

BLOCKCHAIN

AG'S NEXT PROBLEM SOLVER?

BY GERELYN TERZO



Blockchain, which is the technology fueling digital currencies such as Bitcoin, has made its way into the agriculture sector, and industry participants ranging from major corporations to startups are embracing it.

Blockchain gets avocados and pork chops from the farm to the table with greater speed and security than has been possible until now. While the nascent technology appears to present an opportunity for agriculture, as well as for other sectors of the economy, a comprehensive blockchain solution for ag seemingly remains years away.

The New York Times article, "Blockchain: A Better Way to Track Pork Chops, Bonds, Bad Peanut Butter?" spotlights Frank Yiannas, the vice president for food safety at Walmart, as evidence that the agriculture and food chains are ready to embrace blockchain technology. Walmart's inspiration for a more secure food tracking system was born out of a series of salmonella outbreaks, the source of which often took the giant retailer weeks to identify.

Tech behemoth IBM came to the big-box retailer's rescue with a pilot blockchain solution. The pair formed a partnership, and Walmart is now using IBM's blockchain to track pork making its way from China's farms to the local grocer, as well as Latin American produce to the United States.¹

"I became increasingly convinced that maybe we were onto the Holy Grail," Yiannas told The New York Times, adding he is hopeful that a finished product will surface within a few years.

The article, "Wheat Farmers Trial Blockchain to Sell Grain and Find it is Fast and Reliable," by Financial Review points to Aussie farmer David Whillock, who delivered "23 metric tonnes [sic] of wheat" to an export business using the blockchain, which he said enabled "fast and secure payment for the grain."

TECHNOLOGY & PLAYERS

Blockchain was named after an electronic bookkeeping system that according to the Times "chains together entries" that are not easily alterable afterward, which ensures a level of trust among independent participants. Blockchain allows large groups, such as farmers, manufacturers, and retailers, to access, share, and maintain a "secure and reliable record" of their dealings, according to the Times, with each transaction identified as a separate block (hence the blockchain).

Through the blockchain, the relevant parties can track specific characteristics of the product, such as the location and quality of the asset, as well as the owner of the item at any given time. Some of the potential benefits for consumers include preventing unfair pricing, and providing greater transparency on the origin of a product. Blockchain technology also removes the need for costly paperwork tied to commodity price fluctuations and unpredictable payment transactions, all of which place the burden of risk on the farmer, as pointed out by Financial Review.

"Consumer demand for 'clean' food, including organic, is skyrocketing, but producers and manufacturers are often struggling to verify the accuracy of data from farm to table. Blockchain can help," said Emma Watson, co-founder and CEO of Full Profile, cited in AgFunder News.²

"The challenge now for blockchain, and agricultural technologies in general, is connecting the technology to viable business models and compelling use cases," said Economist Carlo R.W. DeMeijer.



Meanwhile, IBM, which has hundreds of employees working on blockchain technology exclusively, is not the only game in town. Microsoft and JPMorgan have reportedly teamed up to develop blockchain technology based on the digital currency called Ethereum. Additionally, Samsung has backed a blockchain startup called Blocko, and recently commercialized its business-to-business digital financial platform based on blockchain technology. This Nexledger platform can be used in other industries outside financial institutions.³

Other startups focused on blockchain technology are growing, such as Filament, whose headquarters span Reno, Nevada, Denver, and San Francisco, and which is a product of the Techstars accelerator program. Filament, which raised \$5 million in Series A funding in 2015, and just supplemented that in March 2017 with \$15 million in new venture financing, developed a blockchain solution known as TAP, which can be used for the purpose of sharing soil data from a particular field among farmers, for instance.⁴

Mountain View, Calif.-based Skuchain has similarly developed a blockchain technology comprised of barcodes and RFID tags for the supply chain designed to prevent counterfeiting. Skuchain's solution is reportedly already being applied to the agriculture industry.⁵

Also looking to become a leading blockchain technology provider in the food supply chain is Switzerland-based FoodBlockchainXYZ. It plans to issue a token called Foodcoin to manage the commercial relationships among the varied contributors in the food supply chain, where the token will ensure compliance to quality and safety standards.⁶

On the venture capital side, funding into bitcoin startups climbed 5 percent last year to \$550 million, though the total number of deals fell to 132 from 161 in 2015.⁷ Blockchain Capital LLC, which supports the use of bitcoin, unveiled plans to raise \$50 million that will reportedly include a portion of the firm's own digital tokens.⁸

PROBLEM SOLVER?

In his article, "Blockchain: Can It Be of Help for the Agricultural Industry?" economist Carlo R.W. DeMeijer dubbed blockchain a "problem solver" for food and agriculture, but added that while the technology has the ability to fundamentally transform the agriculture industry, many bottlenecks still remain.

"The challenge now for blockchain, and agricultural technologies in general, is connecting the technology to viable business models and compelling use cases," he said. The innovators, startups, and industry leaders mentioned above are diligently pushing forward in this endeavor. 🌱



To learn more about blockchain while at GAI AgTech Week, tune in on Wednesday, June 28 at 11:15 a.m. when Robin Lougee, Global Research Industry Lead for Consumer Products & Agriculture at IBM, will present "The Promise of Efficiency & Transparency – Exploring the Role of Blockchain Technology in the Agriculture Economy."

SOURCES

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