

Dealer Sentiment & Business Conditions Update

July 2022

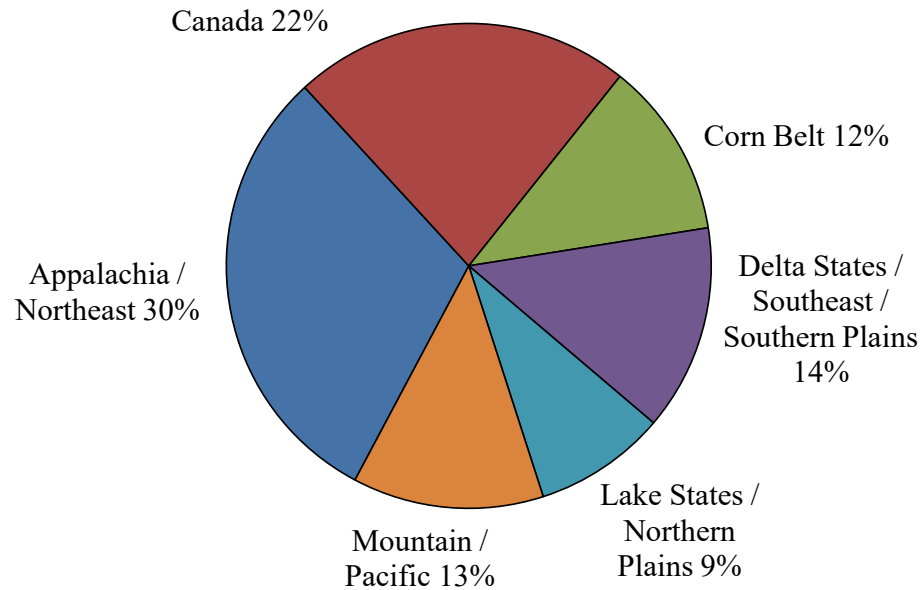
Monthly Ag Equipment Intelligence North American Dealer Survey

- **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 June survey had ~105 respondents representing combined annual revenues of roughly \$5.2 billion. Participants represent a broad cross section of geographies and brands, summarized in the charts below.

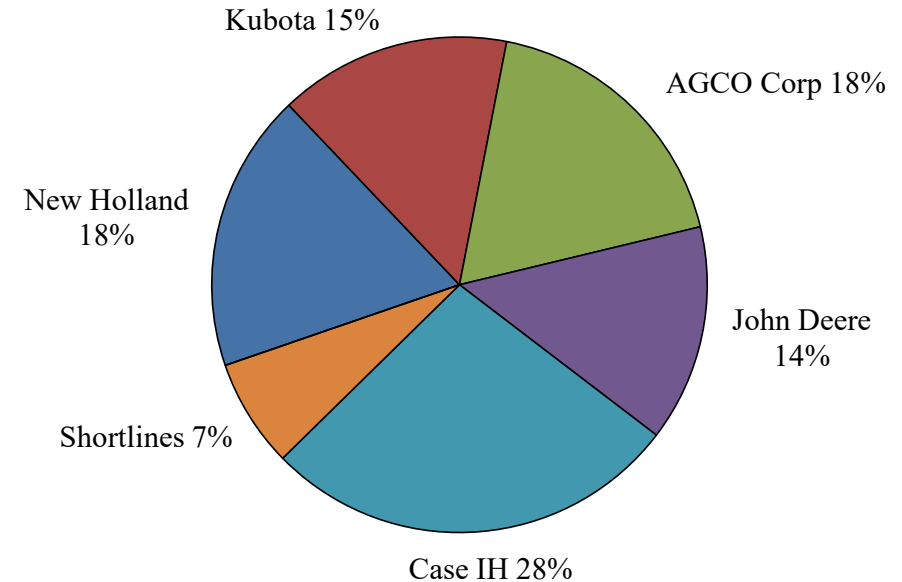
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Appalachia / Northeast – CT, DE, KY, MA, MD, ME, NC, NH, NY, NJ, PA, RI, TI, TN, VA, VT, WV, **Corn Belt** – IL, IN, IA, MO, OH, **Delta States / Southeast / Southern Plains** – AL, AR, FL, GA, LA, MS, OK, SC, TX, **Lake States / Northern Plains**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

Survey Participants by Region



Participants by Brand



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Highlights / Summary Thoughts

- **Sales** – Average dealer sales were reported up 1% y/y in June, down 2pts from last month. A net 24% of dealers missed their sales budgets in June vs the 28% that missed plan in May. Parts and Service sales were up 3% y/y, down 1pts from last month. 6 of 12 equipment categories showed sequential deceleration this month vs the 9 equipment categories showing sequential acceleration last month.
- **Outlook** – The 2022 sales forecast is up 2% in June, inline with last month with a net 7% of dealers expecting growth vs the 11% expecting growth last month. The USDA released their July 2022/23 crop year report with our proxy showing 52% cash receipts growth this year vs 55% growth last month. John Deere forecasts North America large ag unit sales up 20% in 2022 while small ag unit sales are forecast flat. AGCO forecasts tractors units up 5-10%, while CNH forecasts tractor units up 15%. The initial 2023 sales forecast is up 1% y/y with a net 3% of dealers forecasting sales growth.
- **Inventory** – New equipment inventory levels increased this month with a net 86% of dealers reporting inventories too low vs a net 91% last month. A net 75% of dealers reported used inventories too low this month vs the net 78% of dealers reporting inventories too low last month.
- **Pricing** – Used equipment pricing was up 6% y/y in June, down 1pt vs last month, while new equipment prices are reported up ~3.5-4% on average.

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Monthly Sales Growth

- Sales in June were up 1% y/y, down 2pts from last month with a net 24% of dealers missing plan vs the net 28% that missed plan in May. This is the fifth time dealers have missed plan since August 2021.
- A net 54% of dealers reported less optimism in June vs 61% reporting less optimism last month. The depletion of both new and used inventories, delayed deliveries (especially EOPs), inflation, elevated farmer input costs and continued supply chain headwinds appear to be causing concern amongst participants.

N. American Farm equipment Dealer Survey - Average Dealer Sales Growth																		
% Change y/y	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
AGCO	3%	3%	-4%	13%	4%	6%	-1%	0%	10%	6%	7%	8%	0%	1%	2%	3%	4%	-1%
John Deere	6%	8%	10%	12%	13%	13%	6%	20%	12%	13%	7%	1%	0%	4%	7%	4%	6%	6%
New Holland	5%	2%	3%	3%	0%	5%	2%	5%	-6%	0%	-5%	10%	5%	4%	3%	-4%	-13%	-2%
Case IH	5%	6%	6%	6%	3%	-6%	6%	3%	4%	5%	9%	2%	2%	2%	3%	0%	3%	-3%
Kubota	4%	4%	5%	13%	10%	5%	10%	2%	5%	19%	8%	8%	10%	8%	0%	2%	-7%	8%
Shortlines/Other	4%	7%	12%	1%	6%	4%	10%	1%	5%	19%	11%	7%	3%	3%	-1%	-4%	16%	0%
Total	5%	6%	7%	9%	7%	6%	6%	5%	7%	9%	8%	6%	2%	4%	4%	1%	3%	1%

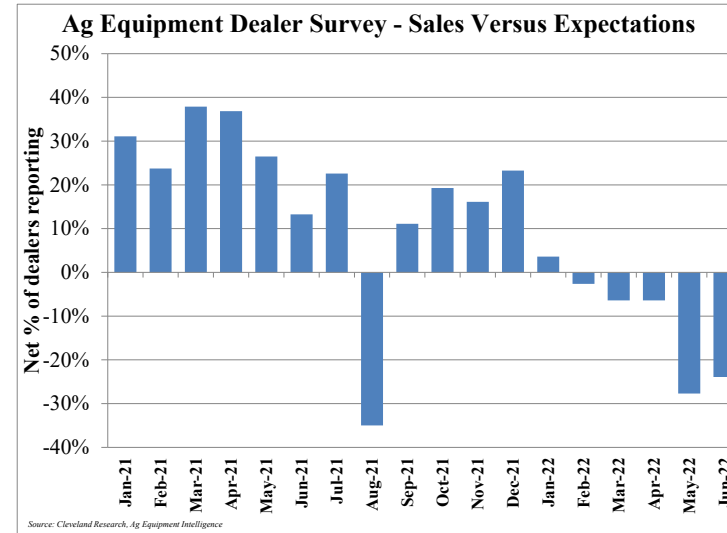
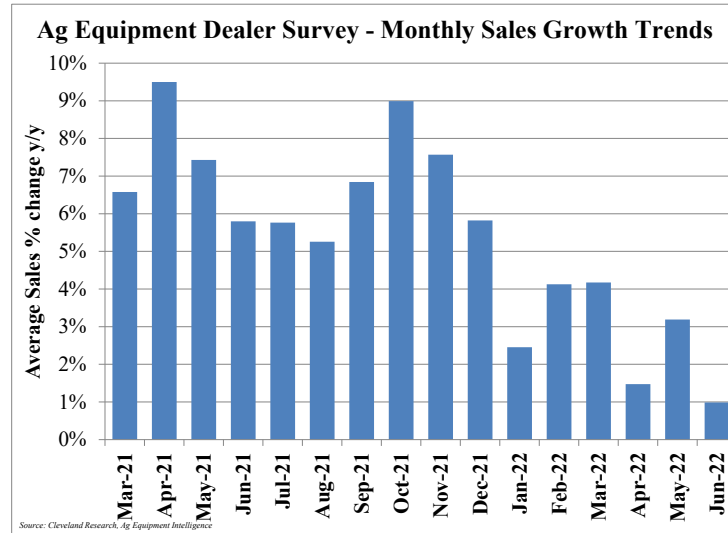
Source: Cleveland Research, Ag Equipment Intelligence

N. American Farm Equipment Dealer Survey - Sales Versus Expectations																		
% of Dealers Reporting	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Better than expected	43%	36%	52%	46%	40%	36%	45%	0%	29%	40%	34%	36%	23%	20%	24%	17%	20%	16%
In line with expectations	45%	53%	35%	44%	46%	42%	32%	65%	53%	40%	47%	51%	58%	58%	45%	39%	37%	50%
Worse than expected	12%	12%	14%	9%	14%	22%	23%	35%	18%	20%	18%	13%	19%	22%	31%	45%	43%	34%
Net % (Better - Worse)	31%	24%	38%	37%	26%	13%	23%	-35%	11%	19%	16%	23%	4%	-3%	-6%	-6%	-28%	-24%

Source: Cleveland Research, Ag Equipment Intelligence

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Monthly Sales Growth Continued



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

% of Dealers Reporting	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Positive Sales Growth	48%	52%	56%	53%	55%	50%	53%	59%	59%	61%	69%	70%	45%	53%	48%	41%	45%	47%
Flat Sales	45%	42%	40%	41%	35%	38%	34%	15%	17%	17%	13%	13%	30%	26%	24%	20%	24%	20%
Negative Sales Growth	8%	7%	4%	6%	10%	12%	13%	26%	24%	22%	18%	17%	24%	21%	28%	39%	32%	33%
Net % Reporting Growth	40%	45%	52%	47%	46%	38%	41%	34%	35%	40%	51%	53%	21%	32%	20%	20%	2%	13%
Average % Change y/y	5%	6%	7%	9%	7%	6%	6%	5%	7%	9%	8%	6%	2%	4%	4%	4%	1%	3%

Source: Cleveland Research

Optimism/Sentiment vs. Last Month

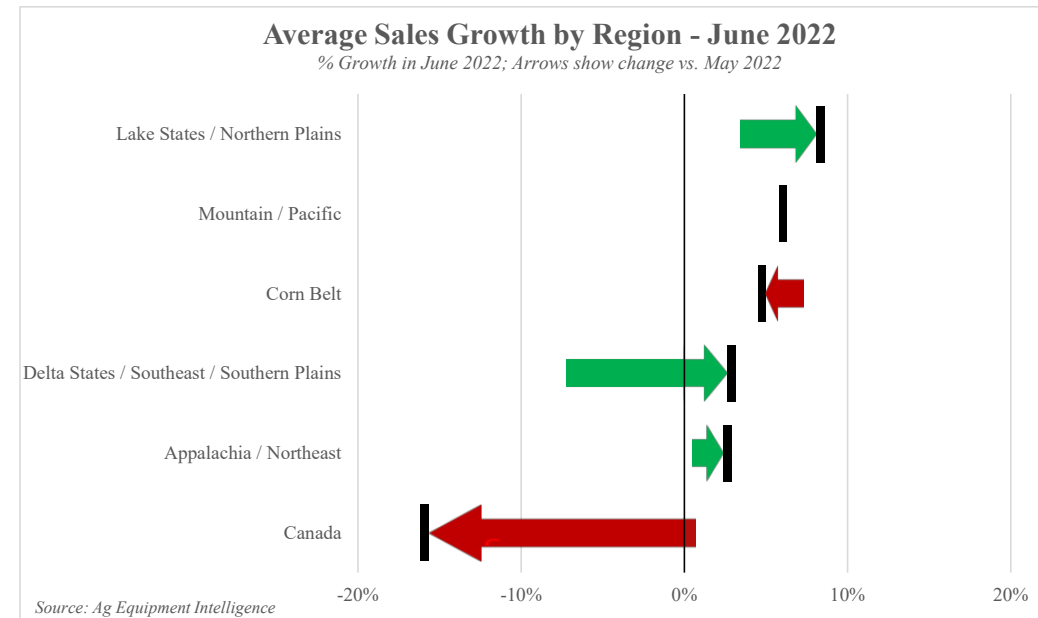
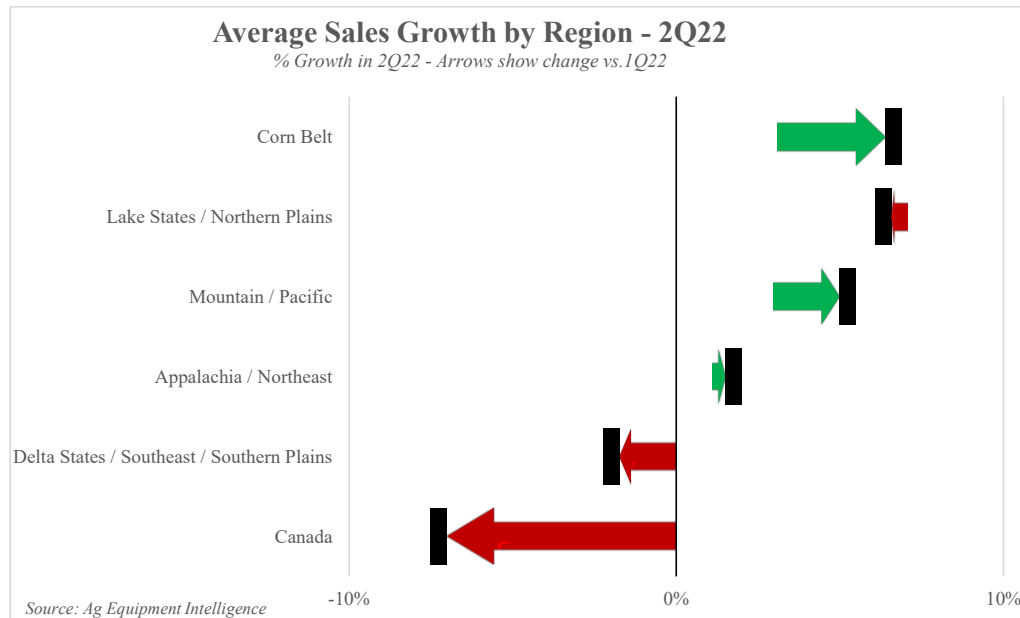
% of Dealers Reporting	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
More Optimistic	34%	40%	37%	37%	23%	29%	6%	22%	20%	22%	18%	12%	0%	12%	12%	0%	3%	8%
Same	50%	48%	56%	50%	53%	49%	65%	48%	51%	46%	51%	67%	59%	46%	54%	39%	39%	41%
Less Optimistic	17%	12%	7%	13%	25%	22%	29%	30%	29%	32%	31%	21%	41%	42%	35%	61%	58%	52%
Net % Dealer Optimism	17%	28%	30%	24%	-2%	6%	-23%	-8%	-9%	-10%	-13%	-9%	-41%	-30%	-23%	-23%	-61%	-54%

Source: Cleveland Research

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Monthly Sales Growth by Region

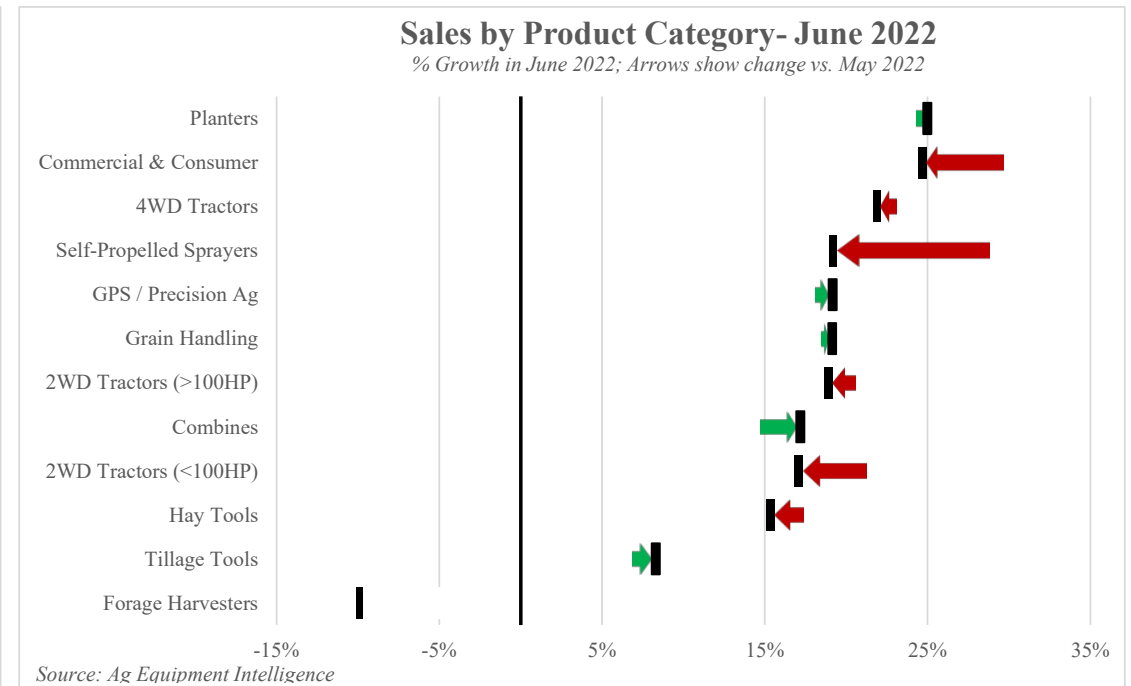
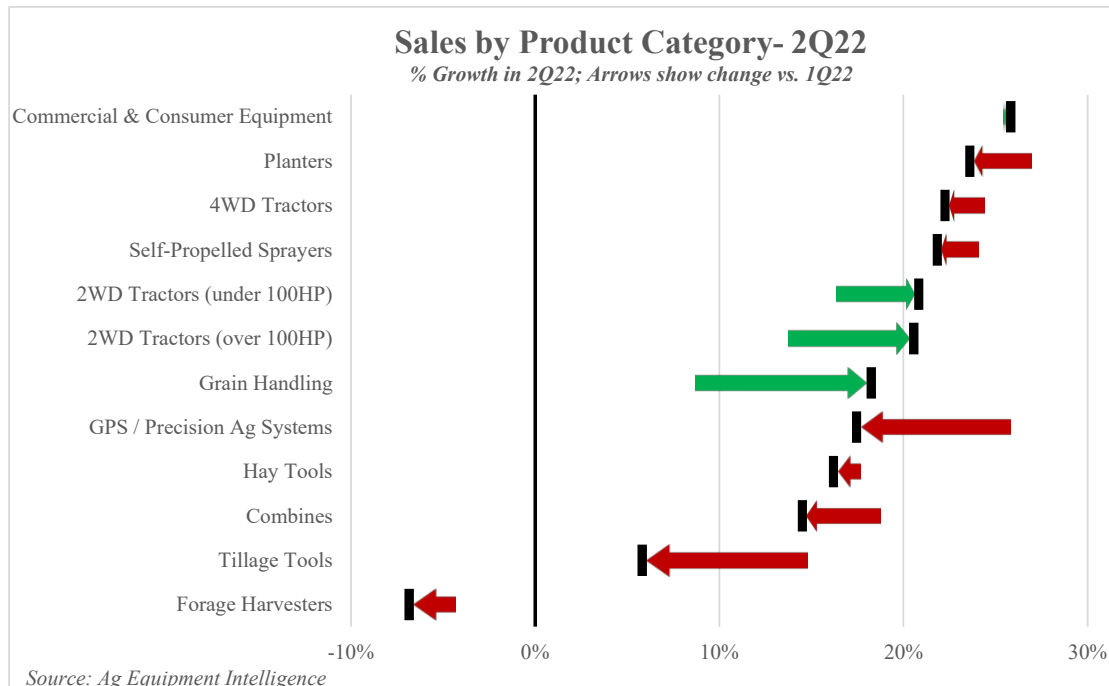
- 3 of the 6 regions saw sequential acceleration in June vs 4 regions showing deceleration last month. Lakes States / Northern Plains region was the strongest in the month, while Canada was the weakest. The Delta States/Southeast/Southern Plains region showed the greatest sequential acceleration, while Canada showed the greatest sequential deceleration in June.
- In 2Q, 3 of the 6 regions saw sequential acceleration with Canada being the weakest, while the Corn Belt region was the strongest.



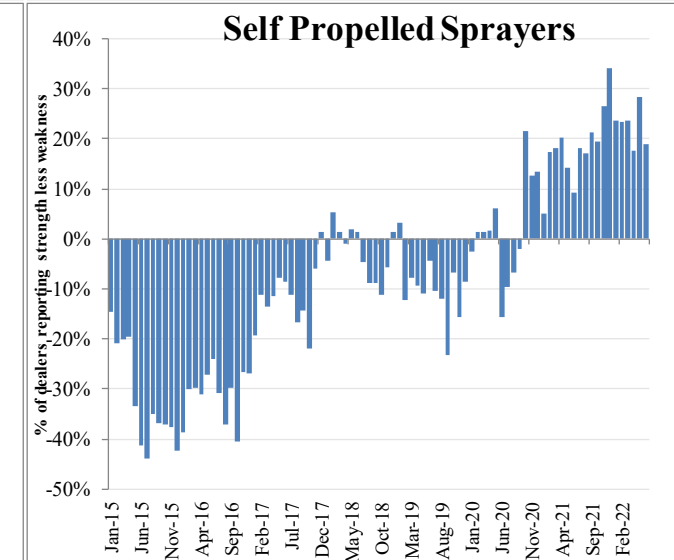
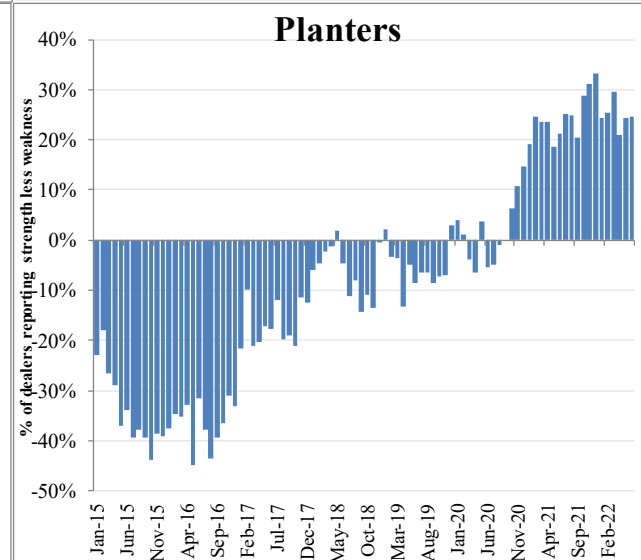
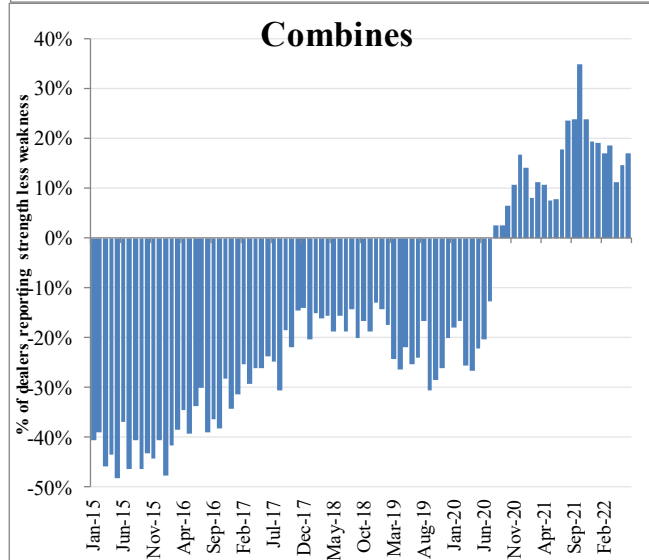
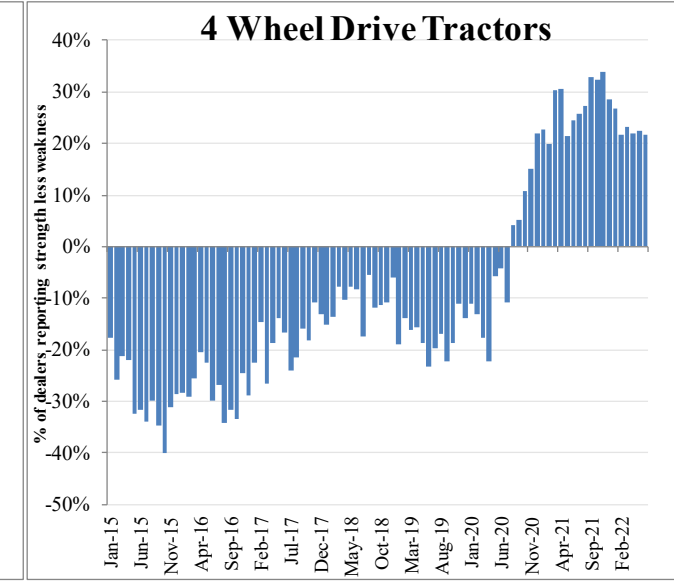
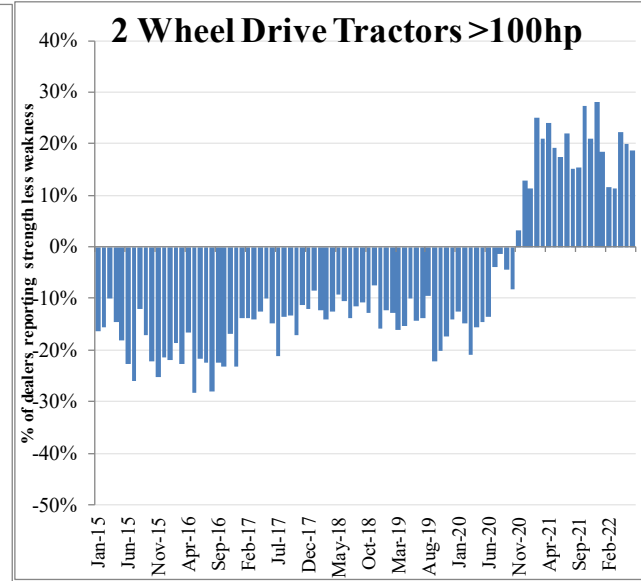
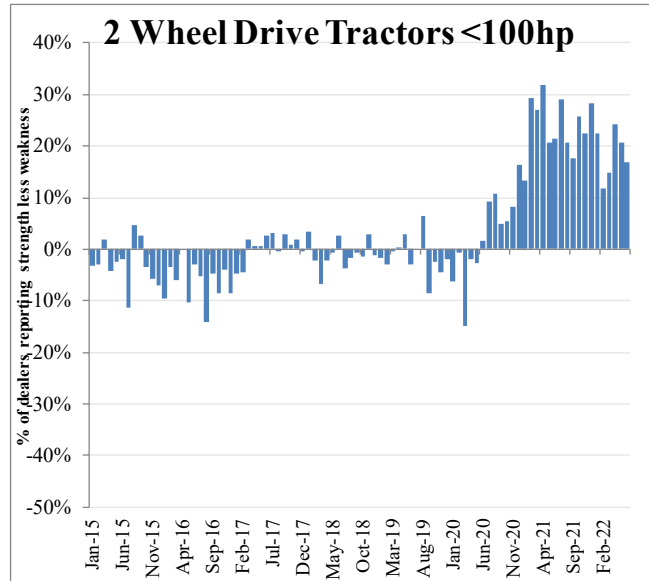
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Equipment Category Sales Trends

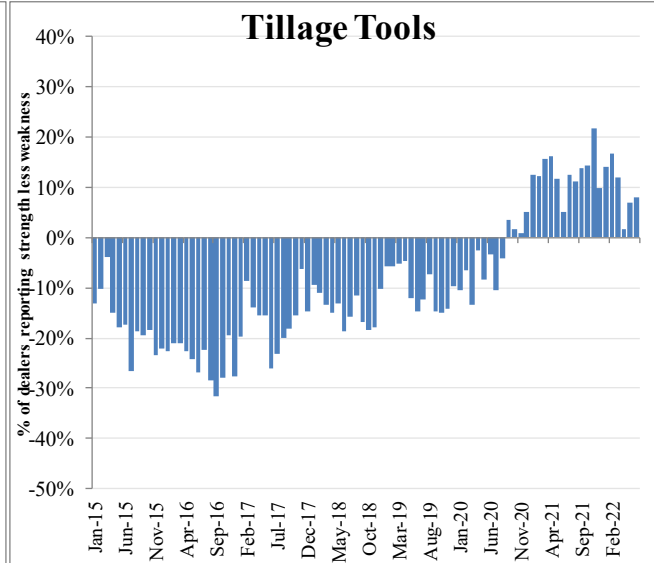
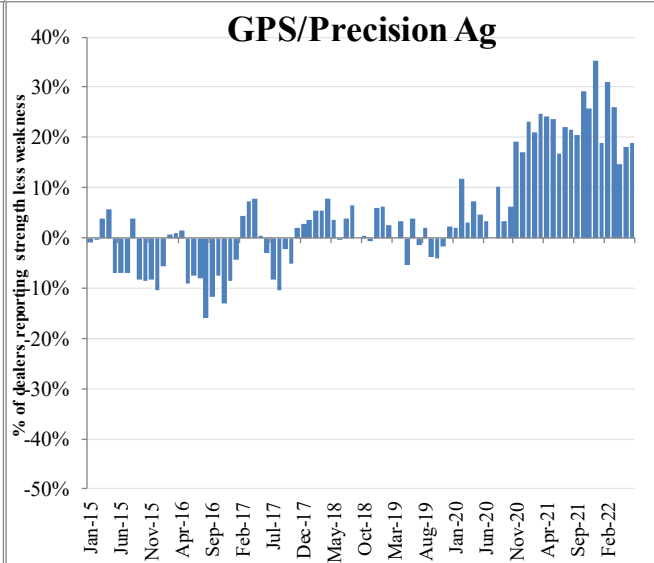
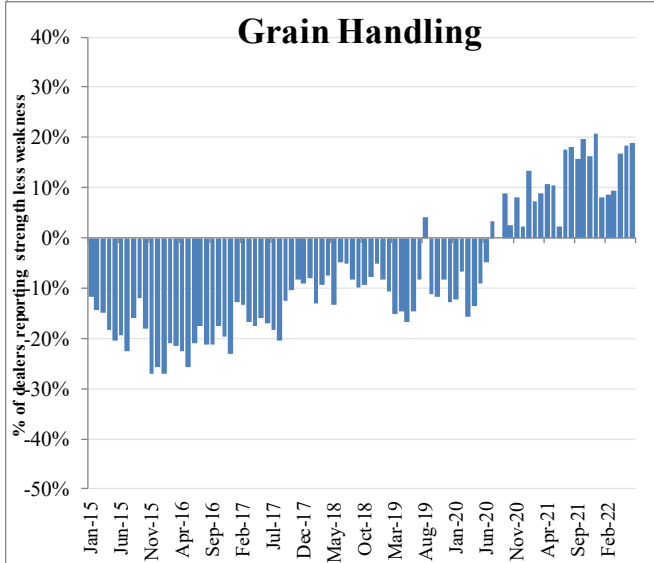
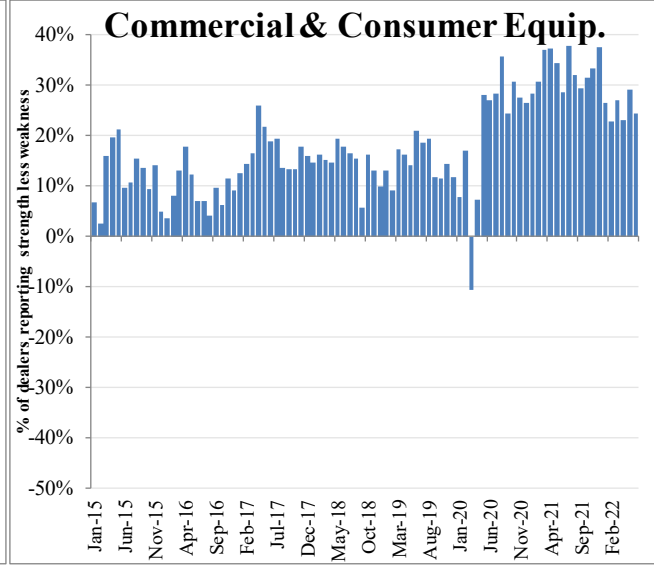
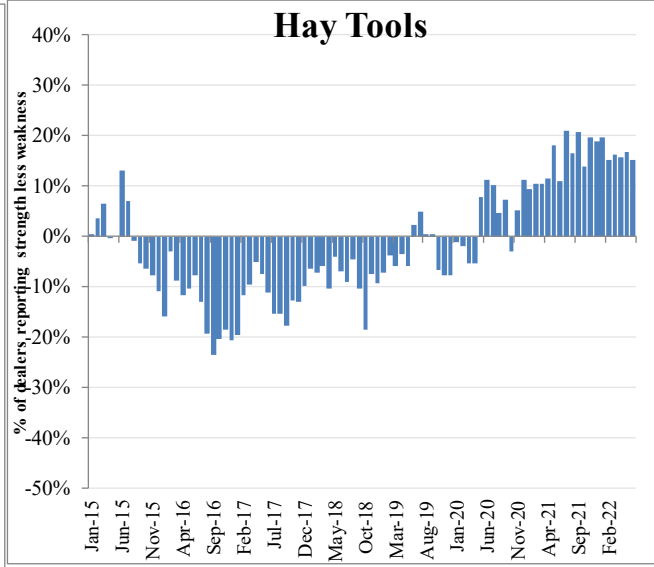
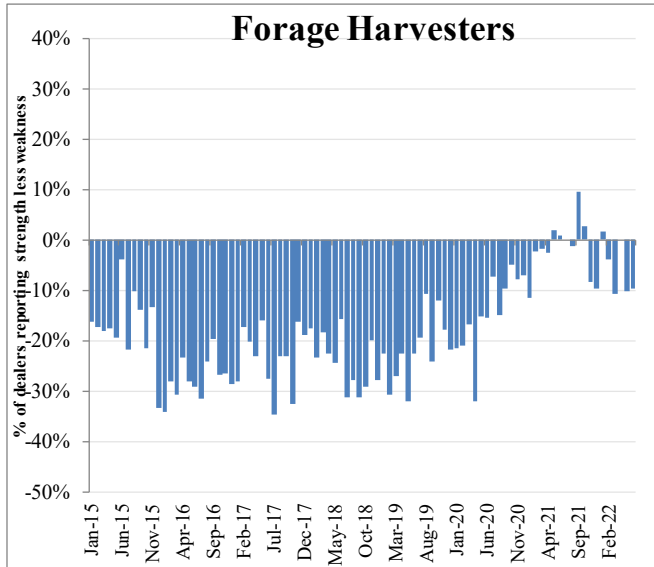
- Sales trends by product category decelerated this month with 6 of 12 categories showing deceleration vs 9 categories showing acceleration last month. Planters were the strongest in the month, while Forage Harvesters were the weakest.
- In 2Q, 8 of 12 categories decelerated vs 10 categories showing deceleration in 1Q.



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Average Dealer Sales Outlook

- The 2022 sales forecast is up 2%, inline with last month with a net 7% of dealers forecasting sales growth this year, down from the 11% that expected growth last month. John Deere forecasts North America large ag unit sales up 20% in 2022 while small ag unit sales are forecast flat. AGCO forecasts tractors units up 5-10%, while CNH forecasts tractor units up 15%.
- The initial 2023 sales forecast is up 1% y/y with a net 3% of dealers forecasting sales growth.

N. American Farm Equipment Dealer Survey - 2022 Sales Forecast														
% change y/y	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
AGCO	5%	4%	4%	4%	17%	12%	12%	8%	11%	10%	5%	9%	0%	-1%
John Deere	7%	2%	5%	2%	3%	2%	4%	6%	5%	4%	4%	4%	8%	8%
New Holland	4%	7%	0%	8%	1%	1%	12%	6%	4%	1%	5%	-2%	0%	5%
Case IH	4%	9%	6%	6%	1%	7%	-2%	5%	6%	5%	2%	2%	0%	-1%
Kubota	11%	3%	3%	2%	4%	3%	0%	3%	10%	-6%	-8%	-7%	-7%	2%
Shortlines/Other	2%	11%	9%	7%	5%	9%	5%	15%	-1%	1%	-1%	6%	11%	2%
Total	6%	5%	5%	5%	5%	5%	4%	6%	6%	5%	4%	3%	2%	2%

Source: Cleveland Research, Ag Equipment Intelligence

N. American Farm Equipment Dealer Survey - Net % of Contacts Forecasting Growth in 2022														
% of Dealers Reporting	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Positive Sales Growth	53%	70%	58%	57%	69%	56%	58%	65%	45%	53%	41%	42%	47%	42%
Flat Sales	29%	20%	16%	22%	15%	22%	20%	19%	30%	26%	27%	20%	17%	22%
Negative Sales Growth	18%	9%	26%	21%	17%	22%	21%	16%	24%	21%	33%	38%	36%	36%
Net % Expecting Growth	35%	61%	32%	35%	52%	34%	37%	49%	21%	32%	8%	5%	11%	7%

Source: Cleveland Research, Ag Equipment Intelligence

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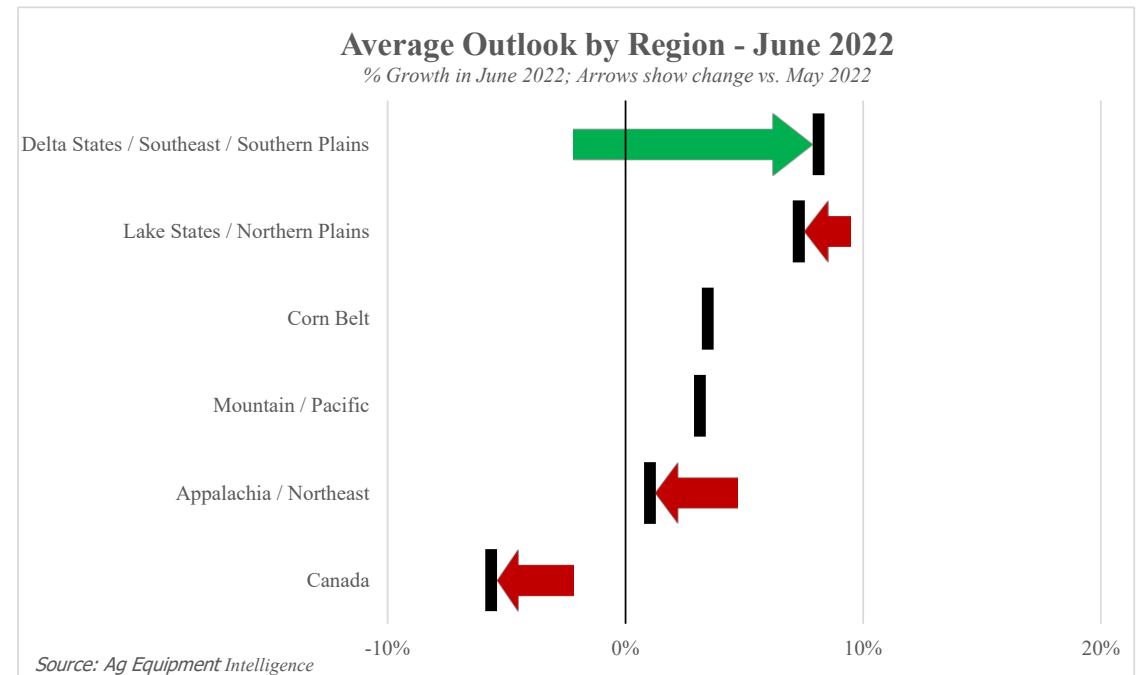
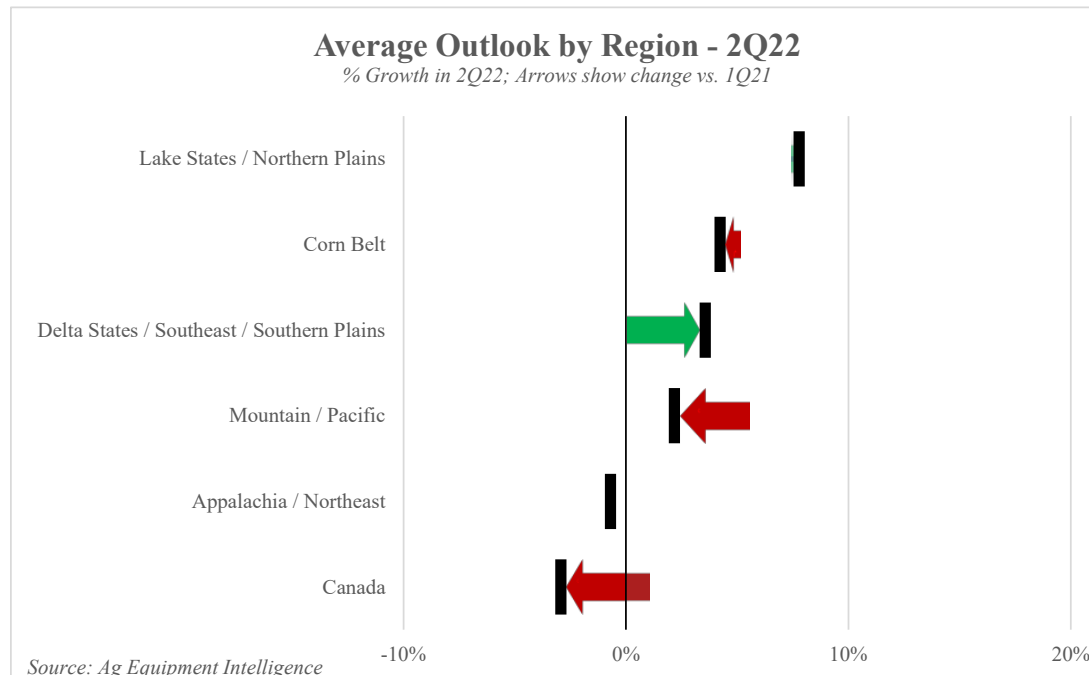
Most Interesting Commentary – Monthly Sales and Outlook

- The farm economy appears to be slowing down. (Appalachia / Northeast)
- We have to hold on to equipment as new equipment arrives past season. (Mountain / Pacific)
- We continue to miss delivery dates and not all of our pre-sold equipment has arrived yet. (Corn Belt)
- We feel the market has started to see some softening in most areas of the ag market. (Lake States / Northern Plains)
- Sales were up y/y slightly this month but we still continue to face severe delays in new equipment deliveries. (Corn Belt)
- The increase on interest rates are getting attention from farmers. We are not seeing cancellations or pull back on spend but there appears to be heightened concern. (Lake States / Northern Plains)
- AGCO continues to increase prices on all equipment categories. (Delta States / Southeast / Southern Plains)
- Our discount programs continue to erode as inventory levels remain slim. (Appalachia / Northeast)
- Our customers are facing a drought and the economy is not helping sentiment. (Delta States / Southeast / Southern Plains)
- Drought is starting to negatively impact future sales. (Appalachia / Northeast)

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2022 Sales Results

- In June, the 2022 outlook decelerated in 3 of the 6 regions with the greatest sequential deceleration in Canada and the Appalachia/Northeast region, while the Delta States/Southeast/Southern Plains region showed the greatest sequential acceleration. We believe the swing in regions, particularly the Delta States/Southeast/Southern Plains region, is likely due to participant mix. The Delta States/Southeast/Southern Plains region was the strongest in the month, while Canada was the weakest.
- In 2Q, 3 of 6 regions decelerated with Canada and Appalachia/Northeast being the only 2 negative.

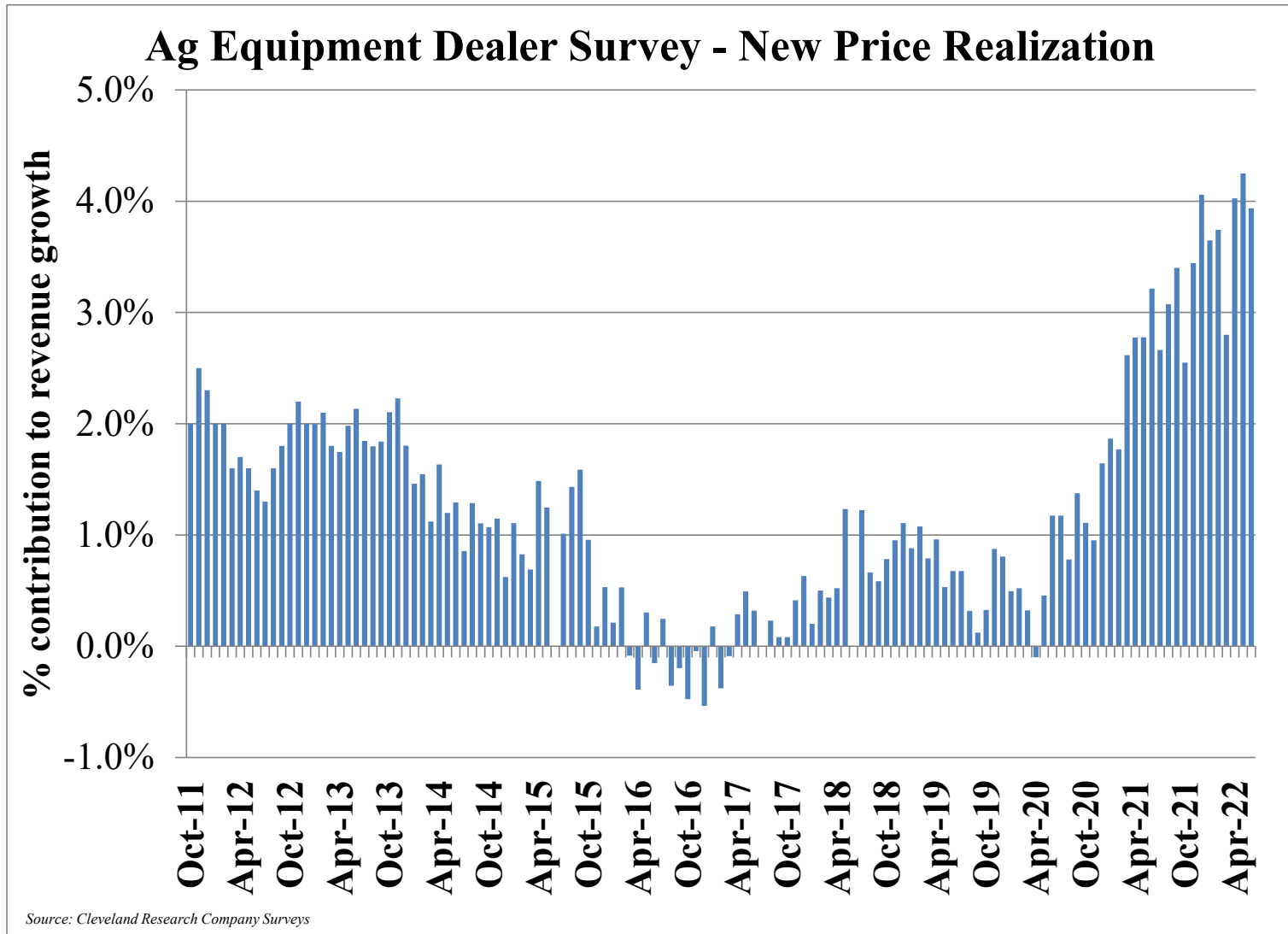


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Pricing Trends

Price contribution was up ~4% in June, similar to May.

Commentary suggests the increase in price is the result of freight and material surcharges in addition to base model increases.



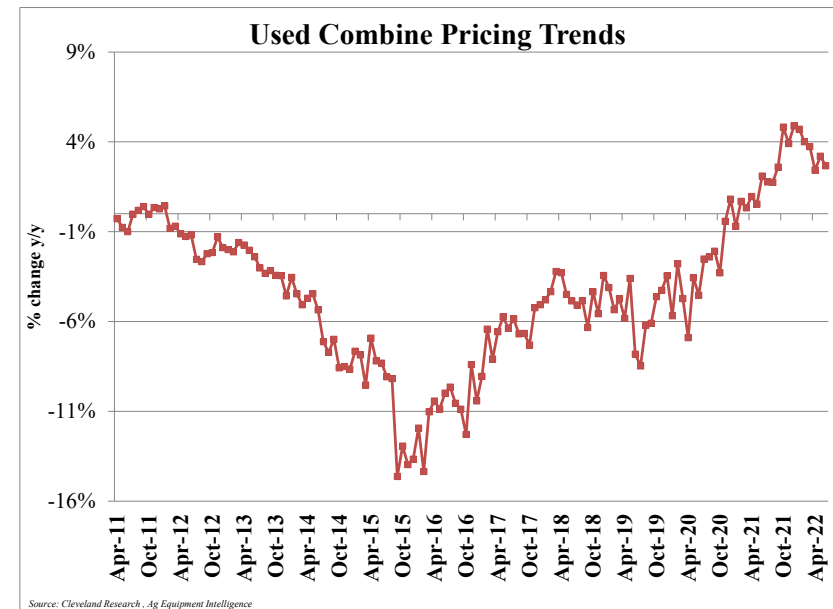
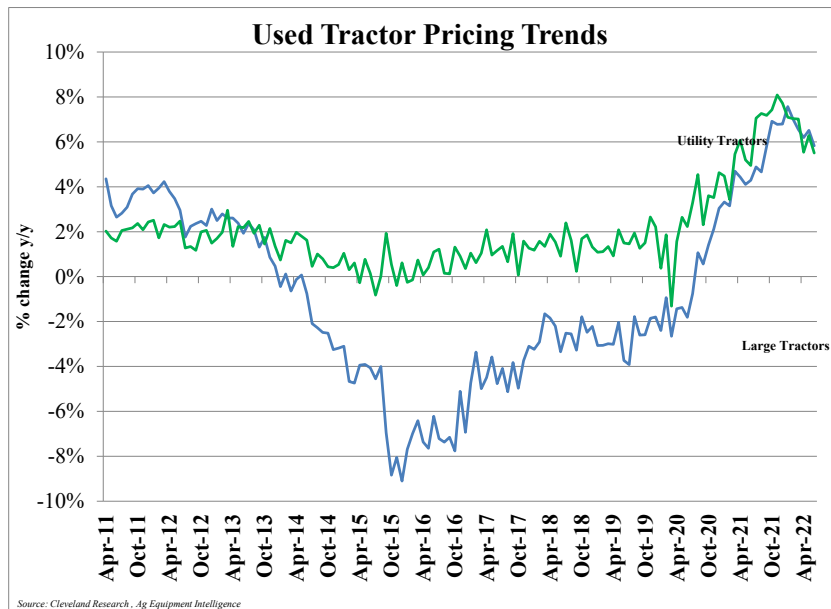
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Used Equipment Pricing

- Used equipment pricing was up ~6% in June, down 1pt from last month.

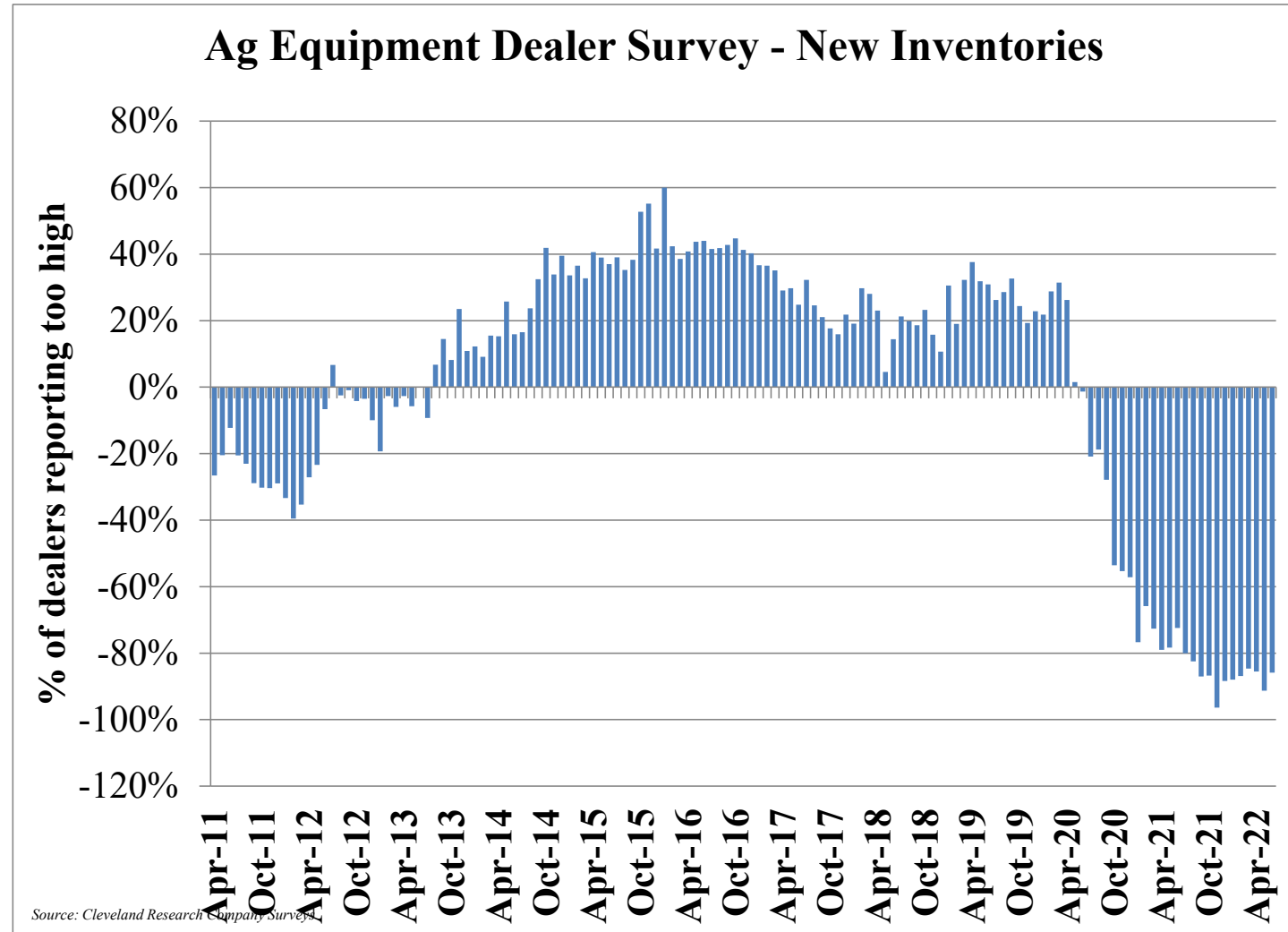
Used Tractor and Combine Values - % Change y/y																		
Product Category	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Compact Tractor (<40HP)	5%	3%	6%	6%	6%	5%	7%	7%	7%	7%	8%	8%	7%	7%	7%	7%	6%	5%
Utility Tractor (40-100HP)	4%	3%	5%	5%	5%	5%	7%	8%	7%	7%	8%	7%	7%	7%	7%	7%	7%	6%
Row Crop Tractor (100HP+)	4%	3%	4%	4%	5%	5%	5%	6%	6%	7%	8%	7%	8%	8%	7%	7%	7%	6%
4WD Tractors	3%	3%	0%	1%	3%	3%	4%	4%	5%	6%	6%	6%	7%	7%	6%	6%	6%	5%
Combines	(1%)	1%	0%	0%	1%	2%	2%	2%	3%	5%	4%	5%	5%	4%	4%	4%	3%	3%

Source: Cleveland Research, Ag Equipment Intelligence



New Equipment Inventory Levels

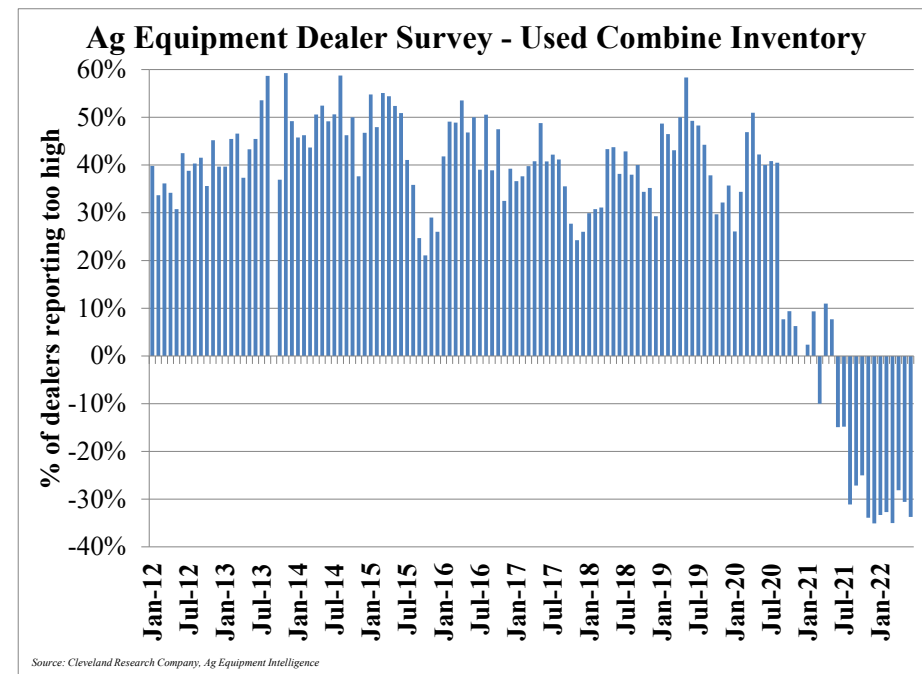
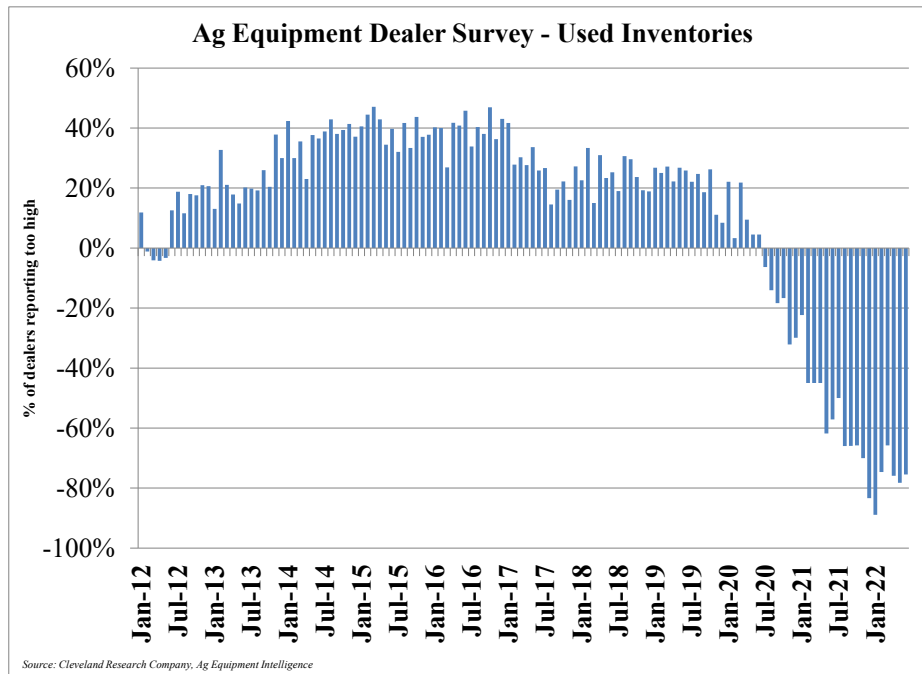
New equipment inventory levels increased slightly in June with a net 86% of dealers reporting inventories too low (1% too high, 12% inline, 87% too low) vs 91% of dealers reporting inventories too low (1% too high, 7% inline, 92% too low) in May.



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Used Equipment Inventory Levels

- A net 75% of dealers reported used equipment inventory as too low (0% too high, 25% inline, 75% too low) in June vs a net 78% of dealers reported used equipment inventory as too low (0% too high, 22% inline, 78% too low) last month.
- A net 34% of dealers reported used combine inventories as too low in the month (4% too high, 59% inline, 37% too low), vs the net 31% reporting inventories too low in May (8% too high, 53% inline, 39% too low).
- A net 77% of dealers report used HHP tractor inventories too low in June (0% too high, 23% inline, 77% too low) vs the net 77% last month (0% too high, 23% inline, 77% too low).



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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	
Jul-19	15,777	5,874	1,668	220	23,539	1,888	577	0%	0%	-11%	-8%	-1%	-10%	-32%	
Aug-19	14,447	5,602	1,612	208	21,869	1,820	617	3%	-1%	12%	17%	3%	12%	-4%	
Sep-19	13,978	5,894	1,645	339	21,856	1,984	691	18%	20%	1%	-7%	17%	-1%	4%	
Oct-19	16,021	7,561	3,336	567	27,485	3,903	750	-4%	-3%	-2%	-11%	-3%	-3%	1%	
Nov-19	8,678	3,897	967	144	13,686	1,111	320	3%	2%	0%	-41%	1%	-8%	-1%	
Dec-19	12,219	6,098	2,077	375	20,769	2,452	757	6%	-9%	-1%	15%	1%	1%	-14%	
Jan-20	8,322	3,890	1,506	180	13,898	1,686	244	5%	3%	13%	-28%	4%	7%	-24%	
Feb-20	8,122	3,282	891	210	12,505	1,101	282	-9%	-5%	-14%	12%	-8%	-10%	-27%	
Mar-20	12,241	4,366	1,665	262	18,534	1,927	453	-16%	-15%	-9%	-18%	-15%	-10%	-19%	
Apr-20	26,243	6,395	2,044	388	35,070	2,432	607	13%	6%	-12%	11%	9%	-9%	1%	
May-20	27,882	6,884	1,570	206	36,542	1,776	312	19%	9%	-21%	-7%	15%	-20%	-21%	
Jun-20	27,805	8,096	1,659	152	37,712	1,811	626	39%	27%	-1%	-20%	33%	-3%	30%	
Jul-20	22,127	7,505	1,736	192	31,560	1,928	782	40%	28%	4%	-13%	34%	2%	36%	
Aug-20	16,509	6,351	1,496	227	24,583	1,723	655	14%	13%	-7%	9%	12%	-5%	6%	
Sep-20	17,700	6,775	2,055	411	26,941	2,466	646	27%	15%	25%	21%	23%	24%	-7%	
Oct-20	19,850	8,255	3,589	683	32,377	4,272	817	24%	9%	8%	20%	18%	9%	9%	
Nov-20	12,242	4,803	1,147	237	18,429	1,384	301	41%	23%	19%	65%	35%	25%	-6%	
Dec-20	16,743	8,004	2,502	383	27,632	2,885	664	37%	31%	20%	2%	33%	18%	-12%	
Jan-21	11,061	4,633	1,558	250	17,502	1,808	420	33%	19%	3%	39%	26%	7%	72%	
Feb-21	12,050	4,198	1,308	223	17,779	1,531	247	48%	28%	47%	6%	42%	39%	-12%	
Mar-21	24,390	6,950	2,142	293	33,775	2,435	477	99%	59%	29%	12%	82%	26%	5%	
Apr-21	32,478	8,306	2,766	528	44,078	3,294	615	24%	30%	35%	36%	26%	35%	1%	
May-21	26,185	7,553	2,032	315	36,085	2,347	470	-6%	10%	29%	53%	-1%	32%	51%	
Jun-21	22,874	7,800	2,151	322	33,147	2,473	616	-18%	-4%	30%	112%	-12%	37%	-2%	
Jul-21	21,314	7,704	2,451	349	31,818	2,800	1,023	-4%	3%	41%	82%	1%	45%	31%	
Aug-21	17,908	6,640	1,975	322	26,845	2,297	796	8%	5%	32%	42%	9%	33%	22%	
Sep-21	18,102	6,903	2,483	397	27,885	2,880	990	2%	2%	21%	-3%	4%	17%	53%	
Oct-21	20,831	8,577	3,967	667	34,042	4,634	1,338	5%	4%	11%	-2%	5%	8%	64%	
Nov-21	12,933	5,243	1,473	171	19,820	1,644	326	6%	9%	28%	-28%	8%	19%	8%	
Dec-21	16,387	7,815	3,351	438	27,991	3,789	764	-2%	-2%	34%	14%	1%	31%	15%	
Jan-22	11,446	4,493	1,747	253	17,939	2,000	254	3%	-3%	12%	1%	2%	11%	-40%	
Feb-22	12,957	4,481	1,648	194	19,280	1,842	230	8%	7%	26%	-13%	8%	20%	-7%	
Mar-22	18,510	6,023	2,253	250	27,036	2,503	403	-24%	-13%	5%	-15%	-20%	3%	-16%	
Apr-22	24,638	6,782	2,799	360	34,579	3,159	569	-24%	-18%	1%	-32%	-22%	-4%	-7%	
May-22	21,961	6,416	2,337	240	30,954	2,577	393	-16%	-15%	15%	-24%	-14%	10%	-16%	
Jun-22	20,606	7,285	2,286	340	30,517	2,626	783	-10%	-7%	6%	6%	-8%	6%	27%	

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

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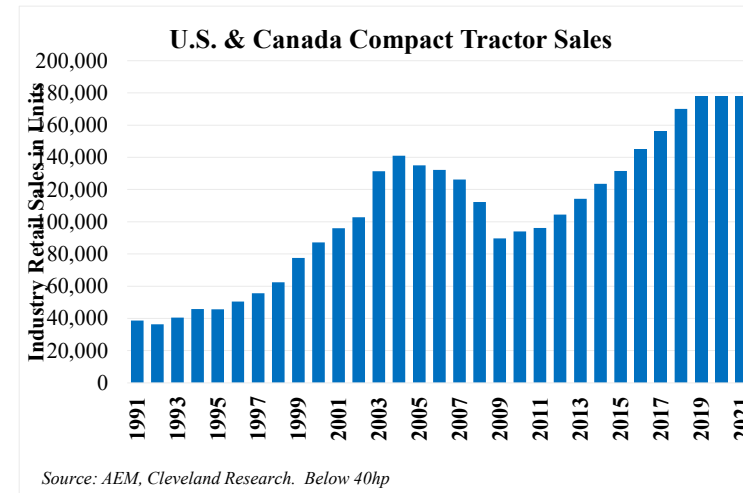
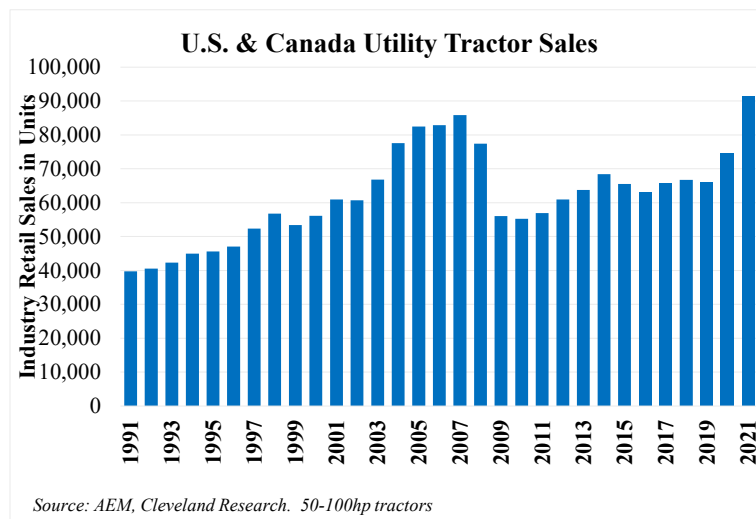
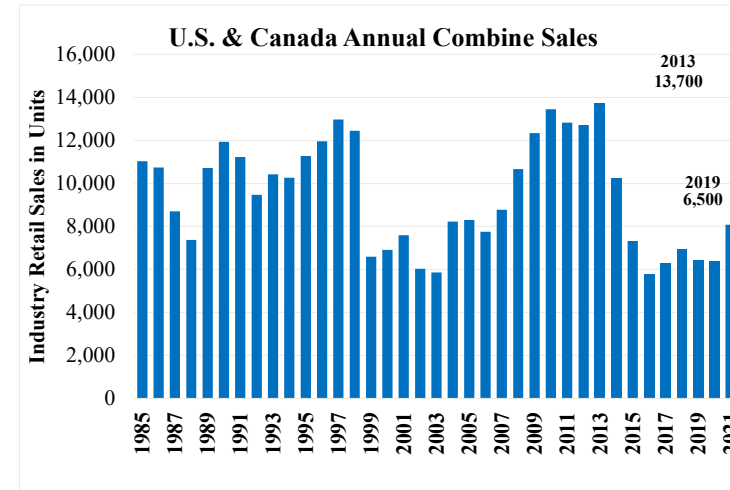
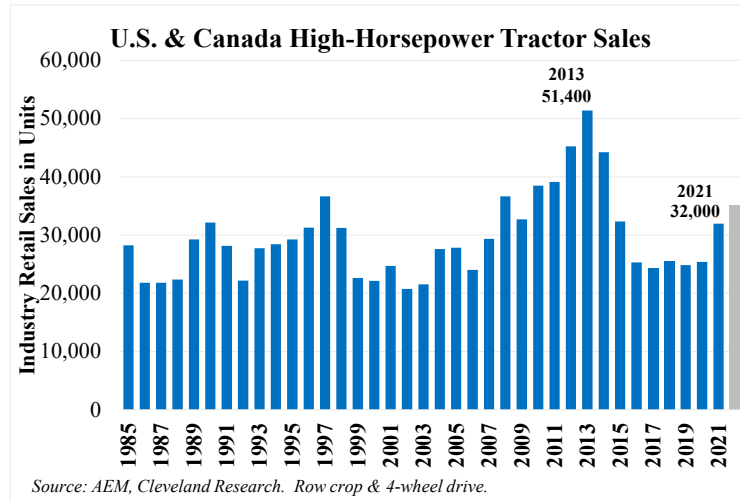
North American Farm Equipment Industry Inventory

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
Jun-19	95,055	39,248	11,902	1,401	147,606	13,303	2,229	54%	60%	55%	40%	55%	53%	33%
Jul-19	96,853	38,341	11,655	1,397	148,246	13,052	2,305	55%	58%	54%	40%	55%	52%	35%
Aug-19	98,923	39,257	11,260	1,394	150,834	12,654	2,384	56%	60%	52%	40%	56%	50%	36%
Sep-19	100,345	41,280	11,652	1,290	154,567	12,942	1,876	56%	62%	54%	37%	57%	52%	29%
Oct-19	100,036	39,441	10,047	981	150,505	11,028	1,248	56%	59%	47%	29%	56%	44%	19%
Nov-19	103,079	39,813	10,932	1,052	154,876	11,984	1,249	58%	60%	51%	32%	57%	48%	19%
Dec-19	103,197	39,004	10,725	1,022	153,948	11,747	1,107	58%	59%	50%	30%	57%	47%	17%
Jan-20	107,487	40,659	10,422	955	159,523	11,377	1,232	60%	61%	48%	29%	59%	46%	19%
Feb-20	112,298	41,971	10,641	1,012	165,922	11,653	1,477	63%	64%	49%	30%	62%	47%	24%
Mar-20	114,401	44,204	10,900	1,111	170,616	12,011	1,633	65%	68%	51%	34%	64%	49%	26%
Apr-20	101,757	42,447	10,457	955	155,616	11,412	1,456	57%	65%	50%	29%	58%	47%	24%
May-20	85,267	39,643	9,700	847	135,457	10,547	1,584	46%	60%	47%	26%	49%	44%	26%
Jun-20	72,001	36,417	9,451	938	118,807	10,389	1,767	38%	54%	46%	29%	42%	43%	28%
Jul-20	62,238	33,498	9,628	997	106,361	10,625	1,848	31%	48%	46%	31%	36%	44%	29%
Aug-20	60,191	32,081	10,007	1,156	103,435	11,163	1,836	30%	46%	49%	36%	35%	47%	28%
Sep-20	57,125	30,188	9,812	1,167	98,292	10,979	1,379	28%	42%	47%	35%	33%	45%	21%
Oct-20	54,474	27,608	8,044	816	90,942	8,860	901	26%	38%	38%	24%	30%	36%	14%
Nov-20	57,603	28,178	8,502	878	95,161	9,380	814	27%	39%	40%	25%	31%	38%	13%
Dec-20	60,733	26,426	7,960	760	95,879	8,720	822	28%	35%	36%	22%	30%	34%	13%
Jan-21	66,018	26,898	7,982	613	101,511	8,595	890	30%	36%	36%	17%	32%	34%	14%
Feb-21	70,083	27,307	8,166	644	106,200	8,810	1,109	32%	36%	37%	18%	33%	34%	17%
Mar-21	64,668	26,383	8,321	694	100,066	9,015	1,347	28%	33%	36%	19%	29%	34%	21%
Apr-21	63,886	26,363	8,247	639	99,135	8,886	1,344	27%	33%	35%	17%	28%	33%	20%
May-21	48,249	23,856	7,738	727	80,570	8,465	1,441	20%	29%	32%	19%	23%	30%	21%
Jun-21	44,734	22,353	7,978	780	75,845	8,758	1,498	19%	28%	33%	19%	22%	31%	22%
Jul-21	45,522	21,148	7,523	758	74,951	8,281	1,488	20%	26%	30%	18%	22%	28%	21%
Aug-21	46,915	20,614	7,913	788	76,230	8,701	1,447	20%	25%	31%	18%	22%	29%	20%
Sep-21	46,365	20,005	7,794	807	74,971	8,601	1,298	20%	24%	30%	19%	22%	28%	17%
Oct-21	45,485	18,194	6,557	443	70,679	7,000	721	19%	22%	25%	10%	20%	23%	9%
Nov-21	50,434	18,539	6,848	424	76,245	7,272	675	21%	22%	26%	10%	22%	23%	8%
Dec-21	53,613	17,928	6,540	475	78,556	7,015	656	23%	22%	24%	11%	22%	22%	8%
Jan-22	60,014	18,907	6,537	450	85,908	6,987	699	25%	23%	23%	11%	24%	22%	9%
Feb-22	64,217	20,313	7,222	347	92,099	7,569	824	27%	25%	26%	8%	26%	23%	10%
Mar-22	70,601	22,056	7,431	380	100,468	7,811	1,134	30%	27%	26%	9%	29%	24%	14%
Apr-22	69,534	22,913	7,864	358	100,669	8,222	1,173	31%	29%	28%	9%	30%	25%	15%
May-22	67,141	23,924	7,894	457	99,416	8,351	1,401	31%	30%	28%	12%	30%	26%	18%

Source: AEM; Cleveland Research Company estimates

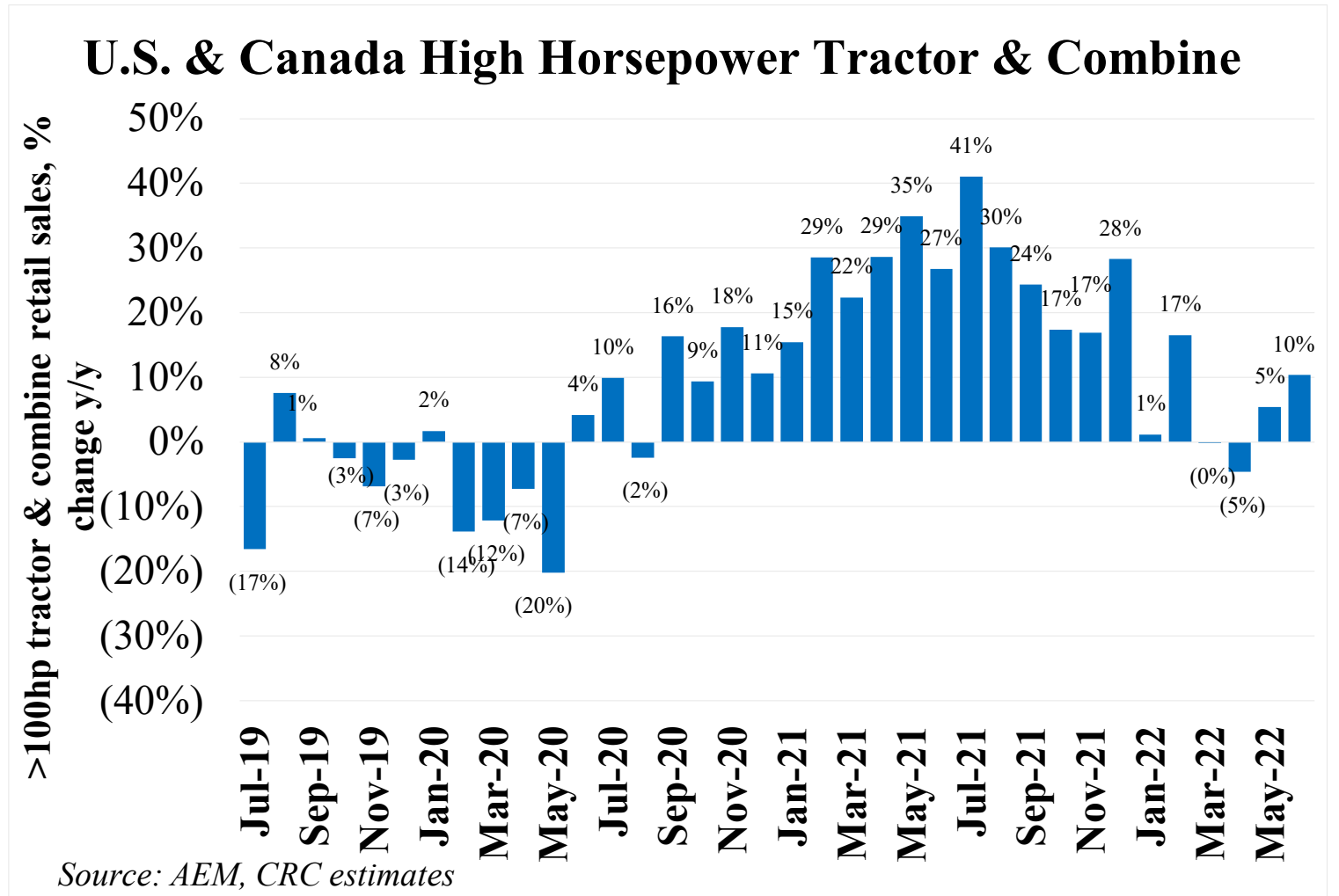
Ag Equipment Intelligence®

Annual Agricultural Equipment Industry Sales (1985-2020)



Ag Equipment Intelligence®

North America Large Ag Equipment Sales

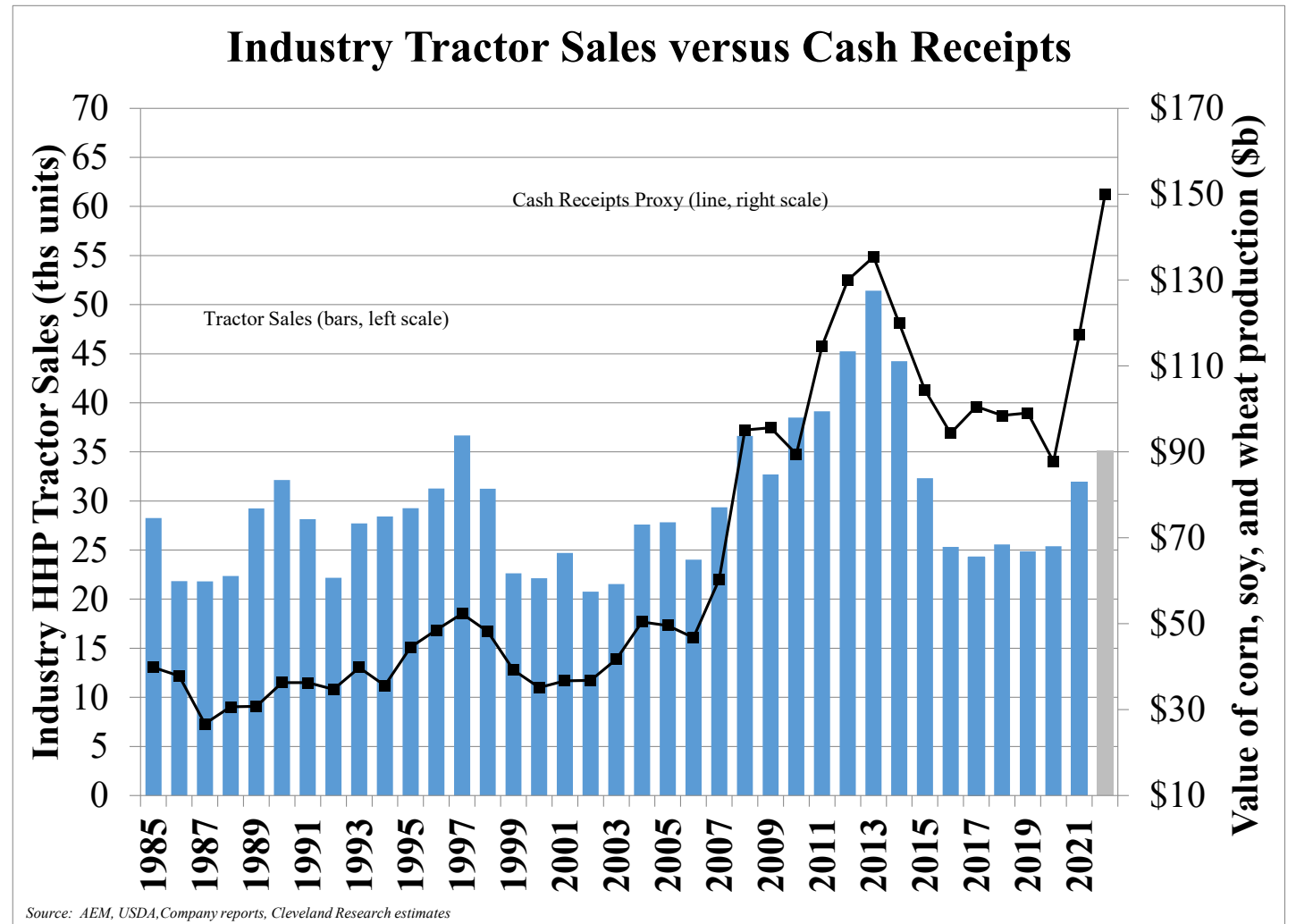


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Commodity Prices – Cash Receipts vs. Next Year Equipment Sales

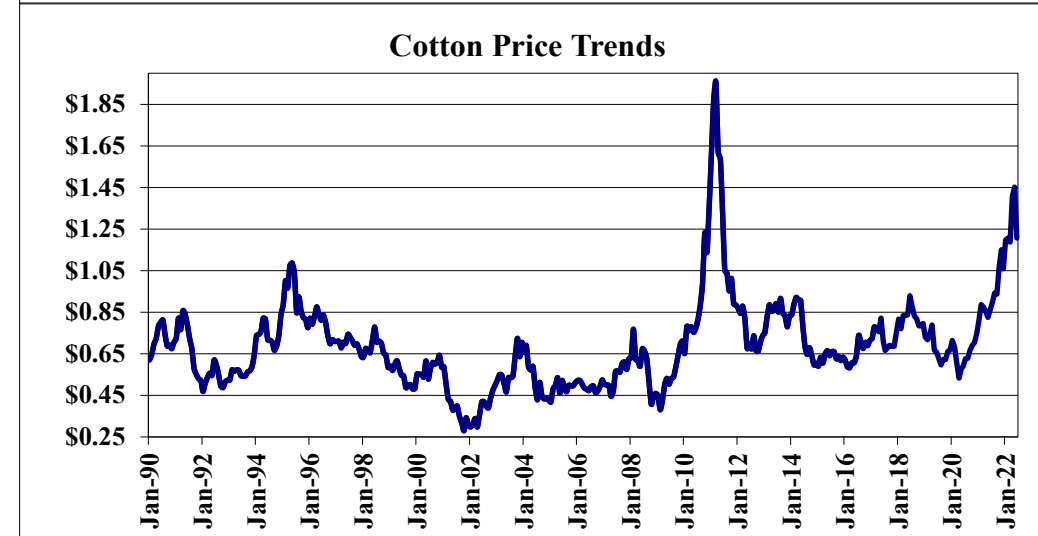
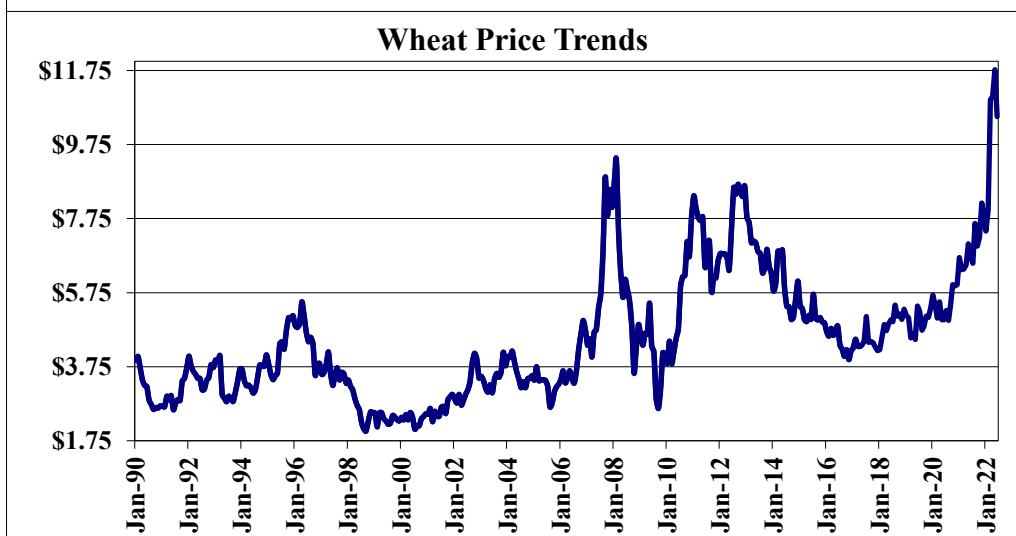
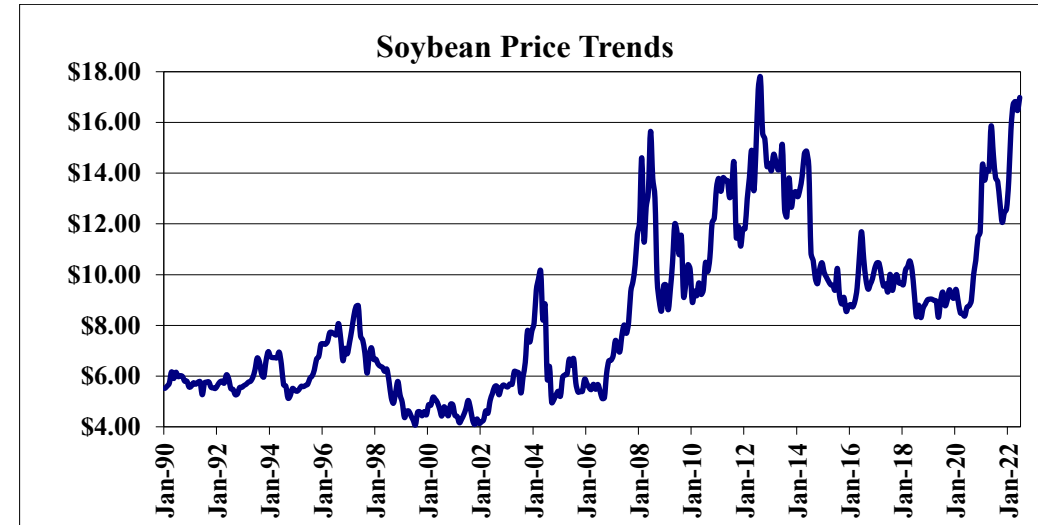
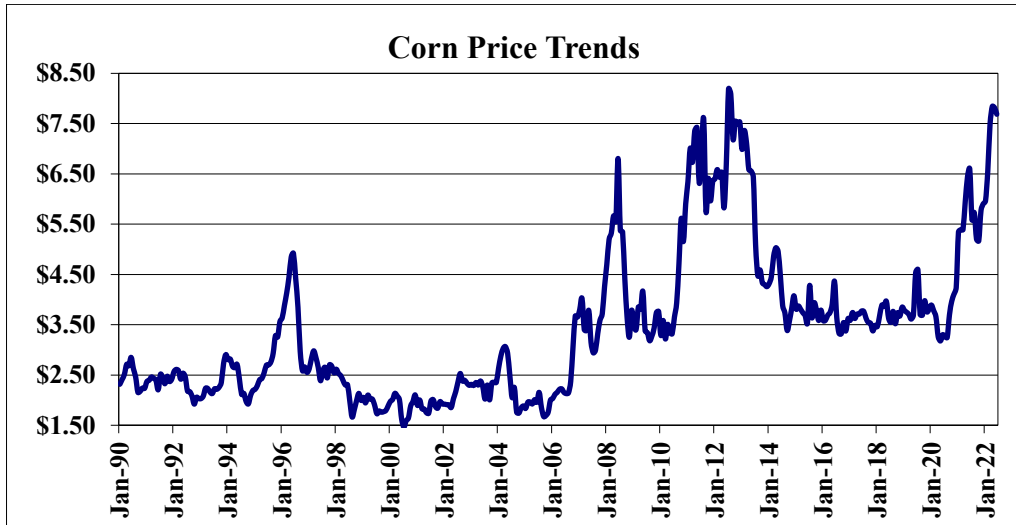
USDA's July WASDE Update Highlights – The following chart illustrates the historical relationship between the value of production of corn, soybeans, and wheat in the U.S. compared to annual industry sales of high horsepower tractors.

The USDA reported their July forecast for 2022/23 cash receipts with our proxy for July +52% (+55% last month) with Soybean cash receipts forecast up 42% (50% prior), Corn cash receipts are forecast up 51% (53% prior), and Wheat cash receipts are forecast up 103% (102% prior).



Ag Equipment Intelligence®

Long Term Commodity Price Trends



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Commodity Trends: Long Run Supply and Demand Projections

US Corn, Soy, and Wheat Supply and Demand - Long Term Annual Forecast 2022													
US Corn Balance Sheet - USDA Long Term Forecast (May 2022)													
Millions of bushels	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2031/2032
Planted	90	91	93	92	91	91	90	90	90	90	90	90	90
Harvested	81	82	85	84	83	83	82	82	82	82	82	82	82
Yield (bu/acre)	168	171	177	181	183	185	187	189	191	193	195	197	199
Beginning Stocks (MM bu)	2,221	1,919	1,235	1,500	1,935	2,205	2,445	2,495	2,560	2,595	2,620	2,665	2,675
Production (MM bu)	13,620	14,111	15,115	15,240	15,225	15,390	15,370	15,535	15,700	15,865	16,030	16,095	16,260
Imports (MM bu)	42	24	25	25	25	25	25	25	25	25	25	25	25
Total Supply (MM bu)	15,883	16,055	16,375	16,765	17,185	17,620	17,840	18,055	18,285	18,485	18,675	18,785	18,960
Feed & Residual (MM Bu)	5,898	5,598	5,625	5,750	5,825	5,950	6,050	6,150	6,275	6,400	6,475	6,525	6,600
Food, Seed, & Industrial Total	6,288	6,470	6,810	6,680	6,680	6,675	6,670	6,645	6,640	6,615	6,610	6,585	6,580
Ethanol & By-Products	4,857	5,033	5,375	5,250	5,250	5,250	5,250	5,225	5,225	5,200	5,200	5,175	5,175
Domestic Use	12,186	12,068	12,435	12,430	12,505	12,625	12,720	12,795	12,915	13,015	13,085	13,110	13,180
Exports	1,777	2,753	2,500	2,400	2,475	2,550	2,625	2,700	2,775	2,850	2,925	3,000	3,075
Total Use	13,963	14,821	14,935	14,830	14,980	15,175	15,345	15,495	15,690	15,865	16,010	16,110	16,255
Ending Stocks	1,919	1,235	1,440	1,935	2,205	2,445	2,495	2,560	2,595	2,620	2,665	2,675	2,705
Ending Stocks/Use	13.7%	8.3%	9.6%	13.0%	14.7%	16.1%	16.3%	16.5%	16.5%	16.5%	16.6%	16.6%	16.6%
Weeks Carryover	7.1	4.3	5.0	6.8	7.7	8.4	8.5	8.6	8.6	8.6	8.7	8.6	8.7
Average Farm Price (\$/bu)	\$3.56	\$4.53	\$5.90	\$4.80	\$4.50	\$4.30	\$4.20	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Value of Production	\$48,487	\$63,923	\$89,179	\$73,152	\$68,513	\$66,177	\$64,554	\$62,140	\$62,800	\$63,460	\$64,120	\$64,380	\$65,040
% change y/y	-6%	32%	40%	-18%	-6%	-3%	-2%	-4%	1%	1%	1%	0%	1%

U.S. Soybean Balance Sheet - USDA Long Term Forecast (May 2022)													
Millions of bushels	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2031/2032
Planted	76	83	87	88	88	88	88	88	88	88	88	88	88
Harvested	75	83	86	87	87	87	87	87	87	87	87	87	87
Yield Per Harvested Acre (Bushe	47	51	51	52	52	53	53	54	54	55	55	56	56
Beginning Stocks	909	525	257	320	300	306	300	295	280	284	288	292	296
Production	3,552	4,216	4,435	4,465	4,535	4,580	4,620	4,665	4,710	4,750	4,795	4,840	4,885
Imports	15	20	15	20	20	20	20	20	20	20	20	20	20
Total Supplies	4,476	4,761	4,707	4,805	4,855	4,906	4,940	4,980	5,010	5,054	5,103	5,152	5,201
Crush	2,165	2,141	2,215	2,240	2,280	2,320	2,350	2,380	2,405	2,430	2,455	2,480	2,500
Exports	1,679	2,261	2,140	2,140	2,145	2,160	2,170	2,195	2,195	2,210	2,230	2,250	2,275
Seed & Residual	108	102	118	124	125	125	125	125	126	126	126	126	127
Total Use	3,952	4,504	4,473	4,504	4,550	4,605	4,645	4,700	4,726	4,766	4,811	4,856	4,902
Ending Stocks	525	257	235	300	306	300	295	280	284	288	292	296	299
Stocks/Use	13.3%	5.7%	5.3%	6.7%	6.7%	6.5%	6.4%	6.0%	6.0%	6.0%	6.1%	6.1%	6.1%
Average Price (\$/bu)	\$8.57	\$10.80	\$13.25	\$10.50	\$10.35	\$10.25	\$10.15	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Value of Production	\$30,441	\$45,533	\$58,764	\$46,883	\$46,937	\$46,945	\$46,893	\$46,650	\$47,100	\$47,500	\$47,950	\$48,400	\$48,850
% change y/y	-19%	50%	29%	-20%	0%	0%	0%	-1%	1%	1%	1%	1%	1%

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Commodity Trends: Long Run Supply and Demand Projections

US Corn, Soy, and Wheat Supply and Demand - Long Term Annual Forecast 2022 (continued)													
U.S. Wheat Balance Sheet - USDA Long Term Forecast (March 2021)													
Millions of bushels	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2031/2032
Planted	46	45	47	49	49	48	48	47	47	47	47	46	46
Harvested	37	37	37	41	41	40	40	39	39	39	39	38	38
Yield Per Harvested Acre (Bushe	52	50	44	49	50	50	50	51	51	52	52	52	53
Beginning Stocks	1,080	1028	845	580	636	683	704	726	721	730	727	735	735
Production	1,932	1828	1,646	2,003	2,020	1,996	2,012	1,987	2,003	1,993	2,005	1,999	2,015
Imports	104	100	95	120	120	120	120	120	120	120	120	120	120
Total Supplies	3,116	2,956	2,586	2,703	2,776	2,799	2,836	2,833	2,844	2,843	2,852	2,854	2,870
Food	962	961	962	966	968	970	972	974	976	978	980	982	984
Seed	60	64	64	66	65	65	63	63	63	63	62	62	62
Feed&residual	96	95	100	110	110	100	100	100	100	100	100	100	100
Exports	969	992	805	925	950	960	975	975	975	975	975	975	975
Total Use	2,087	2,112	1,931	2,067	2,093	2,095	2,110	2,112	2,114	2,116	2,117	2,119	2,121
Ending Stocks	1,028	845	655	636	683	704	726	721	730	727	735	735	749
Stocks/Use	49.3%	40.0%	33.9%	30.8%	32.6%	33.6%	34.4%	34.1%	34.5%	34.4%	34.7%	34.7%	35.3%
Average Price (\$/bu)	\$4.58	\$5.05	\$7.70	\$6.50	\$6.00	\$5.50	\$5.50	\$5.50	\$5.50	\$5.50	\$5.25	\$5.25	\$5.25
Value of Production	\$8,849	\$9,231	\$12,674	\$13,020	\$12,120	\$10,978	\$11,066	\$10,929	\$11,017	\$10,962	\$10,526	\$10,495	\$10,579
% change y/y	-9%	4%	37%	3%	-7%	-9%	1%	-1%	1%	0%	-4%	0%	1%
Total Acreage and Value of U.S. Corn, Soy and Wheat Production - USDA May 2022 Projection													
Total Corn, Soy, Wheat	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2031/2032
Planted (mm acres)	211	219	227	229	228	227	226	225	225	225	225	224	224
Harvested (mm acres)	194	202	209	212	211	210	209	209	209	208	208	207	207
Yield (bu/acre)	99	100	101	103	103	104	105	106	107	109	110	111	112
Production	19,104	20,155	21,196	21,708	21,780	21,966	22,002	22,187	22,413	22,608	22,830	22,934	23,160
Average Price (\$/bu)	\$4.59	\$5.89	\$7.58	\$6.13	\$5.86	\$5.65	\$5.57	\$5.40	\$5.39	\$5.39	\$5.37	\$5.38	\$5.37
Value of Production	\$87,776	\$118,687	\$160,616	\$133,054	\$127,570	\$124,100	\$122,513	\$119,719	\$120,917	\$121,922	\$122,596	\$123,275	\$124,469
% change y/y	-11%	35%	35%	-17%	-4%	-3%	-1%	-2%	1%	1%	1%	1%	1%

Source: USDA, Cleveland Research estimates

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U.S. Acreage Planted Per Crop Year

