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Food, Beverage & Agribusiness Newsletter

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Food & Beverage Crystal Ball: Trends we're following



In the 2022 second-quarter edition of Nixon Peabody's *Crystal Ball* newsletter, our [Food, Beverage & Agribusiness \(FBA\)](#) team shares insights into various industry trends, including:

- / Putting the AI in Agr/culture
- / Coffee prices, chasing that high
- / Blockchain's innovative impact on the food and beverage industry
- / Virtual trademarks? METAmorphosis in the food and beverage industry
- / Controlled environment agriculture — Environmental due diligence considerations

We will continue to watch closely as these issues and others unfold as we transition into 2022.

[Putting the AI in Agr/culture](#)

In January, [John Deere unveiled the first ever self-driving tractor at CES, an annual trade show organized by the Consumer Technology Association](#), which uses artificial intelligence (AI) to recognize the environment and navigate around it. While predecessor machines were already able to navigate limited GPS-defined routes or with behind-the-wheel assistance, the autonomous tractor expands on previous technology and obviates the need for hands-on assistance.

The technology needed to run the tractor includes neural network algorithms similar to those used in self-driving cars. Information is collected through the cameras, analyzed, and used to train the algorithms used to power the AI tractor. Deere spent several years training its

algorithms ahead of the launch, and as additional data sets become available, **it is likely we will continue to see progressive growth in automotive—and agricultural—AI.**

While some drawbacks include high costs and programming difficulties, as well as limited access to Deere's data by other agricultural companies, autonomous farming technology is nonetheless a welcome innovation in the face of an [ongoing agricultural labor shortage](#). The pros and cons of AI's infiltration through an industry are not a new phenomenon: in a [previous post we noted similar tug-and-pull happening in the food industry with the introduction of AI in the kitchen](#).

With the global population growing, AI assistance in the agricultural, food, and other industries may help curb labor and food shortages. However, with certain companies coming out as front-runners in AI technology advancements and potentially exploiting datasets needed for further innovations, it will remain to be seen whether the sentiment over a revamp in intellectual property (IP) protection for AI changes course from the [USPTO's October 2020 report](#). The 2020 October report concluded that *the US legal system is well equipped to handle the emerging issues raised by AI*. **Nixon Peabody will continue to monitor developments in industries expanding on AI and accompanying changes to the US IP legal system.** [Paulina Starostka](#)

[Coffee prices, chasing that high](#)

As supply chain issues and [climate change](#) continue to affect the coffee industry, caffeine aficionados may soon find that those morning cups are harder to come by. The price rally for coffee futures has reached its largest annual percentage gain since 2010, and the same goes for Arabica coffee futures, which have risen 76% over the past year. These increases are being passed along by coffee sellers and roasters directly to consumers.

One of the biggest contributors to the increase has been extreme weather suffered by large coffee-producing regions. Countries such as Brazil, which led the world in coffee production with more than 7.8 billion pounds of coffee in 2020, have suffered from prolonged drought and crop-killing frost that has handicapped their ability to meet global demand—as reflected in the rising prices. Despite the fact that Brazil boasts the largest amount of freshwater in the world, largely due to the Amazon River, it has seen a massive shortage in water reserves held in rivers, lakes, and aquifers compared to the 20-year average, primarily fueled by climate change and deforestation. Combine that with supply chain issues that have struck the global shipping industry over the past couple years, and many coffee sellers have been forced to hike prices just to maintain their bottom lines.

As shifting climate conditions and the effect on agriculture continue to affect food and coffee prices, **these regions must prioritize diversification of water sources and agricultural practices to keep up with global demand.** [Stratton Constantinides](#)

[Blockchain's innovative impact on the food and beverage industry](#)

According to the Center for Disease Control, 1 in 6 Americans gets sick, 128,000 are hospitalized, and 3,000 die from foodborne diseases each year in the United States. Expediting and improving the accuracy and transparency of traceback investigations to identify the distribution and production chains and sources of potentially hazardous food products is critical in reducing these numbers. To streamline the traceback process and record, the Food and Drug Administration (FDA) is implementing the Food Safety Modernization Act Proposed Rule for Food Traceability, expected to be completed in November 2022, to promote the use of blockchain technology to track critical events (e.g., growing, receiving, transforming, creating, and shipping) in the food supply chain for certain products. About 500 member companies of The Food Trust have been

promoting blockchain technology for this purpose since about 2018, and some members, including Walmart Inc. are already using it to track how their products got to their shelves.

This creates a much more streamlined way for retailers and consumers to figure out exactly where a particular food item came from and the path it took to get from farm to shelf.

Additionally, the information is highly trusted due to the security, visibility, and reliability of information on the blockchain. Utilizing the blockchain for food supply traceback is another example of blockchain technology living up to the hype that continues to surround it. **It is here to stay, and more and more, businesses can and should continue to consider how it can be used to achieve important business purposes.** [Elizabeth Baio](#)

[Virtual trademarks? METAmorphosis in the food and beverage industry](#)

A growing list of food and beverage companies are extending their trademark portfolios into the virtual world. They are beginning to explore ways to protect their brands in virtual settings, which will likely ensure rights are recognized in the virtual marketplace. Large, well-known brands such as Panera, Panda Express, Wingstop, and Chuck E. Cheese, have recently filed trademark applications for activities unique to the Metaverse. Items covered by trademark filings in the virtual world range from “virtual restaurants” and “virtual food and drink” to “online retail services featuring virtual goods” and “downloadable software for providing access to virtual restaurants, foods, and drinks.”

A key feature of the virtual world involves non-fungible tokens (NFTs), which are digital tokens that exist on a blockchain and signify one’s ownership of a particular asset. To protect these rights, food and beverage companies are filing trademark applications covering items such as “downloadable multimedia files containing artwork, text, audio and video files[,] and non-fungible tokens.” To protect their ability to offer loyalty programs virtually, food and beverage companies have filed trademark applications covering “downloadable loyalty cards” that may be redeemed for the purchase of food and drink menu items in the virtual world. **Food and beverage brand owners should begin preparing assessments as to whether they wish to enter the virtual world and file trademark applications to cover future desired activities. Steps taken now may help protect “brick and mortar” world rights in their brands and limit trademark infringers in the Metaverse.** Although the Metaverse is digital and virtual, it will have a significant impact on trademark rights in the real world. [Janet Garetto](#)

[Controlled environment agriculture—Environmental due diligence considerations](#)

Controlled environment agriculture (CEA) is an indoor farming method gaining interest and popularity in the United States, including among venture capitalists. CEA encompasses greenhouse farming as well as vertical farming techniques. By controlling environmental factors such as temperature, light, and water, CEA enables produce to be locally grown year-round, even in northern climates and urban areas. A well-designed CEA facility uses less water and less land than traditional agriculture. In addition, a CEA can be designed to be fully contained with no run-off of agricultural chemicals.

However, CEA requires more energy than traditional farming to operate the climate control and lighting systems. Despite higher yields due to year-round production, the high start-up costs, together with high energy costs, have impeded CEA from a cost-competitive standpoint when compared to outdoor agriculture. Many CEA facilities focus on high-value produce, such as tomatoes, strawberries, and herbs. Due to the high energy demands, there is increasing interest

in pairing CEA projects with on-site renewable energy generation, such as solar panels. However, this pairing adds a layer of complication to the permitting and development of CEA projects that developers, lenders, and investors should consider.

As with any transaction involving real estate, developers, lenders, and investors should scrutinize potential projects, especially for projects with an on-site renewable energy generation component, with an appropriate degree of environmental due diligence, including conducting or relying on a current Phase I Environmental Site Assessment. In addition, other areas of inquiry include evaluating potential impacts on wetlands, endangered species, and cultural resources, as well as ensuring that the construction of the project complies with stormwater runoff requirements, FAA requirements (if the project is located near an airport), and the necessary state and local approval requirements. [Dana Stanton](#)

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