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Skepticism over pace of spending for $8B federal water package

The U.S. Bureau of Reclamation now has an unprecedented $8 billion pot of money for Western water infrastructure, roughly doubling the size of its budget over the next five years. But the agency has just 60 days to organize funding priorities, and water agencies are dubious as to how quickly it can administer the money to projects.

"[Reclamation Commissioner Camille Touton] said this is her number one problem," said David Reynolds, who directs federal relations for the Association of California Water Agencies (ACWA). "She was very frank about it."

Speaking at ACWA's fall conference last week, Reynolds said the bureau has trouble getting just $60,000 out the door and called it "a huge problem." Officials have assured him they have adequate staff to handle this large sum, but "there's great skepticism about it."

Ernest Conant, who directs the California–Great Basin region for Reclamation, recognized it will be "a monumental task to get staff geared up" to process the spending.

USBR Regional Director Ernest Conant at Folsom Dam for a WIIN Act signing ceremony. (Photo: USBR)

Reynolds encouraged ACWA members to get engaged in stakeholder meetings the bureau plans to host this month and called it a generational opportunity for gathering federal funding: "We'll never see something like this again."

In her experience with petitioning Reclamation for funding, Alexandra Biering, who manages government affairs and communications for the Friant Water Authority, said that gathering the money in a timely manner means local sponsors must take on the heavy lifting and be proactive in engaging with officials. The water district began working on the Friant-Kern Canal Middle Reach Capacity Correction in 2018 with seed funding from the bureau for the initial planning.

"We had to move really aggressively though," said Biering. "We pushed very hard on this at the staff level, at the manager level, at the executive level to reprioritize some staff from some areas."

The hard push drove the bureau to pull extra staff from other projects and has led to $250 million as a cost share for the project. Conant hoped the contract for the first phase of the canal fix will allow construction to begin in late December. The bureau is also evaluating needs for fixing the Delta-Mendota Canal, he added.

The state is investing in conveyance canals as well. The Department of Water Resources (DWR) announced allocation decisions last week for $100 million approved in the state budget for repairing major conveyance facilities, with another $100 million slated for the next fiscal year.

DWR will apportion $37 million to the California Aqueduct and San Luis Canal, $39 million for the Friant-Kern Canal and $24 million for the Delta-Mendota Canal. The money will cover planning, permitting, design and construction. Per the budget agreement with state lawmakers, the agencies overseeing the projects must ensure the risk of subsidence is addressed.

Water contractors representing the canals praised the spending but called for more dollars, referring to the nearly $800 million proposed earlier this year in Senate Bill 559.

"While this initial funding will help to leverage federal and local dollars so that repairs can begin, additional funding—along with the political will to see it through—will be necessary if we are to truly meet the water supply challenges ahead of us," the agencies wrote in a joint statement.

Location of the proposed Sites Reservoir, a project that could benefit from the federal infrastructure bill. (Photo: DWR)

The four canals collectively deliver water to more than 29 million people, 2.9 million acres of farmland and 130,000 acres of wetlands. The completed projects will restore up to 50% of the capacity of the canals over the next 10 years.

DWR Director Karla Nemeth said restoring the canals is essential to adapting to more extreme weather and supporting groundwater recharge, along with urban recycling projects.

Conant recognized the need for additional storage as well. Through the WIIN Act—or Water Infrastructure Improvements for the Nation—the federal government this year allocated $205 million for the proposed Sites and Del Puerto Canyon reservoirs and for expanding Los Vaqueros Reservoir and raising B.F. Sisk Dam. The projects have been gaining funds from California's Proposition 1 water bond money as well.

Reynolds noted that the WIIN Act expires in December and Congress "does not have an appetite" for reauthorizing the act entirely, since some aspects are too controversial. This has raised concerns about losing some authorities within the act that are needed to move the existing spending forward on projects.

He assured ACWA members that language within the act grandfathers in those projects that have already received some funding, particularly storage projects. Some of those authorities also reside within California Senator Dianne Feinstein's STREAM Act of 2015, or the Supporting Transparent Regulatory and Environmental Actions in Mining Act.

Conant suggested money from the new infrastructure bill could further support canal fixes and storage projects, along with habitat restoration in streams and rivers, which would supplement potential voluntary agreements for flows in the Sacramento-San Francisco Bay-Delta.

"Hopefully, the infrastructure funding will give a shot in the arm to pursue some of these projects that we need to pursue in California in order to have a better future," said Conant.

To address the priorities, the bureau has been assembling an executive management team, which includes a member from each region. Conant pointed to the region's principal deputy regional director, Richard Welsh, as the contact person for any details on the effort. Touton, who offered few details into the implementation process, recommended maintaining "constant communication" with the regional area offices and continue the dialogue over the infrastructure framework.

Conant expected preference will be given to shovel-ready projects with completed environmental assessments and for the bureau to maintain a steady pace of spending through each year.

"We can't have a situation where we have nothing but conceptual projects, and we put all the money out the fifth year," said Conant. "That's not going to fly."

Autonomous tractors are driving sustainability, but hitting regulatory roadblocks in California

California farmers are embracing new technologies to help them meet regulatory pressures while remaining globally competitive and saving labor costs. Yet worker protection laws remain a hurdle, along with developing the workforce needed to operate and maintain complex new machinery.

"I believe the next generation of agtech can completely transform California's rural economies," said Gabriel Youtsey, the chief innovation officer at UC Agriculture and Natural Resources. "The reality is there are many high-paying, rewarding careers in the ag industry."

Speaking at an Assembly informational hearing last week on workforce needs for the future of agricultural technology, Youtsey said that innovations like artificial intelligence, cloud computing and CRISPR gene editing "demonstrate that agtech is here to stay" and that the workforce will look different in the coming years.


Gabriel Youtsey, chief innovation officer, UC-Davis

The state lawmakers were seeking policy ideas for bills to introduce in the upcoming session that could help to speed up that transition while freeing up more educational opportunities for workforce development.

One direct policy request came from executives at Monarch Tractor, who singled out a controversial code within the state's department for occupational safety and health, known as Cal/OSHA.

Monarch's chief of staff, Jake Winters, described the workplace safety code as the primary regulatory roadblock to the larger adoption of the company's autonomous tractor systems.

"It doesn't account for technological advances that have happened over the last 50 years," said Winters.

The regulation requires an operator to be stationed at the controls for any self-propelled equipment. Winters argued the code dates to the 1970s and relates to outdated equipment. Two years of educating Cal/OSHA on deploying driverless technologies in a safe way led to temporary approval to run the tractors on three sites and only for a single crop type. Every single farm would need such an exemption to operate the autonomous system, he explained.

Dennis Donohue, Western Growers Center for Innovation and Technology

"We are on private property when we're looking at farming agricultural landscapes. This isn't a freeway or the city," said Winters, arguing the technology actually protects workers from rollovers.

The regulation drew further criticism from Michael Miiller, who directs government relations for the California Association of Winegrape Growers and saw driverless cars and trucks as clearly in the state's future.

"In California that technology is virtually unavailable," said Miiller. "In the age of remote-controlled spaceflight, this regulation seems uninformed and nonsensical."

Along with "fixing" the Cal/OSHA regulation, Miiller urged more support for state colleges and cooperative extension in researching new technology, training workers and educating the industry. **He argued that nonprofits seeking to fill a void in career training through apprenticeship programs "are faced with a burdensome and unnecessary regulation that requires them to register as a farm labor contractor."**

Growers have been challenged with finding enough workers, despite paying upwards of $30 an hour during harvest, he explained, adding that federal immigration policies, the physically demanding nature of the work, little upward job growth and skyrocketing housing costs have contributed to the problem. He described mechanization as a life saver for farmers, reducing labor needs by as much as 80%. The next generation of technologies, he argued, will reduce water and pesticide use as well as the carbon footprint, while increasing yields and jobs in California—opportunities that will provide workers with transferable skills and upward mobility.

Don Cameron, a Fresno County farmer and president of the State Board of Food and Agriculture, said electric tractors present another opportunity in being able to store low-priced electricity to push back onto the grid when prices are high, reducing energy costs.

Assemblymember Jim Cooper of Elk Grove recognized that California, as one of the top wine producers in the world, is competing with jurisdictions that place far fewer constraints on farmers.

"Oftentimes, those countries actually subsidize the industry," responded Miiller. "They get marketing money from the government, and they get assistance or research that California doesn't get. And it's a big competitive disadvantage."

California has an opportunity to be the global landing spot for agtech innovation, according to Dennis Donohue, who directs the Western Growers Center for Innovation and Technology. He has brainstormed an idea with CDFA Secretary Karen Ross to take "a year of focus" to determine the gaps in workforce development.

Donohue is hosting four conversations at community colleges throughout the state on how to recruit more students into agtech jobs. While the listening tour is only halfway through, it has already become clear that a teacher gap needs to be addressed, which entails bridging disparate backgrounds, such as irrigation expertise with robotics engineering.

Asm. Cecilia Aguiar-Curry of Winters pushed for more funding at the high school level, with agricultural technical education classes to bring in "some of those kids that get lost in the shuffle."

As detailed by Cameron, the state must fill a long list of worker needs as technologies progress. These include interpreting aerial crop photos to determine moisture stress; programming and monitoring laser weeders; and monitoring water use for compliance with the Sustainable Groundwater Management Act.

"It's about replacing the hoe with lasers, replacing hand harvest with robotics. It's about automating the farm, and it's about precision farming," said Cameron, adding: "We need to make jobs in agriculture attractive."

Trucking, airlines divided over biofuel tax incentives that could bolster feedstock demand

The biofuel tax incentives in President Joe Biden's Build Back Better bill could ensure a growing market for soybean oil and other farm commodities, but the trucking industry worries the subsidies will kick off a war with the airlines over feedstocks.

The biodiesel industry, while welcoming key aspects of the bill, also is lobbying for a last-minute change that would restrict the ability of oil refiners to get into the renewable diesel business and create still more competition for soybean oil and other feedstocks.

In an effort to decarbonize the trucking and airline industries, the House-passed legislation now pending in the Senate includes provisions intended to accelerate the development of sustainable aviation fuel while expanding the use of both biodiesel and renewable diesel.


President Joe Biden

The $1-a-gallon tax credit for biodiesel and renewable diesel would be extended through 2026 and then replaced by a low-carbon fuel credit that would be available to sustainable aviation fuel (SAF) as well as advanced biofuels such as ethanol produced with carbon-capture technology. The value of the credit would vary according to the carbon intensity of the fuel.

As a bridge to 2027 for the airline industry, a temporary tax credit for SAF worth $1.25 a gallon would be created to run through 2026. The SAF credit is higher because renewable

jet fuel is more expensive to manufacture. SAF requires nine pounds of soybean oil, for example, versus the 7.5 pounds needed to make biodiesel or eight pounds to produce renewable diesel.

The prospect of new tax incentives for airlines has set off alarm bells in the trucking industry, which is depending on renewable diesel to drive down its greenhouse gas emissions.

"In effect, they're forcing taxpayers to pay more money to get fewer gallons of biofuel. I don't know how you justify that on either a cost or climate perspective," said David Fialkov, executive vice president of government affairs for NATSO, formerly known as the National Association of Truck Stop Operators.

The new SAF incentives are written in a way that soybean oil could potentially be eligible as a feedstock, along with oil from crops that aren't yet at commercial scale, including cover crops such as pennycress and camelina.

The Biden administration has made SAF a top priority in its climate policy. The White House and the airline industry jointly announced a goal in September for U.S. carriers to use 3 billion gallons of renewable jet fuel by 2030, or about 10% of the industry's fuel needs.

To highlight the goal and keep the pressure on Congress to create new SAF incentives, United Airlines recently flew a 737 from Chicago to Washington with one of the two engines running on 100% SAF. The plane was not a regularly scheduled flight but was filled with officials from United, Boeing and other industry leaders as well as media representatives and a pair of lawmakers.

"We can't do this alone. Just getting to 10% sustainable aviation fuel we estimate is going to take about $250 billion of investment for the whole industry," United CEO Scott Kirby said at a post-flight reception in a Reagan National Airport hangar.

Gene Geboyls, president and CEO of World Energy, which produced the SAF for the United flight, acknowledged to reporters that the aviation fuel will be produced initially with the same feedstocks used for renewable diesel: animal fats, vegetable oils and restaurant grease. But he insisted that additional feedstocks, including biomass, kelp, algae and cover crops, will be needed.

"The Build Back Better bill that's being considered does not give advantage to sustainable aviation fuel," Geboyls said. "There's a price differential in it. But that price differential just covers the incremental cost of making sustainable aviation fuel as opposed to renewable diesel."

World Energy, a long-time biodiesel producer, now makes SAF from animal fats and used cooking oil at a refinery in California, where the product can qualify for incentives through the state's low-carbon fuel standard, the main driver of current SAF use by airlines.

"We sell more on-road fuel than we do aviation fuel, so we're very sympathetic to our customers in that space as well, but we need to start now on the aviation side," said Geboyls.

According to the Environmental Protection Agency, transportation accounts for 29% of U.S. greenhouse gas emissions. About 10% of transportation emissions come from aviation, compared to 58% from light-duty vehicles and 24% from trucking.

A version of the SAF tax incentives that was originally proposed in the House would have ruled out soybean oil because of a requirement that the eligible feedstocks reduce carbon emissions by as much as 50%, based on an analysis approved by the International Civil Aviation Organization.

ICAO gives soybean oil a relatively poor emissions score because of global land use concerns, but the legislation was rewritten before it passed the House and would allow for use of an alternative carbon-intensity analysis.

Scott Gerlt, ASA

"We haven't obviously seen scoring from that yet, but there's the potential there" for soy-based SAF to be eligible for the tax credits, said Scott Gerlt, an economist for the American Soybean Association.

However, even with the higher tax credit for SAF, the increased cost of making the aviation fuel could put the airlines at a disadvantage when competing with the diesel market for soybean oil, he said.

The National Biodiesel Board, meanwhile, is raising concerns with lawmakers about the ability of oil companies to claim the credit for co-processed SAF that is made by using renewable feedstocks such as animal fats or soybean oil directly in petroleum refining.

The clean fuel production credit that would take effect in 2027 would allow co-processed fuel to qualify, and NBB's concern is that the Internal Revenue Service will do the same with the SAF credit that would be in effect through 2026, said NBB spokesman Paul Winters.

Co-processed fuels are ineligible for the existing $1-a-gallon credit for biodiesel and renewable diesel.

It remains unclear when the Build Back Better bill is going to come up for a Senate vote. Senate Majority Leader Charles Schumer, D-N.Y., insists he wants the measure passed by the end of the year, but he has yet to secure the support of Sens. Joe Manchin, D-W.Va., and Kyrsten Sinema, D-Ariz. The bill can't pass the 50-50 Senate unless Democrats are united.

In a Dear Colleague letter Monday, Schumer said he wants all of the committee sections of the bill finalized by next week following meetings with the Senate parliamentarian over what provisions may have to be removed because they violate rules for the budget reconciliation process. The Senate Ag Committee's revisions to the House-passed text were distributed to the Senate leadership last weekend.

Because of the Senate revisions, the House would have to vote on the bill again.

US dairy lobbies to save exports amid supply chain crisis

The U.S. dairy sector has evolved into an exporting powerhouse, but the international supply chain crisis is hitting the industry so hard that some are beginning to fear production may deteriorate.

Warehouses are filling up with dairy products because they can't get into shipping containers, and that's creating hardships that could eventually reach all the way back to farms, according to industry officials like Michael Dykes, President and CEO of the International Dairy Foods Association.

It's a message that Dykes and some of the most influential voices in the U.S. dairy business took to Capitol Hill last week. David Ahlem, president and CEO of Hilmar Cheese Co., Stan Ryan, president and CEO of Darigold, Tim Galloway, CEO of Galloway Co., were among the officials who met with lawmakers and their aides.

"I've got members telling me they're looking for space in warehouses, but they are filling up," Dykes told *Agri-Pulse*.

Jason Mischel, president of sales and milk procurement for the South Dakota-based Valley Queen Cheese, said the situation is becoming dire.

Michael Dykes, IDFA

Valley Queen Cheese sells about 60% of the lactose it produces to buyers in New Zealand. The product is usually trucked to Minneapolis and then by rail to a West Coast port.

When the congestion at those ports became intolerable, Valley Queen Cheese began sending its lactose to the Charleston, S.C., port, but eventually the congestion snarled shipping there too, he said.

Now the company just struggles to get containers.

"In the last two weeks when the trucks go to the railyard to get containers, they've only been able to get empty containers about half the time," Mischel said. "Right now, we're about six weeks behind on containers we would need to ship to New Zealand. We would need about 50 containers all at once if we're going to get caught up."

That's not likely to happen, but even if it did, the company probably couldn't afford it. The lactose that Valley Queen Cheese exports is worth roughly 50 cents per pound, making a 40,000-pound container load worth about $20,000.

"You can't pay $15,000 of freight for that," Mischel said.

The lack of containers available – especially to producers located long distances from major ports – is largely due to Chinese exporters paying more to shipping companies to return containers to China empty rather than allowing them to be filled with U.S. ag exports.

It was a subject that Dykes said he brought up in a meeting with Federal Maritime Commission Chairman Daniel Maffei.

"He said, 'You guys are competing against the opportunity cost of returning an empty container,'" according to Dykes.

Mischel agreed with that assessment as his company continues to look for more storage capacity. "For now, we are literally just storing it, waiting for an opportunity to get it shipped," he said. "We have sought outside warehouse availability … Some have said no, we don't have any more room."

It's a situation that many dairy manufacturers are facing, said Dykes.

"If we can't get the product out, we'll reach a point where we're just not going to make that product anymore and therefore, we just don't need as much milk."

Mischel said Valley Queen Cheese hasn't reached that point yet but conceded that it could happen.

Rep. Dusty Johnson, R-S.D.

It's just one of the reasons that the House is fast-tracking legislation introduced in August by Reps. John Garamendi, D-Calif., and Dusty Johnson, R-S.D. Their Ocean Shipping Reform Act of 2021, which would prohibit shipping companies "from unreasonably declining export cargo bookings if the cargo can be loaded in a safe and timely manner," is scheduled to be voted on Wednesday.

"We're seeing in a very real way how American ag exporters are being impacted," Johnson said. "We've worked hard over the past few months to build momentum (behind the bill). We have every expectation that this will pass out of the House on Wednesday."

Some 75 Republican and Democratic House members are co-sponsoring the legislation, and more than 200 agricultural organizations and companies are supporting it.

"Unlike 20 years ago when we exported very little, the U.S. dairy industry today is the third-largest dairy exporting nation in the world, selling 16% of our annual milk production to trading partners around the world," Dykes said. "The Ocean Shipping Reform Act will provide real, long-term solutions for the myriad issues congesting U.S. ports and slowing U.S. dairy exports."

China starts process to register foreign ag exporters

China is asking ag and food exporters to register with the country's General Administration of Customs (GACC) to allow the government to centralize information on companies selling a wide range of products to Chinese buyers.

The U.S. Food and Drug Administration says it is wary about potential impacts on trade, but the FDA is also facilitating the registration that China is demanding.
Still, the FDA says it is monitoring the situation.

"While China has not confirmed that collecting this information is a prerequisite for U.S. establishments to export to China, the FDA is making this request as a precaution against potential trade disruption," the agency said.

The FDA this week asked U.S. ag and food exporters that ship to China "to voluntarily submit information. We are making this request in response to new facility registration requirements from China."

Many U.S. exporters that ship beef, pork, dairy and other products that are covered under the "phase one" trade deal won't be impacted, but many other U.S. exporters are being told by GACC that they will have to register their facilities by Jan. 1.

FDA says it believes that U.S. commodities "covered by the existing bilateral agreements with China, such as the Phase One Economic and Trade Agreement, and other bilateral facility registration arrangements" are already considered to be registered.

Registration through FDA's Export Listing Module (ELM) began Monday, and the agency is asking exporters that are under FDA's regulatory authority to complete the process by Dec. 17. But many exporters are already registered with FDA's ELM and they don't need to do anything else.

"The FDA currently facilitates the registration of U.S. firms for seafood, dairy, and infant formula products by providing the GACC with documents that identify certified establishments and products that meet applicable U.S. requirements," FDA said. "U.S. firms that have applied in the FDA's (ELM) and are currently listed as certified by the GACC to export seafood, dairy, and infant formula products to China do not need to take any action at this time related to registration."

Julie Adams, a vice president for the Almond Board of California, said she was pleased to see the announcement from FDA, something the group had been waiting for.

"They've got a portal open where you'll be able to go in and register," Adams said about the FDA. Speaking about China's broad registration demand that the country calls Decree 248, she said, "We were waiting for FDA to come out with a recommendation on how they want to approach that."

FDA, in the announcement this week, assured U.S. food and ag exporters that the agency will "provide an attestation directly to GACC for U.S. establishments and their products that comply with applicable U.S. requirements in order to facilitate registration."

The USDA's Foreign Agricultural Service says China's Decree 248 offers the option for some U.S. ag exporters to use a "self-registration" option, under which some manufacturers and processors can register directly with China's GACC, but both the Office of the U.S. Trade Representative and the FDA appear uncertain about that option.

Regarding self-registration, the FDA says that "the GACC has not confirmed this interpretation of Decree 248 and has failed to provide adequate further guidance for the United States. While the United States continues to engage with China at multiple levels to ensure minimal new requirements for the United States, the FDA is taking proactive steps to maintain current market access for FDA-regulated firms in the United States that export food to China."

Environmental improvement on farms stalling, new report finds

A new report examining the adoption of conservation practices on U.S. farmland shows the steep challenge faced in implementing climate-smart programs to reduce greenhouse gases.

The report from Field to Market: The Alliance for Sustainable Agriculture, showed little progress has been made in improving environmental outcomes from crop production since the early 2000s.

The group said progress on five key environmental indicators has stalled over the last decade. The report examined crop-specific impacts on energy use, greenhouse gas emissions, irrigation water use, land use and soil conservation from 1980 to 2020. A separate section of the report looked at biodiversity, water quality and soil carbon.

"While substantial progress has been made since 1980 in reducing soil erosion, reducing greenhouse gas emissions and improving efficiency of energy, water and land use, progress in the most recent 15 years has generally been slower and some declines in resource use efficiency are observed," the report said.

There has been "a flat trend for adoption of no-till and reduced-till practices recently and a relatively modest adoption of cover crops to date," the report said.

Reflecting that trend, soil erosion for major commodity crops "was significantly reduced from around 1990 through 2005," the report said. "However, since the early 2000s soil erosion has largely held steady …. Understanding why conservation tillage adoption has plateaued will be key to driving future improvements in soil conservation."

The 2017 Census of Agriculture showed cover crops in the U.S. totaled 15.4 million acres in 2017, up 50% from 10.3 million acres in 2012, as cover crop acres moved up from 2.6% of all cropland to 3.9%.

Allison Thompson, Field to Market

Farmers will have to be persuaded to make changes, the report said.

"While the research to develop new technologies is critical to success, it is increasingly clear that social science research and community support to address the agronomic and financial risk related to changing productions systems is necessary to achieve sustained transformation of the agricultural system," said Allison Thomson, vice president of science and research at Field to Market.

In a webinar Tuesday, Thomson said research needs to focus both on barriers to individual adoption and on how the structure of the ag industry in different regions may affect the adoption — and persistence — of conservation practices.

Research has shown that practices like cover crops, reduced tillage and edge-of-field practices including riparian buffers and constructed wetlands result in "measurable improvements in nitrogen, phosphorus and sediment losses from farms," the report said.

But federal support needs to be beefed up, it added.

The number of acres receiving Natural Resources Conservation Service Conservation Stewardship Program support for these practices increased from about 700,000 acres in 2017 to 1.7 million acres in 2020, but "this still only represents 1% of the total U.S. cropland," the report said. "For these practices to reduce the negative impacts from agriculture on a watershed scale, they need to be implemented ubiquitously, according to local physical conditions and cropping systems."

"While greenhouse gas emissions have declined over time when considered on a per yield basis, they have held steady or increased on a per acre basis for several major crops driven by increasing nitrous oxide emissions," the report said. "Reductions in greenhouse gas emissions per acre have only occurred for crops where nitrogen fertilizer use has declined."

For example, for corn produced for grain, "small GHG emission increases per acre since 2000 can be attributed in part to the factors behind the plateauing of energy use, with the additional contribution of higher fertilizer nitrogen applications leading to greater nitrous oxide emissions," the report said.

Soybeans showed "clear improvement from 1980-2000 across the indicators, with progress slowing in the past two decades," the report said. "Land use and irrigation water use efficiency saw the greatest improvements over the last two decades, while little or no improvements were observed for soil erosion, energy use and GHG emissions."

In part of the report looking at water quality, the report said the trends in "economically important watersheds like the Chesapeake Bay and Gulf of Mexico over the past five years do not suggest improvement. Hypoxia in both areas remains problematic and is closely linked to precipitation patterns that either increase or decrease flow in the tributaries and the amount of nutrients, crop protectants and sediment dissolved within."

The Chesapeake Bay Foundation, however, said EPA's non-enforcement of the Total Maximum Daily Load in the Bay watershed — not rain and snow — is the main reason for the lack of progress on nutrient pollution.

"While it's true water quality in the Bay is influenced by rainfall, management efforts also play a significant role," said Beth McGee, CBF's director of science and agricultural policy. "To that end, EPA has failed to hold states accountable for meeting their cleanup commitments. The best way to save the Bay is for the Biden administration to enforce the Clean Water Act as well as increase investments in proven USDA conservation programs that will both reduce nutrient pollution and combat climate change."

Innovations target methane emissions from cattle as FDA role debated

Reducing methane emitted by dairy and beef cattle is crucial for meeting a new global pledge to cut emissions of the potent greenhouse gas worldwide by about a third by 2030.

To do so, dairy farmers and ranchers will need more tools, such as feed additives to reduce emissions and ways to measure those reductions. Current research efforts and at least one pending application at the Food and Drug Administration could go a long way toward meeting the goal.

The colorless, odorless gas, chemically identified as CH_4, has about 80 times more warming potential than carbon dioxide and makes up about 10% of GHGs emitted in the U.S., according to the Environmental Protection Agency.

A little more than a quarter of that methane comes from enteric fermentation — part of the digestive process in ruminant animals.

More than 100 countries have committed to reducing methane emissions by 2030 by 30% below 2020 levels. Much of the focus will be on the oil and natural gas sector, for which EPA recently proposed new regulations, but the dairy and beef cattle industries will also have a large role to play.

At the recent climate conference in Glasgow, Scotland, Ag Secretary Tom Vilsack and Secretary of State John Kerry both brought up the potential of feed additives to significantly cut emissions. Kerry focused on asparagopsis, a red seaweed that has been touted as having the potential to reduce emissions by 80% but for which research is still ongoing.

Vilsack spoke more generally, but also highlighted the role of feed additives and insisted the U.S. could cut methane emissions without reducing beef consumption, a frequent target of climate activists.


Ag Secretary Tom Vilsack

"This administration is not going after animal agriculture; this administration is protecting animal agriculture," he told reporters.

One effort, the Greener Cattle Initiative (GCI), is seeking to jump-start research in a variety of areas to tackle the problem of cow burps, which are the main source of methane from cattle.

The initiative's founding members are the Foundation for Food & Agriculture Research, the Innovation Center for U.S. Dairy, ADM, the Council on Dairy Cattle Breeding, Elanco, Genus PLC, the National Dairy Herd Information Association, Nestlé and the New Zealand Agricultural Greenhouse Gas Research Centre.

The initiative has been identified as an "innovation sprint" by AIM for Climate, an international effort launched by the U.S. and the United Arab Emirates and officially announced at the Glasgow climate summit.

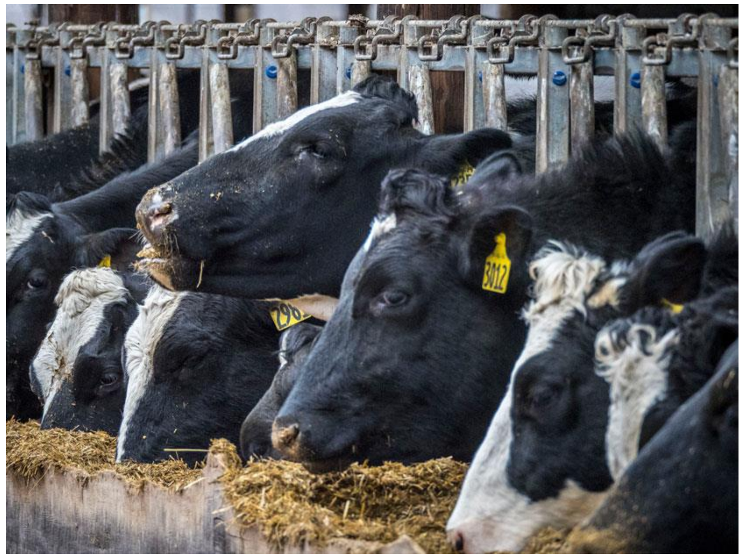
The GCI will focus on development of feed additives and supplements that inhibit enteric methane emissions and "feed ingredients that alter metabolic pathways" to reduce those emissions, as well as selection traits and programs that allow breeding of low methane emitting cattle, FFAR says.

And there's more, says Tim Kurt, scientific program director at FFAR. Farmers will have to be able to measure methane emissions. "At this point, there's really nothing out there that's easy to use," he says. "We can't yet actually quantify enteric methane emissions on farms in a commercial setting.

"The technology for measurement and prediction right now exists, but it's usually laborious and doesn't allow for high throughput of animals," says Juan Tricarico, vice president of sustainability research at the Innovation Center for U.S. Dairy.

The GCI plans to award $5 million for research projects, perhaps as early as next spring.

But another area that needs attention, they and others in the field say, is the regulatory process for approving products that could reduce emissions.



One such product, Bovaer, can reduce emissions by 30% from dairy cows and 80% from beef cattle, according to its developer, Dutch conglomerate DSM.

DSM has had an application for the animal drug at the Food and Drug Administration for four years and counting. The approval process can take as long as 10 years.

The product has been approved for use in Brazil and Chile and received a favorable opinion from the European Food Safety Authority last month, which "progresses the application to the final stage of approval from the European Commission Standing Committee on Plants, Animals, Food and Feed," DSM said.

Also last month, the world's largest protein company, JBS, said it would be incorporating Bovaer into its production chain.

"The pressure is now going to be on the regulatory space to figure out a new mechanism, a new pathway" that allows FDA to consider environmental claims, Tricarico said.

The Breakthrough Institute, which focuses on technological solutions to environmental problems, recommends that FDA regulate methane-reducing animal products as feed additives or ingredients. Bovaer is being regulated as an animal drug.

In a report called The Clean Cow, Breakthrough Institute scientist Dan Blaustein-Rejto wrote "congressional action to create a separate FDA track for environmentally beneficial feed products would provide researchers and product developers with greater regulatory certainty, helping foster innovation."

FDA won't talk about the status of animal drug applications or even confirm that it has received one, but spokesperson Anne Norris says the agency's Center for Veterinary Medicine "is interested in encouraging new product development under our new animal drug or our animal food additive review process and continues to explore innovative approaches for evaluating new products to help increase the availability of safe and effective products for animals."

Louise Calderwood, director of regulatory affairs at the American Feed Industry Association, wrote in a recent blog post, "It is time to broaden the regulatory roadway for animal food marketing claims to accommodate the expanded understanding of the physiology of the gastrointestinal tract. The CVM is long overdue in revisiting its narrow path for regulatory approval of animal food ingredients, and food companies are starting to take notice.

Vilsack said at the Ag Outlook Forum in Kansas City in September that he thinks FDA "is more open than they have been to conversations, and hopefully that leads to not only the speeding up their current process but encourages them to think differently and to think broadly."

DSM Co-CEO Geraldine Matchett said last month on CNBC that a quarter teaspoon of Bovaer "will not substantially impact the production or the cost of production. There is really no reason to delay it, except a rigorous scientific process is required. We know that FDA is a very rigorous institution."

News Briefs:

NASA, Bureau of Reclamation launch contest for better tools to predict available water from snowpack. Farmers and water managers across the West are bracing for another potentially dry year, even as they wait for rain and snow that could help alleviate drought conditions. But with climate change reducing annual snowpack and the water it promises, the Bureau of Reclamation is in search of new and more accurate forecast tools. Together with NASA's Tournament Lab, BOR is launching a crowd-sourcing competition with a $500,000 prize purse. The Snowcast Showdown challenges participants to present "innovative methods of estimating snow water equivalent (SWE)," according to a release from HeroX, the crowd-sourcing platform that is partnering with the federal agencies and two additional companies, DrivenData and Ensemble. Reclamation is the nation's number-one water wholesaler, the second-largest hydropower producer and the manager of 10 million acres of farmland irrigation, which produces 60% of the nation's vegetables and 25% of fruit and nut crops. One out of five Western farmers relies on Reclamation for water in one way or another, the release says. The prize purse comes from Reclamation's research and development program. "Reclamation aims to be forward-thinking as they invest in technology to support a variety of water management decisions," the release says, and right now, they don't have sufficient tools for monitoring snowpack and estimating SWE. This contest will bring to the problem "skilled experts around the world," DrivenData's Greg Lipstein said in the release. The purse is divided into two separate competitions. Tools that use machine learning to train models to estimate SWE will compete for $440,000 and the remaining $60,000 will be awarded for model analysis.

Walnut harvest sets record. California growers produced the largest walnut harvest to date in the 2020-2021 crop year. The California Walnut Board (CWB) says the 785,000 tons is an increase of 20% over the 2019 crop. In addition to funding research on the health benefits of walnuts, and promoting positive results, the California Walnut Commission worked alongside CWB to promote walnuts directly to consumers through retail campaigns. In a year-end summary of activities, the CWB says 34 retailers operating 10,400 locations saw an average sales boost of more than 20% during American Heart Month, with messaging about walnuts' potential health benefits. The CWB also voted to suspend mandatory outbound inspections of walnuts "to mitigate market disruptions like labor shortages or shipping constraints," both of which have been hurdles across industries this year. The move should increase export efficiency, says Michelle Connelly, CWB executive director. "The Federal Marketing Order rules governing inspections are obsolete as market and customer quality demands have since surpassed USDA grade standards," she added in the CWB year-end summary. CWB has also funded research to advance production and processing including in the areas of pest management, food safety and product quality. Researchers at UC Davis released a new varietal aimed at bringing more desirable traits to market trees. "Our research programs are key in providing growers and handlers the resources they need to succeed in an increasingly competitive space," says Connelly.

New report quantifies water risk for meat companies, cost of investing for future scarcity. Water scarcity poses a grave threat to consumer staples, including packaged meat, according to the sustainability nonprofit Ceres. In a new report, it estimates the total risk at $200 billion. Ceres found the packaged meat sector, in particular, is also potentially exposed to "much higher-than-expected potential losses" because the scarcity risk calculations leave out the negative impacts that these companies can have on water resources. Those, too, contribute to companies' overall vulnerability. The report "Financial Implications of Addressing Water-Related Externalities in the Packaged Meat Industry" specifically calculates the water risk for meat giants BRF, Hormel Foods and Tyson Foods. It says the companies face a choice of investing in their water risk now or paying dearly down the line for not doing so. The water impacts that the report considers include nutrient runoff from crop fields and manure, ag land irrigation, drinking water for livestock, and water use and wastewater discharge from processing and packaging. The math comes to an estimated need for the companies to invest $57 million (BRF), $63 million (Hormel) and $301 million (Tyson) to eliminate "impacts on freshwater from nutrient runoff and water withdrawals." For the Brazilian company BRF, most of that cost comes from nutrient runoff impacts, while for Tyson and Hormel the costs are closely divided between nutrient runoff and water use. "This is a relatively low price tag," the report says. The companies that invest now "are likely to benefit from greater investor trust and confidence that the company is committed to protecting its social and legal license to operate." The benefits beyond investor confidence, the report says, include reducing price volatility, preventing raw materials supply disruptions and positioning the company to remain competitive as alternative protein sources emerge that need less water.

Tyson foods to distribute $50M in year-end bonuses to plant workers. Tyson Foods announced Monday it would be distributing $50 million in year-end bonuses to frontline and hourly team members. Each of the company's U.S. team members would receive one-time bonuses ranging from $300 to $700 based on tenure, Tyson said in a release. According to the release, distribution of the bonuses will start this month. "This is yet another way for us to say thank you and show how grateful we are for our frontline teams' efforts to keep each other safe, our company strong and our world fed over the past year," Donnie King, the president and CEO of Tyson Foods, said in the release. "While 2021 presented many challenges, our entire Tyson team continued to meet them, head on." The company also said that it is offering more flexible work schedules at some facilities and will be offering paid sick leave on Jan. 1, 2022, as a way to "better support its frontline workforce." "Our frontline team members tell us higher pay is important, but that's only part of the story — they also want more flexibility and more say over their time," King said in the release. "In rural parts of the country, they don't want to have to drive miles to see the doctor. Everything we're doing is because our team members are the heart of our business and its future success."

Julie Henderson

Farm Hands West: Newsom appoints Henderson to lead DPR

Gov. Gavin Newsom has appointed Julie Henderson as director of the Department of Pesticide Regulation (DPR), a role she has been covering as acting director since July. Before that, she served as deputy secretary of public affairs at CalEPA. She fills the role after **Val Dolcini's** departure to advocate for the pesticide manufacturing industry as Syngenta's head of business sustainability and government affairs in Washington, D.C.

Newsom has also appointed **Bidtah N. Becker** as deputy secretary for environmental justice, tribal affairs, and border relations at

California's Environmental Protection Agency. A member of the Navajo Nation, Becker has served as the head of the Navajo Nation Division of Natural Resources and is currently with the Navajo Tribal Utility Authority.

Rep. **Devin Nunes**, R-Calif., has announced he will retire from Congress at the end of the year to become the new CEO of former President **Donald Trump's** new social media company. Nunes is the top Republican on the House Intelligence Committee and received the Presidential Medal of Freedom from Trump in 2021.

The California Association of Winegrape Growers has elected Tom Slater of Slater Farms in Clarksburg as chair of the board of directors. Slater succeeds **Mike Testa** of Coastal Vineyard Care as chair. Other members elected to the board include: **Jeff Bitter**, winegrape grower in Madera, vice chair; **Gregg Hibbits** of Mesa Vineyard Management in Templeton, vice chair; Jason Smith of Valley Farm Management in Salinas, secretary; and **Kendall Hoxsey-Onysko** of Napa Wine Co. and Yount Mill Vineyards in Oakville, treasurer.

The Association of California Water Agencies has tapped **Pamela Tobin**, who serves on San Juan Water District board of directors, to a two-year term as president of the statewide association. **Cathy Green**, who serves on the Orange County Water District board of directors, was elected vice president. Tobin succeeds outgoing ACWA President **Steve LaMar**, who serves on the Irvine Ranch Water District board of directors. Tobin was elected vice president of ACWA in 2019 after serving as chair of the ACWA Region 4 Board from 2018-2019.

Ocean Mist Farms has hired **Jeff Hutterer** as the new director of value-added sales and **Christa Schuck** as the new sales representative. Hutterer previously served as director of retail sales at Mann Packing. Before joining Ocean Mist Farms, Schuck served as senior director of foodservice sales and was the national account manager at Tanimura & Antle Fresh Foods.

Allied Grape Growers has named **Pam Bond** as its North Coast operations support. She previously worked for Swanson Vineyards and Winery in Oakville as director of vineyard and estate operations from 2010 to 2020 and as assistant vineyard manager from 2002 to 2010.

The Department of Agriculture has announced key staff positions. **Sean Babington** was named senior adviser for climate in the Office of the Secretary. Most recently, Babington served as a senior professional staff to Chairwoman **Debbie Stabenow** on the Senate Ag Committee where he handled the portfolio for forestry, pesticides, and climate change. Before that, he worked in the office of Sen. **Michael Bennet**, D-Colo., as senior policy adviser for Energy and Natural Resources. **Anne Knapke** has been promoted to deputy chief of staff for policy in the Office of the Secretary. Knapke joined the administration in February and most recently served as the deputy assistant secretary for congressional relations at USDA. Before that, she was a senior program officer focusing on nutrition and agricultural development at the Bill & Melinda Gates Foundation. **Bidisha Bhattacharyya** now serves as senior adviser for climate and conservation for farm production and conservation. Bhattacharyya previously served as the senior policy adviser in the Farm Service Agency. **Cecilia Hernandez** has been tapped to serve as the designated federal officer for the USDA Equity Commission. Hernandez returns to USDA after working in the General Services Administration's Office of Governmentwide Policy as a program manager on the President's Management Agenda Team. Before that, she served in Office of Budget and Program Analysis at USDA.

The National Pork Producers Council has tapped **Bryan Humphreys** to be the organizations new CEO, effective Dec. 21. Humphreys currently serves as the senior vice president of the National Pork Board and was also a former employee of the National Pork Producers Council.

The Senate has confirmed **Jessica Rosenworcel**, 68-31, to be a member of the Federal Communications Commission for a five year term starting from July 1, 2020.

Bryan Humphreys

Syngenta Group has appointed **Feroz Sheikh** as the new chief information and digital officer, effective Jan. 1. He will be based in Basel, Switzerland and succeeds **Greg Meyers**, who is leaving Syngenta Group at the end of January 2022 to return to the United States to pursue a new opportunity. Sheikh currently serves as the head of digital engineering and data science at Syngenta.

Martin Barbre has been named vice president of engagement and government relations for the farmer-led nonprofit Rural Investment to Protect our Environment (RIPE). Most recently, Barbre was CEO of MyAgData. Before that, he was appointed by former secretary of agriculture Sonny Perdue to be administrator of USDA's Risk Management Agency.

The Agricultural Retailers Association has selected **Ian McGregor** of The McGregor Company as the new chairman of the board of directors. He succeeds **Rod Wells** with GROWMARK in the role and will serve a two-year term.

Alexander Drotschmann has announced he will retire from KSW in Oct. 2022. Drotschmann has led KWS' corn and soybean business in North and South America since 2014. In the upcoming months he will transition all operational responsibilities for South America effective Jan. 1 and the North America KWS and AgReliant board seats effective August 2022 to **Nicolás Wielandt**, head of business unit corn Europe.

Alexander Drotschmann

Shannon Mills has joined the office of Sen. **Brian Schatz**, D-Hawaii., as a legislative assistant covering the portfolio for agriculture and food and environmental protection. Mills previously served as manager of government and public services at Deloitte.

Rebecca Jablonski-Diehl has joined the House Select Committee on the Climate Crisis as a professional staff member under Rep. **Kathy Castor**, D-Fla. Jablonski-Diehl previously worked at The Pew Charitable Trust as manager of the Pew Bertarelli Ocean Legacy.

Heather Painter has joined Rep. **Derek Kilmer**'s, D-Wash., office as his new legislative director. Painter will handle the portfolio for immigration, taxation and telecommunications. Painter previously worked for Rep. **Conor Lamb**, D-Pa., as a senior legislative assistant.

Former Senate Republican Leader and presidential candidate **Bob Dole** died Sunday Dec 5. He was 98. Dole helped forge the rural-urban coalition that enacted the 1973 farm bill, which expanded the food stamp program to every political jurisdiction in the country. His wife's Elizabeth Dole Foundation announced his death but did not disclose its cause or where he died. Dole disclosed earlier this year that he had begun treatment for advanced stage lung cancer.

Vernon Vierra of Willows, Calif., passed away on Nov. 28 at the age of 68. Vierra was the founding general manager of Sun Valley Rice, a position he held from 1999 to 2012. He recently worked for Rice Researchers and in 2006, he and his brothers began an almond farming enterprise aptly called "Vierra Brothers." A funeral service will be held on Thursday, December 16, at the Maxwell Cemetery at 10 a.m. followed by a celebration of life afterwards at the Maxwell Legion Hall. Donations can be made in Vern's memory to the Maxwell Cemetery, P.O. Box 201, Maxwell, CA 95955.

Best regards,

Sara Wyant
Editor
