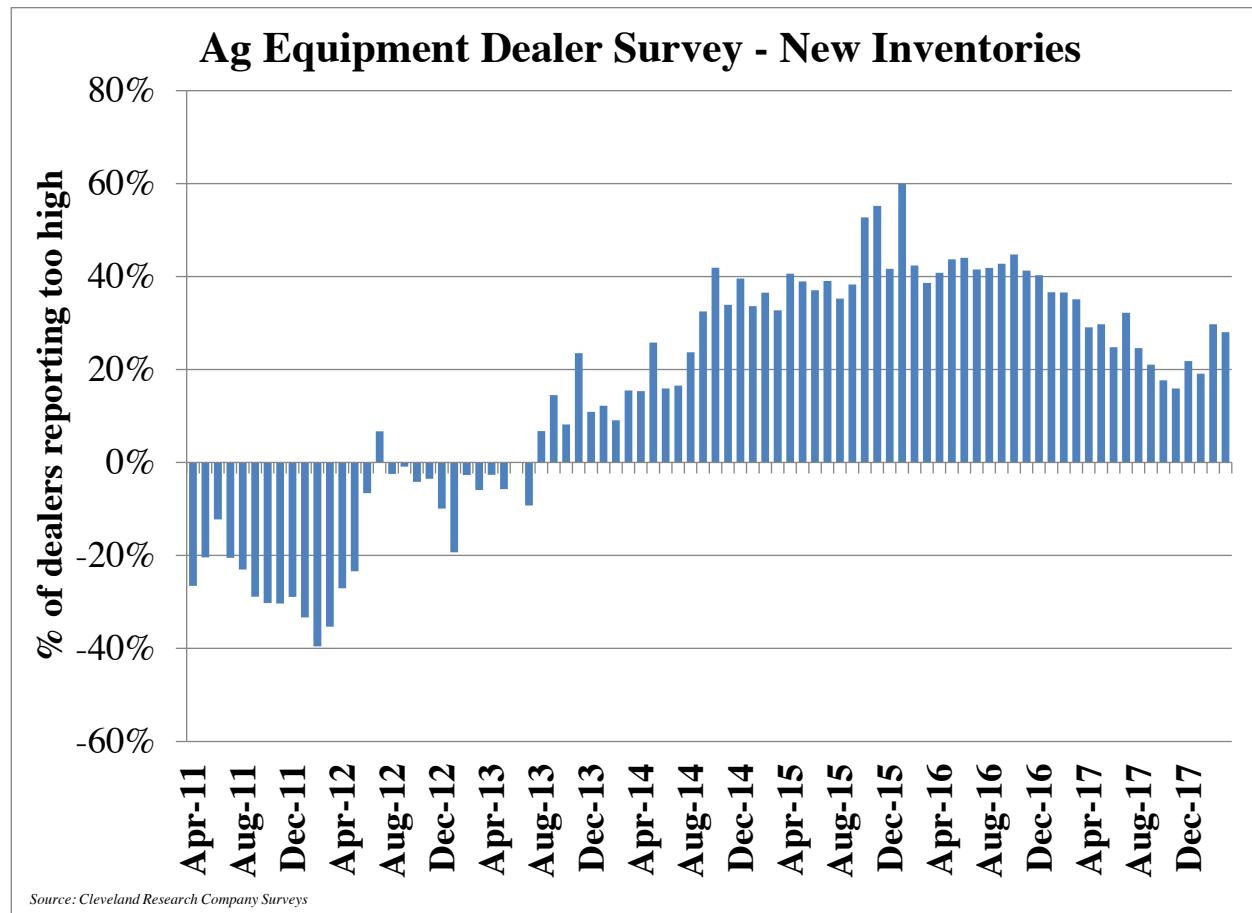
- Tractor pricing trends improved in the month to down 2% while combine pricing improved to down 3% after improving to down 4% last month.

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



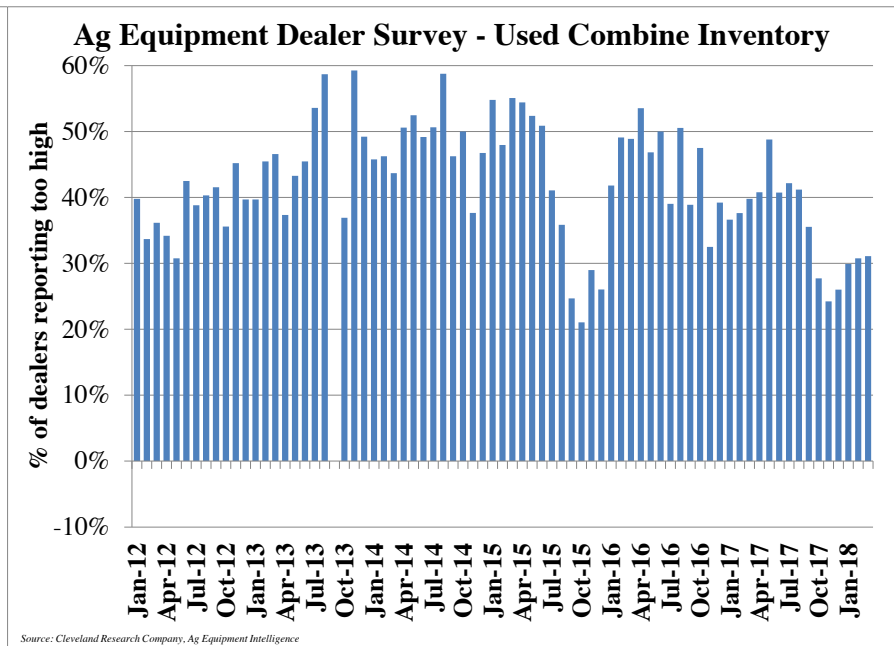
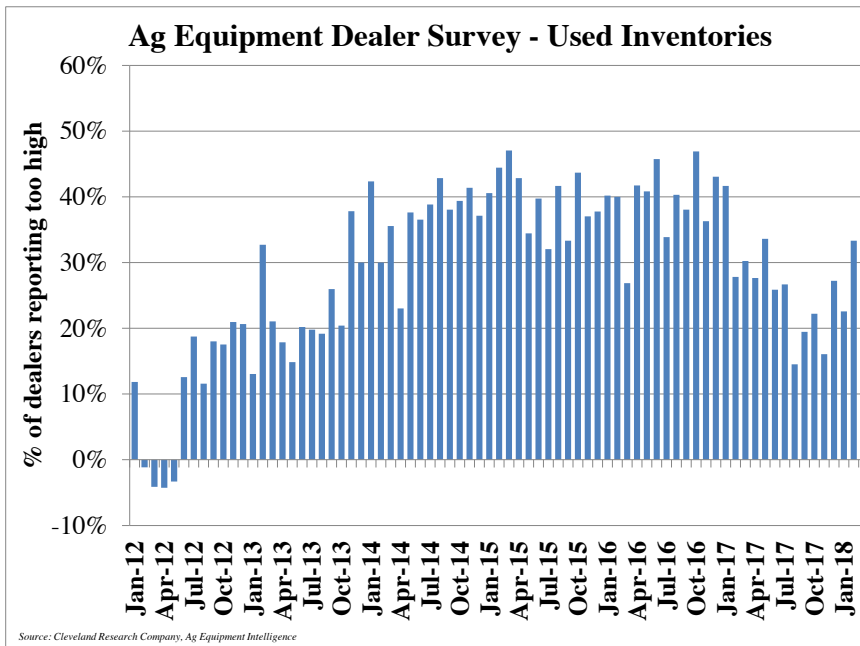
New Equipment Inventory Levels

- A net 28% of dealers reported new equipment inventories too high (37% too high, 54% about right, 9% too low), inline with February. Commentary suggests slow combine sales have been weighing on inventories, both used and new.



Used Equipment Inventory Levels

- A net 15% of dealers reported used equipment inventory as too high (33% too high, 50% about right, 18% too low), an improvement from the 23% reporting heightened inventory in February and the 26% average in 2017. Used combine inventory levels were reported as too high by a net 31% of dealers in March, inline with 1Q, 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	13,704	5,361	1,786	338	21,189	2,124	457	10%	5%	-6%	31%	7%	-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%
Mar-18	14,410	5,340	1,879	318	21,947	2,197	395	5%	0%	5%	-6%	4%	3%	-14%

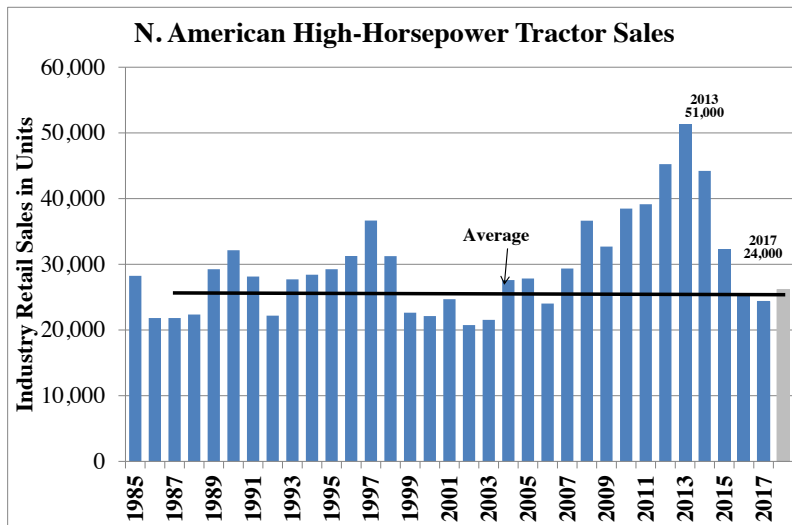
Source: AEM; Cleveland Research Company estimates. High hp tractors are row crop & 4-wheel drive.

North American Farm Equipment Industry Inventory

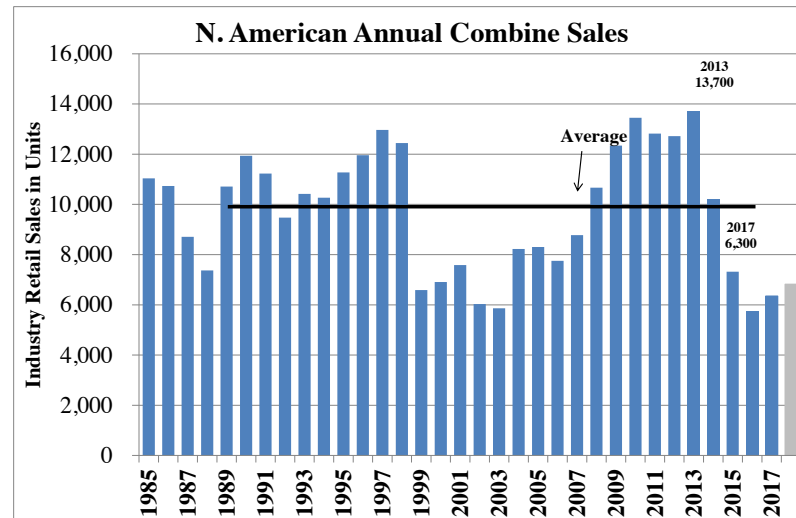
NORTH AMERICAN FARM EQUIPMENT INVENTORY														
	Inventory (Units)							Inventory to 12-mo. Sales						
	<40 HP	Utility	Row Crop	4-Wheel	Total Tractor	Row Crop & 4WD	Combines	<40HP	Util	RC	4-WD	Total Tractor	Row Crop & 4WD	Comb
Dec-15	82,737	41,363	13,140	1,189	138,429	14,329	1,277	63%	63%	46%	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%	33%	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%	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%
Feb-18	101,479	37,637	10,590	935	150,641	11,525	1,333	65%	59%	51%	27%	61%	48%	21%

Source: AEM; Cleveland Research Company estimates

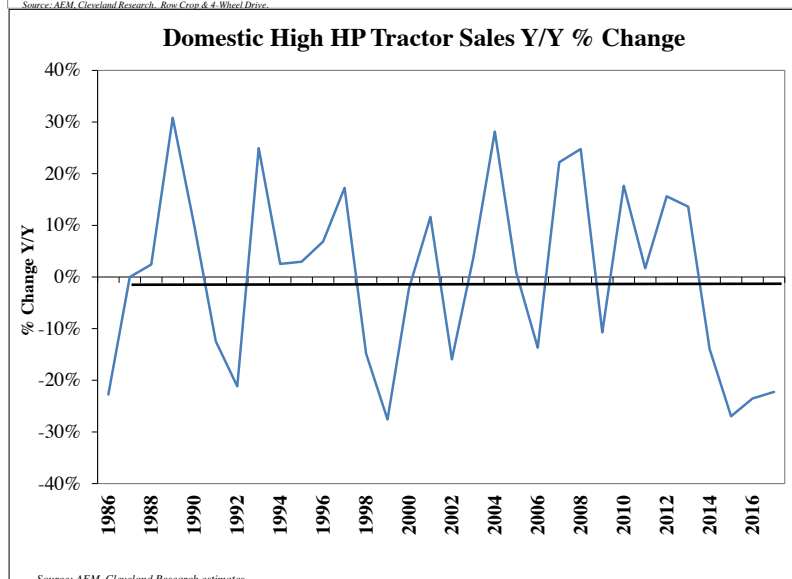
Annual Agricultural Equipment Industry Sales (1985 - 2017)



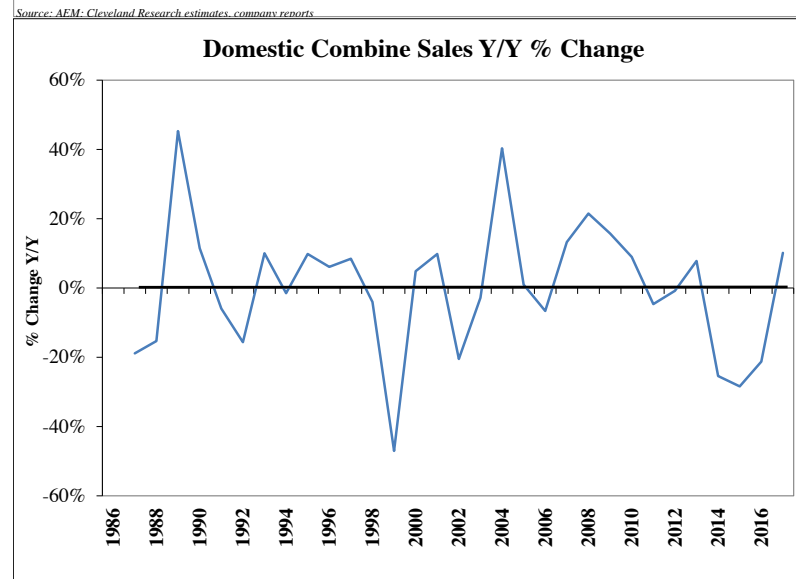
Source: AEM, Cleveland Research, Row Crop & 4-Wheel Drive



Source: AEM, Cleveland Research estimates, company reports

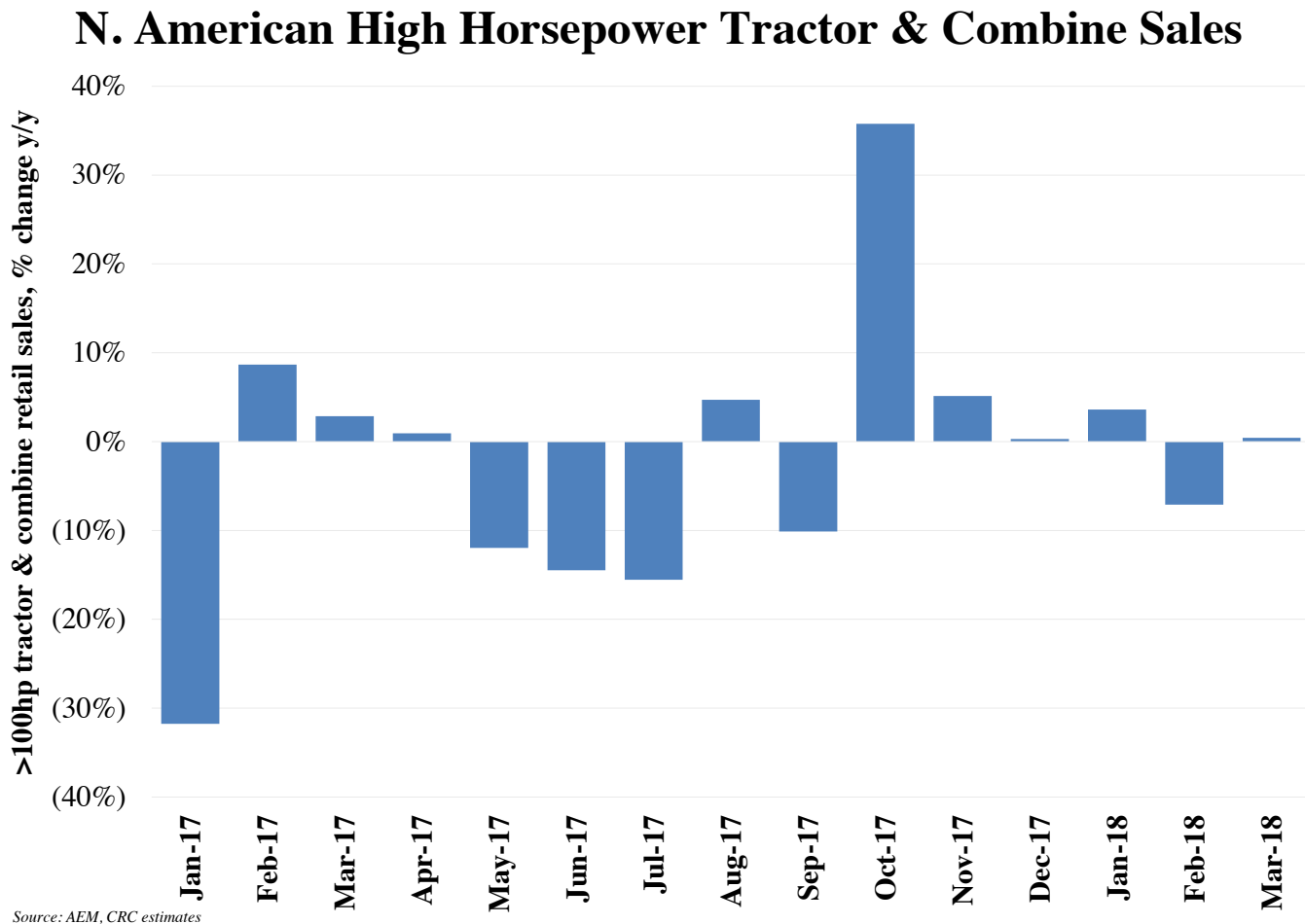


Source: AEM, Cleveland Research estimates



Source: AEM, Cleveland Research estimates

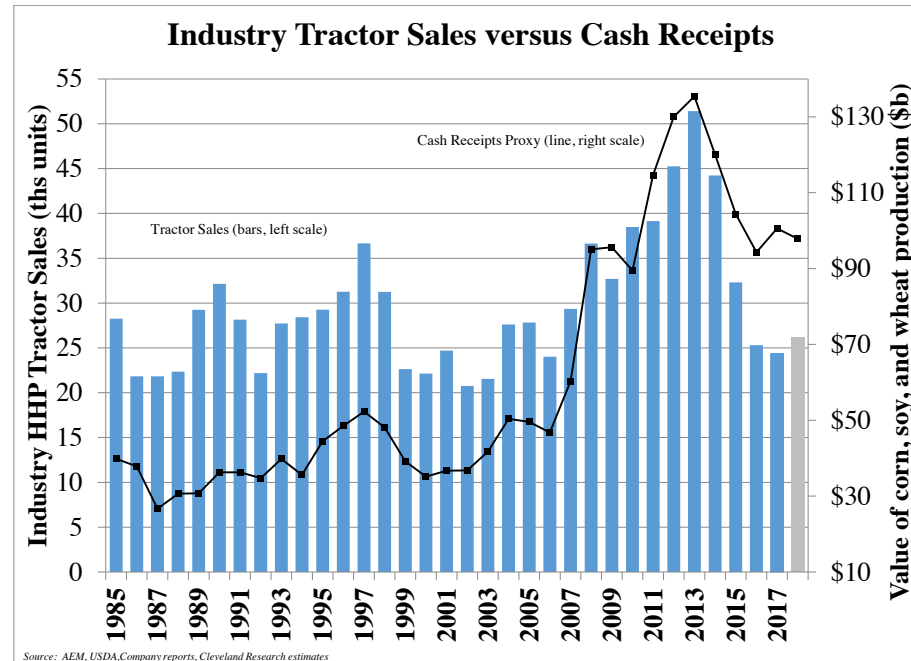
North America Large Ag Equipment Sales



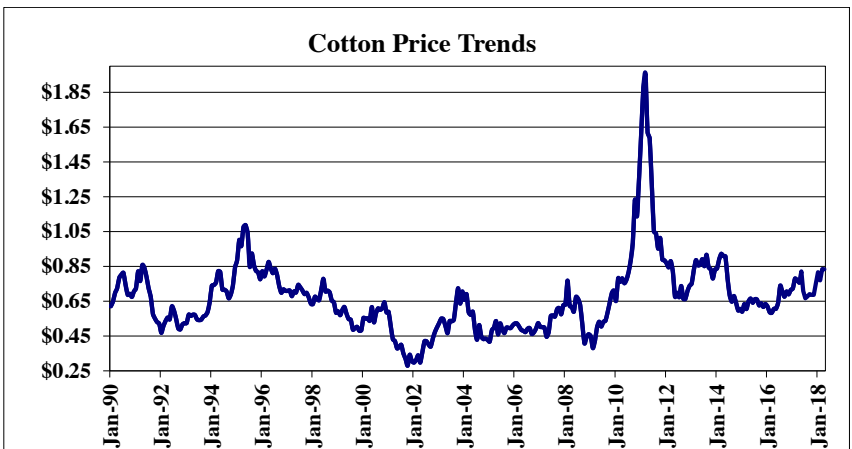
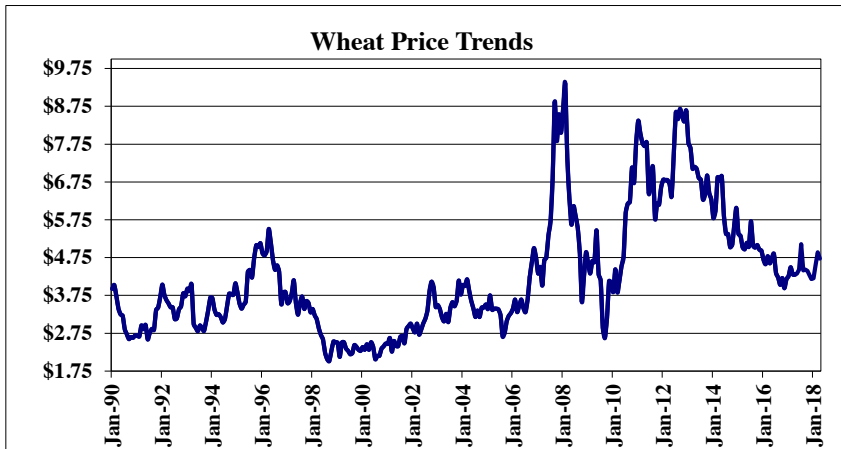
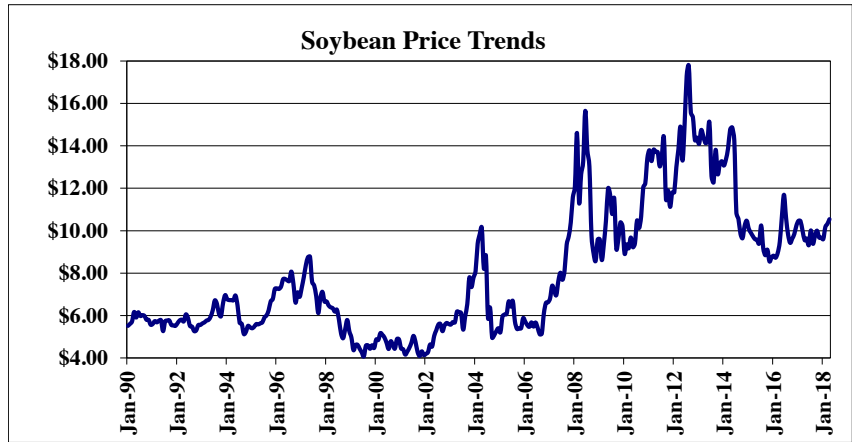
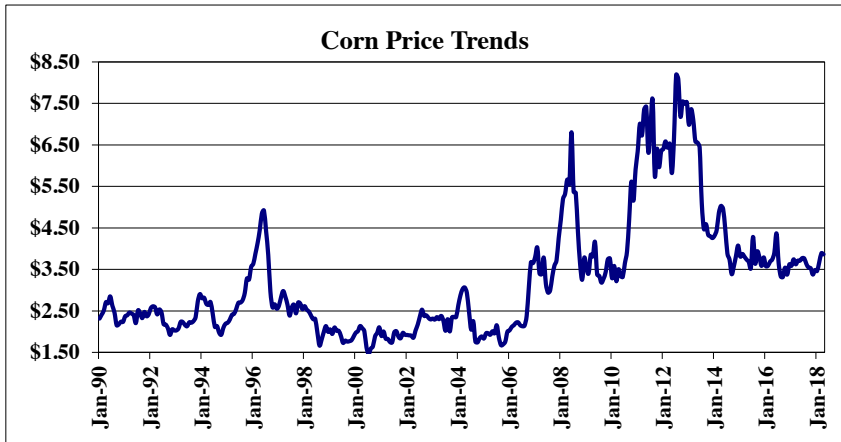
Commodity Prices – Cash Receipts vs. Next Year Equipment Sales

USDA's April 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 April crop report was unchanged from March with cash receipts proxy forecast down 3% y/y in 2017/18. Corn cash receipt forecasts are for 4% declines, wheat forecasts are down 10%, and soybean forecasts are flat y/y.



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	5,500	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	7,040	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	12,540	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	14,765	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	2,182	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%	14.8%	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	7.7	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%
US 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
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	1,970	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	4,168	4,435	4,460	4,526	4,577	4,617	4,667	4,697	4,737	4,778	4,823
Ending Stocks	197	301	550	376	351	324	323	325	328	321	324	331	342
Stocks/Use	5.0%	7.1%	13.2%	8.5%	7.9%	7.2%	7.1%	7.0%	6.8%	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	70	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	2,012	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	1,064	813	739	714	690	667	648	650	658	667	674
Stocks/Use	50.0%	53.2%	52.9%	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

