

# ***Ag Equipment Intelligence***

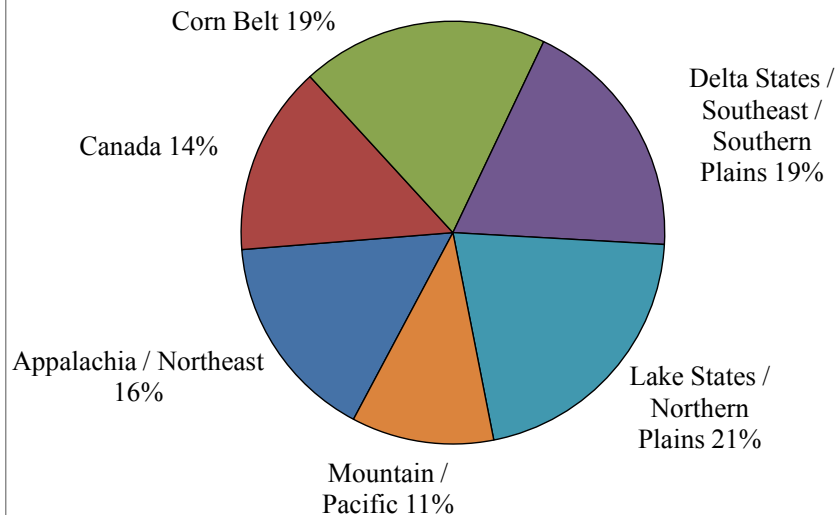
June 2017 Dealer Sentiments &  
Business Conditions Update

# Monthly Ag Equipment Intelligence North American Dealer Survey

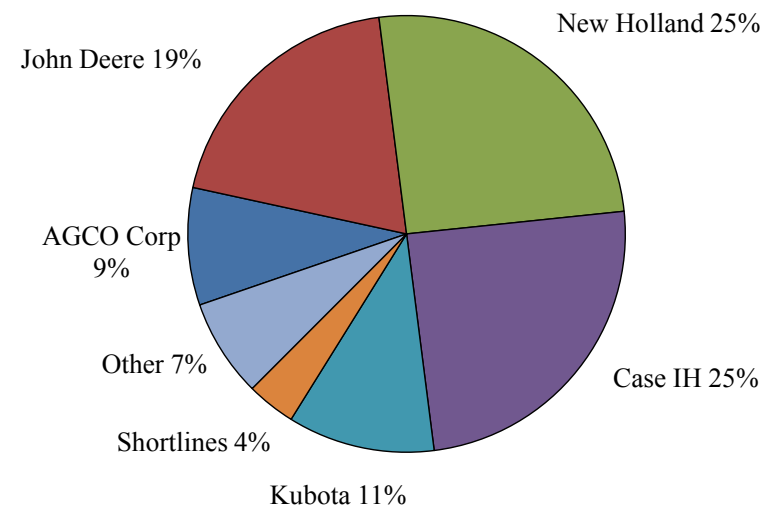
## Background:

- We are pleased to announce the results of the May 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 May 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 5% y/y in May, inline with April, as a net 11% of dealers missed their sales budget vs the 15% that missed last month. A net 4% of dealers reported a sales decline in the month, compared to the net 13% in April. Commercial and consumer lawn equipment and GPS / Precision ag sales showed strength, while large equipment demand remains weak.
- **Outlook** –The 2017 sales forecast was revised to down 2%, and improved from down 4% in April. A net 2% of dealers were less optimistic in May vs the net 13% less optimistic in April. Commentary suggests dealers are encouraged by customer activity, but remain cautious as commodity prices remain weak.
- **Inventory** – A net 30% of dealers reported new equipment inventories as too high, relatively inline with the 29% in April. Used equipment inventories remained elevated as a net 34% of dealers reported used inventory as too high, above the 28% last month. Overall, inventories have come down from 2016 levels.
- **Pricing** – Dealers reported relatively flat new equipment pricing as OEM price increases have been offset by discounting at the dealer level. Used equipment values improved slightly in the month with large tractor pricing reported down 4% y/y, inline with April. Used combine pricing was down 6% y/y vs down 7% in April.

## Monthly Sales Growth

- Average dealer sales were reported down 5% y/y in May, inline with April. A net 11% of dealers missed their sales budgets in May compared to the 15% that missed last month.
- A net 2% of dealers reported they are less optimistic, an improvement from the 13% reporting less optimism in April.

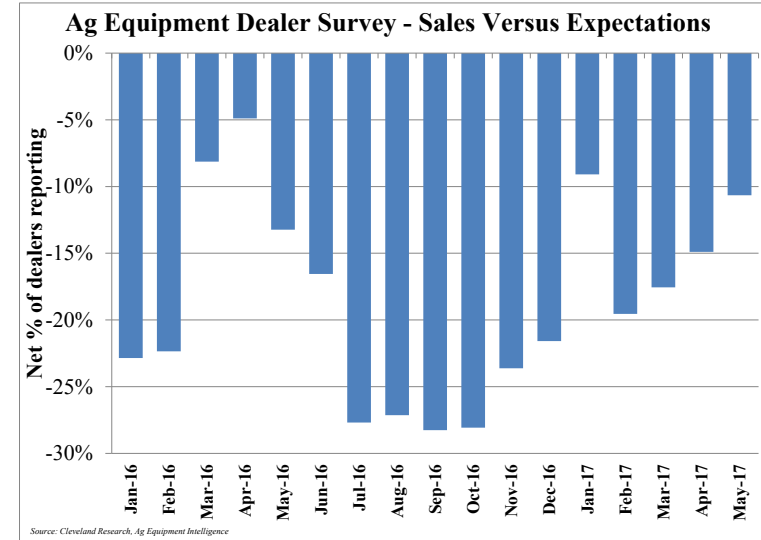
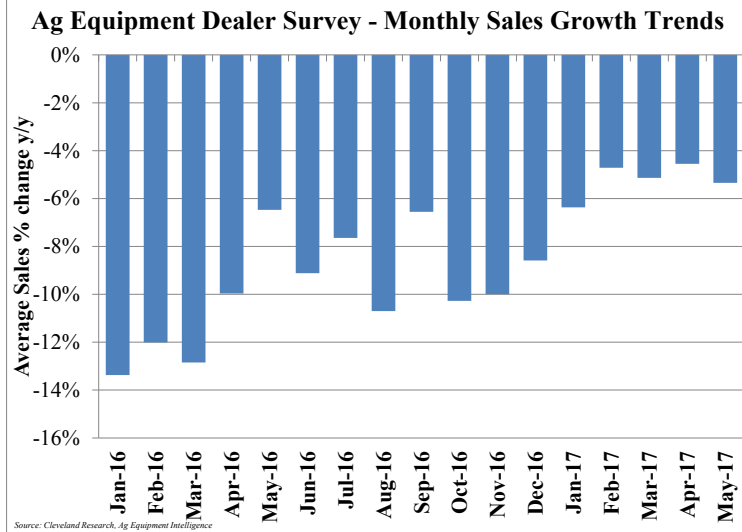
N. American Farm Equipment Dealer Survey - Average Dealer Sales Growth																	
% Change y/y	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17
AGCO	0%	-7%	-18%	-4%	-1%	-19%	-7%	-22%	-12%	-12%	-12%	-5%	-13%	-4%	-11%	-2%	-13%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

Source: Cleveland Research, Ag Equipment Intelligence

N. American Farm Equipment Dealer Survey - Sales Versus Expectations																	
% of Dealers Reporting	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17
Better than expected	12%	15%	20%	24%	21%	22%	15%	14%	14%	16%	8%	11%	16%	11%	12%	16%	19%
In line with expectations	52%	47%	52%	48%	46%	40%	43%	44%	44%	40%	61%	57%	59%	58%	58%	54%	52%
Worse than expected	35%	38%	28%	29%	34%	38%	42%	41%	42%	44%	31%	32%	25%	31%	30%	30%	30%
Net % (Better - Worse)	-23%	-22%	-8%	-5%	-13%	-17%	-28%	-27%	-28%	-28%	-24%	-22%	-9%	-20%	-18%	-15%	-11%

Source: Cleveland Research, Ag Equipment Intelligence

# Monthly Sales Growth Continued



N. American Farm Equipment Dealer Survey - Average Dealer Revenue Growth Trends																	
% of Dealers Reporting	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17
Positive Sales Growth	14%	20%	23%	27%	29%	27%	20%	19%	22%	18%	20%	26%	27%	25%	32%	34%	39%
Flat Sales	22%	20%	17%	23%	16%	23%	21%	19%	22%	15%	23%	17%	22%	31%	23%	19%	18%
Negative Sales Growth	64%	60%	60%	50%	55%	50%	59%	62%	56%	67%	58%	58%	52%	45%	45%	47%	43%
Net % Reporting Growth	-50%	-40%	-37%	-23%	-26%	-23%	-39%	-43%	-33%	-48%	-38%	-32%	-25%	-20%	-13%	-13%	-4%
Average % Change y/y	-13%	-12%	-13%	-10%	-6%	-9%	-8%	-11%	-7%	-10%	-10%	-9%	-6%	-5%	-5%	-5%	-5%

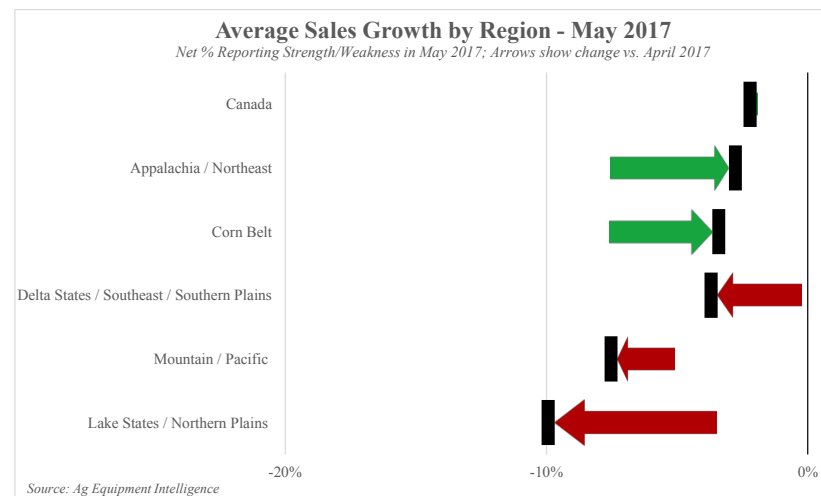
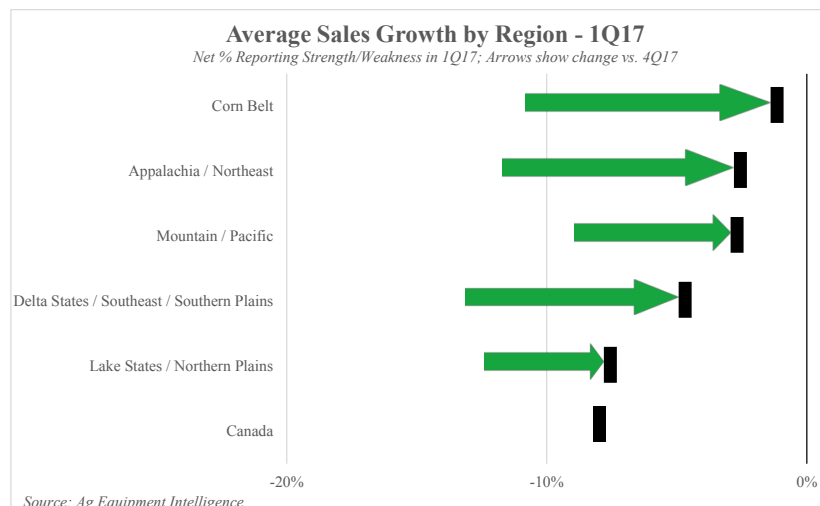
Source: Cleveland Research

Optimism/Sentiment vs. Last Month																	
% of Dealers Reporting	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17
More Optimistic	11%	13%	17%	15%	22%	11%	16%	11%	14%	13%	15%	17%	31%	21%	26%	17%	19%
Same	46%	51%	55%	59%	51%	60%	44%	52%	49%	53%	60%	58%	48%	60%	47%	53%	61%
Less Optimistic	43%	36%	28%	26%	27%	30%	40%	36%	38%	34%	25%	26%	20%	19%	27%	30%	20%
Net % Dealer Optimism	-31%	-24%	-11%	-11%	-4%	-19%	-24%	-25%	-24%	-21%	-10%	-9%	11%	1%	-1%	-13%	-2%

Source: Cleveland Research

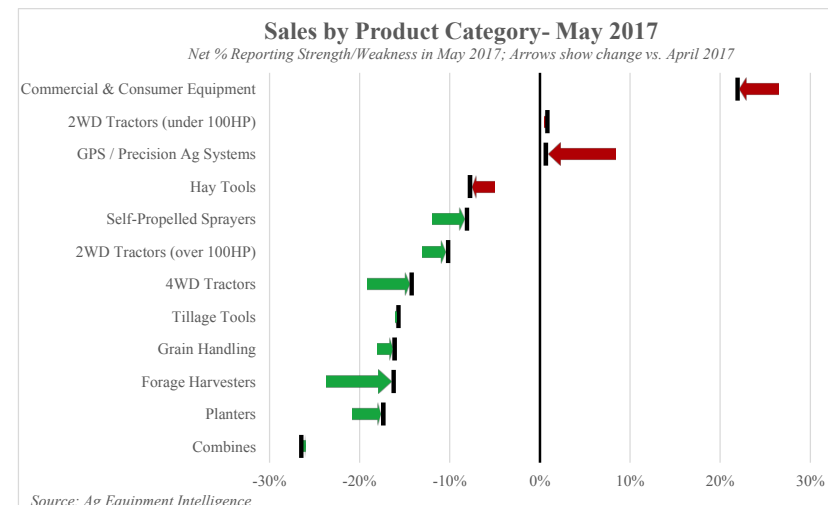
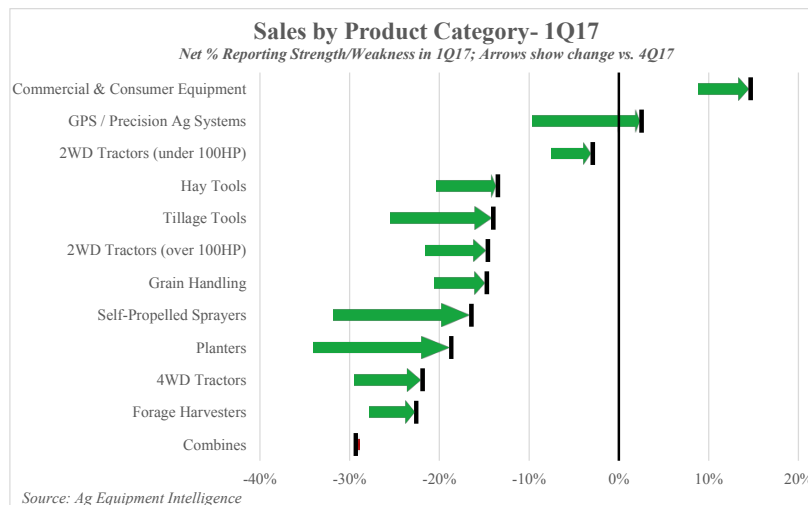
## Monthly Sales Growth by Region

- Sales trends by region were mixed in the month. The Appalachia/Northeast and Corn Belt regions improved from last month's results. Sales growth by region in May was broadly similar to 1Q with forecasts in the down 1% to down 10% range.

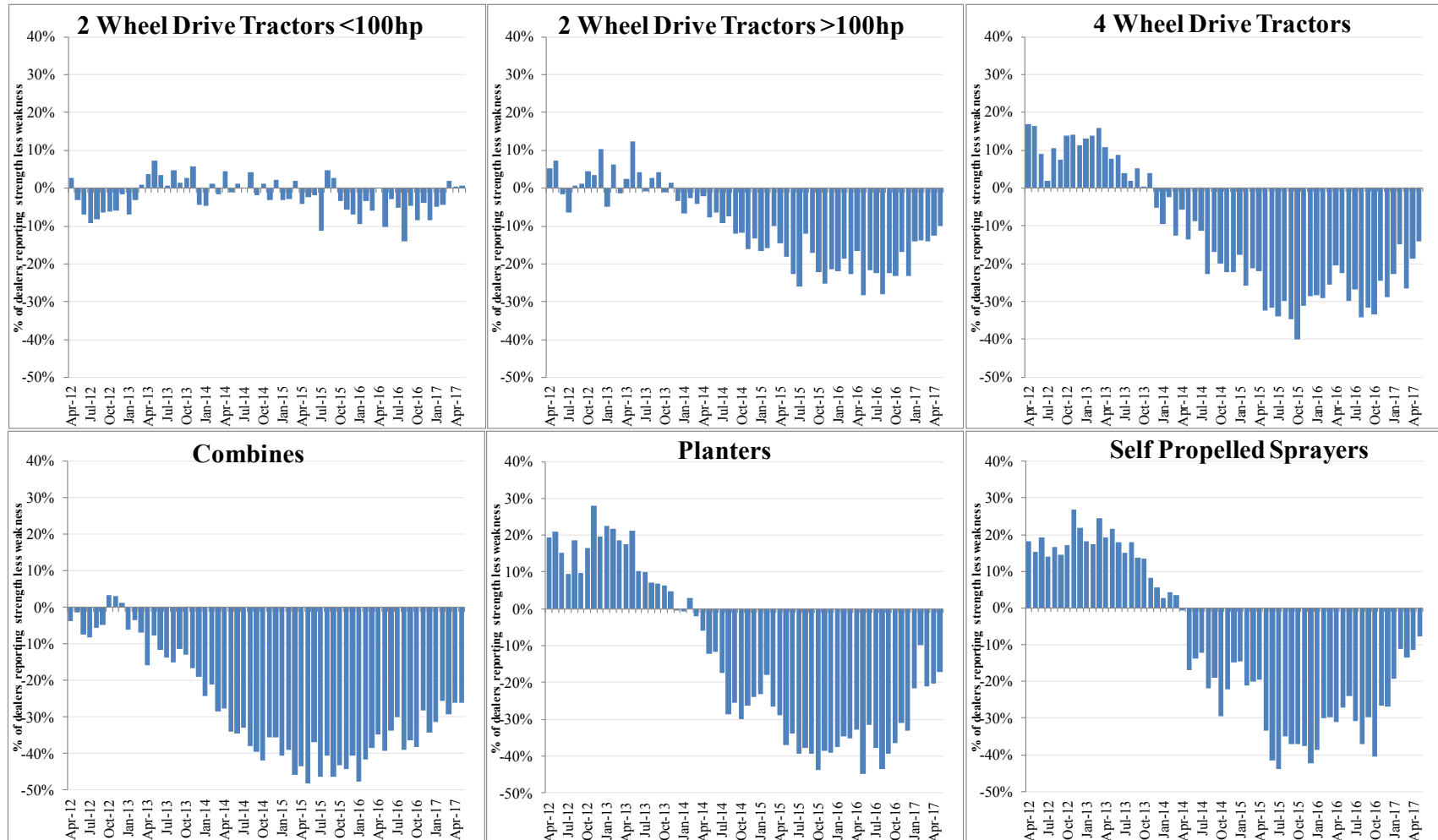


# Equipment Category Sales Trends

- Commercial and consumer lawn equipment and GPS / Precision ag sales showed strength, while large equipment demand remains weak. Sequentially, equipment category sales saw a reversal of prior trend in May as commercial & consumer lawn equipment and GPS / Precision Ag saw softening in contrast to improvement in other categories. In May, six of twelve categories saw sequential improvement from April compared to eleven categories improving from 4Q to 1Q.

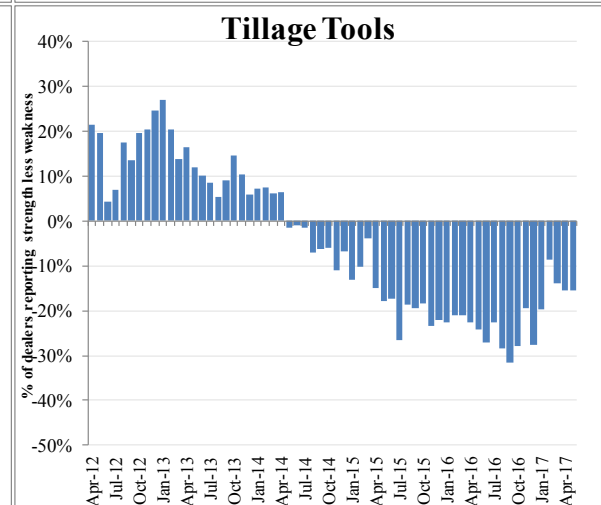
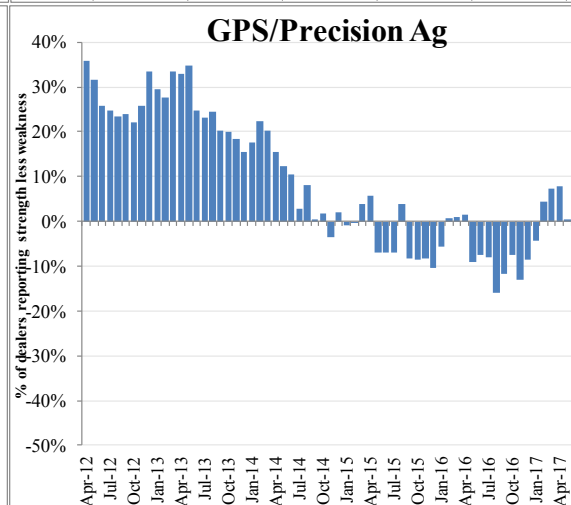
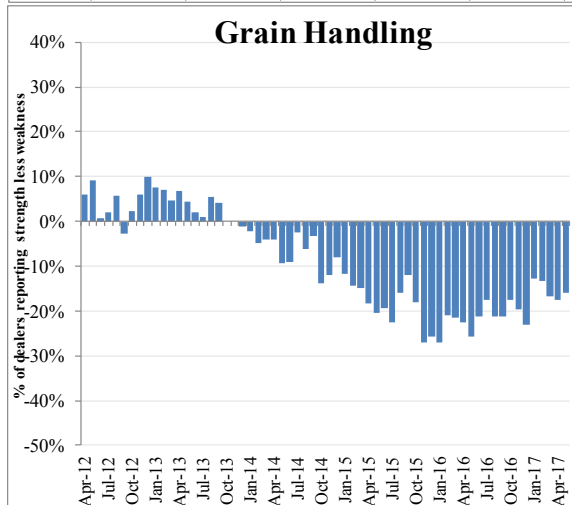
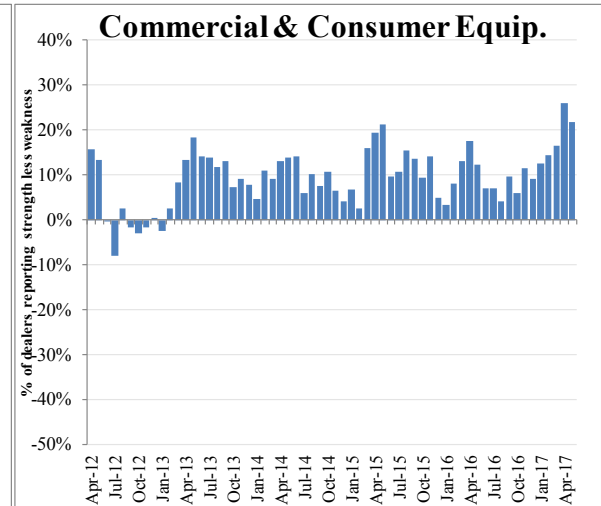
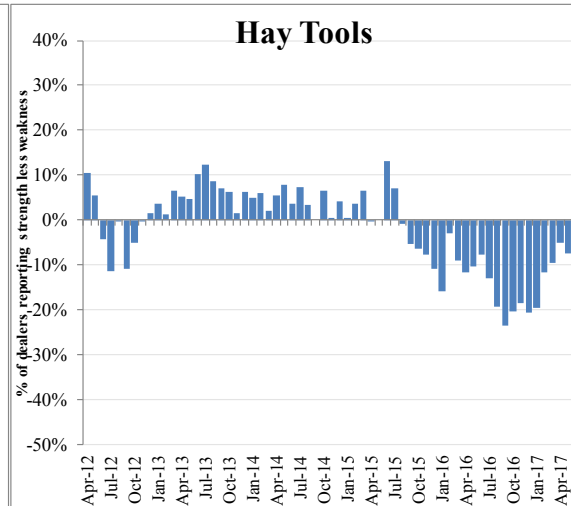
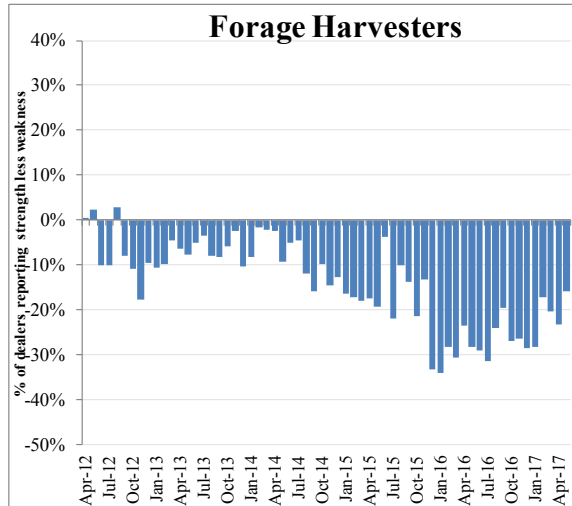


# Equipment Category Sales Trends





# Equipment Category Sales Trends (Continued)



## Average Dealer Sales Outlook

- The 2017 sales growth forecast was reported at down 2%, an improvement from the YTD average of down 3% and down 4% in April. Commentary suggests weather and low commodity prices remain headwinds in the near term, but dealers remain optimistic on customer activity in the 2H17.
- The bottom table details the 2017 industry outlooks from Deere, CNHI, and AGCO. N. America industry forecasts are down 5-10% on average.

N. American Farm Equipment Dealer Survey - 2017 Sales Forecast											
% change y/y	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17
AGCO	-1%	-2%	-20%	-10%	-8%	-2%	-1%	2%	-5%	-3%	-6%
John Deere	-11%	-4%	-15%	-1%	-6%	-5%	-3%	-3%	-3%	0%	0%
New Holland	-4%	-3%	-21%	-3%	-5%	-4%	-6%	-3%	-5%	-11%	-4%
Case IH	-14%	-6%	-20%	-12%	2%	-13%	-7%	-3%	-6%	-4%	-3%
Kubota	6%	-24%	4%	-3%	-6%	-2%	-8%	3%	4%	1%	1%
Shortlines/Other	-3%	-5%	-19%	-2%	0%	-10%	1%	-2%	-6%	-10%	2%
<b>Overall</b>	<b>-8%</b>	<b>-7%</b>	<b>-8%</b>	<b>-5%</b>	<b>-4%</b>	<b>-4%</b>	<b>-4%</b>	<b>-2%</b>	<b>-4%</b>	<b>-4%</b>	<b>-2%</b>

Source: Cleveland Research, Ag Equipment Intelligence

2017 Ag Equipment Industry Sales Outlook (units)			
Geography	Deere	CNH Industrial	AGCO Corp.
N. America	Down 5%	Tractors (5-10%), Combines (0-5%)	Down 5-10%
Western Europe	Flat to Down 5%	Tractors Flat, Combines Flat	Flat to Down 5%
Latin America	Up 20%	Tractors 15%, Combines 10-15%	Up 15%
CIS or ROW	na	na	na
Asia	Flat to up Slightly	Tractors 0-5%, Combines 0-5%	na

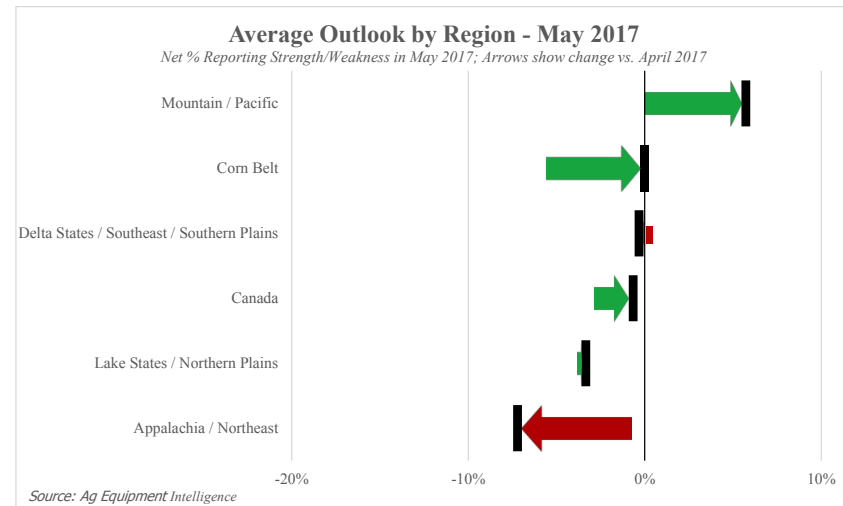
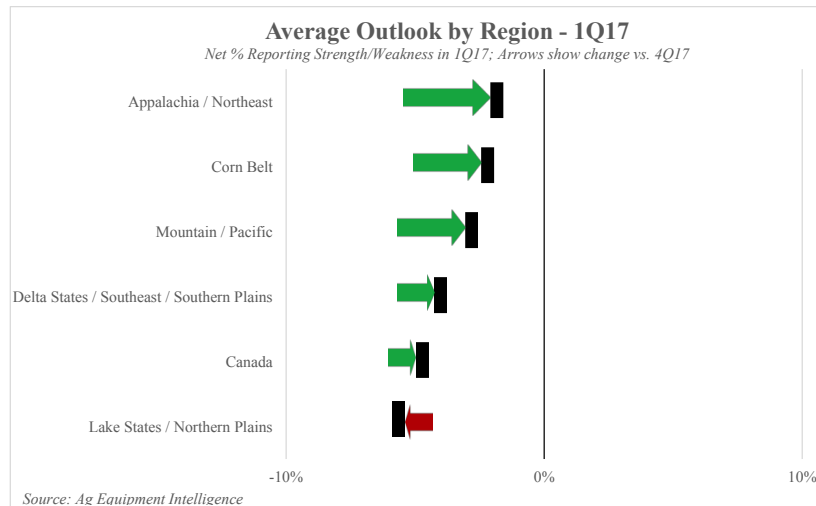
Source: Company reports, CRC estimates

## Most Interesting Commentary - Monthly Sales and Outlook

- *Large equipment sales remain sluggish but parts and service sales picked up in May.*
- *We saw better than expected sales in large 4WD tractors, self-propelled sprayers, and air seeders but combine sales remain weak.*
- *It appears that used equipment values have stabilized, but customers have continued to delay purchases.*
- *Sales remain slow and we do not have enough manufacturer programming to attract customer interest.*
- *Our customers are more positive as it relates to the new administration, but that optimism has been offset by low expectations around commodity prices.*
- *We continue to be very optimistic about sales growth in 2017. The market is steady and the overall ag economy in our area is healthy. The used export market is especially strong for us and has contributed to increased new equipment sales.*
- *Challenging commodities markets and lender discouragement in agricultural equipment investment have led to customer hesitance in purchasing new or used equipment.*
- *My sales staff has adjusted to selling short lines because our manufacturer has not provided competitive programming.*
- *Customers are interested in pre-sale planters for next year even with high new equipment prices and soft used equipment values. We believe new product technology is attracting customers despite a soft economy.*
- *Our customer base continues to suffer from low commodity pricing. May was stronger than April for the first time we have seen, but we still anticipate a full year sales decline.*
- *2017 continues to be slow, and we are getting well into the year. We attribute this to wet weather and poor commodity prices.*
- *Our manufacturer is late to respond to slow sales. As a result, our equipment is very overpriced compared to our competition.*
- *Our manufacturer is not competitive in the under 100hp tractor market compared to other manufacturers.*
- *Tractor, combine, and self propelled sprayer inventories are all too high.*
- *Our inventories are down significantly from last year, but still too high. Late model used equipment, and new, high priced equipment inventories are particularly high.*

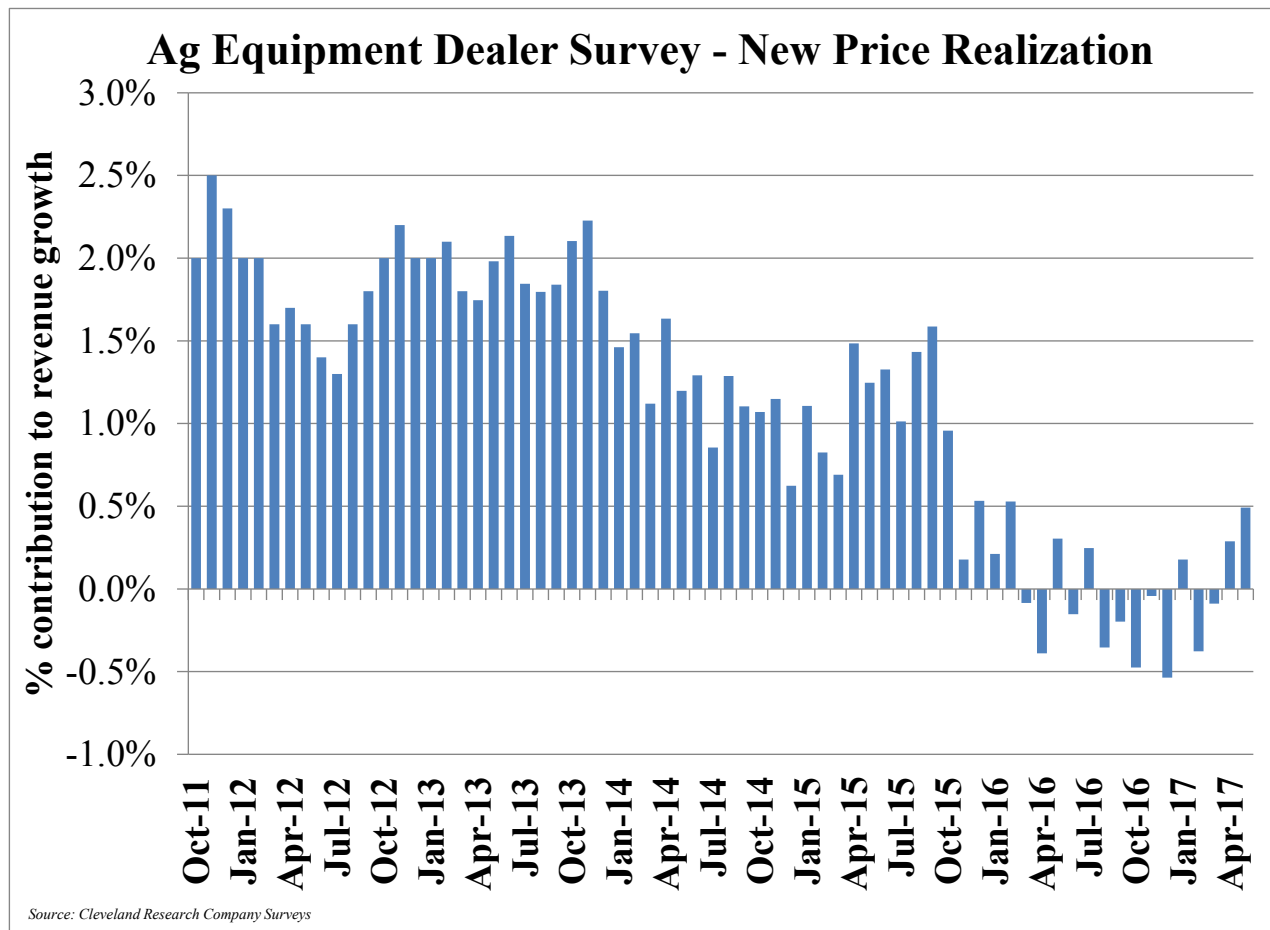
## 2017 Sales Outlook

- The 2017 outlook in May was mixed with improvement in the Mountain/Pacific region and the largest sequential decline in the Appalachia/Northeast region. 5 out of 6 regions saw outlooks improve from 1Q in May. Dealers believe customer activity is sustainable through the 2H17 despite weak commodity prices.



## Pricing Trends

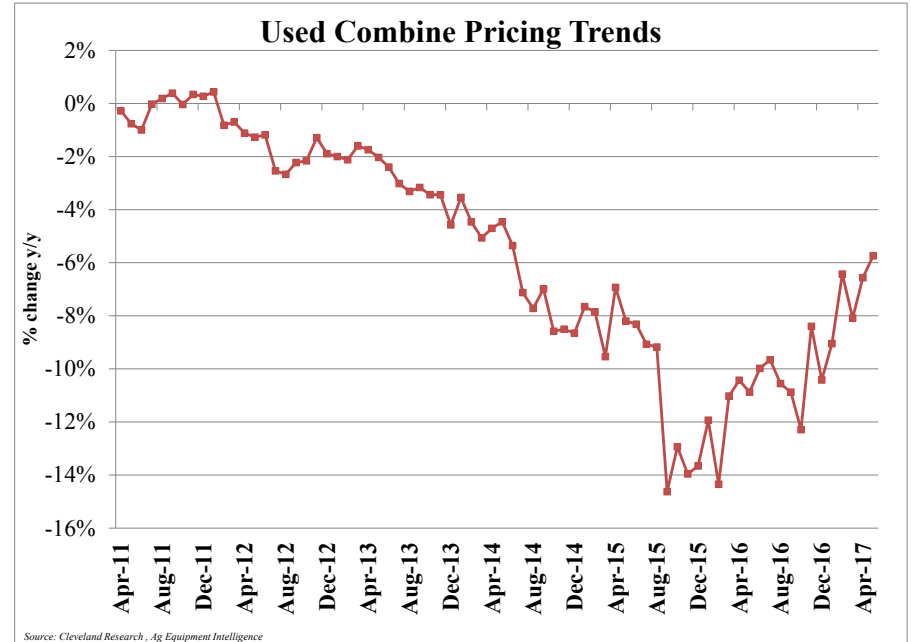
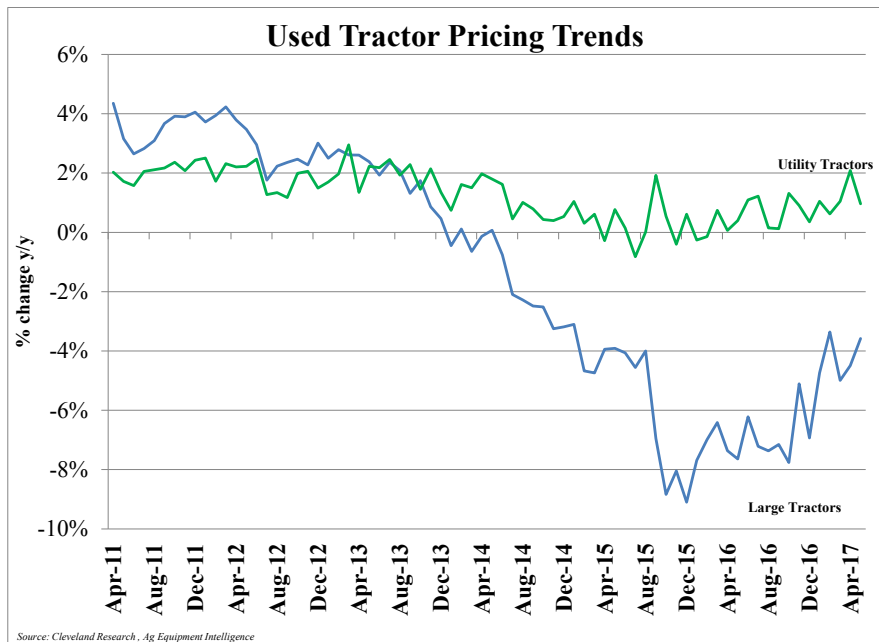
- Dealers reported relatively flat pricing over the last year as incentive programs have more than offset list price increases. Pricing has shown sequential improvement over the past 4 months and saw the highest reading in 14 months. Commentary in the month suggests an absence of OEM incentive programs, consistent with prior trend.



# Used Equipment Pricing

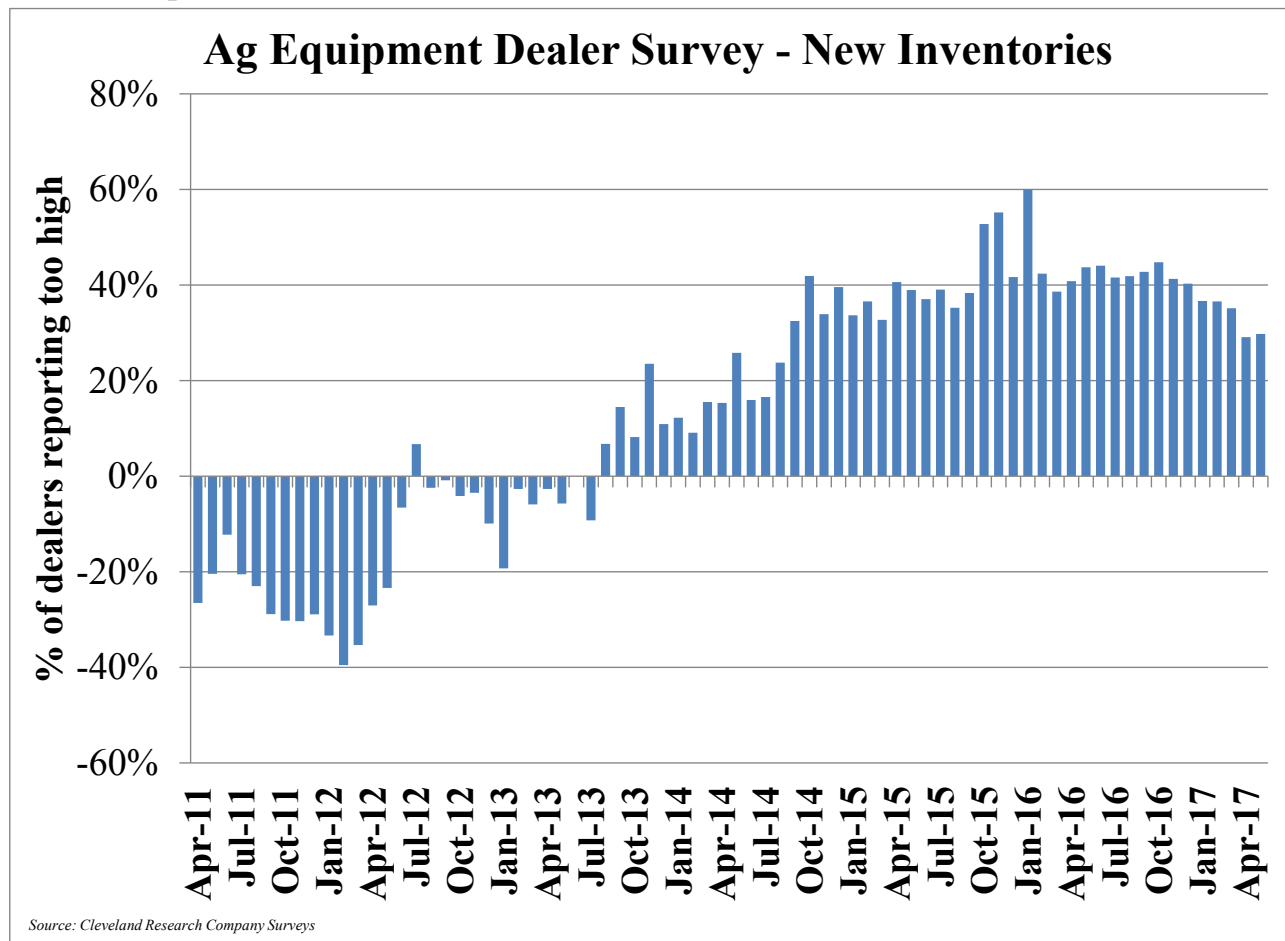
- Pricing trends saw slight improvement in the month. Large tractors were reported down 4% y/y, inline with the 4% decline reported in April. Combine pricing improved with values reported down 6% y/y vs the 7% decline in April.

Used Tractor and Combine Values (Y/Y)																	
	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17
Compact (<40HP)	(1%)	0%	1%	0%	1%	2%	2%	1%	1%	2%	2%	1%	1%	1%	1%	2%	2%
Utility (40-100HP)	0%	(1%)	0%	0%	0%	1%	1%	(0%)	(0%)	1%	0%	0%	1%	0%	1%	2%	0%
Row Crop (100HP+)	(6%)	(5%)	(5%)	(6%)	(7%)	(5%)	(6%)	(6%)	(6%)	(6%)	(4%)	(5%)	(3%)	(2%)	(3%)	(4%)	(3%)
4WD Tractors	(10%)	(9%)	(8%)	(8%)	(9%)	(8%)	(8%)	(9%)	(8%)	(10%)	(7%)	(9%)	(6%)	(4%)	(7%)	(5%)	(4%)
Combines	(12%)	(14%)	(11%)	(10%)	(11%)	(10%)	(10%)	(11%)	(11%)	(12%)	(8%)	(10%)	(9%)	(6%)	(8%)	(7%)	(6%)



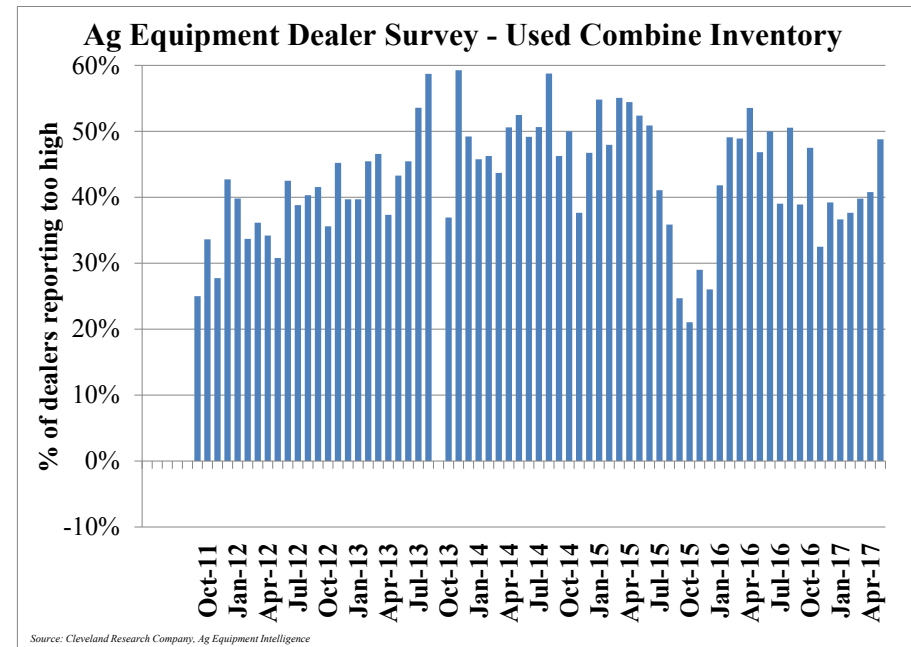
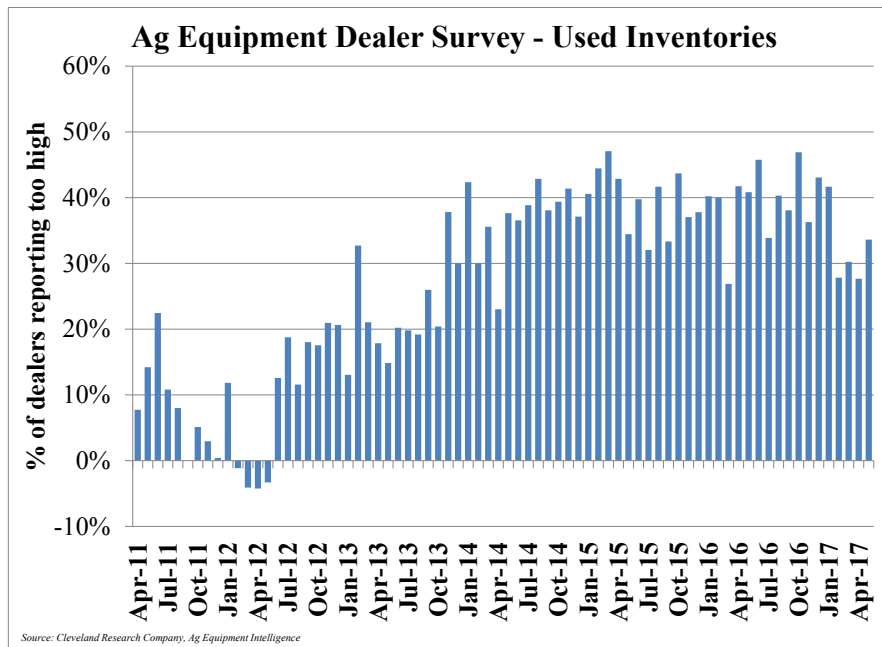
## New Equipment Inventory Levels

- A net 30% of dealers reported new equipment inventories too high (40% too high, 50% about right, 10% too low), relatively inline with the 29% in April. New inventory levels have been elevated for over 3 years, but have come down over the past 6 months.



## Used Equipment Inventory Levels

- A net 33% of dealers reported used equipment inventory as too high (41% too high, 51% about right, 8% too low), worse than the 28% reporting heightened inventory in April (40% too high, 48% about right, 12% too low). Used combine inventory levels were reported as too high by a net 49% of dealers in May, higher than the 41% in April.





# 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
Apr-14	14,191	6,010	3,752	745	24,698	4,497	996	2%	7%	-13%	-12%	0%	-13%	-13%
May-14	16,828	6,586	2,928	474	26,816	3,402	669	-2%	6%	-16%	-14%	-2%	-16%	-24%
Jun-14	15,245	6,488	2,733	408	24,874	3,141	837	13%	2%	-16%	-25%	5%	-18%	-25%
Jul-14	11,245	5,934	3,206	389	20,774	3,595	1,034	5%	7%	1%	-21%	4%	-2%	-30%
Aug-14	9,691	5,444	2,575	371	18,081	2,946	946	4%	9%	-9%	-37%	2%	-14%	-24%
Sep-14	11,333	6,193	3,276	492	21,294	3,768	1,142	32%	28%	-2%	-14%	23%	-4%	-11%
Oct-14	10,950	7,085	4,920	733	23,688	5,653	983	14%	6%	-17%	-40%	1%	-21%	-41%
Nov-14	5,857	4,177	1,891	354	12,279	2,245	450	4%	8%	-29%	-45%	-4%	-32%	-50%
Dec-14	8,089	7,473	3,730	512	19,804	4,242	920	6%	8%	-24%	-47%	-3%	-28%	-40%
Jan-15	5,382	4,506	3,124	220	13,232	3,344	384	13%	9%	-5%	-65%	3%	-15%	-53%
Feb-15	5,305	3,250	1,955	348	10,858	2,303	399	0%	-13%	-19%	-39%	-10%	-23%	-24%
Mar-15	9,702	4,799	2,539	499	17,539	3,038	470	-4%	-6%	-20%	-24%	-8%	-20%	-48%
Apr-15	16,624	6,461	3,131	430	26,646	3,561	664	17%	8%	-17%	-42%	8%	-21%	-33%
May-15	16,028	5,643	1,994	260	23,925	2,254	549	-5%	-14%	-32%	-45%	-11%	-34%	-18%
Jun-15	15,679	6,526	2,409	300	24,914	2,709	502	3%	1%	-12%	-26%	0%	-14%	-40%
Jul-15	14,372	7,039	2,469	268	24,148	2,737	806	28%	19%	-23%	-31%	16%	-24%	-22%
Aug-15	9,800	5,087	1,768	167	16,822	1,935	679	1%	-7%	-31%	-55%	-7%	-34%	-28%
Sep-15	10,917	5,348	1,934	249	18,448	2,183	845	-4%	-14%	-41%	-49%	-13%	-42%	-26%
Oct-15	12,897	6,792	3,266	515	23,470	3,781	796	18%	-4%	-34%	-30%	-1%	-33%	-19%
Nov-15	6,112	3,728	1,159	222	11,221	1,381	343	4%	-11%	-39%	-37%	-9%	-38%	-24%
Dec-15	8,755	6,376	2,567	516	18,214	3,083	883	8%	-15%	-31%	1%	-8%	-27%	-4%
Jan-16	5,946	4,250	1,981	243	12,420	2,224	455	10%	-6%	-37%	10%	-6%	-33%	18%
Feb-16	6,429	3,372	1,185	222	11,208	1,407	241	21%	4%	-39%	-36%	3%	-39%	-40%
Mar-16	12,453	5,110	1,905	258	19,726	2,163	346	28%	6%	-25%	-48%	12%	-29%	-26%
Apr-16	17,726	5,578	2,539	336	26,179	2,875	464	7%	-14%	-19%	-22%	-2%	-19%	-30%
May-16	17,191	5,617	1,969	234	25,011	2,203	332	7%	0%	-1%	-10%	5%	-2%	-40%
Jun-16	15,794	6,594	1,974	223	24,585	2,197	567	1%	1%	-18%	-26%	-1%	-19%	13%
Jul-16	13,344	5,418	1,833	152	20,747	1,985	619	-7%	-23%	-26%	-43%	-14%	-27%	-23%
Aug-16	11,600	5,068	1,315	102	18,085	1,417	563	18%	0%	-26%	-39%	8%	-27%	-17%
Sep-16	12,632	5,491	1,768	203	20,094	1,971	621	16%	3%	-9%	-18%	9%	-10%	-27%
Oct-16	13,850	6,819	2,722	612	24,003	3,334	579	7%	0%	-17%	19%	2%	-12%	-27%
Nov-16	7,382	3,656	907	205	12,150	1,112	294	21%	-2%	-22%	-8%	8%	-19%	-14%
Dec-16	10,343	6,326	2,071	328	19,068	2,399	687	18%	-1%	-19%	-36%	5%	-22%	-22%
Jan-17	6,821	3,854	1,396	147	12,218	1,543	289	15%	-9%	-30%	-40%	-2%	-31%	-36%
Feb-17	7,868	3,319	1,335	199	12,721	1,534	276	22%	-2%	13%	-10%	13%	9%	15%
Mar-17	13,950	5,328	1,790	338	21,406	2,128	457	12%	4%	-6%	31%	9%	-2%	32%
Apr-17	19,473	5,595	2,425	441	27,934	2,866	504	10%	0%	-4%	31%	7%	0%	9%
May-17	19,588	5,825	1,606	254	27,273	1,860	372	14%	4%	-18%	9%	9%	-16%	12%

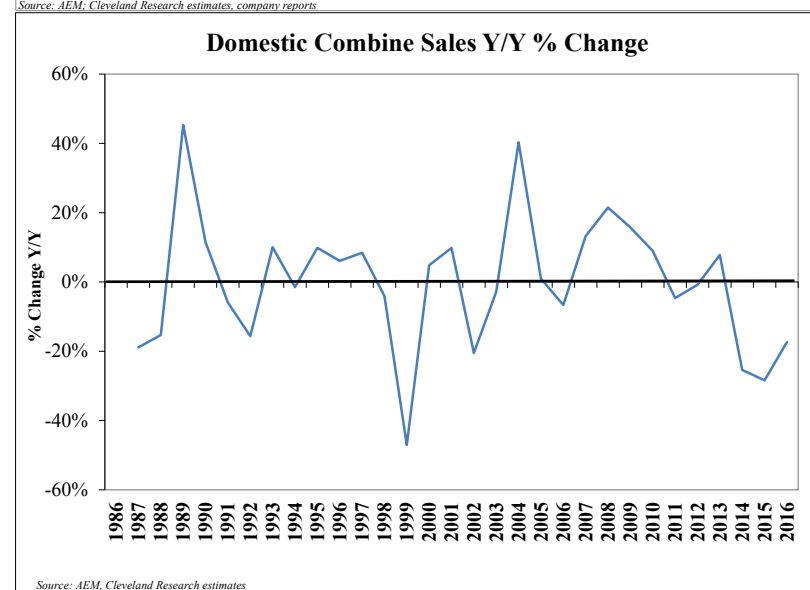
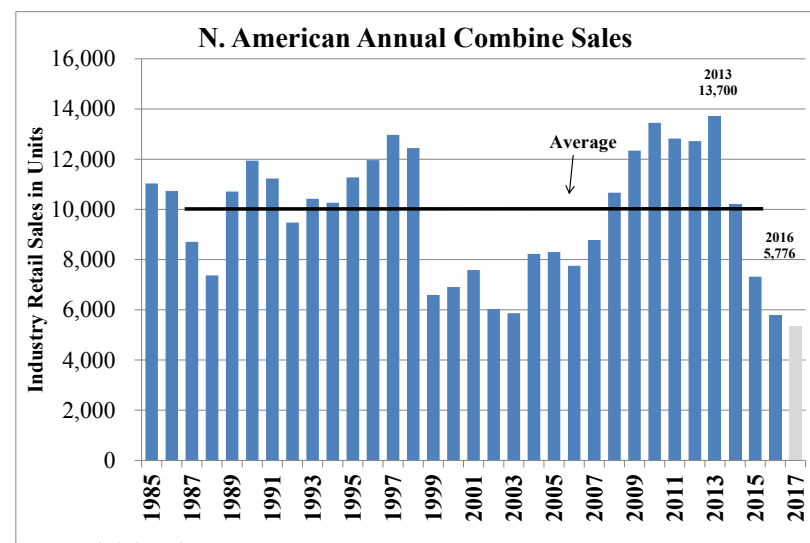
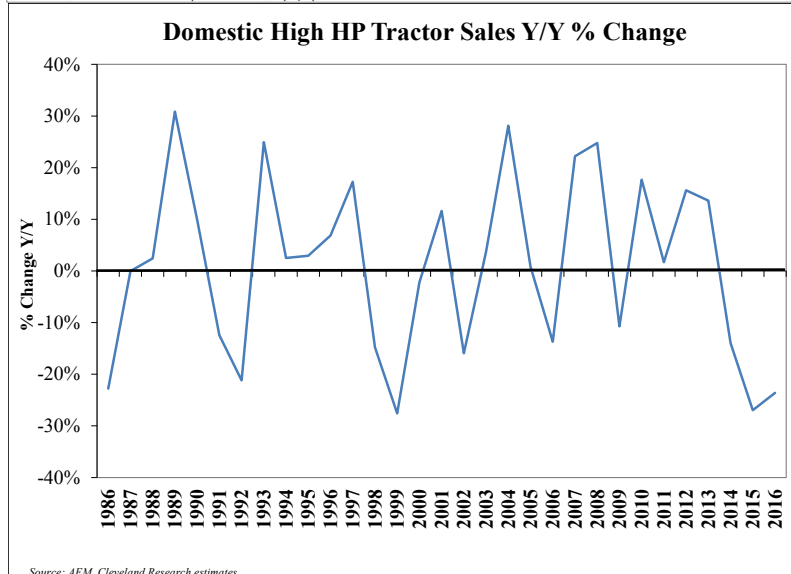
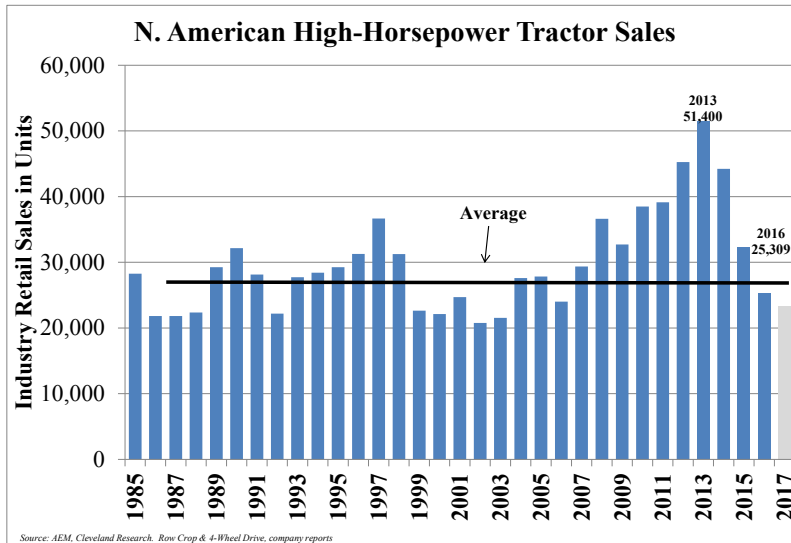
Source: AEM; Cleveland Research Company estimates. High hp tractors are row crop & 4-wheel drive.

# North American Farm Equipment Industry Inventory

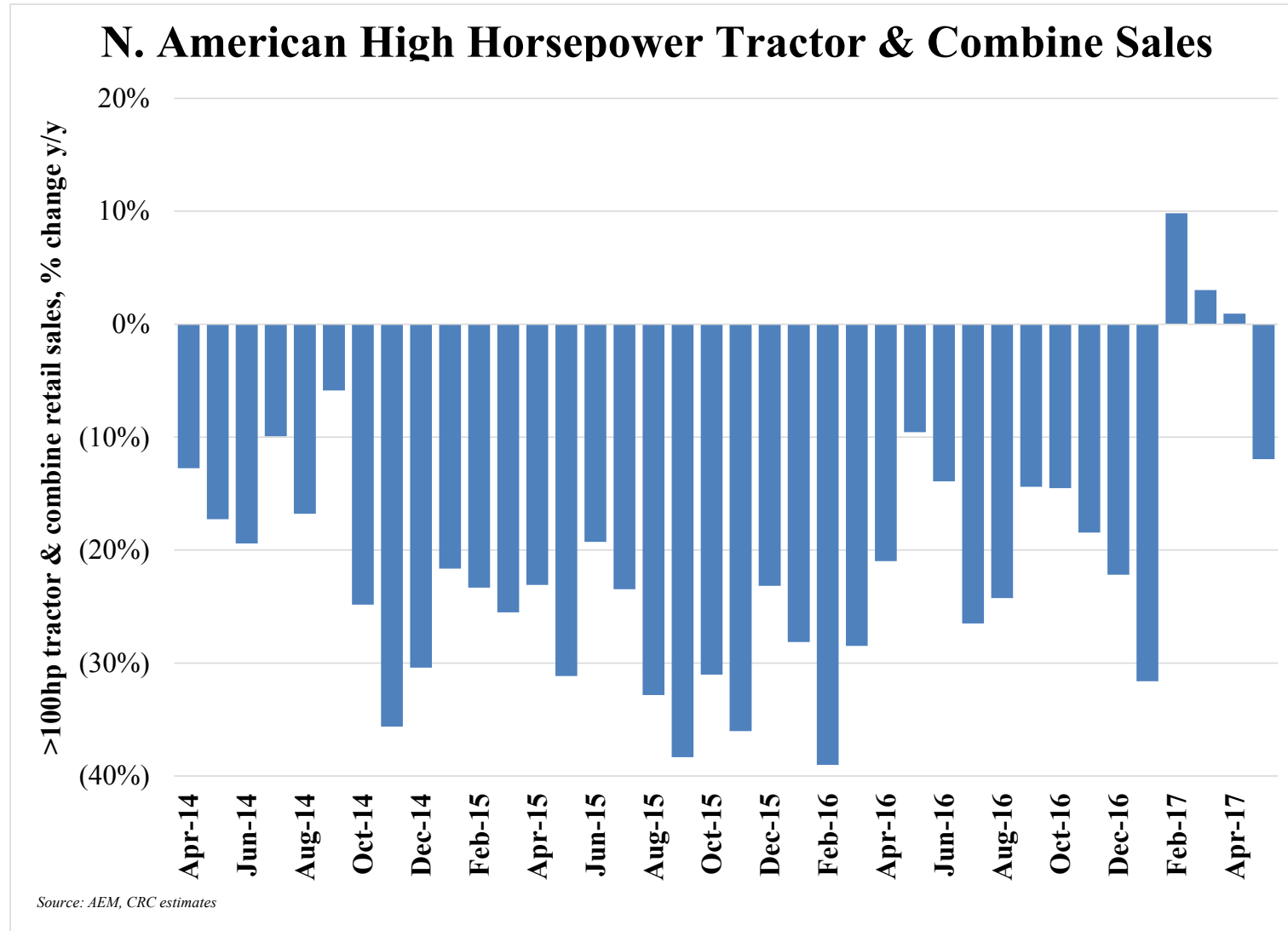
NORTH AMERICAN FARM EQUIPMENT INVENTORY															
	Inventory (Units)							Inventory to 12-mo. Sales							
	< 40 HP	Utility	Row Crop	4-Wheel	Total Tractor	Row Crop & 4WD	Combines	<40HP	Util	RC	4-WD	Total Tractor	Row Crop & 4WD	Comb	
Mar-14	71,249	35,256	14,058	2,218	122,781	16,276	2,456	61%	55%	33%	27%	53%	32%	18%	
Apr-14	69,986	35,615	13,298	2,117	121,016	15,415	2,467	60%	55%	31%	26%	52%	31%	18%	
May-14	66,364	34,755	13,505	2,255	116,879	15,760	2,734	57%	54%	32%	28%	51%	32%	21%	
Jun-14	62,025	34,004	14,531	2,294	112,854	16,825	3,101	53%	52%	35%	29%	49%	34%	24%	
Jul-14	61,829	34,393	14,836	2,159	113,217	16,995	3,144	52%	53%	36%	27%	49%	35%	25%	
Aug-14	62,466	35,692	15,060	2,193	115,411	17,253	3,360	53%	54%	37%	29%	49%	36%	28%	
Sep-14	61,811	35,926	16,185	2,399	116,321	18,584	2,891	51%	54%	40%	32%	49%	38%	24%	
Oct-14	63,713	35,965	14,640	1,802	116,120	16,442	2,187	52%	53%	37%	25%	49%	35%	19%	
Nov-14	67,691	37,110	14,840	1,652	121,293	16,492	2,046	55%	55%	38%	24%	51%	36%	19%	
Dec-14	69,876	35,550	14,638	1,426	121,490	16,064	1,674	57%	52%	39%	22%	51%	36%	16%	
Jan-15	73,716	35,405	13,934	1,439	124,494	15,373	1,713	59%	51%	37%	24%	53%	35%	18%	
Feb-15	78,177	36,676	13,981	1,436	130,270	15,417	1,820	63%	54%	38%	25%	55%	36%	19%	
Mar-15	81,662	37,881	14,179	1,346	135,068	15,525	2,040	66%	56%	39%	24%	58%	37%	22%	
Apr-15	80,348	37,047	13,193	1,353	131,941	14,546	2,116	64%	54%	37%	26%	56%	35%	24%	
May-15	78,880	37,037	13,177	1,400	130,494	14,577	2,058	63%	55%	38%	28%	56%	36%	23%	
Jun-15	76,286	36,584	13,006	1,416	127,292	14,422	2,276	61%	54%	37%	29%	55%	36%	27%	
Jul-15	72,876	35,232	12,507	1,354	121,969	13,861	2,218	56%	51%	37%	28%	52%	36%	27%	
Aug-15	74,247	36,442	12,555	1,343	124,587	13,898	2,232	58%	53%	38%	29%	53%	37%	28%	
Sep-15	65,844	37,545	12,551	1,374	117,314	13,925	2,001	51%	56%	39%	32%	51%	38%	26%	
Oct-15	75,042	37,885	11,906	1,266	126,099	13,172	1,504	57%	56%	39%	31%	54%	38%	20%	
Nov-15	79,228	39,911	12,983	1,317	133,439	14,300	1,492	61%	60%	44%	33%	58%	43%	20%	
Dec-15	82,737	41,363	13,140	1,189	138,429	14,329	1,277	63%	63%	46%	30%	60%	44%	17%	
Jan-16	86,618	42,352	12,727	1,129	142,826	13,856	1,169	66%	65%	47%	28%	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%	28%	60%	50%	24%	
Aug-16	79,823	41,683	12,962	998	135,466	13,960	1,671	57%	66%	55%	31%	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%	32%	57%	51%	19%	
Jan-17	83,153	39,248	11,838	1,024	135,263	12,862	1,099	57%	62%	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%	66%	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%	

Source: AEM; Cleveland Research Company estimates

# Annual Agricultural Equipment Industry Sales (1985 - 2016)



## North America Large Ag Equipment Sales

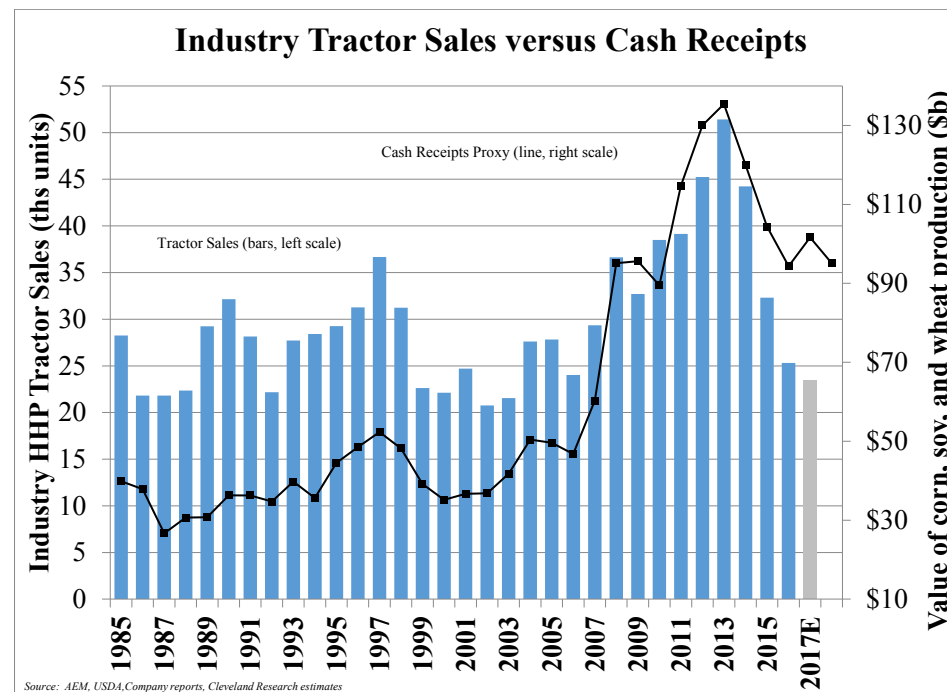


Source: AEM

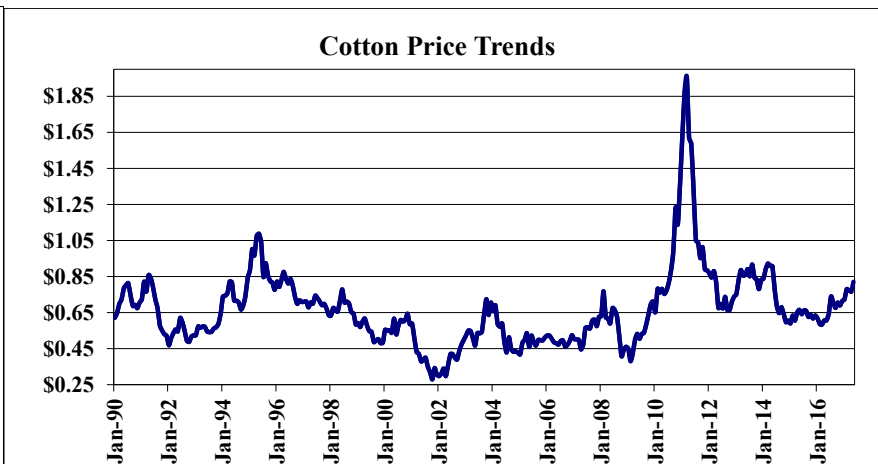
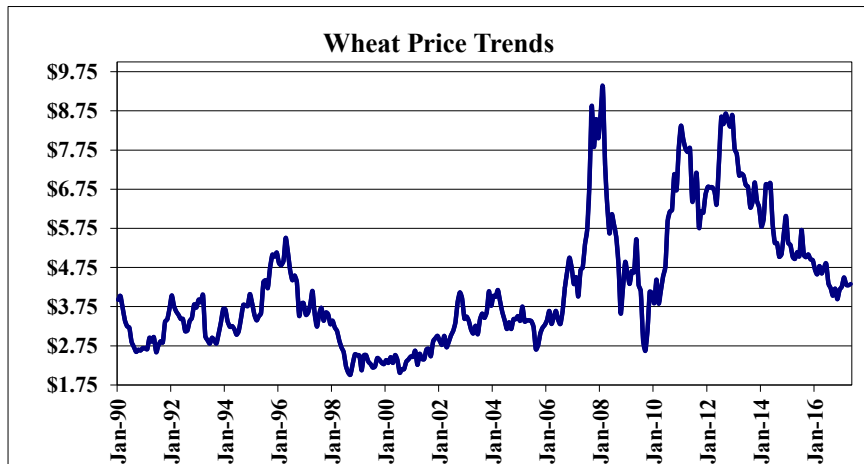
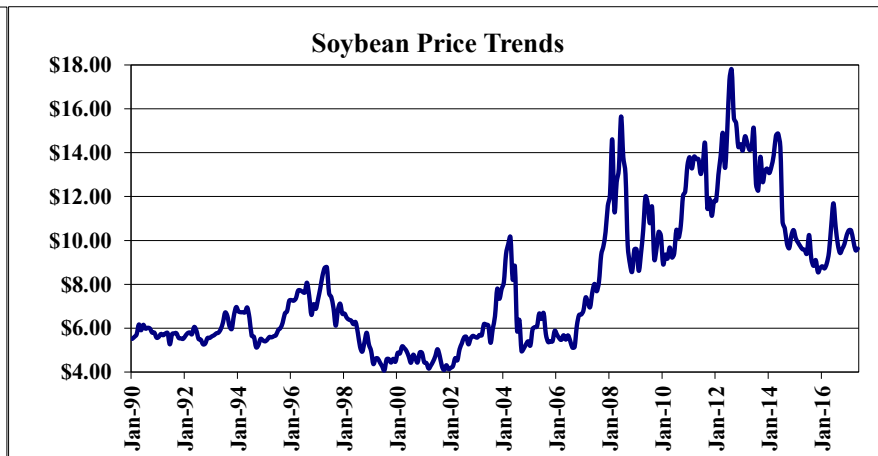
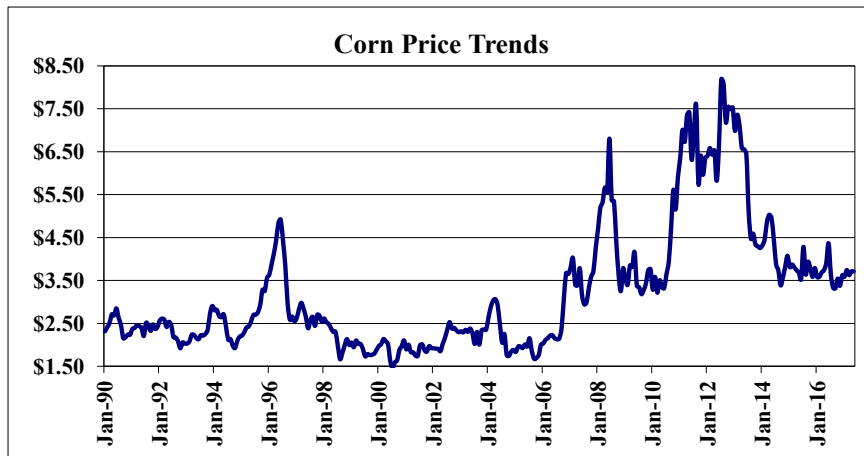
## Commodity Prices – Cash Receipts vs. Next Year Equipment Sales

**USDA's June 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 June crop report was similar to May with cash receipts proxy forecast down 6% y/y in 2017/18. Wheat cash receipts are now forecast down 13% y/y vs down 14% in May, while corn and soybean forecasts were unchanged.



# Long Term Commodity Price Trends



# Commodity Trends – Long Run Supply and Demand Projections

US Corn, Soy, and Wheat Supply and Demand - Long Term Annual Forecast 2017														
US Corn Balance Sheet - USDA Long Term Forecast (Feb 2017)														
Millions of bushels	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027
Planted	95	91	88	94	90	90	90	89	88	88	87	87	87	86
Harvested	88	83	81	87	82	82	82	81	80	80	79	79	79	78
Yield (bu/acre)	158	171	168	175	171	173	175	177	179	181	183	185	187	189
Beginning Stocks (MM bu)	821	1,232	1,731	1,737	2,295	2,298	2,213	2,193	2,104	2,033	2,023	1,933	1,923	1,896
Production (MM bu)	13,829	14,216	13,601	15,148	14,065	14,135	14,300	14,285	14,360	14,520	14,495	14,655	14,719	14,784
Imports (MM bu)	36	32	67	55	50	50	50	50	50	50	50	50	50	50
Total Supply (MM bu)	14,686	15,480	15,399	16,940	16,410	16,483	16,563	16,528	16,514	16,603	16,568	16,638	16,692	16,730
Feed & Residual (MM Bu)	5,036	5,315	5,130	5,500	5,425	5,500	5,600	5,625	5,700	5,800	5,850	5,950	6,025	6,075
Food, Seed, & Industrial Total	6,501	6,568	6,635	6,920	7,000	6,795	6,770	6,775	6,730	6,705	6,685	6,640	6,620	6,595
Ethanol & By-Products	5,134	5,209	5,206	5,450	5,500	5,350	5,325	5,325	5,275	5,250	5,225	5,175	5,150	5,125
Domestic Use	11,537	11,883	11,765	12,420	12,425	12,295	12,370	12,400	12,430	12,505	12,535	12,590	12,645	12,670
Exports	1,917	1,864	1,898	2,225	1,875	1,975	2,000	2,025	2,050	2,075	2,100	2,125	2,150	2,175
Total Use	13,454	13,747	13,663	14,645	14,300	14,270	14,370	14,425	14,480	14,580	14,635	14,715	14,795	14,845
Ending Stocks	1,232	1,731	1,738	2,295	2,110	2,213	2,193	2,104	2,033	2,023	1,933	1,923	1,896	1,885
Ending Stocks/Use	9.2%	12.6%	12.7%	15.7%	14.8%	15.5%	15.3%	14.6%	14.0%	13.9%	13.2%	13.1%	12.8%	12.7%
Weeks Carryover	4.8	6.5	6.6	8.1	7.7	8.1	7.9	7.6	7.3	7.2	6.9	6.8	6.7	6.6
Average Farm Price (\$/bu)	\$4.46	\$3.70	\$3.61	\$3.40	\$3.40	\$3.35	\$3.35	\$3.45	\$3.50	\$3.55	\$3.60	\$3.65	\$3.65	\$3.70
Value of Production	\$61,677	\$52,599	\$49,100	\$51,503	\$47,821	\$47,352	\$47,905	\$49,283	\$50,260	\$51,546	\$52,182	\$53,491	\$53,724	\$54,701
% change y/y	-17%	-15%	-7%	5%	-7%	-1%	1%	3%	2%	3%	1%	3%	0%	2%
U.S. Soybean Balance Sheet - USDA Long Term Forecast (Feb 2017)														
Millions of bushels	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027
Planted	77	83	83	83	90	85	85	85	85	85	85	85	85	85
Harvested	76	83	82	83	89	84	84	84	84	84	84	84	84	84
Yield Per Harvested Acre (Bushels)	44	48	48	52	48	48	49	49	50	50	51	51	52	52
Beginning Stocks	141	92	191	197	450	396	326	306	291	300	309	317	330	338
Production	3,358	3,927	3,926	4,307	4,255	4,070	4,090	4,130	4,195	4,240	4,280	4,325	4,365	4,405
Imports	72	33	24	25	25	30	30	30	30	30	30	30	30	30
Total Supplies	3,571	4,052	4,141	4,528	4,730	4,496	4,446	4,466	4,516	4,570	4,619	4,672	4,725	4,773
Crush	1,734	1,873	1,886	1,925	1,950	1,955	1,970	1,990	2,015	2,040	2,060	2,085	2,105	2,130
Exports	1,647	1,843	1,936	2,050	2,150	2,085	2,040	2,055	2,070	2,090	2,110	2,125	2,150	2,150
Seed & Residual	98	145	121	128	128	129	130	130	131	131	132	132	132	132
Total Use	3,479	3,861	3,943	4,093	4,235	4,169	4,140	4,175	4,216	4,261	4,302	4,342	4,387	4,412
Ending Stocks	92	191	197	435	495	326	306	291	300	309	317	330	338	361
Stocks/Use	2.7%	4.9%	5.0%	10.6%	11.7%	7.8%	7.4%	7.0%	7.1%	7.2%	7.4%	7.6%	7.7%	8.2%
Average Price (\$/bu)	\$13.00	\$10.10	\$8.95	\$9.55	\$9.30	\$9.40	\$9.40	\$9.45	\$9.45	\$9.50	\$9.55	\$9.55	\$9.55	\$9.55
Value of Production	\$43,654	\$39,663	\$35,138	\$41,132	\$39,572	\$38,258	\$38,446	\$39,029	\$39,643	\$40,280	\$40,874	\$41,304	\$41,686	\$42,068
% change y/y	0%	-9%	-11%	17%	-4%	-3%	0%	2%	2%	2%	1%	1%	1%	1%

Source: USDA CRC estimates

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

### US Corn, Soy, and Wheat Supply and Demand - Long Term Annual Forecast 2017 (continued)

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

Millions of bushels	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027
Planted	56	57	55	50	46	49	50	50	50	50	50	50	50	50
Harvested	45	46	47	44	39	42	42	42	42	42	42	42	42	42
Yield Per Harvested Acre (Bushels)	47	44	44	53	47	48	48	48	49	49	50	50	50	51
Beginning Stocks	718	590	752	976	1,161	993	892	832	784	742	707	679	658	654
Production	2,134	2,026	2,062	2,310	1,824	1,976	2,012	2,029	2,045	2,062	2,079	2,096	2,113	2,129
Imports	169	144	113	115	130	125	125	125	130	135	140	145	150	155
<b>Total Supplies</b>	<b>3,021</b>	<b>2,760</b>	<b>2,927</b>	<b>3,400</b>	<b>3,115</b>	<b>3,094</b>	<b>3,029</b>	<b>2,986</b>	<b>2,959</b>	<b>2,939</b>	<b>2,926</b>	<b>2,920</b>	<b>2,921</b>	<b>2,938</b>
Food	955	960	957	955	955	970	975	980	985	990	995	1,000	1,005	1,010
Seed	77	81	67	61	66	67	67	67	67	67	67	67	67	67
Feed&residual	223	111	152	190	170	190	180	170	170	170	170	170	170	170
Exports	1,176	855	775	1,035	1,000	975	975	985	995	1,005	1,015	1,025	1,025	1,035
<b>Total Use</b>	<b>2,431</b>	<b>2,007</b>	<b>1,952</b>	<b>2,241</b>	<b>2,191</b>	<b>2,202</b>	<b>2,197</b>	<b>2,202</b>	<b>2,217</b>	<b>2,232</b>	<b>2,247</b>	<b>2,262</b>	<b>2,267</b>	<b>2,282</b>
Ending Stocks	590	753	976	1,159	924	892	832	784	742	707	679	658	654	656
Stocks/Use	24.3%	37.5%	50.0%	51.7%	42.2%	40.5%	37.9%	35.6%	33.5%	31.7%	30.2%	29.1%	28.9%	28.8%
<b>Average Price (\$/bu)</b>	<b>\$6.87</b>	<b>\$5.99</b>	<b>\$4.89</b>	<b>\$3.90</b>	<b>\$4.30</b>	<b>\$4.30</b>	<b>\$4.50</b>	<b>\$4.70</b>	<b>\$4.70</b>	<b>\$4.80</b>	<b>\$4.90</b>	<b>\$5.00</b>	<b>\$5.00</b>	<b>\$5.00</b>
Value of Production	\$14,661	\$12,136	\$10,083	\$9,009	\$7,843	\$8,497	\$9,054	\$9,536	\$9,612	\$9,898	\$10,187	\$10,480	\$10,565	\$10,645
% change y/y	-16%	-17%	-17%	-11%	-13%	8%	7%	5%	1%	3%	3%	3%	1%	1%

#### Total Acreage and Value of U.S. Corn, Soy and Wheat Production - USDA February 2017 Projection

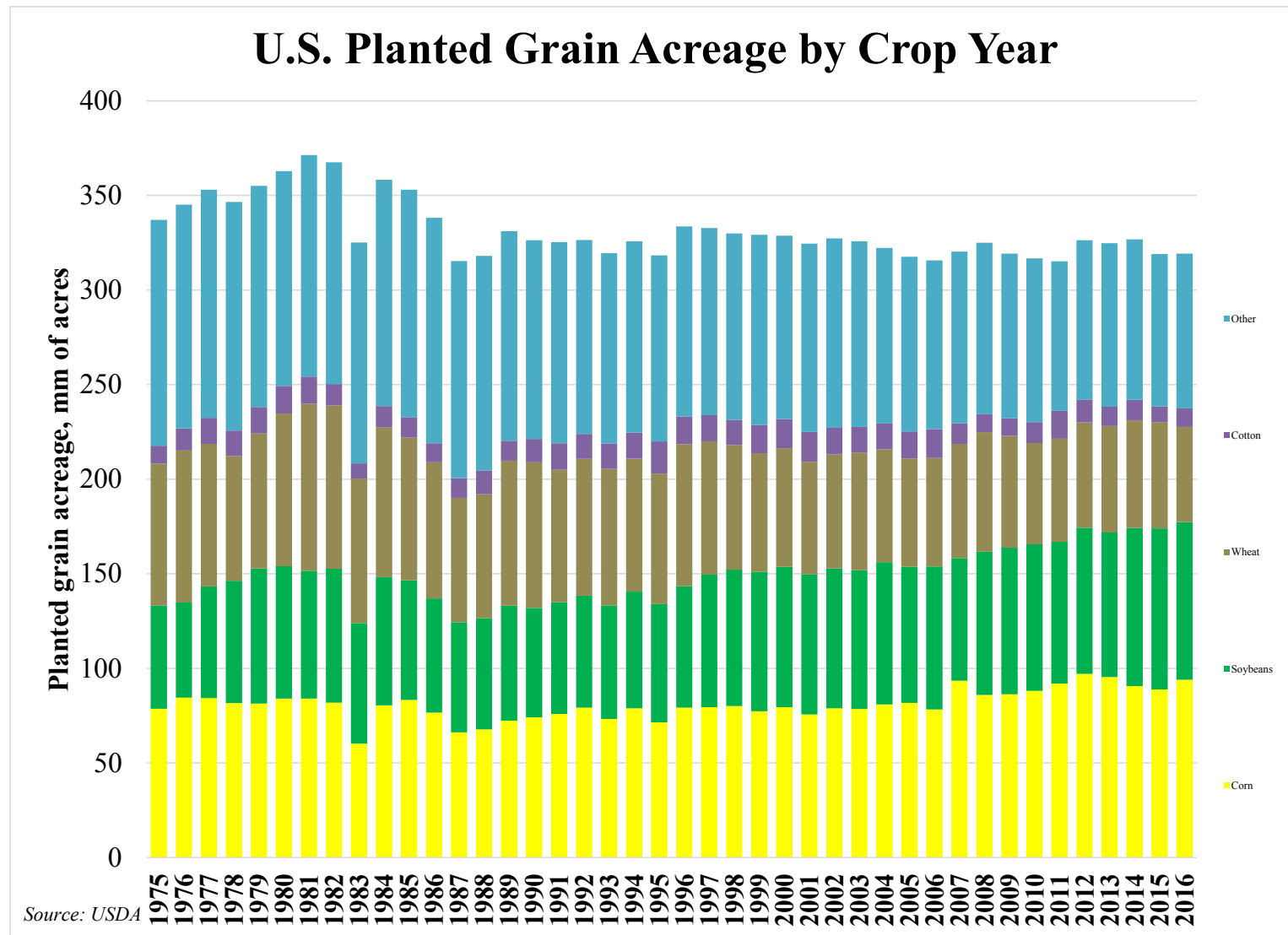
Total Corn, Soy, Wheat	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027
Planted (mm acres)	228	231	226	228	226	224	224	223	223	223	222	222	221	221
Harvested (mm acres)	209	212	210	213	210	208	207	206	206	206	205	205	205	204
Yield (bu/acre)	92	95	93	102	96	97	98	99	100	101	102	103	103	104
Production	19,321	20,169	19,589	21,765	20,144	20,181	20,402	20,444	20,600	20,822	20,854	21,076	21,197	21,318
Average Price (\$/bu)	\$6.21	\$5.18	\$4.81	\$4.67	\$4.73	\$4.66	\$4.68	\$4.79	\$4.83	\$4.89	\$4.95	\$4.99	\$5.00	\$5.04
<b>Value of Production</b>	<b>\$119,992</b>	<b>\$104,398</b>	<b>\$94,320</b>	<b>\$101,644</b>	<b>\$95,236</b>	<b>\$94,107</b>	<b>\$95,405</b>	<b>\$97,848</b>	<b>\$99,514</b>	<b>\$101,724</b>	<b>\$103,243</b>	<b>\$105,275</b>	<b>\$105,975</b>	<b>\$107,414</b>
% change y/y	-11%	-13%	-10%	8%	-6%	-1%	1%	3%	2%	2%	1%	2%	1%	1%

Source: USDA, Cleveland Research estimates

Source: USDA, CRC estimates



## U.S. Acreage Planted Per Crop Year



Source: USDA, Cleveland Research estimates