

## Turning ag waste into jet fuel could slash climate emissions

State leaders who attended the [UN Climate Change Conference](#) have been buzzing about new technologies that could bump the state once again [into a leadership role for climate reductions](#).

California has invested substantially this year in addressing a separate air quality issue that is also presenting new opportunities for reducing greenhouse gas emissions. In seeking out alternatives to open agricultural burning, converting agricultural waste into aviation fuels could bring a new leap in the race to decarbonize California.

**“We need liquid fuels that are low- or zero-carbon,”** said Daniel Sperling, a founding director of the UC Davis Institute of Transportation Studies and a member of the California Air Resources Board (CARB), during a recent board hearing. **“Some of that ag waste—I know it's expensive gathering it, and there's been issues on the economics—but I sure hope that we can keep that on the table as an option.”**

Sperling has gained international renown for his research, congressional testimony and numerous books addressing issues surrounding the future of transportation. He urged the state to invest in facilities to convert the waste into liquid fuel for airlines, which would lead to less-than-zero emissions.



Refueling an Airbus A320 with biofuel. (Photo: [Wikipedia](#))

Davina Hurt, who serves on the CARB board and the board for the Bay Area Air Quality Management District, agreed with Sperling, saying this option would “do double duty” by turning the waste into needed fuel.

**“Innovation is the key, and R&D investment needs to happen and work in tandem,” said Hurt. “We need to be bold in trying alternatives.”**

Hurt shared how the COP26 climate conference earlier this month exposed her to different products and processes, including alternatives for agricultural waste that prevent open burning as well as methane emissions from material decomposing in a landfill.

**During the meeting, the board approved a new spending plan for \$180 million that was allocated in the state budget for transitioning to alternative disposal methods for agricultural material.** The budget funding coincides with CARB’s decision in March to phase out all agricultural burning in the San Joaquin Valley by 2025. CARB is also considering a program to monitor the practice throughout the state, which could inform a broader ban extending beyond the valley.

The new spending will bolster an existing program within the San Joaquin Valley Air Pollution Control District that offers incentives grants to farmers for new noncombustion equipment and practices to replace open burning. Since 2018 the program has addressed 1.3 million tons of agricultural material spanning 49,000 acres of farmland and continues to be oversubscribed. The district has received more than \$40 million-worth of applications for the current funding cycle.

**While the industry has welcomed the funding, the global supply chain crunch has added new barriers. It has led to an insufficient supply of equipment to meet the growing demand, according to CARB staff. Agricultural stakeholders have told the staff that smaller operations are bearing the brunt of the supply shortages and struggle to gain access to alternative services, since contractors tend to prioritize larger jobs.**

To compensate, staff recommended the board allow for the limited application of combustion alternatives, such as air curtain burners. This would also address a lack of alternatives for certain crops, including grape vines imbedded with trellis wires. While vineyard managers have mostly abandoned the practice, older vines with wires are approaching the end of their productive lifespan and must be ripped out, explained John Eisenhut, the board’s agriculture member. Chipping the material to reincorporate into the soil would be like spreading millions of nails across a property, he said.



CARB board member Daniel Sperling

The prospect of exempting some combustion practices troubled environmental justice groups. Shayda Azamian, a policy advocate for the Leadership Counsel for Justice & Accountability, convinced the board to adopt new reporting requirements for those applying combustion alternatives. The growers must now document their efforts to find clean alternatives before determining that a curtain burner or other combustion tool is the only option.

Julia Levin, executive director of the Bioenergy Association of California, pointed out that the new funding excludes stationary sources as alternatives to burning, which targets bioenergy facilities.

**“Bioenergy can convert ag waste into carbon-negative fuels to replace diesel in heavy-duty trucks and backup generators,” testified Levin. “We hope that in this next year's budget the exclusion of stationary sources will be dropped.”**

The funding plan CARB approved includes spending on clean transportation incentives, which Levin argued shares the same objective of getting diesel off the road as quickly as possible. She urged the board to invest more in hydrogen fueling infrastructure, noting opportunities to produce hydrogen from dairy methane and other agricultural waste, along with cleared forest debris.

“We've got to start making those investments now, if we really want to move to zero-emission, heavy-duty trucks in the long-term,” she said.

### **Study: Neonicotinoids can have lasting impacts on native bees, but questions remain about methodology**

A single pesticide application can affect multiple generations of bees, according to a new study published by researchers at the University of California, Davis.

**“Our findings suggest we need to be doing more to help mitigate risks, or we limit critical pollination services,” said lead author Clara Stuligross, a doctoral candidate in ecology.**

At a UC Davis bee research facility, the scientists exposed blue orchard bees as larvae and then again as adults to the insecticide imidacloprid, the most widely used neonicotinoid in California.



Blue orchard mason bee (photo: Wikipedia)

“Even then, we saw strong results that added up, each exposure reducing fertility,” said Stuligross.

They placed the bees in “flight cages,” where the insects could forage on wildflowers, some treated with imidacloprid. Females exposed just once as larvae had 20% fewer offspring. Exposing them again in the second year cut their number of offspring nearly in half. The overall population growth rate for the bees dropped by 72% following exposure in the first and second years. This signaled to the researchers that neonicotinoid exposure can have lasting effects.

“One could draw parallels to human health, where impacts early in development show up much later in life,” said co-author Neal Williams, a UC Davis entomology professor. “We just didn’t know the same was true for bees. Now we do, and we need to continue to manage risks appropriately.”

The results, published this week in the journal *Proceedings of the National Academy of Sciences*, indicate that it may take bees multiple generations to recover from a single neonicotinoid exposure. The carryover effects can have profound implications for risk assessment, conservation and pollinator management, according to the study.

Imidacloprid acts as an insect neurotoxin to control sucking insects, termites, soil insects and fleas on pets, according to the National Pesticide Information Center. It mimics nicotine, which

is found in many plants, including tobacco. More than 400 products contain imidacloprid in the U.S. The blue orchard bee is native to North America and, being a highly efficient pollinator, often assists honeybees in pollinating almond, apple, plum, pear and peach trees.

The approach to the study drew skepticism from Dr. Henry Miller, a senior fellow at the Pacific Research Institute, former FDA medical reviewer and the founding director of the agency's Office of Biotechnology. He raised several concerns with *Agri-Pulse*. Since the tests use solitary bees, for instance, the hygienic practices and protections of the hive have been left out.

**"Most wild bees are solitary bees, and although they're important to pollination, these tests tell us nothing about the effect on honeybees," he said in an emailed statement.**

Miller added that this level of testing can easily exaggerate effects, since it confines bees to forage inside of a tent rather than on a variety of plants as they do in the wild. Allowing bees to forage without restrictions provides the only accurate sense of how pesticides impact bees, he explained.

**"They appear to have structured the study in every way possible to come to a negative and dramatic conclusion," he added, noting that imidacloprid was the first and by far most toxic neonicotinoid for bees and is largely being phased out.**

Miller was also dubious of the conclusion, which focused on a decline in the rate of growth, rather than an overall decline.

The two researchers focused on the blue orchard bee in a 2020 study that found pesticide exposure combined with food scarcity drastically affects reproduction. Exposing the bees to imidacloprid reduced reproduction nearly twice as much as limiting food.

The Department of Pesticide Regulation is currently investigating any potential impacts to native bees and other wildlife from crop seeds coated with neonicotinoids or other pesticides. Environmental groups have charged that neonic-treated seeds are also causing brain and heart damage in children and that the products may represent the largest insecticide use in the state.

## **Federal funding leads to new commercial organic bean varieties**

Funding from the USDA Organic Research and Education Initiative and Western SARE (Sustainable Agriculture Research and Education) helped plant scientists at the University of California, Davis, develop organic dry bean varieties that taste good, can survive the bean common mosaic virus and are viable in organic systems.

Travis Parker, who is now a post-doctoral researcher at UC Davis, worked on the bean project as part of his dissertation. He said the impetus to breed better organic dry beans came from a grower in Southern California who was interested in heirloom varieties for their taste, appearance and history but "knew that they had problems in the field." Some of the heirloom



A worker tends the beans growing at Rio del Rey Heirloom Beans in northern San Diego County. (Photo: Mike Reeske)

beans had low yields in addition to being susceptible to the mosaic virus. But, Parker said, “there are also varieties that are naturally resistant to it.”

**The goal of introducing virus resistance struck Parker and his colleagues as “low-hanging fruit” because it’s relatively easy to make crosses with bean varieties and UC Davis already had a few types to use as the "parent" generation. Greenhouses allowed researchers to grow out a generation in about two and a half months, so they had up to five generations to work within a year. That, Parker said, meant they could “really make serious progress pretty quickly.”**

Just one gene determines whether the plant is resistant, so Parker said in addition to physical observations that confirm whether the virus is manifesting on the plant, the researchers used genetic tests to see whether the necessary gene was present. After that, they needed to test the new varieties for yield and, importantly, taste. When seven varieties “looked promising in yield trials,” Parker said, he invited chefs and growers to come for a taste test. The results showed all of the beans were “at least as good as the heirloom parent, except for one.” And that’s why UC Davis first released just six new varieties. Parker said some “do have very high yields” and overall the new varieties perform similarly to the high-yield UC Davis parent generation. He added that he expects more varieties will be coming from the project.



UC Davis researcher Travis Parker (courtesy UC Davis)

Mike Reeske of Rio del Rey Heirloom Beans in northern San Diego County is the grower who first asked the Davis group to look into organic heirloom beans, and he also contributed funding to the research. During the field trials, Reeske grew 52 test plants on his farm, which he described as dedicated to research and development. He grew one variety that was initially very sensitive to changes in daylight. But with that feedback, the breeders made a cross that diminished that trait, and in the final year of the trial, it no longer failed to produce well in October. Reeske said now for the first time he’s able to offer that bean in the winter.

**Parker said that kind of cooperation between researchers and growers is fundamental to a public-sector breeding program. “It’s kind of to our advantage sometimes,” he said, to give out packets of seeds and see how then perform for many growers. That generates far more data than a small university program can create, he said.**

Now that the new varieties have been released, Reeske is growing them on his farm for both end-users, like restaurants, and one Canadian seed company. He said he has not approached other seed companies but “there’s no problem in selling” organic heirloom beans because there’s a solid market. And the seeds come with no patents nor restrictions on saving them year to year.

Parker said UC Davis makes small quantities of the new varieties available to the public for free because it was the organic community and taxpayer funds that fueled the research. The funding and field trial partnership with Reeske was a “handshake” agreement, Parker said, and the researchers handed out 1000 packets of free seeds at an organic growers’ conference in February 2020. Unlike more lucrative crops such as strawberries, Parker said, dry beans offer little return on the investment.

**“Nobody really expects common beans to be a huge money-maker for the university,” he said. Trying to enforce any kind of intellectual property related to the bean varieties would have been very difficult, he said, plus, the organic community prefers public varieties and seed saving.**

Reeske said among his goals is to have more people growing the beans, which is easier to achieve when the seeds are readily available. Once organic growers plant the commercial seeds, they can simply collect some of their own to plant year after year.

The six new varieties were tested throughout California, but Parker said if demand spreads to other places, it’s likely additional breeding will be beneficial to develop crosses that can thrive in different places.

“We invite growers to try them out in their conditions,” Parker said. Bean mosaic virus resistance may not be enough to make a variety succeed in, say, a wetter region. Or differences in growing season length could impact results. For the most part, he says the new varieties are doing well in disparate locations, but “we’re not necessarily breeding for things that do well in every possible location.” Since the varieties are in the public domain, other breeders are free to further customize as demand warrants.



New organic bean varieties bred at UC Davis. (Photo: UC Davis)

## **State seeks input for Multibenefit Land Repurposing Program**

The Department of Conservation is collecting input from Californians as it drafts guidelines for the new Multibenefit Land Repurposing Program it will launch with \$50 million of state funding next spring.

DOC is collaborating with other state agencies including the Department of Water Resources and the Department of Food and Agriculture to create a framework for distributing grants to groundwater sustainability agencies (GSAs), nonprofits and Native American tribes.



A DWR engineer inspects the area around where the agency is drilling groundwater monitoring wells in the critically over-drafted Indian Wells Valley in Kern County. (Photo: Andrew Innerarity/ DWR)

The projects that are funded will repurpose formerly irrigated agricultural land that is fallowed as part of a groundwater sustainability plan. Priority will be given to critically over-drafted basins. The program’s goals include reducing groundwater use, increasing recharge and providing wildlife habitat. Grants will go to partnerships and collaborations with a regional reach.

**During a virtual workshop Tuesday, CDFA's deputy secretary for legislative affairs, Rachel O'Brien, said the partnership approach is welcome and that CDFA wants land conversion to have “minimal impacts on agricultural productivity and local communities.”**

DOC's draft plan for the program calls for a system of block grants and separate, smaller, tribal grants. A third bucket of money would be for a statewide support entity. Block grants could go to GSAs, public entities, nonprofits or watermasters tasked with implementing groundwater sustainability plans.

Grantees would partner with landowners or local groups. Proposals would need to include a repurposing plan as well as project development and permitting; implementation; outreach, education and training; and monitoring. Grantees are expected to show a 50% match for the implementation part of their proposals.

A regional block grant recipient, for example, could work with landowners who would “implement land repurposing projects that provide public benefits on their properties,” said Shanna Atherton, associate environmental planner at DOC.

**The requirement of a 50% match stood out to some workshop participants as a barrier for nonprofits and other smaller prospective grant applicants. Other attendees expressed concern that the timeline currently asks for projects that will last 10 years, which might leave open the possibility of development or other water-intensive uses after that decade. The department also was told that existing repurposing plans should be tapped to minimize redundant planning.**

Ideas generated in small breakout rooms and in a large group discussion will be compiled as the process continues, Atherton told the 90 or so participants.

Another workshop with the same format is scheduled for Thursday at 5 p.m. PST. DOC plans to take public comment on its proposal from Dec. 20 to Jan. 31, 2022, and publish the final guidelines on Feb. 4. The hope is to review applications quickly and award grants in April. Staff at DOC are already open to hearing from prospective applicants who want to start drafting proposals.

Atherton acknowledged the “very tight turnaround” and said that’s inspired by the desire for grantees to make full use of the available funds. Many of the workshop’s participants said the department has a relatively small amount of money for a major change in land use.

“Hopefully we can prove this concept out” in this first funding round, “so this can be an ongoing and much larger program in the future,” said Keali’i Bright, assistant director of DOC’s Division of Land Resource Protection.

## **Despite holding little US land, China remains focus of foreign ownership discussion**

Lawmakers worried that China could gain control over the U.S. food system through land purchases are looking to curb the nation's grip on American farmland, despite no evidence of a spike in land sales to Chinese interests, according to an *Agri-Pulse* analysis of Agriculture Department data.

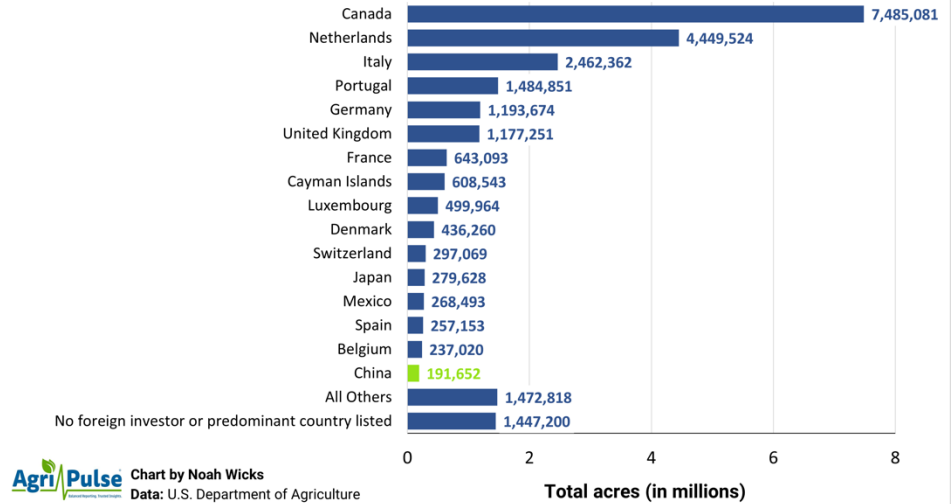
The most recent data collected under the Agricultural Foreign Investment Disclosure Act (AFIDA) shows Chinese investors held a little more than half of 1% of the overall 35.8 million acres of U.S. farmland and forest land under foreign ownership in 2019. Foreign-owned land

accounts for about 2.7% of all U.S. farmland and forest land, which, according to the Department of Agriculture, is about 897 million acres.

**That data also shows that the approximately 190,000 acres of land owned by Chinese interests has remained virtually unchanged since 2013.**

Still, a provision that would bar businesses owned by the Chinese government from buying U.S. farmland and participating in USDA programs cleared the House in August as part of the fiscal 2022 funding bill for USDA. The measure does not appear in the Senate version of the spending bill.

**Total acres of foreign-owned land by country of origin, 2019**



The amendment would extend the same ban onto the state-owned businesses of three other U.S. adversaries. But its lead author, Rep. Dan Newhouse, R-Wash., designed it with China in mind. He told *Agri-Pulse* he intended it to serve as a preventative measure, a way for Congress to keep the Chinese government from acquiring U.S. land in the future.

**“We know that there is a stated goal of the Chinese communist government to accomplish the control of not just agricultural assets, but many different kinds of assets around the globe,” Newhouse said. “This was a preemptive effort on our part to prevent important, critical parts of our supply chain from being under the control of the Chinese.”**

While Chinese officials have encouraged agricultural companies to invest abroad to expand the nation’s global influence and achieve national food security, a 2018 USDA Economic Research Service report said these investments are becoming less focused on land and more on acquiring existing companies. Most of the agricultural land that Chinese investors do acquire is located in other parts of the world, including Southeast Asia, Russia and Africa.

“Most Chinese agricultural investment has bypassed the United States,” the report’s authors wrote. “North America has received the smallest share among all continents of China’s outbound agricultural investment, despite being top supplier [sic] of China’s agricultural imports and a top destination for China’s nonagricultural investments.”

**Plus, investors from China — who held 191,652 total acres of land in 2019 — appear to possess far fewer acres of U.S. farmland than people from other countries. Investors from Canada and the Netherlands held 7.4 million acres and 4.5 million acres, respectively, and investors from Italy, Portugal, Germany, the United Kingdom, France, and eight other countries followed, each group possessing more land than their Chinese counterparts.**



When Newhouse introduced his amendment during a House Appropriations Committee markup on June 30, legislators from both parties expressed concerns about the potential ramifications of allowing — or restricting — Chinese ownership of U.S. land.

The chairman of the House Ag Appropriations Subcommittee, Sanford Bishop, Jr., D-Ga., said he supported the “concept” of the amendment, calling the current number of Chinese-held acres of U.S. land a “national security issue.” Rep. Jeff Fortenberry, R-Neb., the subcommittee's top Republican, saw the measure as a matter of “fairness,” because China likely does not allow the U.S. to purchase farmland within its borders.

But Rep. Grace Meng, D-N.Y., called the amendment a “slippery slope” that had the potential to fuel hatred toward Asian Americans, though she ultimately voted to add it to the appropriations bill after Newhouse expressed a willingness to work with her to address her concerns.

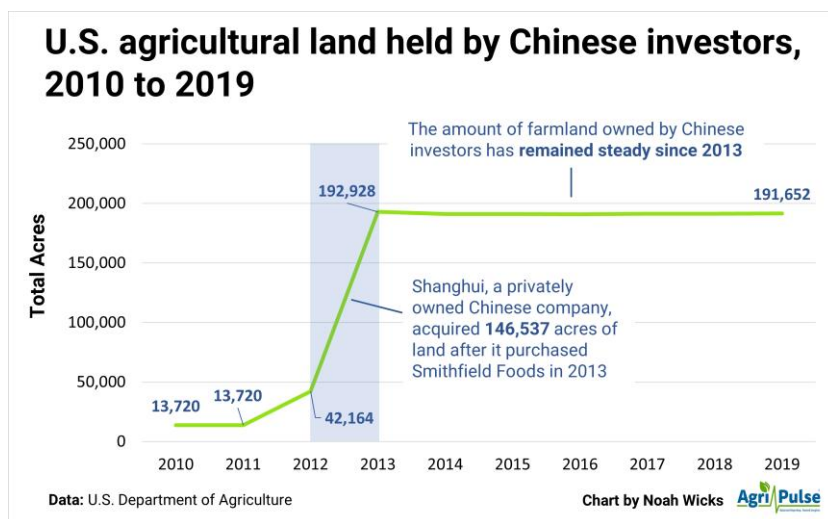
“This is not about calling attention in any negative way to any group of people in our country — that's not the goal,” Newhouse told lawmakers after a brief recess allowed him to speak with Meng. “This is about the government of communist China. This is about our country's national security. If we can agree on those two things, then I think we can move forward.”

Since then, the amendment has expanded to include three other known U.S. rivals: Iran, Russia and North Korea. Meng said at the markup she wanted to see a broader focus on multiple U.S. adversaries. Iran possessed 2,463 acres of U.S. land in 2019, while Russia held 834 acres and North Korea owned none.

James Talent, a former U.S. senator from Missouri and a current member of the U.S.-China Economic and Security Review Commission, spoke with *Agri-Pulse* in his personal capacity and said Chinese ownership of farmland can be concerning, particularly because the Chinese government is “sophisticated in using economic leverage” to further its own goals.

But Talent said right now, the nation appears to be more focused on feeding its own people than on disrupting the U.S. food supply.

**“I think, in general, it's fair to say that their buying to this point is designed to secure their own food supply chains, rather than to gain leverage over ours,” he said. “That could change.”**



The amount of farmland owned by Chinese investors has remained relatively steady in recent years, according to the AFIDA data. The last significant increase in acres occurred between 2012 and 2013 after the privately owned Chinese company Shanghai, now known as the WH Group, purchased U.S. pork giant Smithfield Foods.

**According to AFIDA data obtained by *Agri-Pulse* through a Freedom of Information Act request, 76% of the land fully owned by Chinese entities in 2019 — or 146,537 acres — belonged to Smithfield Foods.**

The company controls more than 49,000 acres of land in North Carolina, more than 42,000 in Missouri, just above 33,500 acres in Utah, over 13,000 in Virginia, more than 3,800 acres in Colorado and about 2,500 acres in Oklahoma. It also owns some land in Texas, South Carolina and Illinois, but far fewer acres than in other states.

After its 2013 purchase of Smithfield, Shanghai took control of several properties in Iowa, including processing plants, at least one livestock buying station, a feed mill, an office facility in Ames, a parcel of land near Manning where construction of a feed mill was planned, and leases of approximately 50 barn structures from local farmers near Algona, according to a series of letters exchanged between Smithfield representatives and the Iowa Attorney General's office.

**But because of the state's laws restricting foreign-owned or leased farmland, the company told the attorney general's office it would turn over 40% of the leased barns to the U.S.-based Christensen Farms and convert the rest into traditional contract finishing and custom feeding arrangements by the end of 2015. According to the letters, Smithfield's other properties were not on agricultural land.**

Other states with Smithfield operations, like Oklahoma and Missouri, have some restrictions on foreign farmland ownership, but none that prevent the company from operating in them.

Oklahoma's statute allows foreign corporations to own agricultural land for swine, poultry or livestock feeding operations. Missouri previously had a ban on foreign ownership, but state legislators changed it in 2013 — 15 days before the Smithfield acquisition — to allow foreign investors to own up to 1% of the state's agricultural land.

Smithfield Foods did lobby on Newhouse's amendment as it worked its way into the final appropriations bill, records show.

A source close to the matter told *Agri-Pulse* that Smithfield representatives urged Newhouse's office to clarify in the amendment that the restrictions should apply only to companies owned by the government of China. Newhouse's original language had also singled out "nationals of the People's Republic of China," but that section was crossed out before the vote on the amendment.

**On its website, Smithfield asserts that the Hong Kong-based WH Group is a publicly traded company and not a state-owned enterprise, which presents the possibility that the company will not be affected by the legislation. Smithfield representatives declined to comment on this story.**

The impact the amendment has on Chinese companies will likely depend on how the USDA chooses to define ownership. Both Newhouse and Talent said the Chinese government has ways of influencing how companies within its borders operate, even if they are private.

"I guess you could theoretically have a company that did not have government ties who it wouldn't affect, but I don't think that in reality that exists in China," Newhouse told *Agri-Pulse*. "There's always a relationship with the Communist government. I can't speak to Russia and Iran and North Korea, since that wasn't part of my original language."

In an email to *Agri-Pulse*, USDA press secretary Kate Waters said the agency has not yet decided what criteria it would use to determine whether or not a company was owned by one of the four countries included in the amendment.

The USDA's data on foreign farmland ownership is two years old, so Chinese investors could own more or less land than the numbers reflect. Additionally, complex company ownership structures and problems with USDA enforcement of the reporting act, as reported by the Midwest Center for Investigative Reporting in 2017, may mean those numbers are not accurate.

**“Part of the difficulty here is that we're not certain how reliable our own figures are, because there's a requirement that foreign entities report when they buy agricultural land, but there's really no means for enforcing that,”** Talent said. **“And it's not like the Chinese are very honest about other economic statistics, that's another well-known fact.”**

Some experts, including Francine Miller, a senior staff attorney and adjunct professor at the Vermont Law School Center for Agricultural Food Systems, question whether the USDA would have the legal authority to prohibit the governments of the countries listed in the bill from buying land.

"It's really a state law issue," Miller said. "There isn't, as far as I've been able to tell, any federal jurisdiction for the federal government to stop — especially a particular country — from buying farmland in America."

But Waters, the USDA spokeswoman, said Congress would give USDA the legal authority to prohibit sales of farmland to the foreign countries included in the act if the bill were to pass. However, she said some of the infrastructure necessary for enforcing the act does not currently exist and would need to be created by the USDA.

## **Facing ‘tsunami of change,’ food industry struggles to meet ambitious climate goals**

Multinational food companies raced to set pledges to slash the carbon emissions in their supply chains, and now those firms are scrambling to recruit the farmers needed to meet those targets, even as it remains unclear who's going to foot the bill.

### **Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2022**

**“** *The Secretary of Agriculture shall take such actions as may be necessary to prohibit the purchase of agricultural land located in the United States by companies owned, in full or in part, by China, Russia, Iran, or North Korea.*

*Beginning on the date of the enactment of this Act, agricultural land owned by China, Russia, Iran, or North Korea or companies owned, in full or in part, by China, Russia, Iran, or North Korea shall not be eligible for participation in programs administered by the Secretary of Agriculture.* **”**

**Agri|Pulse**  
empowering tomorrow

**— Section 777**

Company officials say they continue to be under heavy pressure from investors and consumers to address climate change, but some of the lead firms are running into the inevitable problems as they push farmers to adopt practices that increase soil carbon and reduce emissions from their fields.

Among the lessons companies are learning: What works in one area may not work as well in another, and farmers have to be convinced the practices companies desire make sense economically, not just environmentally. And companies are prodding farmers to change farming practices at a time when there are still no universally accepted protocols for reducing and measuring agricultural emissions.



Anna Pierce, Tate and Lyle

**“All of us in this space are riding a tsunami of change,” said Anna Pierce, director of sustainability for Tate and Lyle, a leading producer of food ingredients, primarily from corn.**

Without firm rules and protocols in place, “we’re all hoping that what we’re betting on at the end of the day” will turn out to be the standards of reducing emissions, Pierce said at the recent Sustainable Agriculture Summit, an annual conference that draws representatives of food companies, farm groups and ag suppliers.

Pierce said the industry has little choice but to persist in reducing the greenhouse gas emissions in their supply chain. Such emissions, which include those from farms that supply food companies, are known as “scope 3 emissions.”

**“We talk with our suppliers, and we talk with our customers and our investors. I don't have one discussion with any external group that doesn't involve scope 3 emissions,” said Pierce. “They'll ask about modern slavery, and then they'll ask about scope 3 emissions. It's THE topic of discussion, more than it was even two years ago.”**

***For more on how farmers are using cover crops to address climate issues, [read the first part of our series, “Cover Crops: The Potential, the Pitfalls, and the Policy Options.”](#)***

Field to Market, an organization that coordinates with farm groups and food companies to facilitate and measure progress on agricultural sustainability, says 30% of its 63 corporate members had made commitments for reducing scope 3 emission reductions as of this year, up from 22% in 2020. Field to Market co-sponsors the sustainable ag conference.

One of those firms, food giant Nestle, committed to halving its scope 3 emissions by 2030 from a 2018 base year, a goal in line with the goal of the recent Glasgow climate summit to hold the global temperature increase to 1.5 degrees Celsius (2.7 degrees Fahrenheit) above preindustrial levels.

Other companies with 2030 reduction targets include Coca-Cola, General Mills, Kellogg’s, McDonald’s, PepsiCo, and Target.

**“How we’re going to do that, we haven’t entirely figured that out,” said Jack Scott, a Nestle vice president whose responsibilities include sustainability and responsible sourcing.**

“We know that we need to work with the farming community. We need to work directly with farmers to understand where they’re at, what they’re trying to achieve ... and then identify the right partners in the supply chain that share the same values with us,” he said.

Nestle Purina, Nestle’s animal food business, and Tate and Lyle are both working with Truterra, a unit of dairy processing giant Land O’Lakes, to measure conservation outcomes on farms and to promote the use of cover crops and other practices that can sequester carbon and reduce agricultural emissions.

In many ways, the emission reduction effort is still very much at the experimental stage.

Tate and Lyle wants to assess the impact of various farming practices and incentives on 1.5 million acres of cropland with a five-year goal of having the information to know what works best in different geographic areas. “Having that much information I think sometimes is a burden, but I don’t think five years from now we’ll regret it,” Pierce said.

Truterra, meanwhile, has been learning its own lessons about the impact that cover crops and farming practices can have on soil carbon. Truterra has been developing marketable carbon offsets by measuring the amount of carbon sequestered in the soil of farmers who have undertaken conservation practices.

Earlier this year, Truterra sold 100,000 metric tons of carbon offsets to Microsoft and will soon announce plans to significantly scale up the program.

**“We’ve learned a tremendous amount in terms of how to ensure we identify up front who were good farmers to be able to be in the program,” Truterra President Jason Weller told *Agri-Pulse*.**

The measurements have turned up some wide variations in carbon impacts, said Weller, a former chief of USDA’s Natural Resources Conservation Service. In some cases, conservation practices resulted in less soil carbon than the “commonly available tools told everyone would be there,” he added.



*Jason Weller, Truterra*

**In some dry areas, where farmers have been following crop rotations and fallow periods, the carbon impact has actually turned out to be negative in some fields, he said.**

PepsiCo, meanwhile, has had success in getting farmers in Iowa and Illinois to grow cover crops. The hope was that the practice would also encourage farmers to use less nitrogen, which would, in turn, reduce the emissions of nitrous oxide, the largest source of greenhouse gas emissions in U.S. agriculture.

Reducing nitrous oxide emissions is an important part of meeting PepsiCo's climate goal. In line with the Glasgow goal, PepsiCo has pledged to reduce its scope 3 emissions 40% by 2030 from a 2015 base year.

However, the farmers PepsiCo is working with haven't reduced their nitrogen applications as much as the company wants. Margaret Henry, director of sustainable agriculture for PepsiCo, says the farmers fear seeing their yields dropping at a time when corn prices are relatively high.

**“When the price of corn goes up, no one is going to want to take a risk and not over-apply nitrogen,” she said.**

The company, which employs Practical Farmers of Iowa and the Illinois Corn Growers Association to provide technical advice to farmers taking part in the project, is offering producers locally based economic modeling with the optimal application rates, she said. Farmers in PepsiCo's program planted 89,000 acres of cover crops in 2020 and the goal was to have 200,000 acres this year.

It's still not clear to farmers or their customers what the cost is going to be to U.S. agriculture for reducing emissions and who's going to have to pay for it.

“No one's going to pay an extra \$20 for a bag of pet food because Nestle has a sustainability target,” said Scott. “And we have to look at the entire value chain and say, how, how do we start to spread that cost out?”

Meanwhile, Tate and Lyle's Pierce warns that the food industry isn't backing away from its interest in reducing supply chain emissions. She notes that at one time she was one of her company's main points of contact with Truterra. Now, the main point of contact is Tate and Lyle's chief procurement officer, the executive in charge of buying its agricultural commodities.

“If that doesn't signal where everyone is starting to look in terms of supply chains and market access, I don't know what does,” she said.

## **New COVID-19 variant buys more time for fractured WTO ag talks**

Nations continued to bicker and complain in the days leading up to what was supposed to be the summit for reforming international agricultural trading rules, but the postponement of the World Trade Organization's 12<sup>th</sup> Ministerial Conference gives WTO countries more time to lay the groundwork for consensus.

WTO Director-General Ngozi Okonjo-Iweala announced Friday that the Ministerial would be postponed indefinitely after a spate of new travel restrictions issued by countries to try to counter the new and fast-spreading omicron variant of the COVID-19 virus.

**“Given these unfortunate developments and the uncertainty that they cause, we see no alternative but to propose to postpone the Ministerial Conference and reconvene it as soon as possible when conditions allow,” WTO General Council Chairman Dacio Castillo said just three days before MC12 was set to start on Nov. 30 and run through Dec. 3.**

It's unclear when MC12 will be eventually held, but it's also unclear if Gloria Abraham Peralta, chair of WTO agricultural negotiations, will be able to come up with the blueprint to forge consensus for reform.

Peralta began circulating a new blueprint Nov 23 to hopefully accomplish just that at the Ministerial. It was the result of months of meetings, proposals and arguments between representatives of nations that span from South Africa to South Korea.

**“Much of what’s in the chair’s text suggests that many of the issues were not ripe for decisions (at MC12) and for some issues there are still deep divisions,” says Sharon Bomer Lauritsen, founder of AgTrade Strategies LLC and former assistant U.S. Trade Representative for agricultural affairs and commodity policy.**



*WTO Director-General Ngozi Okonjo-Iweala*

Almost immediately, India reacted “with anger,” according to a trade official in Geneva.

WTO nations vowed eight years ago to come up with a permanent resolution on one of the most vexing agricultural issues facing the WTO: How to set rules on public stock holding, or PSH. It's a common mechanism to make sure there is enough grain and other commodities in storage to protect against food shortages, but critics say countries like India and China also use it to subsidize farmers and export commodities like wheat and rice at below-market prices — a practice that lowers international prices.

India, which commonly pays above-market prices for crops to support farmers and then stockpiles or sells the commodities cheaply, has become one of the world's largest exporters of wheat and rice.

**But India, backed up by a long list of developing countries in the G33 Group, has been pushing for months for Peralta to adopt the nations’ proposal to bolster their ability to buy up the crops that their farmers produce. India has been under particular strain during the ongoing protests and demonstrations by farmers against any move by the government to take away the support.**

India, a Geneva trade official said, accused Peralta of trying to completely do away with a G33 proposal on stockpiling — a plan that has not yet been made public.

Peralta abandoned any hope of an agreement on public stockholding earlier this month.

“Given the persistent wide gaps in members' views, this question has turned out to be the most difficult issue in the agriculture negotiations,” she said in her proposed text for a document that could be ratified at the Ministerial. “It has become increasingly evident that it would be difficult for an agreement on a permanent solution to be reached at MC12.”

Domestic farm support is another contentious issue on which Peralta attempted to provide a path forward that WTO countries could find common ground on.

The wording she was asking the nations to agree to wasn't much more than a plan to continue to negotiate and included no specific reduction goals or even a time frame to get it done.

“We agree to continue negotiations on domestic support after MC12 with a view to negotiating modalities by MC13 to reduce substantially trade-distorting domestic support ... [by 20XX] [within a time frame to be determined by members] in furtherance of the reform program under Article 20 of the Agreement on Agriculture,” the proposed document reads. “The negotiations shall be based on submissions by members and shall take into account and build on the progress made thus far in these negotiations.”

The proposal nevertheless turned out to be controversial.

While many nations frowned on the lack of ambition in the proposal by the chair of WTO agricultural negotiations, China and large blocks of developing nations in the G33 Group, African Group and Organization of African and the Caribbean and Pacific States (ACP) soundly rejected the proposal.

**Not all WTO members appeared ready to reject the proposed MC12 agreement. The U.S., a Geneva trade official told reporters, commended Peralta for having “courageously dared to draft a comprehensive text covering issues where progress has been stalled for years or even decades.” The U.S. and EU, the official said, vowed to support the proposal at MC12 before the four-day summit was postponed.**

But the U.S. is perpetuating its own form of WTO roadblock. The Biden administration — like the Trump administration before it — is refusing to allow the WTO to appoint appellate court judges.

On Monday, 122 nations again called for the start of the process to appoint appellate judges, and the U.S. again blocked it. A trade official monitoring procedures in Geneva stressed this was the 48<sup>th</sup> time the U.S. has blocked the process that has hobbled the WTO's dispute settlement function.

**The U.S., the official said, “continues to have systemic concerns with the appellate body, which it has explained and raised over the past 16 years and across multiple administrations. The U.S. said it believes that WTO members must undertake fundamental reform if the dispute settlement system is to remain viable and credible.”**

It's one more issue that has no chance of being resolved this year after MC12 was postponed, Didier Chambovey, chair of the WTO Dispute Settlement Body, told the countries' representatives in Geneva on Monday.

## **NCBA headed back to the drawing board on key policy issue**

The nation's largest beef industry group will ask its members for fresh direction on how to approach price discovery discussions on Capitol Hill and throughout the sector.

The National Cattlemen's Beef Association's policy stance has been to give a voluntary price discovery framework a chance to operate. Should that plan fail to meet the group's goals, NCBA would seek direction from its members on its approach to several possible solutions, including legislation that contained mandatory components.



The organization has been operating from that position this year and studying quarterly figures to determine if a sufficient amount of cattle are offered up through negotiated trade. Many in the beef sector are pushing for an increase in cattle sold on the cash market, which offers more price transparency than the alternative marketing agreements reached between producers and beef packers.

But in a letter to NCBA members in November, Jerry Bohn — the organization’s president — said the data they’ve seen doesn’t show what they were hoping it would. The producer participation portion of NCBA’s framework met expectations; participation from the nation’s beef packers, however, did not.

**“Let me be clear, NCBA is not changing our position on any of the existing legislative or regulatory proposals at this time,” Bohn said. “We still oppose negotiated market mandates and we still support a cattle contract library. These stances will remain unchanged until our membership can convene to decide upon a legislative or regulatory approach.”**

Simply stated, NCBA wanted to give a voluntary option the chance to fail before considering support for legislative solutions that might include mandatory trading requirements. Now, with several so-called “triggers” in the organization’s price discovery framework tripped throughout 2021, the group’s February meeting in Houston is going to include a discussion on where they go from here.

“February is when we’ll have the actual policymaking process; the conversations are already underway,” Ethan Lane, NCBA’s vice president of government affairs, said in an interview with *Agri-Pulse*.

**One bill NCBA members will likely be studying is the Cattle Price Discovery and Transparency Act, the compromise legislation led by Sens. Deb Fischer, R-Neb., Chuck Grassley, R-Iowa, Jon Tester, D-Mont., and Ron Wyden, D-Ore. That legislation has picked up some additional Senate support since first being introduced in November and contains several provisions that are expected to receive broad industry support, in particular the creation of a cattle contract library. A companion bill has been introduced in the House.**



Ethan Lane, NCBA

But NCBA has stopped short of endorsing the bill and its mandated regional trade requirements. The organization’s policy currently opposes any kind of trade mandates — opting instead for a voluntary approach to increase cash trade — but Lane also pointed out some movement among NCBA’s membership on that front.

“We’ve seen some state affiliates put policy in place that opposes a mandate that previously didn’t have any policy on that; we’ve seen others say ‘yeah, we think a mandate is a good idea,’” he said. “So we have a pretty continuously shifting landscape on this.”

**The idea of mandating certain percentages of cash trade has long been the third-rail issue of the cattle price transparency debate. Grassley and Tester had originally proposed mandating 50% of the nation's cattle trade occur on the cash market, whereas the compromise bill includes a formula to mandate varying percentages in different regions.**

But some in the industry are still hesitant to back a cash trade mandate in any form. They point to the improvement in the quality of the average beef cattle carcass since AMAs became more prevalent in the industry. According to Don Close, a senior animal protein analyst with Rabo AgriFinance, the combined percentage of cattle grading choice or prime — the two highest classes of beef grading — is now about 80% of the total cattle here; about 20 years ago, he said that figure was “roughly 55%.”

**“If we go back to mandating cattle trade on the cash market and force people to go back to selling on the average, we’re going to extract all the motivation we’ve had to make the cattle better,” Close said.**

“How they merchandise cattle by area is so different, one size does not fit all,” he added. “One area could accept the cash requirements very readily, in other areas it would be very destructive. So I think we’re closer, I just don’t know that we’ve found the magic combination yet.”

As NCBA ponders its next approach, the momentum for a policy solution on Capitol Hill is growing. In addition to the Senate compromise legislation, several other bills have been introduced aimed at solving the problem.

The industry and its producer and packer trade associations have yet to rally its full support behind any one compromise, although a closed-door meeting of producer leaders from six different organizations in May did produce a handful of consensus items that could be folded into legislation. *Agri-Pulse* has learned discussions are taking place about the potential for another meeting, but no date has been set.

However, if a meeting happens, it will be taking place without NCBA leaders in attendance. Lane said the group's producer leadership "doesn't feel like there's a tremendous amount of utility in going back to another meeting like that."

One of the groups in attendance, R-CALF USA, came out in opposition to a bill that would create a beef cattle contract library after the bill was introduced by Rep. Dusty Johnson, R-S.D., in October. Although calling for a contract library was one of the consensus items agreed upon during the producer meeting in May, R-CALF — which has long held differing views from NCBA on policy issues — came out against Johnson's bill, arguing broader marketplace reforms were needed to address competition concerns in the marketplace.

Lane argued NCBA has thrown its lobbying weight behind some of the other consensus areas and was frustrated that the same couldn't be said for others in the room.

"We've aggressively pursued those items since leaving that meeting," he said. "Some of the other groups in that meeting didn't hold up their end."

With NCBA opting against taking part in future dialogue, it remains to be seen if the other groups in attendance at the May meeting — the Livestock Marketing Association, American

Farm Bureau Federation, U.S. Cattlemen's Association, National Farmers Union, and R-CALF — will choose to convene another gathering in their absence.

The path forward for legislation is also uncertain; the livestock mandatory reporting reauthorization the industry hopes to move through a government funding bill could be one potential avenue, but no group is willing to chance LMR's passage with a controversial policy rider. Rob Larew, a former Hill staffer and current president of the National Farmers Union, said the issue is ripe for consideration.

**“I think the momentum for real change here, whether it’s through LMR or some other vehicle, I’m very hopeful at this point that we will get something through,” he said.**

## **Broadband, community colleges key to rural rally**

*(Editor’s note: This is the second and final part of our stories on efforts to rebuild rural America. You can read Part One, "[Rural leaders look for innovative ways to attract city folks to the country](#)" by clicking [here](#).)*

For the 14% of Americans called rural residents, the pandemic “has served as a disruptor and shifted opportunities for residents of counties of a smaller size ... (and has) certainly had an impact on the way people work and the opportunities available,” says Teryn Zmuda, chief economist for the National Association of Counties.

Keep in mind, “the pandemic hasn’t been the only disruptor or factor in job access (changes) and availability in rural counties,” she says, pointing to rural areas’ loss of a fourth of their manufacturing jobs and the decline of coal and mining jobs since 2000. Agriculture has done comparatively better on that score, she notes.

The 2020 Census put population numbers behind her observations, telling an age-old story of rapid growth in urban areas and stagnant or shrinking population in rural areas. In fact, the U.S. Census Bureau reported total nonmetro population did shrink, including decreases in 53% of rural U.S. counties overall in the 10 years ending April 1, 2020.

In part, that rural shrinkage is a subset of the smallest overall U.S. population growth in the past decade since the 1930s, owing to reduced immigration and a falling birth rate, even while the urban population grew 9% nationally. Overall, the total U.S. population in 2010-2020 climbed about 7.4%.



Teryn Zmuda, NACo

Nonetheless, the COVID upheaval may end up more blessing than curse in some ways for rural America; more opportunity than loss, owing to the nation’s accelerating economy, the \$1.2 trillion infrastructure package for both new and continued spending for roads, bridges, broadband services, ports, inland waterways, and more, plus collaborative efforts by local and state governments, corporations, foundations, and local organizations.

Many rural community leaders like Kansan Steve Baccus believe rural communities will use broadband expansion and other features to make lemonade out of the pandemic's aftermath.

"I think it's sustained," he says of the recent signs of folks moving to rural areas.

Baccus, a former Kansas Farm Bureau president, sees in Kansas and the Great Plains what the Census Bureau, USDA, and Pew are observing nationally: "You're finding population is concentrating in and around regional hubs of 10,000-20,000 people...(but) once you get outside of the counties that immediately border that hub, they are losing population," he says.

He points to sparsely populated western Kansas, where Baccus says low-key Fort Hays State University helps Hays thrive as a hub. Its surrounding Ellis County added about 500 residents in the past decade.



Steve Baccus

Baccus describes his hometown of Minneapolis, Kansas, as a sort of bedroom community that's over 20 miles north of Salina, population 50,000 and host to Kansas Wesleyan University among its features.

The Minneapolis population of 2,000 is about the same as in 2010, and Baccus describes the availability of broadband service there and a fistful of community efforts to keep the small town an attractive choice to live. He chairs the Ottawa County Community Development Foundation board, which makes about \$120,000 in competitive grants twice a year for a range of private and public community improvements. Voters have approved big bond issues for local school and hospital improvement in recent years, too, he notes.

Meanwhile, Barry Hodges, Minneapolis town clerk, reports houses are under construction on two of the lots Minneapolis has been giving away on the edge of town for the past two decades. People who commit to building a house get their lot free but pay for utilities and other improvements.

The land was gifted by wealthy residents who "were too damned busy" to develop the land themselves and "just wanted to see Minneapolis expand with some new housing." The last phase of the giveaway – about 30 lots on 19 acres – is in the final planning stage, Hodges says.

When it comes to attracting new residents, NACo places a priority on supporting community colleges, many of which counties themselves own. Nationwide enrollment in community colleges has taken a hit, as have universities, in the pandemic.

But, community colleges are critical "as gateways to good jobs for their residents...(and) are a great way to address population concerns...(such as) mitigating depopulation," NACo's Zmuda said.

Corteva, for example, used that gateway two years ago to donate \$187,500 to set up its Rural Forge Scholarship fund with the Des Moines Area Community College (DMACC) Foundation to cover student academic expenses for rural Iowa awardees who study computer science and software technology. Eligible students can receive up to \$7,500 towards the cost of tuition, fees,

and books. Many of them are proceeding to internships and jobs with Accenture, an IT services and consulting company that launched the scholarship plan jointly with Corteva. Another half-dozen of the students will proceed to Accenture internships in January, Corteva said.

## News Briefs:

**Report: Global supply chain disruptions will continue through 2022.** The port congestion and trucking shortage that have made it difficult – and in some cases just not possible – to ship U.S. ag commodities overseas will likely continue throughout 2022, according to a new analysis from RaboResearch, a division of Rabobank. “The trade routes connecting Asia and North America were, and still are, the ones that were the most impacted by ship cancellations,” the report concludes. “As such, there is a bigger backlog of containers in U.S. ports than in the European main sea hubs. In this context, it is only normal that the Los Angeles-Long Beach port hub is overwhelmed and that, at present, attaining the objective of reducing the backlog while serving increased import flows from Asia seems to be a long shot at best.” It’s Chinese exporters – desperate to meet pent-up demand for sneakers, furniture and all the other consumer goods in the U.S. – who are still creating most of the log jam at ports. And to meet that demand the Chinese exporters are paying extra to carriers so that they will return containers empty instead of loading them up with U.S. ag exports that need to be delivered throughout Asia. Christmas is only making things worse. “As we approach the holiday season, U.S. consumer demand keeps on expanding,” the report stressed. Even if U.S. shippers can get containers, they are paying extraordinary amounts and that’s not expected to change anytime soon. High prices are expected to remain elevated for the next six to 12 months and that includes refrigerated containers – known as reefers – which are in extremely high demand. “Food trade managed to stay strong during the pandemic, with increasing volumes traded on a global scale,” says RaboResearch. “Yet it’s threatened by the reefer imbalance.”

**India trade spat decimates US apple trade.** The U.S. lifted its tariffs on steel and aluminum from the European Union and negotiations are underway to do the same for Japan. Now the Biden administration needs to lift the Trump-era tariffs on steel and aluminum from India, says the U.S. Apple Association. “Since the U.S. imposed tariffs on steel and aluminum imports from India in 2018 — resulting in retaliatory tariffs by India on U.S. apples and other exports — total tariffs on U.S. apples have reached 70% and India’s purchases of U.S. apples have plummeted 79%,” according to a statement released Tuesday by the U.S. Apple Association. The situation may be ripe for such a move as trade relations between the U.S. and India appear to be strengthening. India announced it would end its delays that have kept the country’s ban on U.S. pork in place for years. That announcement came as U.S. Trade Representative Katherine Tai arrived in New Delhi last week to attend the first U.S.-India Trade Forum since 2017. “There is huge potential for growth between our two economies in areas like the digital economy, services, health-related trade, and even agriculture,” Tai said during her visit to New Delhi. “We appreciate U.S. Trade Representative Katherine Tai’s efforts to kickstart tricky agricultural trade negotiations with India. She has our full support,” said U.S. Apple President and CEO Jim Bair. “But for U.S. apple growers to fully get back into that market, the U.S. government needs to remove tariffs on steel and aluminum from India so that India will remove its tariffs on apples.”

**Blueberry council gets more funding for overseas marketing.** The US Highbush Blueberry Council (USHBC) will receive almost \$600,000 from the USDA Foreign Agricultural Service (FAS) through its 2022 Market Access Program. The award is nearly double the amount

the council received in 2021. Alicia Adler, USHBC vice president of global business development, said in a statement the increase “demonstrates that our programs are working, and is a vote of confidence for the USHBC’s efforts.” The federal funding is used to promote fresh, frozen and dried blueberries as well as ingredients such as puree, juice concentrate and powder. Adler said demand for the fruit is on the rise as food companies in Asia “are developing new products that incorporate blueberry ingredients.” Target markets for the council’s 2022 efforts include Japan, South Korea, China and countries in southeast Asia. Adler said the ongoing shipping disruptions going to and coming from Asia, which have impacted all industries, have required US blueberry exporters to pay more attention to shipping availability and delays than usual. But overall, she told *Agri-Pulse* 2021 was a “a good year internationally.” The FAS Market Access Program shares the cost of overseas marketing with trade organizations, cooperatives, small business and state/regional trade groups. Funding is awarded to applicants “that demonstrate the potential for effective performance based on a clear, long-term strategic plan,” according to the program website.

**Waiver extended from Hours of Service rule for drivers of livestock, feed.** Producers are breathing a sigh of relief after the Federal Motor Carrier Safety Administration extended a waiver from its Hours of Service regulation to certain commercial truck drivers.

Prompted by the COVID-19 pandemic, FMCSA initially granted the waiver in spring 2020. The latest extension will run through Feb. 28, 2022. The waiver “provides regulatory relief for commercial motor vehicle operations providing direct assistance in support of emergency relief efforts related to COVID-19,” the extension says. The HOS rule limits truckers to 11 hours of driving time and 14 consecutive hours of on-duty time in any 24-hour period and requires prescribed rest periods. “We’re pleased the FMCSA recognized the challenges COVID still presents and the problems it has created, including supply chain issues, for the livestock industry and acted accordingly,” National Pork Producers Council President Jen Sorenson said. Extending the waiver “ensures that livestock truckers can get hogs to market safely and efficiently. Likewise, truckers hauling livestock feed can get those essential supplies to farms.” NPPC also noted that the infrastructure bill recently signed into law “expanded the miles agricultural truckers can drive without the HOS restrictions. Drivers hauling livestock already were exempt from the HOS rule for the first 150 air miles of their runs. Now they also will be exempt from HOS rules for the final 150 air miles from their final destination, providing additional flexibility to ensure drivers can safely complete their deliveries while protecting other drivers and ensuring the welfare of the animals in their care.”

## Farm Hands West: Sakata Seed appoints Flores

Sakata Seed America has appointed **Eduardo Flores** to the role of chief operations officer. Flores most recently led global strategy for Dummen Orange, a Netherlands-based ornamentals company.



Michael Schall

**Michael Schall** has been tapped as the new executive chairman of ePallet’s board of directors. Schall is a former Whole Foods Market executive and currently serves as managing director of FocalPoint.

Campbell Soup Company has named **Stewart Lindsay** vice president of corporate responsibility and sustainability, effective Dec. 6. Lindsay

previously worked at The Nature Conservancy, where he was the managing director of corporate engagement. Before that, he spent 15 years at Bunge Limited.

**Phillip Hayes** has announced he is leaving IRI Consultants, where he was a senior consultant. He worked on the American Sugar Alliance, National Crop Insurance Services, and Farm Policy Facts accounts at IRI. Hayes has accepted a new role as vice president of marketing for Farmland Partners, a real estate company that invests in farmland across the country. **Elizabeth Fusick** will be the new primary contact for Hayes accounts at IRI.



Phillip Hayes

**Chelsie Keys** has been promoted to policy director for the Republican side of the Senate Ag Committee. Keys will help lead the policy development and strategy for Ranking Member John Boozman's, R-Ark., team. Keys joined the committee in 2015 and remained onboard as senior professional staff member when Boozman assumed the role of ranking member. She has managed the portfolio for livestock, poultry and climate related issues. Before joining the committee, Keys worked at the National Pork Producers Council where she served as director of government affairs.

**Caitlin Balagula** has been promoted to legislative assistant on the House Ag Committee for the Democratic staff. She will be helping the Nutrition, Oversight, and Department Operations Subcommittee team working on issues related to nutrition and oversight. Balagula will also continue to serve as a staff assistant for the committee.

**Hailey Gilbreath** has joined the National Sorghum Producers and the United Sorghum Checkoff Program as the new communications manager, and **Jessi Lopez** has been hired as the new administrative manager. Gilbreath has a bachelor's degree in agricultural communications from Missouri State University. Before joining the organization, she managed digital marketing and social media efforts at Bedford Camera and Video. Lopez brings 14 years of administrative and financial experience to the role. She replaces **Amanda Garcia**, who now works as the office manager for Sustainable Crop Insurance Services, a subsidiary of NSP. **Haleigh Erramouspe** was also recently selected to a joint position as executive director for the New Mexico Sorghum Association and Colorado Sorghum Association. She will fulfill these roles while continuing to work part-time as a communications coordinator for NSP.



Hailey Gilbreath

AgGateway has announced the individuals elected to its 2022 board of directors. Serving as chair is **Doug Farrington** with BASF, replacing **Adriano Becker** with CNH who has moved to past chair. Serving as vice chair is **Feroz Sheikh** with Syngenta. Elected to serve as treasurer is **Karen Thomas** with Southern States Cooperative. Other

individuals serving on the board include: **Scott Charbo**, Nutrien Ag Solutions; **Jacob Crow**, GROWMARK; **Bruno Albuquerque Lucio**, Topcon; **Felipe Santos**, John Deere; **Fritz Schuster**, Lexagri SAS; **Jeremy Wilson**, EFC Systems; and **Brent Kemp**, AgGateway.

The American Agri-Women elected new national officers at its 2021 national convention. They include: **Heather Hampton+Knodle** as the new president; **Rose Tyron Vancott** as first vice president; **Kathy Goodyke** as treasurer; **Laura Hart** as vice president of communications; and **Karolyn Zurn**, former president, will now transition to the past president role.

**Scott Carter** has announced he will retire from USDA's Food and Nutrition Service after 30 years in the federal workforce. His most recent role was disaster response coordinator and before that he served as the chief of government affairs for FNS.

Longtime civil rights activist, **Don Villarejo**, passed away on Nov. 19. Villarejo became active in civic affairs in 1955, participating in the student, civil rights and peace movements. He was a founding member of the editorial board of New University Thought and participated in the preparation of protests at the 1968 National Democratic Party Convention in Chicago. He volunteered with the farmworkers movement in 1976 and later co-founded the California Agrarian Action Project and the California Institute for Rural Studies in 1977. Villarejo served as executive director of CIRS from its founding until his retirement in 1999. In April 2020, he was recruited to assist the COVID-19 Farmworker.

**Best regards,**

**Sara Wyant**  
**Editor**

---

© Copyright 2021 Agri-Pulse Communications, Inc. All rights reserved. Reproduction or distribution in any form is prohibited without consent from Editor Sara Wyant, Agri-Pulse Communications Inc., 110 Waterside Lane, Camdenton, MO. 65020. Phone: (573) 873-0800. Fax: (573) 873-0801. Staff: Managing Editor Spencer Chase; Executive Editor Philip Brasher; Senior Trade Editor Bill Tomson; Associate Editor Steve Davies; Associate Editor Hannah Pagel; Associate Editor Brad Hooker; Associate Editor Noah Wicks; Executive Assistant Jesse Harding Campbell; Contributing Editor Amy Mayer; Contributing Editor Jim Webster; Contributing Editor Ed Maixner; Chief Operating Officer: Allan R. Johnson; Sales and Marketing Manager Jason Lutz; Western Sales Associate: Danielle Brinkmann; Administrative Assistant: Sandi Schmitt; Circulation Manager: Paige Dye; Marketing Consultant: Tom Davis; Office Assistant Pam Hocker; Sales Consultant David Thomas. A one-year subscription (48 issues) for Agri-Pulse Daybreak, Daily Harvest and the weekly in-depth newsletter is \$777.00. To subscribe, send an e-mail to: [Sara@Agri-Pulse.com](mailto:Sara@Agri-Pulse.com).