Ag Equipment’s Impact on Jobs, Economy

“As more people are one, two or three generations off the farm, fewer people can share fond memories of visiting or working on their grandparent’s farm. This migration away from farming unfortunately leads to a loss of recognition of how important agriculture is to society and its economic importance to the United States.”

— Charlie O’Brien

According to the new report, which was prepared by the independent global research firm IHS Markit, farm equipment manufacturers generated almost $102 billion in sales activity across the United States last year. After subtracting the contributions of farm equipment manufacturers to our national economy, along with the many factors facing both farmers and manufacturers that shape our shared prosperity.

Farm equipment manufacturers are proud to support over 320,000 jobs across the United States as of the end of 2016. Those manufacturers compose about 27 percent of the jobs across the equipment manufacturing industry, including construction and energy extraction equipment. Between the jobs directly created by manufacturers, the indirect jobs created through industry services and supply chains, and then the overall induced impact of manufacturers in their communities, the equipment manufacturing industry supported 1.3 million jobs across the United States last year, and another 149,000 jobs in Canada.

The USDA – ERS reports that agriculture and its related industries provide about 10 percent of U.S. employment. In 2014, 17.3 million full- and part-time jobs were related to agriculture, which is 9.3 percent of total U.S. employment. Direct on-farm employment provided over 2.6 million of these jobs.

More specific to the equipment manufacturer sector, anyone who has spent even more than an hour on a modern farm understands the central role farm equipment plays in facilitating our 21st century agricultural system. We at AEM understand the inextricable linkage between farming and farm equipment, and we work to advance our industry as a whole.

A new report, released last month by AEM, goes a long way toward capturing...
Ag Equipment’s Impact on Jobs, Economy

The report also makes clear how several other factors are additionally important for improving demand for farm equipment. Ethanol production continues to serve as a driver for demand in corn, which in turn supports investment in farm equipment. And as IHS Markit reports, some 30 percent of farm equipment manufactured in the United States is eventually intended for export. In other words: Trade matters not only for farmers who help to feed the world by shipping produce to every corner of the globe, but also for manufacturers of farm equipment who wish to support jobs here in the United States by selling their equipment overseas.

Remarkable change has transformed both farming and manufacturing in recent years, and further technological innovation is also poised to revolutionize agricultural production. Modern farm equipment – from planters to sprayers to harvesters and beyond – both ingest and produce remarkable amounts of information that have made agricultural production more efficient and sustainable than ever. As modern farms continue to connect with and communicate seamlessly with machinery, the rate of change on the modern farm will only accelerate.

Both farmers and manufacturers alike have spent generations learning to adapt to emerging technology and put those tools into use. And yet, farming and agriculture is almost as old as human history itself. And one thing that no report can fully capture is the pride that manufacturers of farm equipment take in supporting our farmers and ranchers in their important work of helping to feed the world. I know at AEM we are as excited as ever about continuing to work to advance that goal in the years and decades to come.

We encourage you to read the whole report yourself to learn about the impact of the industry. Visit https://www.aem.org/advocacy/aem-economic-research-report-2017/ to download and access the report.

out costs of production, that means farm equipment manufacturers contributed almost $40 billion to the gross domestic product (GDP) of the United States last year as well. To put that number in context, the contributions of manufacturers of agricultural equipment last year was about the same as the entire state of Montana in 2015.

Even still, it comes as no secret that these past few years have been difficult for farmers, and by extension, manufacturers of farm equipment. Declining commodity prices and farm incomes have in turn diminished investment in new equipment, which has meant that the manufacturing side of the industry has retreated somewhat from recent highs in 2012.

The good news is that this report offers considerable information about the steps our industry must take to return to a cycle of stable growth. The report makes clear that resurgent commodity prices and improving farm incomes will be the most important factor in restoring demand for equipment, and the report has an optimistic forecast for farm incomes to finally begin improving again in the 2017-18 marketing year.
AEM Supports Ag Industry

Another Successful Commodity Classic

Commodity Classic 2017 welcomed over 9,300 commodity attendees to San Antonio this March for the second biggest show in Classic’s history and the second year of AEM’s official involvement as an Affiliate. Leading growers from 47 states, five provinces, plus Mexico and Brazil came to see the latest in row crop equipment and inputs and experience Commodity Classic’s one-of-a-kind educational opportunities.

According to this year’s attendee survey, farmers’ main reasons for attending were:

- To learn about new products
- To network with other growers
- To talk with company leaders at the trade show

Who is the average Commodity Classic attendee?

- 2,779 total acres
- 1,137 acres of corn
- 1,020 acres of soybeans
- 961 acres of wheat
- 445 acres of sorghum
- 1,023 acres of cotton

Education was also a high priority for attendees, as evidenced by the huge crowds at the Ag Connect Main Stage, with fantastic content provided by Successful Farming.

Planning for the 2018 event in Anaheim is already well underway. Booth space opens for new exhibitors in June.

AEM Announces Partnership with National Farm Machinery Show

National Farm Machinery Show continued a 50-plus year tradition of being America’s largest indoor farm show this February, but hinted that change was on the horizon. AEM’s Dennis Slater joined Kentucky Exposition Center’s new CEO Jason Rittenberry in the AEM booth to announce that NFMS will be partnering with AEM starting in 2018.

Slater said: “This is a first step in a partnership that will benefit all the stakeholders in the National Farm Machinery Show and the Ag industry. AEM’s commitment to its core services like public policy and our success in leading tradeshows, naturally lends itself to our new partnership with the Kentucky Fair Board and the National Farm Machinery Show.”

While the details of the agreement are still being negotiated, both parties are confident that exhibitors and attendees will begin to see an elevation of the trade show in Louisville next February.

Ag Statistics Program Expands in Latin America

AEM has launched three more market statistics programs for Ag products in Latin America:

- Combine Draper Head-Flexible – a crop-gathering unit with a flexible frame, designed to collect and transfer crop into the threshing area.
- Combine Platform, Flexible Frame – a crop-gathering unit designed to collect and transfer crop into the threshing area while following ground contours.
- Cornhead – a gathering unit for self-propelled combines used to harvest standing rows of eared corn.

The Flexible Combine Draper Head is the first AEM Statistics Ag product to be published in Latin America that reports the shipments to all countries in the Caribbean, Central and South America. The Combine Platform, Flexible Frame and Cornhead programs were launched in Brazil only. Participating members are reporting monthly shipments for this equipment down to the state level.

The Latin America Regional Ag Statistics program officially launched in November and provides participating member companies with monthly information they can use for tracking product movement, shifts in trends, forecasting, production and business planning.

For more information on the Latin America Regional Ag Statistics program, contact AEM’s Arnold Huerta (ahuerta@aem.org, tel: 414-298-4119) or Rex Spietsma (rspietsma@aem.org, tel: 414-298-4147).
Having a Hard Time Finding Qualified Technologists?

If so, you are not alone. It’s something we hear from AEM Ag members across the board.

A survey of Ag retailers conducted by Purdue University, South Dakota State University and CropLife America confirms that Ag manufacturers aren’t the only ones dealing with this challenge:

• 78 percent of survey respondents said it’s difficult, very difficult or there are no qualified applicants in the area when looking for precision equipment technicians.
• 77 percent said the same was true for precision sales specialists.
• 72 percent said the same was true for technical support.

According to the survey, while the majority of job applicants had adequate general knowledge of precision Ag technology and were able to operate precision ag equipment, only 26 percent had adequate knowledge to install, calibrate, troubleshoot and repair the same equipment.

Why is there such a shortage of qualified technology workers in the Ag sector? There are several factors that likely play into this.

“Young experts just starting out are lured away to Silicone Valley or major cities rather than heading for many of our more rural Midwestern manufacturing locations.”

The pace of developments over the past few years makes it hard even for those who have been working in the field to keep up with the technologies. Young experts just starting out are lured away to Silicone Valley or major cities rather than heading for many of our more rural Midwestern manufacturing locations.

And then there are the industry perceptions – or should I say misperceptions. Doubly so on the Ag side:

1 Kids today, and probably consumers as a whole, still think of someone working in manufacturing as walking around in a grease-smeared jumpsuit carrying a wrench. They have no idea how much equipment in a plant is computer-operated or robotic, how many workers are punching formulas and numbers into a computer, and how pristine and streamlined many operations are today.

2 Those not directly involved in agriculture likely have no clue as to the sophistication of the equipment, the technologies used and the expertise needed. To state it more clearly – more than 90 percent of the population is unaware, and still thinks of agriculture as the image we see on road signs warning of tractors crossing—the silhouette of the guy in a straw hat driving his circa 1950 tractor – no monitors, light bar, cab; not even ROPs.

So how do we even begin to move the needle on our industry image?

A recently launched AEM Ag Workforce Development Task Force decided we need to start with the next generation. With the help of our members and partner organizations, we plan to show high school students, teachers and guidance counselors what a dynamic, cutting-edge industry we work in, and to help provide a pathway to the enormous opportunity awaiting those who choose it.

Stay tuned to learn how you can get involved as we get to work on bringing more qualified service technicians and technologists to the Ag sector.
Leadership Isn’t Something We Give to Others

Leadership isn’t at the “top” of a career path. That may sound opposite a culture that drives us to work longer, set the bar higher, achieve something bigger. But in my experience, leadership isn’t something we give to others at a certain career stage. It’s something others give to us, sometimes over the course of a lifetime, sometimes in a moment.

My father, Gary Vermeer, was a leader. Nearly 70 years ago, he started a manufacturing company that is Vermeer Corporation today. As a child, I followed him around the business and the farm where we lived. His work ethic was, and still is, an inspiration to me. He worked hard, and he expected others to do the same. He challenged his team to try new solutions, and said that if 50 percent of their ideas didn’t fail, they weren’t trying enough new things. Then he left them to invent, innovate, improve. And they did.

Empowering our workforce continued to be what I enjoyed most, as I worked through the ranks and eventually became CEO at Vermeer. People have always been our greatest asset, but when they are given opportunity to lead—if only on a single project, for one meeting or simply in conversation—that’s when I’ve discovered the talent that surrounds me.

“Leadership isn’t something we give to others at a certain career stage. It’s something others give to us, sometimes over the course of a lifetime, sometimes in a moment.”

Manufacturing is predicted to have nearly three and a half million jobs that will likely need to be filled over the next decade, with two million of those jobs going unfilled unless we do something about it. It’s a critical time in manufacturing to focus on workforce development and the talent that surrounds us, and that can happen in a number of ways. At Vermeer, we verbalize that through a 4P Philosophy that puts People first, and has Principles at the core. We offer personal development opportunities such as tuition assistance and internal courses through Vermeer University (VU). Team members may choose from 250 active classroom offerings and 290 online courses, videos and resources through VU. We’ve engaged the future workforce by bringing thousands of students to Vermeer in recent years to learn about manufacturing careers, by visiting classrooms, by engaging student and teacher interns, by offering job-shadowing and mentoring, and by partnering with community colleges and universities. On a state level, we’re aligned with the Future Ready Iowa Initiative, calling for 70 percent of Iowans to have education or training beyond high school by 2025. We are giving our current and potential workforce new opportunities to meet the growing manufacturing workforce need—to invent, innovate and improve. And they are finding solutions. Whether they are learning something new through training, or discussing manufacturing opportunities around the family dinner table, they are our industry leaders, today and tomorrow.

Leaders are influencers. We all have opportunity to be a positive influence on those around us and share our inspiring manufacturing message. My dad knew, I know, we all know that no matter what the need, we are only as effective as the people who work alongside us. Whether we’re developing an entire manufacturing workforce or a single customer solution, my experience is that leadership is granted when we stay humble and empower others to uncover the best solutions.

Nominate An Industry Leader for 2017 Hall of Fame

Bob Vermeer is a 2016 inductee to the AEM Hall of Fame. His father, Gary Vermeer, was inducted in 1996. If you know an inspiring leader, please consider honoring them with a nomination to the AEM Hall of Fame. The nomination period for the 2017 AEM Hall of Fame closes on June 7, 2017.

For more information about AEM Hall of Fame or the nomination process, visit www.aem.org/halloffame.
The outlook for the Ag industry is often tied to year-to-year profits and relative to 2016 levels, farm sector profitability measures forecast for 2017 range from nearly flat to declining.

Net cash farm income, one measure of profitability, is forecast at $93.5 billion ($82.2 billion after adjusting for inflation) for 2017, up 1.8 percent.

Net farm income, a broader measure of profits including all cash income and noncash values such as inventory flows, the imputed rental value of the farm house and economic depreciation, is forecast at $62.3 billion, down 8.7 percent. This is the fourth consecutive year of declines bringing farm income down 49.6 percent from its 2013 peak. Farm income does tend to be fairly volatile over time, and we are, in essence, pretty close to the average.

Summary Findings
• Overall, cash receipts are forecast to remain largely unchanged, with a decline of almost $1 billion (0.3 percent). Little change is expected in crop and animal/animal product receipts.
• Cattle/calf receipts are forecast down $4.5 billion (6.7 percent), and milk is forecast up $4.7 billion (13.7 percent).
• The largest expected changes for individual crops in 2017 is a $1.4 billion decline (16.6 percent) in wheat receipts and a $1.3 billion gain (21.5 percent) in cotton receipts.
• Direct government farm program payments are forecast to decline by $0.5 billion, or 4 percent. Indemnity payments are expected to rise relative to 2016.
• Total production expenses are forecast to remain flat in 2017, after falling for two straight years. While feed and livestock/poultry purchases are forecast lower for the fourth consecutive year, down $2.7 billion (2.6 percent) compared to 2016, increased spending is expected for fuels (because of the increasing cost of diesel) and oils, up by $1.5 billion (13.2 percent), as well as for interest expenses, forecast up $2.4 billion (14.9 percent) and labor.
• The value of farm sector assets is expected to decline $31.8 billion (1.1 percent), with declines forecast in all 4 major asset value categories. Real estate, the largest component in the asset portfolio, is forecast to change little, down by $7.2 billion (0.3 percent) from 2016. Meanwhile, with debt rising (5.2 percent), farm equity is forecast to erode by 2.1 percent.
• The balance sheet forecast indicates farm solvency is high overall, despite a fifth consecutive year in which farm solvency ratios have weakened. Liquidity ratios and working capital have likewise deteriorated and are at their weakest levels since 2002.

Farm businesses (farms with annual gross cash farm income of over $350,000 or smaller operations where farming is reported as the operator’s primary occupation) account for less than half of U.S. farms, but contribute over 90 percent of the farm sector’s value of production and hold the majority of its assets and debt.

Analysis provided by the USDA Farm Income Team

Note: F = forecast. The partial budget forecast model is based on the 2015 Agricultural Resource Management Survey (ARMS) using parameters from the sector forecasts. The model is static and does not account for changes in crop rotation, weather, and other location-based production impacts that occurred after the base year. Data as of February 7, 2017. Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.

Note: F = forecast. Net farm income includes both cash and noncash income and expenses. The GDP chain-type price index is used to convert the nominal (current-dollar) statistics to real (inflation-adjusted) amounts (2009=100).
Data as of February 7, 2017.
U.S. Farm Equipment Exports Down

Exports of U.S.-made agricultural equipment were down 10.4 percent overall for the full year 2016 compared to 2015, for a total $6.6 billion shipped to global markets. The final quarter of the year was pretty stable compared to the third quarter (-1.32 percent) and down -3.22 percent compared to Q4 2015.

Europe and especially Central America continued to be the growth leaders, while Asia lead the double-digit declines for the other world regions.

- 2016 U.S. agricultural equipment exports by major world regions compared to 2015:
  - Canada dropped 11.5 percent, for a total $1.93 billion
  - Europe gained 2.53 percent, for a total $1.5 billion
  - Central America gained 16.6 percent (mainly due to a 17.3 percent growth in exports to Mexico), for a total $1.35 billion
  - Asia fell 41 percent, for a total $552 million
  - Australia/Oceania fell 25.6 percent for a total $526 million
  - South America dropped 23.7 percent, for a total $501 million
  - Africa decreased 23.35 percent, for a total $209 million
  - Russia and Ukraine have now jumped into the top 10 export countries for U.S. Ag equipment due to spectacular growth in exports in 2016.

Low commodity prices and a strong dollar continue to hamper the competitiveness of U.S. exports. We can expect the dollar to grow in strength as the Federal Reserve has hinted at two more rate hikes in 2017. While overall business optimism continues to grow domestically, there is uncertainty with regard to international trade agreements as the U.S. has pulled out of the Trans-Pacific Partnership and has made statements to revisit the North American Free Trade Agreements (NAFTA).

THE BELOW CHARTS ILLUSTRATE A ROLLING 4 QUARTERS VS. PREVIOUS 4 QUARTERS FOR COUNTRIES WITH > $25 MIL./YR IN EXPORTS

<table>
<thead>
<tr>
<th>Country</th>
<th>Last 4 Qtrs</th>
<th>Prev 4 Qtrs</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>UKRAINE</td>
<td>$169,745,723</td>
<td>$59,295,367</td>
<td>186.3%</td>
</tr>
<tr>
<td>RUSSIA</td>
<td>$138,494,268</td>
<td>$76,317,365</td>
<td>81.5%</td>
</tr>
<tr>
<td>DENMARK</td>
<td>$39,108,087</td>
<td>$28,361,715</td>
<td>37.9%</td>
</tr>
<tr>
<td>TURKEY</td>
<td>$48,803,276</td>
<td>$39,144,464</td>
<td>24.7%</td>
</tr>
<tr>
<td>MEXICO</td>
<td>$1,194,934,523</td>
<td>$1,018,343,116</td>
<td>17.3%</td>
</tr>
<tr>
<td>ROMANIA</td>
<td>$32,719,197</td>
<td>$28,268,294</td>
<td>15.7%</td>
</tr>
<tr>
<td>PERU</td>
<td>$46,200,762</td>
<td>$40,414,379</td>
<td>14.3%</td>
</tr>
<tr>
<td>ARGENTINA</td>
<td>$69,254,579</td>
<td>$64,053,662</td>
<td>8.1%</td>
</tr>
<tr>
<td>SPAIN</td>
<td>$60,789,667</td>
<td>$57,615,895</td>
<td>5.5%</td>
</tr>
<tr>
<td>THAILAND</td>
<td>$44,082,065</td>
<td>$43,211,300</td>
<td>2.0%</td>
</tr>
<tr>
<td>Global Total</td>
<td>$6,600,849,644</td>
<td>$7,363,267,346</td>
<td>-10.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Last 4 Qtrs</th>
<th>Prev 4 Qtrs</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHINA</td>
<td>$179,549,661</td>
<td>$711,009,514</td>
<td>-61.9%</td>
</tr>
<tr>
<td>VENEZUELA</td>
<td>$24,200,899</td>
<td>$42,713,234</td>
<td>-43.3%</td>
</tr>
<tr>
<td>URUGUAY</td>
<td>$15,545,748</td>
<td>$25,065,360</td>
<td>-38.0%</td>
</tr>
<tr>
<td>BULGARIA</td>
<td>$17,690,676</td>
<td>$28,288,557</td>
<td>-37.5%</td>
</tr>
<tr>
<td>CHILE</td>
<td>$99,398,351</td>
<td>$152,550,128</td>
<td>-34.8%</td>
</tr>
<tr>
<td>UNITED ARAB EMIR</td>
<td>$19,627,762</td>
<td>$29,519,548</td>
<td>-33.5%</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>$108,666,196</td>
<td>$157,152,769</td>
<td>-30.9%</td>
</tr>
<tr>
<td>SOUTH AFRICA</td>
<td>$115,792,633</td>
<td>$166,902,877</td>
<td>-30.6%</td>
</tr>
<tr>
<td>NEW ZEALAND</td>
<td>$53,955,735</td>
<td>$76,367,847</td>
<td>-30.1%</td>
</tr>
<tr>
<td>BELGIUM</td>
<td>$104,896,289</td>
<td>$147,245,229</td>
<td>-28.8%</td>
</tr>
<tr>
<td>Global Total</td>
<td>$6,655,035,497</td>
<td>$7,427,388,793</td>
<td>-10.4%</td>
</tr>
</tbody>
</table>

AEM Ag Executive Advisor | Industry Insights for the Ag Executive
Market Intelligence

AEM Ag Equipment Sales Report and Analysis

Large Farm Tractors Sales Continue to Suffer

Large production Ag continues to perform poorly year to date. 100+ 2WD and 4WD farm tractor retail sales are down -13.5 percent and -12.8 percent respectively. However, 4WD farm tractors did experience a 20.5 percent jump year over year in March. Overall, the larger equipment is underperforming compared to its 5 year average. Hopefully, with more stable crop receipts, this trend will level off in 2017. Commentary in our quarterly survey seems to hint at stabilization, though some members continue to indicate sluggish performance.

Ahead: Small and Mid-size Tractors

Small and mid-size farm tractors continue to be a bright spot in an otherwise muted market. In the past two years, this category has repeatedly outperformed the larger Ag equipment industry. March retail sales numbers are coming in well above 2016 and above the 5 year average. In reality, this segment has been driven by the less than 40HP market where, year to date, retail sales have grown 13.9 percent compared to 2016. The 2WD 40-100HP farm tractor retail sales continue to trail slightly. Previous years showed continuous reversals from month to month. In 2017, we expect that trend to continue due to the unstable livestock market (with the exception of dairy).

### AEM Ag Equipment Sales Report and Analysis

**2WD Farm Tractors**

<table>
<thead>
<tr>
<th>Model</th>
<th>2017</th>
<th>2016</th>
<th>% Chg</th>
<th>2017</th>
<th>2016</th>
<th>% Chg</th>
<th>Nov 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;40 HP</td>
<td>13,063</td>
<td>11,892</td>
<td>9.8%</td>
<td>26,480</td>
<td>23,252</td>
<td>13.9%</td>
<td>76,478</td>
</tr>
<tr>
<td>40&lt; 100 HP</td>
<td>4,863</td>
<td>4,785</td>
<td>1.6%</td>
<td>11,322</td>
<td>11,739</td>
<td>-3.6%</td>
<td>35,779</td>
</tr>
<tr>
<td>100+ HP</td>
<td>1,452</td>
<td>1,706</td>
<td>-14.9%</td>
<td>3,774</td>
<td>4,363</td>
<td>-13.5%</td>
<td>9,169</td>
</tr>
<tr>
<td><strong>Total 2WD Farm Tractors</strong></td>
<td><strong>19,378</strong></td>
<td><strong>18,383</strong></td>
<td><strong>5.4%</strong></td>
<td><strong>41,576</strong></td>
<td><strong>39,354</strong></td>
<td><strong>5.6%</strong></td>
<td><strong>121,426</strong></td>
</tr>
<tr>
<td>4WD Farm Tractors</td>
<td>229</td>
<td>190</td>
<td>20.5%</td>
<td>457</td>
<td>524</td>
<td>-12.8%</td>
<td>755</td>
</tr>
<tr>
<td><strong>Total Farm Tractors</strong></td>
<td><strong>19,607</strong></td>
<td><strong>18,573</strong></td>
<td><strong>5.6%</strong></td>
<td><strong>42,033</strong></td>
<td><strong>39,878</strong></td>
<td><strong>5.4%</strong></td>
<td><strong>122,181</strong></td>
</tr>
<tr>
<td>Self-Prop Combines</td>
<td>300</td>
<td>270</td>
<td>11.1%</td>
<td>715</td>
<td>851</td>
<td>-16.0%</td>
<td>857</td>
</tr>
</tbody>
</table>

**Note:** Data courtesy: Association of Equipment Manufacturers Statistics

---

**Graph courtesy of AEM Market Intelligence**
The Net Rising Index for both Whole Goods and Parts year-over-year jumped into the positive territory as more and more members agree that the market is growing compared to last year. This is certainly a positive evolution. Even though the number of respondents indicating that demand year-over-year was falling, roughly 45-50 percent felt it remained unchanged from last year. The planning for next year also shows a strong increase in optimism across the board. Some of our member comments included:

“Some attachments are up, others down. Some are due to weather, others more affected by the ag economy.”

“AG is starting to turn around.”

“AG Market is picking up at least in the loader/tractor sector.”

“Cash Crop equipment demand seems to have stabilized.”

“Livestock market’s equipment demand is sluggish to declining.”

“Flat to slight increase export market with slightly more growth than domestic market.”

“Extremely tough row crop farm market. I live in rural Iowa and farmers are concerned. Many taking off farm employment to make it work. Banks tightening credit. This is real and for the most part ignored by anyone outside agriculture.”

“Positive outlook.”

“Similar to last year with Hay & Forage and improving dairy livestock.”

“Sluggish market due to low grower margins and profitability as well as young equipment fleets from recent years’ purchasing is driving very low demand for equipment. No technology updates due to low cash flow.”

“We’ve seen increased user demand for harvesting components this first quarter of 2017.”

“With lower field inventories, dealers are ordering again.”

The North America Ag Equipment Industry Trends Report is a quarterly state of the industry report for the agriculture industry. The survey is based on Net Rising Indexes: we take the positive answers and detract the negative ones. Anything below zero means a market contraction, anything above growth. The stronger the contraction or growth, the stronger the market consensus. To receive the full results of this survey, please sign up by contacting Benjamin Duyck at bduyck@aem.org.
Market Intelligence

Snapshot: Brazil

In future issues, this new segment will feature key countries in the Ag industry, starting with Brazil. Business Monitor International (BMI), one of AEM’s data vendors, believes that grains production growth over the next five years will slow relative to the preceding five. Soybean production will outpace that of corn, as lower production costs for soybean relative to corn will make the commodity more attractive. However, we see comparatively limited growth out to 2020/21 given the scarcity of area available for expansion, as well as high import costs for fertilizers.

Key Forecasts

- 2017 real GDP growth: 0.8% (up from -3.6% in 2016, forecast to average 1.6% from 2017-2020).
- 2017 consumer price inflation: 5.4% (down from 8.8% in 2016).
- BMI universe agribusiness market value: 10.5% y-o-y increase to USD221.6bn in 2017, forecast to increase by an average of 5.9% annually between 2016/17 and 2020/21.
- Soybean average production growth 2016/17 to 2020/21: 2.5% to 112mn tonnes. Limited growth out to 2020/21 given the scarcity of area available for expansion, as well as high import costs for fertilizers. Heavy rainfall at the start of 2017 had minor initial impact on crop quality, in contrast with the significant logistical disruptions that followed. Ports in northern Brazil are recording severe delays as trucks are unable to drive BR-163 from grain-producing Mato Grosso to the northern state of Para.
- Corn production will recover in 2016/17 supported by early soybean harvest freeing up land for corn plantings. However, corn acreage growth will remain secondary to soybean out to 2021.
- Brazilian sugar mills will focus on crushing cane into sugar rather than ethanol over the coming quarters. Brazilian sugar prices are currently outperforming ethanol prices, driving a rebalancing away from ethanol and towards sugar at an unprecedented scale. Brazilian sugar holds strong export opportunities out to 2021 as demand from Asia will increase and sustained currency weakness will maintain the country’s competitiveness as global prices decline moderately.
- Poultry average consumption growth to 2021: 3.8% to 11.7mn tonnes. Brazilian poultry consumption will outperform the country’s general livestock complex over the coming years, particularly beef, which will suffer from the poor economic environment.
- Beef average production growth to 2020/21: 2.6% to 10.8mn tonnes. Beef production growth will strengthen as more cattle come online and beef producers are induced to supply growing export markets.
- Milk average production growth to 2021: 4.4% to 40.4mn tonnes. Efficiency gains in the sector and growing export opportunities will boost output.

Data provided by Business Monitor International. AEM has consumption, production and price data (historical and forecasted) for various commodities and countries worldwide. Additional analysis is for sale for members on an adhoc basis. For more info, please contact Benjamin Duyck at bduyck@aem.org.
Technical Innovation

What is Machine data?

In this age of technology, every day new areas of development are becoming a part of our lives. Recently the AEM Ag Sector Board asked that a Task Force look into the subject of machine data. This general topic is discussed every day, but what does it mean? To start with, we need to understand what’s taking place in the marketplace by groups like Ag Gateway, AEF, CEMA in Europe and others already working in this space. Having a better understanding of current activities can then lead to determining possible gaps that can be filled with AEM support.

The Data Task Force held its first meeting on February 20, 2017. The goal of the meeting was to determine AEM’s role relative to machine data and recommend approaches to the Ag Sector board. Proposals included:

- **Define machine data.** Everyone has an idea of what it is, but we need to drill down and be more precise. By providing definitions, we can determine the differences between types of information, for example, machine data, farm management data, control data. Definitions will provide everyone with a clearer understanding of the topic.

- **AEM member participation in work activities.** It is important that the right people are contributing in committees and organizations, such as AEF, AgGateway, and CEMA, as decisions are made that will affect the industry.

- **Consider the use of current standards.** Currently there is a construction standard for telematics, and work is being done on an Ag version. AEM can provide direction for the industry to harmonize efforts.

- **Drive implementation and adoption.** There may be a need for better communication between groups working on data initiatives. AEM can help improve this communication by providing current information on direction and implementation timelines. This sharing of information with member companies will provide for better planning and coordinate timelines as an industry for delivery of future functionalities.

- **Data security.** This is becoming a very important issue due to a common concern over data misuse. AEM could drive to deliver more information on the efforts taking place to provide security and privacy to our customers. A better understanding of the security efforts being developed may help reduce user concerns.

- **Statistics** – AEM may be able to provide more information to our members on connected machines. Information like: Does equipment in the field today use all the functionality between tractors and implement? Or information regarding how many customers actually use certain types of farm management systems.

The Task Force is reviewing the suggestions above and determining a priority list and possible timeline for next activities. The final recommendations will be submitted to the Ag Sector Board for review.

Mark Benishek
AEF Technical Director

Advocacy & Legislation

I Make America 2017

The I Make America campaign is in full swing with a focus on the new administration and Congress. Following the election, I Make America relaunched IMAKEAMERICA.COM with new resources and tools for our members, their employees, and grassroots supporters to take action on behalf of the equipment manufacturing industry. One of these new tools includes an interactive map “Industry by the Numbers” that captures the industry’s impact both nationwide and in all 50 states. To get a breakdown of your state’s industry statistics, visit IMAKEAMERICA.COM.

I Make America Tour “Our Products Our Jobs”

The focus of this year’s tour is to host elected officials on a federal, state and local level at AEM member companies to highlight U.S. manufacturing, celebrate the men and women of the equipment manufacturing industry, and discuss policy issues that are important to the industry. We will be hosting events across the U.S. starting in April and finishing at the end of October. If your company is interested in learning more about the tour or hosting an event, please contact Abby Lannoye (alannoye@aem.org, 414-915-5569).
What a Difference Five Years Can Make

This time five years ago most commodity groups had a collective headache from banging their heads into a wall as they pushed, struggled and begged their members to engage in the budding farm bill reauthorization debate. Farm income was high and many believed a new paradigm of rising world population and prosperity meant low prices were a thing of the past. A robust safety net for agriculture was an antiquated idea.

What a difference five years can make.

That fact was abundantly clear at the recent Agri-Pulse Farm Bill Summit in Washington, D.C. which AEM helped sponsor. A long list of key policy players, including the chairs and ranking members of the House and Senate ag committees and commodity group executives, painted a very different picture of the rural economy that will frame the discussion of the 2018 farm bill. Motivating producer engagement should be the easy part this time around. Everything else, not so much.

The “to do” list for this farm bill is daunting. Dairy’s margin insurance needs a boost. Cotton, sugar, corn, soybeans, wheat, etc. … all have issues that require attention. And as if that wasn’t enough, we shouldn’t get our hopes up to have more money to do it all. Oh, and I haven’t even mentioned conservation or research or nutrition program politics.

Nor does it stop there. As Leif Magnusson, chair of AEM’s Infrastructure Vision 2050 initiative, AG Sector Board member and president of CLAAS Global Sales Americas Inc., pointed out, there is a dire need to improve rural America’s wireless broadband connectivity and transportation system if we hope to retain our competitive advantage in a world market.

We also must not forget that the implications of the above issues reach out far beyond the homestead. AEM has released an IRH Global Insights economic study on equipment manufacturing employment featured in the cover story showed a loss of tens of thousands of jobs in the agricultural equipment sector since 2012.

Yes, it isn’t a pretty picture but don’t despair just yet.

While times are tough, the ag community has a history of getting tougher and getting going. An air of unity was on display at the summit that stretched not just across party lines but fence posts from commodity to commodity. We understand the only way ag will get the deal it needs is if we all stick together. And if we stick together, we cannot be beat.

AEM will be working over the next year to reinforce that message. Equipment manufacturers want and need all of agriculture to succeed and indeed, so does America and the world.

Just remember, what a difference five years can make. AEM is confident the farm bill discussion in 2022 will begin from a far better place.

Nick Tindall,
AEM Senior Director,
Government and Industry Relations

Planter Technology Demo Day Teed Up for Success

It’s all systems go for the April 26 Planter Technology Demonstration Day, which AEM is hosting with assistance from the National Corn Growers Association (NCGA) and American Seed Trade Association (ASTA), for nearly 40 officials from the Environmental Protection Agency’s Office of Pesticide Programs (OPP). This is the latest in a long history of proactive, positive engagement AEM has conducted with this important regulatory body.

CNH Industrial, Great Plains, John Deere and Väderstad are set to showcase their planter technology at the event, and provide an overview of the voluntary efforts the industry has taken to protect pollinators from fugitive corn dust. ASTA will be on hand to explain seed treatments and their benefits. NCGA will be conducting a session on “Farming 101” to educate attendees on the many challenges facing producers during the planting season.

The event is taking place in Maryland on the family farm of Chip Bowling, two time president of NCGA and current Chairman of the Board.

Be sure to catch the next issue of the AEM Ag Executive Advisor for the event summary and photos.
President Trump’s first 100 days are nearing completion, and the new administration has already taken action on a few issues of importance to farmers and manufacturers of farm equipment.

Trade
One area where Trump has received pushback from the agricultural community is trade. Exports are vitally important for AEM members—the new IHS Markit report for our industry found that 30 percent of agricultural equipment manufactured in the United States is intended for export. Industry groups representing commodity producers who also depend on exports have begun to speak up more vocally against disruptions to existing trade agreements. Case-in-point: About a quarter of corn produced in the United States is exported to Mexico, in part due to the trade relationship established under NAFTA. Revisiting that agreement could have serious repercussions in the ag community.

Regulation
Trump has quickly acted to undo some of the most onerous regulations affecting manufacturers and farmers. He quickly directed his new Environmental Protection Agency (EPA) administrator to undo the Waters of the United States (WOTUS) rule that has caused headaches for many across the agricultural sector, for instance. Trump has also worked to streamline or eliminate permitting and land management rules, and intends to take aim at other environmental regulations that might affect farmers’ livelihood.

Infrastructure
The Trump administration and its supporters on Capitol Hill have made rural infrastructure (including expanded broadband access) a core part of its pitch for a $1 trillion infrastructure package. A major investment in infrastructure could improve rural roadways and shipping corridors to hasten delivery of harvests to market. But a robust expansion of broadband access in rural communities could be a game-changer for equipment manufacturers and their customers whose machinery increasingly rely on access to high-speed networks.

Next Farm Bill
Trump’s agriculture speed is just getting up to speed; former Georgia Gov. Sonny Perdue’s nomination to lead the USDA was one of the last major cabinet slots considered by Congress, and Trump still must fill out a roster of additional nominees across the government. But Congress and the private sector have already begun laying the groundwork for quick and successful consideration of a farm bill in 2018, when the next bill comes due. After suffering through a delayed process during the law’s last renewal, farm advocates are hoping that Perdue and the administration make next year’s battle as painless as possible.

Mike O’Brien
AEM Public Affairs Manager

AEM’s Infrastructure Vision 2050 Thought Leadership Initiative has been intently focused on ensuring the agriculture community has a visible and vocal role in the discussions occurring on Capitol Hill about a federally endorsed infrastructure package. The initiative has focused on taking the conversation straight to where thought leaders in the agriculture community gather and meet, especially given the critical role rural America had on the outcome of the recent Presidential election.

To kick off the year, AEM’s Infrastructure Vision 2050 hosted a panel discussion on the first day of the National Farm Machinery Show in Louisville, Kentucky to discuss the future infrastructure needs of the agriculture sector and by extension, rural America. Kentucky Agriculture Commissioner Ryan Quarles delivered a thoughtful keynote that addressed the need for agriculture industry stakeholders to work together in building a unified plan. Those thoughts were reiterated and expanded upon during a panel discussion that followed, moderated by This Week in Agri-Business co-host Max Armstrong, and featuring American Farm Bureau Federation President Zippy Duvall, CLAAS President Leif Magnusson, Vermeer President and CEO Jason Andringa, and Indiana University Senior Policy Analyst Jamie Palmer.

AEM also sponsored Agri-Pulse’s Farm Bill Summit in early March, joining other agriculture-focused organizations to start planning for the legislation’s upcoming continued, page 14
Standards and Regulations

AEM Dairy Sector Members Align

AEM dairy sector members asked, and we delivered! AEM’s dairy members recognized the challenge of communicating with the many organizations in the food and dairy industry who develop standards and regulations to insure the quality and the safety of getting dairy products to consumers.

That’s why AEM reactivated our Dairy Equipment Engineering Committee (DEEC) in August last year and met in our Milwaukee office to share common technical issues facing the dairy equipment manufacturers. The DEEC team recommitted themselves to building a better channel for dairy equipment manufacturers to have a voice within the dairy industry’s standards and regulations circle.

There are many organizations responsible for delivering quality food products to American homes and around the world. The FDA (Food & Drug Administration), the USDA (United States Department of Agriculture), American Dairy Products Institute and the FAO (Food and Agriculture Organization), just to name a few. AEM’s Senior Director, Government and Industry Relations, Nick Tindall, took on the yeomen’s challenge of contacting these organizations from our Washington DC office and has made many valuable connections. Building this network is an ongoing goal of DEEC that will pay future communication dividends.

At the same time, the DEEC committee knew our consensus voice would need to be heard at the biennial NCIMS (National Conference on Interstate Milk Shipments), which is held and attended by many of these food and dairy organizations. The NCIMS is one avenue where food and dairy organizations meet to discuss dairy topics and issues as well as providing an opportunity to amend the standards and regulations that impact dairy equipment manufacturers and farmers alike.

The NCIMS process involves committees that accept and review proposed amendments to current Pasteurized Milk Ordinance standards and regulations. That pushed the DEEC committee to identify key dairy manufacturing issues and develop four amendment proposals as consensus documents to present at the NCIMS conference in May 2017. We will continue to build relationships and work together to make the unified voice of our dairy sector members heard.

Rural Infrastructure Needs Broadband and More

reauthorization in 2018. Broad consensus was reached among attendees about the importance of rural development issues, including enhanced rural infrastructure investment.

AEM’s Infrastructure Vision 2050 will continue to amplify several infrastructure-related topics important to rural and agriculture communities over the next year. Specifically on May 18, as a part of national Infrastructure Week, AEM will host a Capitol Hill event that focuses on enhancing broadband capabilities in rural America to take advantage of autonomous technology advancements both on and off the farm.

Following up on a letter sent to the Trump Administration in February in support of rural infrastructure investment, AEM continues to be actively involved in a newly formed “Rebuild Rural” coalition of U.S. agricultural producers, rural businesses and rural communities. This coalition will continue to work with the Trump administration and Congressional leadership to ensure rural and agriculture interests are considered in the renewed push to invest in United States infrastructure.

For more information about AEM’s upcoming Infrastructure Week event or involvement in the “Rebuild Rural” coalition, please contact AEM Campaign Director, Infrastructure Vision 2050, Kate Fox Wood, kfoxwood@aem.org.
The American Society of Agricultural and Biological Engineers (ASABE) has:

- published ANSI/ASABE S620 Safety for Anhydrous Ammonia Application Equipment. Anhydrous ammonia application equipment is becoming more complex, with integrated metering and distribution systems, automated control systems, automated hitching functions, and advanced product flow functions. This standard addresses nurse tank coupling and sectional delivery system design and is specific to the implements of husbandry used in the local transport and application of anhydrous ammonia for agricultural fertilizer. The standard will be applicable only to equipment manufactured following its publication.

- initiated a revision to ANSI/ASABE S279.17, Lighting and Marking of Agricultural Equipment on Highways that will provide additional informative guidance to users. Developed by the Association of Equipment Manufacturers (AEM), an “Informative Annex” will be added that will depict lighting and marking of agricultural tractors, combines, sprayers, other types of self-propelled equipment, and rear mounted three-point hitch implements, towed implements, and trailers.

- completed its adoption, with deviations, of ISO 12934:2013, Tractors and machinery for agriculture and forestry - Basic types – Definitions. The new ASABE standard, ANSI/ASABE S390.6 (ISO 12934:2013), replaces ANSI/ASAE S390.5, Definitions and Classifications of Agricultural Field Equipment, which was used as a key basis document for the development of ISO 12934. The adoption further harmonizes national and international standardization, a goal that facilitates manufacturing, safety advancements and product marketing worldwide.

Ag Lighting & Marking: A Visual Guide

AEM member experts have developed an illustrative guide to provide an easy to understand visual guidance for the application of the Lighting and Marking Standard for Agricultural Equipment, ASABE S279.17.

This visual representation is intended to help stakeholders understand and navigate this standard that can be difficult to interpret, particularly for those who do not routinely read and apply standards or participate in the standards development process. Target audiences span all potential stakeholders, including manufacturers, law enforcement and equipment owners. The graphic representation of the standard helps to provide a common understanding given the old adage that “a picture is worth a thousand words.”

This 12-page document provides graphic representation of the front and rear views of multiple equipment forms including agricultural tractors, agricultural sprayers, harvesters, and mounted and towed equipment. Separate views illustrate equipment wider than 12 feet and similar views for equipment narrower than 12 feet.

To promote this work across the industry, the following steps are planned:

- AEM will host a webinar to promote this work to all stakeholders.
- Presented by an industry expert, the webinar is planned for later this year, pending speaker availability (to be announced later).
- Promotions will be extended to Law Enforcement, Ag Extensions, Ag Safety NGOs, and Ag Equipment Association members.
- The free webinar will be recorded and archived at AEM.org.
- The Illustrative Guide will be available after the webinar through the AEM Safety Materials Store.
- The guide will be proposed for inclusion as part of the formal ASABE standard, which could be re-numbered S279.1B. This work will commence mid-year.

The guide provides a common interpretation of the lighting and marking standard for manufacturers, law enforcement and owner/operators. It will eliminate confusion due to different interpretations of the standard and will contribute to readily recognized agricultural equipment being operated among traffic, enhancing roadway safety.
The event will include proven industry practices for risk assessment, process documentation, and compliance. Hear from practicing professionals and network with your industry peers. Take advantage of this exclusive AEM membership benefit and register today!

Register now at aem.org/safetyseminar