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Biotechnology Can Fight Climate Change—but Trade Negotiators Need to Act

"Emerging biotechnology, such as gene-editing, can safely and effectively change our planet's future for the better."

Why this is important: This article highlights recent advances of biotechnology in the agricultural sector and the barriers created to employing this technology. Among the benefits touted are: higher yields of crops, fewer carbon emissions, better drought resistance, use of fewer pesticides, the ability to store produce for longer periods of time, and more nutritious fruits and vegetables that are higher in vitamins and minerals. These crops can reduce global hunger while also reducing climate change caused by carbon emissions -- but only if this biotechnology is embraced. At a time of heightened distrust of both government and science, that may be a tall order. The United States-Mexico-Canada Agreement of 2020 laid the regulatory framework for employing these advances, but Mexico continues to block the import of U.S. biotechnology crops regardless. With U.S. farmers relying on trading partners, like Mexico, to make the transition to biotechnology crops successful, the window of opportunity on wide-spread adoption of these advances may be closing. --- [Lori D. Thompson](#)

tRNA Therapies Could Help Restore Proteins Lost in Translation

"A new class of therapies based on transfer RNA could treat forms of cystic fibrosis, muscular dystrophy, genetic epilepsies, and more."

Why this is important: This article describes a different kind of RNA drug. mRNA is famous because of the COVID-19 vaccines. tRNA or "transfer RNA" helps cells assemble specific proteins from amino acids. This may have applications in treating diseases very difficult to treat, such as cystic fibrosis or Duchenne muscular dystrophy, among others. --- [Hugh B. Wellons](#)

Whichever Party is First to Back Cryptocurrency Will Win Big

"Whichever party wants to catch these receptive voters should act swiftly, not only to beat the other party to the punch but also to pre-empt legislation that would prove difficult to reverse if enacted."

Why this is important: This article posits that cryptocurrency regulation is a significant issue in 2021, and the first political party to win over the industry could gain a major advantage in coming elections. To support this position, the article reports some interesting results of its own survey of 10,000 Americans across what it calls "politically salient U.S. states." Very few have ever heard of cryptocurrencies. Between 28 and 37 percent would vote to approve a ballot measure making these currencies legal tender. Between 25 and 42 percent would support legislation creating a legal framework and encouraging crypto investors. Despite the large numbers that appear to recognize the significance of the industry, education still is needed. The survey results showed that "strong majorities" in all states have heard of Bitcoin, but few have heard of any of the other cryptocurrencies (a popular website, Coin Market Cap, lists several thousand of them). Few surveyed were aware of stablecoins. The article argues that backing U.S.-pegged stablecoins strengthens the U.S. dollar at home and abroad, while limiting them impairs the U.S. dollar and creates a "currency vacuum" that could play into China's attempts to broaden the appeal and use of its digital yuan. This point is significant in light of the other article in this issue that discusses the next steps in the likely impending regulation of stablecoins. --- [Nicholas P. Mooney II](#)

Eye Movement as a Biometric Identifier Progresses with New Research

"A team of researchers at the Silesian University of Technology in Poland found eye behaviors unique to 24 study participants."

Why this is important: Security measures that employ scans of physical characteristics, such as retinas, fingerprints, and faces, have become more common. Now, the next generation of biometrics is on the horizon with technology that combines scans of these physical characteristics with measurement of behavioral characteristics. For example, multiple studies are focused on how eyes uniquely respond to stimuli, such as this study in Poland where technology tracks how the eye traces a point of light as it moves around a screen. This new technology is important as it will provide more reliable security as it is difficult to forge both the physical appearance and the behavioral response. --- [Lori D. Thompson](#)

Novartis Doesn't Think Optogenetics Will Completely Cure Blindness—but Its New Biotech is Going to Give It a Try

"Novartis already bought into optogenetic gene therapy technology last year, but the Swiss Pharma wants more."

Why this is important: When you have nothing to lose, or when you are flush with cash, you can swing for the fences. Novartis already owns one gene therapy application for vision loss, but it is very limited. Novartis hopes that this second company will help it develop wider applications for genetic diseases affecting vision. In other words, it believes that the different approaches will be a catalyst to develop something even greater. $1 + 1 = 3?$ Maybe, we'll see. --- [Hugh B. Wellons](#)

Treasury, Fed Fear 'Stablecoins' Could Disrupt Financial System

"New attention on so-called stablecoins is setting up a clash between the emerging crypto industry and financial regulators."

Why this is important: One of the perennial complaints detractors make about cryptocurrencies is their volatility. However, this complaint doesn't work when lodged against stablecoins -- currencies with value is pegged to the U.S. dollar. Because their value doesn't fluctuate, these coins are becoming popular payment mechanisms. In 2019, there were about \$250 billion in stablecoin transactions. That

amount jumped to \$1 trillion in 2020. In the first quarter 2021, there already were \$1 trillion in transactions, and in the second quarter that amount increased to \$1.7 trillion. Depending on your stance on cryptocurrencies, stablecoins present promise for a better, faster payment system or a threat to the U.S. financial system, especially at a time when there are several projects underway to create a digital U.S. dollar (central bank digital currency). What is the government planning to do? Several U.S. regulators (Treasury Department, FDIC, SEC, and the Federal Reserve, among others) are preparing a report, due out in a few weeks, on the next steps in regulating stablecoins. --- [Nicholas P. Mooney II](#)

Amazon's AI Cameras are Punishing Drivers for Mistakes They Didn't Make

"Amazon delivery drivers say surveillance cameras installed in their vans have made them lose income for reasons beyond their control."

Why this is important: Amazon delivery van contractors and drivers were already under extreme pressure to meet Amazon's demanding delivery schedules in order to earn critical monetary bonuses, but now they must also contend with an AI nanny that does not understand how to drive a van. Amazon recently began installing AI cameras in its contractors' delivery vans in order to monitor driver safety. Each time the AI detects an unsafe action, like following too closely or distracted driving, the AI logs an adverse event. The camera then uploads the "event" to a database for future review. Depending on the severity of the detected event, the system may also verbally chastise the driver. Have too many events, and Amazon withholds performance bonuses for both the delivery van contractor and the driver. The problem is that the AI cannot distinguish between an actual unsafe driving event and ordinary driving. A car cuts the van off, that is now considered failing to follow at a safe distance and is recorded as an event. Look down to change the radio station or temperature controls, that is distracted driving and is recorded as an event. No rational person would say that any of these driving behaviors constitute unsafe driving, but the AI does not know that. Further compounding the problem is that when drivers attempt to appeal the AI's decisions to Amazon pursuant to Amazon's appeal process, their appeals are ignored. With a failed appeals process, the delivery van contractors and drivers have no recourse and must submit to the judgment of a faulty AI. The result is less money to the delivery van contractor and the drivers. This is causing some contractors to go out of business because they relied on the performance bonuses in order to be profitable. The delivery van contractors and drivers are now at the mercy of a faulty AI that Amazon has no incentive to fix because it is getting the same results for less money. With the use of AI to monitor performance becoming more prevalent, those being monitored by these AI systems must include a mechanism in the contract that allows the monitored party to know the parameters the AI will use to make its autonomous decisions, and the right to appeal those decisions to an actual person and to receive a timely response. Without an understanding of the limitations of current AI systems, or a robust appeals process that adequately addresses these weaknesses, we risk becoming subservient to an AI overlord that can process an impressive amount of data, but does not know how to perform the simple task of driving a van. --- [Alexander L. Turner](#)

FDA Creates New Office to Drive Forward Digital Transformation Strategy and FDA Ends Summer with Fresh Batch of Breakthrough Device Designations

"The creation of the Office of Digital Transformation (ODT) is part of a push at FDA to bring its use of technology and data in line with modern practices and to cut duplicative processes."

"The designation gives sponsors potentially speedier review from regulators for products for hard-to-treat conditions or those with few options."

Why this is important: The first article describes the FDA's reorganization of IT, data management, and cybersecurity into one group to make it more efficient and more effective. This initial effort, of course, will cost lots of money, as reflected in the budget request.

The second article highlights some breakthrough medical devices that the FDA has approved recently.

Together, they are a good summary of where the FDA believes that it needs to go, and what it has accomplished, at least on one front, recently. Although COVID-19 vaccines certainly occupied much of the FDA's drug evaluation capacity, it stayed very busy on the medical device front. --- [Hugh B. Wellons](#)

US Treasury Hits Back at Ransomware Attacks with Sanctions

"One of the Treasury's first targets is SUEX, a virtual currency exchange."

Why this is important: This short article reports that the Treasury Department has taken action against Suex, a cryptocurrency exchange operating primarily in Russia that it states aids cyberattacks. According to the Treasury Department, more than 40 percent of Suex's known transactions are related to what it calls "illicit actors." To be more precise, what the Treasury Department did was add Suex to the list of Specially Designated Nationals and Blocked Persons, which effectively prohibits Americans from doing business with the company. Whether this will "shut down" Suex, as sources are claiming, remains to be seen. --- [Nicholas P. Mooney II](#)

Bitcoin Trader Takes Banks to Court Over Cryptocurrency 'Discrimination'

"An Australian cryptocurrency trader is about to have his day court for a human rights and discrimination case that if successful could have enormous ramifications for the bitcoin-shy Australian banking sector."

Why this is important: An Australian man who runs a cryptocurrency exchange is suing two of the country's largest banks over their decision to close his accounts and "debank" him. He's brought what is styled as a human rights and discrimination case and has alleged conduct that seems nearly a vendetta against him. He claims, among other things, that a bank that closed his accounts, upon learning that he opened accounts at a second bank, contacted the second bank to persuade it also to close his accounts. The lawsuit, if successful, could lead to actions by other classes of individuals who have experienced debanking. --- [Nicholas P. Mooney II](#)

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