

Agtech's growing role in an uncertain environment

Agriculture is not an industry for the faint of heart: Droughts, floods, crop and livestock disease, tariffs and other trade barriers have all hit the industry in varying degrees in recent months. But in light of those challenges and the urgency required to address them, agriculture technology is booming – and creating opportunities for landowners and investors alike. It helps that the potential for making life-altering improvements to the environment is substantial: agriculture is responsible for 80 percent of our water consumption, while food waste accounts for 8 percent of manmade greenhouse gas emissions, according to a Forbes report. More efficient agriculture could make a significant dent in those figures. The need for agtech innovation has only become more pressing as the coronavirus has impacted the labor force in recent weeks – a Chinese maker of agricultural drones, for instance, reported an increase of orders since the outbreak.



Emerging technology is taking aim at these challenges, with the help of growing investment. Foodtech and agtech startups raised \$20 billion in 2019 alone, a 250 percent jump over the previous five years, according to research from the venture capital firm AgFunder. A recent AgFunderNews report predicts 2020 will usher in advances such as these:

Greater cost certainty through Farming as a Service: These pay-per-use and subscription farming services can bring cost stability to farmers and landowners alike.

Improved data transparency, analytics and record keeping: New software and equipment are enabling farmers to

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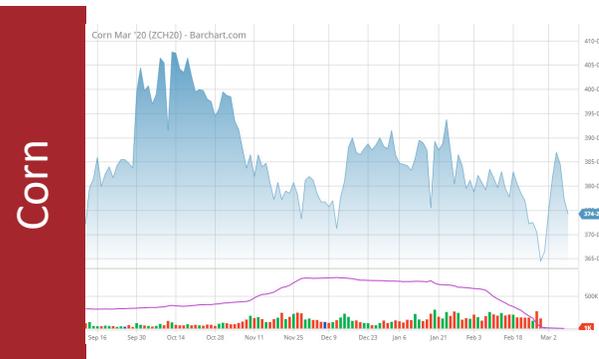
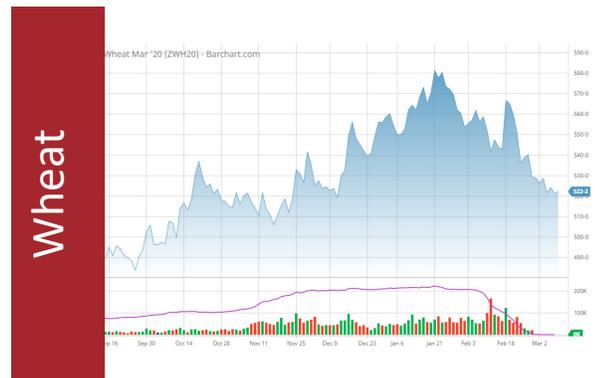
Reasons for optimism amid challenges

As pandemic fears replace trade concerns, stability is elusive

After a 2019 filled with uncertainty due to challenges ranging from extreme weather to trade impasses, the USDA sounded guardedly optimistic about conditions for agriculture in 2020 at the 96th Agricultural Outlook Forum in Arlington, Va. in late February. Robert Johansson, the USDA's chief economist, said the finalization of trade deals – such as the U.S.-China Phase One Agreement, which promises substantial U.S. agriculture purchases from China over the next two years – was now making it more possible for farmers to plan and innovate around potential challenges to come.

Of course, the spread of the coronavirus in recent weeks has replaced one challenge with another, and the next few months are likely to reflect market uncertainty in the U.S. and abroad. In the meantime, here is a summary of the most recent USDA research on key agricultural commodities:

Wheat: Carryout for the 2019-2020 marketing year is down 25 million bushels to its lowest point since 2014-2015. However, export prospects are providing a reason for optimism. A reduced export outlook from Canada is creating new marketing opportunities for U.S. producers, despite a strong U.S. dollar.



Corn: Analysts expect a record corn crop this year, with carry-over stocks potentially reaching their highest point since 1988. But steady exports and high domestic use are providing some relief.

Soybeans: Analysts expect the fourth-largest soybean crop on record. Exports are forecast to increase, recovering to pre-trade war levels, and domestic ending stocks are projected to fall to a four-year low for the 2020-2021 marketing year. However, much depends on purchases from China, which have been slow to materialize in the wake of the country's efforts to respond to the coronavirus outbreak.



Optimism Continued

Beef: Cattle prices are on track to increase, with exports recovering due to resolved trade concerns, ongoing domestic demand, and a current break in herd expansion, according to CattleFax. In the event of a record corn crop, prices may get an extra boost. However, resumption of herd expansion will likely depend on market reactions to the coronavirus.

Feeder Cattle



Live Cattle



Pork: Johansson said Chinese purchases of U.S. pork have climbed 150 percent since 2018 as the country has struggled with African swine fever. Again here, however, ongoing demand from China will depend on how quickly the country can rebound from closures to its ports and processing facilities due to the coronavirus, according to USDA Secretary Sonny Perdue.

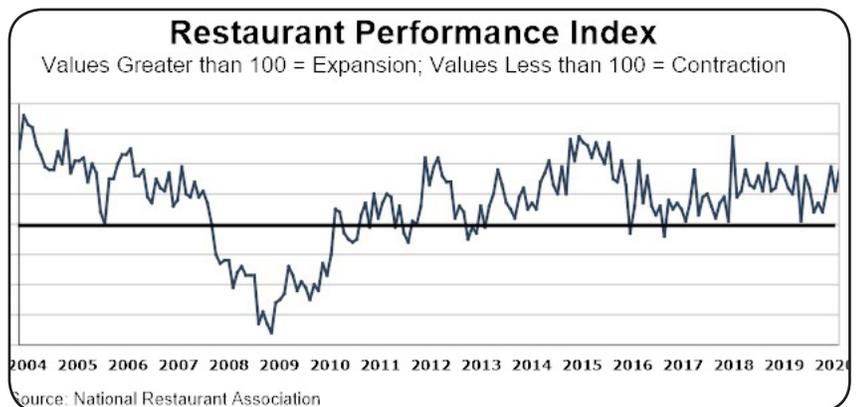
Lean Hogs



The charts on this page and page 2 from Barchart.com track futures price quotes (area in blue) in recent months for the commodities listed, as well as volume (red and green bars) and open interest (purple trend line).

Restaurants: Positive Gains

The National Restaurant Association's Restaurant Performance Index tracks the health of U.S. restaurants and operators' outlook on the industry. A gain of 0.7 percent is attributed to an increase in same-store sales and customer traffic in January.



OUTLOOK

Q2/2020

Agtech

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accomplish such tasks as understanding the health of their soil, operating agricultural equipment and tools remotely, and maintaining digital leases and other records. The information can empower farmers to anticipate costs, make more accurate forecasts and negotiate fair leases.

New models for agtech investment: Investment platforms like FarmTogether are looking to change the model of agriculture investment by lowering the barrier of entry for farmland investment and improving farmers' liquidity and access to capital.

Even the market for farmers is set for disruption. At a time when young people care about the sustainability of food production, the expansion of agtech may provide an appealing entry point for a new generation of farmers. Opportunities abound in 2020 and beyond.

By the Numbers: Restaurant Industry Employment

Information provided by the National Restaurant Association

15.6
Million

Restaurant industry employees
in the U.S.

1.6 Million

New restaurant jobs projected to
be created by 2030

1 Million

Employees in industry who are
older adults – making them the
fastest-growing restaurant em-
ployee demographic

84%

Growth of middle-class restaurant
industry jobs (\$45-\$75k) between
2010 and 2018

3X

How many times faster middle-class
jobs grew in the restaurant industry as
compared to the overall economy

2020 Vision

Top Restaurant Trends

1. Eco-friendly packaging
2. Scratch-made foods
3. Plant-based proteins
4. Healthy bowls
5. Creative catering
6. Delivery-friendly menu items
7. Revamped classic cocktails
8. Ingredients that promote relaxation/relieve stress
9. Specialty burger blends (mushroom-beef burgers, etc.)
10. Unique beef and pork cuts



Source: National Restaurant Association