THE LOCAL VOICE FOR OUR FARMERS, RANCHERS AND DAIRY PRODUCERS SINCE 2013

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# For Water Projects, Feasibility is Not Affordability

By Scott Hamilton, President, Hamilton Resource Economics

Kern has a big problem. It is the subbasin with the most significant water shortage in the state. That problem is somewhere between 360,000 and 440,000 acre-feet per year, depending on assumptions about sea level rise, climate change, and future regulations.

Rethinking the use of farmland will be an essential part of the solution. Will existing farmland and wheat; will there be more grazing and native typical economic analysis looks at the value lands on the Valley floor, or will the new crops be solar panels? These are the decisions farmers have to grapple with.

Part of the solution is an increase in imported water from the Delta. Undoubtedly, there is surplus water in the Delta in wet years - something in the order of 30 million-acre-feet in an average wet year, with likely no surplus water in dry years. The question is how much it will cost to move the wet year water. In this regard,

of water over a long period, say 30 years, and compares that to the debt service associated with capital construction and the operating and maintenance costs over the same period. If the benefits of the water supply exceed the costs, the benefit-cost ratio is greater than one, and the project is, therefore, economically feasible. prices fluctuate. Therefore, the ability to pay That is typically one of the tests to pass for a for water fluctuates. The ability to pay for a project to proceed.

One way to calculate the value of the water is

switch to lower water-use crops, such as cotton economics can be deceptively misleading. The to determine how much farmers can pay for it and still make a reasonable profit. While that may sound good in theory, it is typically based on calculating long-term averages. Moreover, the risk of that approach varies greatly from farm to farm.

> As farmers are abundantly aware, commodity new source of water from the Delta depends

> > See WATER PROJECTS on PAGE 4

# Natural Disaster Relief for California



By Melissa A. Nagel

The United States Department of Agriculture (USDA) and the California Department of Food and Agriculture (CDFA) hosted a webinar on April 11th, 2023, to address concerns and available resources for local farmers in response to recent natural disasters across the state. Most of the programs discussed during the webinar are also available to those living in California's rural communities with populations of 10,000 or fewer.

California has experienced 12 different atmospheric rivers since December, bringing more than 4 inches

of rain to Bakersfield alone. Other areas of California have experienced even more rainfall and, worse, been subjected to record snowfall, which is now beginning to melt, paving the way for more flooding and uncovering damage to properties previously hidden under the snow. This uncharacteristic weather brought much-needed rain to California farmers facing drought and water shortages just one year ago. However, damage to property and the cost of necessary repairs have placed undue hardships on many farmers' shoulders.

In response, the USDA and CDFA have come

See **DISASTER RELIEF** on PAGE 5

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# **Getting Serious About Climate Solutions**

Feature Contributor, Valley Ag Voice

Californians were invited to discuss the state's climate-driven future in agriculture on March 30th with leading scientists, policymakers, and California producers. Historically, the West Coast has been far ahead of the curve in communicating the effects of climate change, but only recently has innovation and technology been available to start talking about the solutions. The Summit, a conference to do just that, was a day-long event, free to attend as a webinar and in-person at Fresno State's Satellite Student Union. Keynote speakers included the Secretary of the CDFA, Karen Ross, and the esteemed scientist for

the US Department of Energy, Jennifer Pett-Ridge. The Summit also featured 18 other speakers, 6-panel sessions, and 15 different discussion topics centered around assessing approachable solutions and climatefriendly business practices for the agriculture industry, specifically in California.

The company leading the event, Climate Now, started as a podcast in 2021 and has since expanded to create video content and now events such as this one.

Events are a key channel for us because the issues around ours transition away from fossil fuels and toward renewable energy and toward more climatefriendly practices are technological, but for them to be

See CLIMATE SOLUTIONS on PG 11

(Photo by Anatolii / Adobe Stock)



# FARM BUREAU NEWS

# The <u>United</u> Voice of Kern County's Farming Community



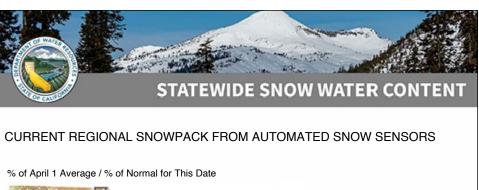
# **President's Message**

Today is April 5th, a lovely spring day of 65 degrees in Kern County. In my last month's article.

California was still experiencing atmospheric river events, and during the week of March 26th, Kern had four days of rain. A lot has happened; the Department of Water Resources (DWR) announced on March 24th the forecast of the State Water Project (SWP) deliveries to 75 percent, up from the 35 percent reported in February. In addition, the Governor rolled back some drought emergency provisions by Executive Order N-4-23, allowing for diversions of flood flows. WOW, think a few months ago, who would have thought that flood flows would even be in an executive order and recommended? This increase in SWP deliveries and rolled-back drought provisions is supported by the fourth snow survey of the season at Phillips Station conducted on April 3rd. That manual survey recorded 126.5 inches of snow depth and a snow water equivalent of 54 inches, which is 221 percent of the average for this location. For the Southern Sierra location, the snow water equivalent is 61.6 inches which is 302% of the average for this date. And for the Kern area, the snowpack is estimated to be 422% of normal. So, if you have been driving around the Kern County area, you will notice recharge facilities full of water, but imagine as the weather warms, more water to come from the snow melt. Poso Creek broke its bank, and the water headed towards the City of McFarland, but some growers diverted that water onto their properties. Thank you, Kern growers! The situation at Poso Creek will be the beginning of similar problems as the snow melts, especially with Kern having a snowpack estimated at 422%. The agricultural water districts over the years have spent millions of dollars to construct these recharge basins, and this year, similar to 2017, will be used to their capacity. Let us be grateful for the proactive efforts of the agricultural water districts because these

recharge basins help all beneficial users (domestic, municipal, and agricultural) who extract water.

Let us hope that this year goes down as a wet year but not too disastrous to agricultural lands. As mentioned, the Governor issued an executive order, and also in that order was the ability to take flood waters and divert them onto farmlands. However, I strongly recommend that you, as a landowner, read the executive order about that diversion; some restrictions could end up causing you some major problems down the road. Some restrictions include any water diverted shall not be applied to any dairy land application areas, any agricultural field where pesticide or fertilize application has occurred in the last 30 days, any space that could cause damage to drinking water wells or drinking water supplies and there are others (water quality standards still apply). Another important item to note is that the person or entity files a preliminary report with the State Water Board 14 days after initially commencing the diversion of flood flows and a final report by June 15th, 2023. Rumor has it that the date of June 15th will be extended to accommodate the later flood flows as the snow melts. If you still need to get a permit from the State Water Board for diversions, the water you are placing on your lands and recharging into the basin belongs to the public trust, not you as a landowner. Again, take the time to read the executive order. If you need a copy of the executive order, don't hesitate to get in touch with the Farm Bureau.





NORTH	
Data as of April 17, 2023	
Number of Stations Reporting	24
Average snow water equivalent (Inches)	56.5
Percent of April 1 Average (%)	190
Percent of normal for this date (%)	207

Data as of April 17, 2020	
Number of Stations Reporting	42
Average snow water equivalent (Inches)	59.8
Percent of April 1 Average (%)	225
Percent of normal for this date (%)	240

**CENTRAL** 

SOUTH		
Data as of April 17, 2023		
Number of Stations Reporting	25	
Average snow water equivalent (Inches)	61.2	
Percent of April 1 Average (%)	291	
Percent of normal for this date (%)	319	

Percent of April 1 Average (%)
Percent of normal for this date (%)

Statewide Average: 229% / 247%

Statewide Average: 136% / 196%

Statewide Snow Water Content as of April 17, 2023 provided by the California Cooperative Snow Surveys. (Graphic: DWR)

# **Young Farmers & Ranchers**



By Timothy Collins Chair, Kern County **Young Farmers** & Ranchers

I would like to take this month to formally introduce and provide the backgrounds of our Kern County Young Farmers and Ranchers

officer team. This team plans our meetings, runs our fundraisers, selects our scholarships, and does our social media on top of various other needs to keep YF&R functioning. I am in my second year as Chair and have the privilege of leading a great team. I am nearing the end of my fourth-year teaching high school Ag Diesel Mechanics at the Regional Occupational Center. I worked as a heavy equipment field mechanic for Quinn Company for the previous six years, and that job got me more involved in ag. I worked on various Caterpillar machines, but working on the Challenger, Fendt, and Massey Ferguson

farm tractors pulled me into the ag side of the in a county that truly feeds the world. industry. Those machines tended to be more challenging to repair, but I liked being out in the fields and part of our essential endeavor to grow food.

Christine Johnson is our Vice Chair. She works as a real estate appraiser with a focus on agriculture properties. She started in an administrative support role eight years ago and recently received state certification. Christine's interest in ag has grown by learning about the crops we grow here in Kern County and meeting people working in various industry aspects.

Our Secretary, Russell Todd is the County Executive Director for the Kern County USDA Farm Service Agency. His position leads the day-to-day operations of administering federal safety net and disaster assistance programs for farmers and ranchers throughout Kern County. Russell's favorite aspect of working in the ag industry is seeing how ag connects to every aspect of society. Food is a part of everyone's lives, and it is rewarding to be a part of an industry and

From a young age, our current Treasurer, Katie Verhoef, helped her family grow fruits and vegetables, raise pigs, and make homemade jams and jellies to sell at the farmer's market. She graduated from CSUB with a bachelor's in business administration with concentrations in Agriculture Business and Marketing. While completing her MBA, she worked for Grimmway Farms and started working for AC Foods in 2020. She still enjoys helping her family at farmers' markets when not working or at a YF&R event. Being outdoors and helping provide safe food to the public are Katie's favorite parts of working in the ag industry.

Social Media Chair Christine Etcheverry is an Account Executive in Sales and Customer Management at Bolthouse Farms. She received her bachelor's degree in animal science and agriculture business from Oklahoma State University. Christine's favorite part about working in the industry is making a difference. Whether

See KCYF&R on PAGE 3

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ommentaries are not direct opinions of Kern County Farm Bureau

# **Guide to Bidding** at a Live Auction





**Bv Austin Snedden** Ranching Contributor. Valley Ag Voice

Live auctions with a good auctioneer are exciting and usually the best way to reveal true market value and price discovery. Auctioneers and sale consultants

are hired to bring in top-dollar on behalf of the seller. This free-market principle is vital to price discovery in the livestock industry but can sometimes result in inexperienced bidders paying more than they need to. Most auctioneers and sale staff run a tight ship and won't lead you down a road in which you are taken advantage. However, there are instances where you can learn to observe things to guide you in your shopping and bidding process. I write this not to cast shade on the live auction process, as I think it is important and I really appreciate it. Rather, I write this from the perspective of a buyer who has bid and purchased bulls from many sales and auctioneers across the west and beyond. These are purely anecdotal observations from a potential buyer with a limited budget and specific criteria for what bulls to bid on. Although this is written from the perspective of someone shopping for bulls, I think the concepts apply to shopping horses, commercial females, commercial stockers, etc.

The specific criteria for the critter you are shopping for is not important in this case, but it is assumed you have a specific criterion. Getting to know the breeder/seller is extremely important to determine if the breeders' philosophy for cattle selection matches yours. If you get the opportunity to discuss or even look through a sellers' cattle, you will learn a lot about their philosophy, but also about how much of an aggressive salesman they are. Discussing the sale of cattle or even the cow herd of a seller will give you great insight. There is no perfect animal out there, and every astute breeder knows the shortcomings of every animal they are offering. If you don't hear a seller discuss the weaknesses of any animals, or a seller never steers you away from an animal because it doesn't match your needs, recognize you are dealing with an aggressive salesman first and a stockman second. There are opportunities to find something that will fit from the aggressive salesman, but you will need to do the digging yourself to find possible red flags in the potential purchase. The aggressive salesman/breeder will most likely hire an aggressive auctioneer/sales consultant. This creates a situation where the potential buyer needs to be cautious and sit tight on their wallet.

The best-case scenario for a buyer is to find a breeder that is forthcoming about the strengths and weaknesses of the offering. They listen to your breeding goals and direct you towards the absolute best fit, and away from ones that aren't necessarily bad cattle, but are better suited for someone with different goals. Often these forthcoming sellers hire auctioneers and sales staff that run the sale more transparently, allowing you to be more confident in the process. Occasionally it doesn't match. Sometimes very transparent breeders hire aggressive auctioneers and staff, and while you can be confident in the offering, you need to be cautious come sale time. There is always a time for new blood and the next generation when it comes to auctioneers and ring men, but the best auctioneers and ring men are going to be the ones you see a lot in that region. They are going to treat you right because they may have taken bids from you before or may look to have your trust to take bids

from you in the future.

Prior to sale day, if you are dealing with an aggressive salesman/breeder, don't tip your hand too much when inquiring about specific sale lots. If you have narrowed your choices down to one or two lots before visiting with the breeder, ask the breeder about three or four lots. Don't unnecessarily waste the breeders' time, but also don't let them think you have all your eggs in one basket. When dealing with the seller that looks to see you pay the most amount possible, don't give them the impression you are desperate to have what they are selling, especially a specific lot.

When it comes to sale day and you have your budget and list narrowed down to one or several, sale order can be your friend or a big challenge. For clarity, most would prefer to have their number one choice be higher in the sale order than their second or third choice, but even if the sale order doesn't fall this way, you can use it to establish your position with the auction staff. If a lot enters the ring that is on your list but being sold before your higher choices, use it as an opportunity to participate early and feel the flow of the auction, and not having the winning bid on a lot establishes to the ring man and auctioneer that you have a ceiling. (Caution: never bid on a lot you cannot live with based on the bids you are casting, no matter how low.) If you are calm and thoughtful in your bidding, and sales staff know you aren't afraid to lose on some lots, you are less likely to bid against phantom bidders on future lots. Phantom bids are fake bids initiated by an auctioneer or ring men to bump the price and often happen to start the lot and get the animal up to the sellers' floor price (perfectly acceptable), occasionally they happen as a lot progresses into high dollar values when an auctioneer or sales staff have marked a bidder to have deep pockets and to be fully committed to a given lot. (Not all auctioneers or ring men will participate in this somewhat deceptive practice).

If you are bidding via phone, try to be on the line with someone you know or trust. This industry is a small world and someone in your circle should be able to direct you towards someone on the sales staff that will represent you well. If you are attending in person, try to sit in the section of a ring man that you know, and preferably knows you (not always possible). If you can watch some of the sale before the lots come up that you are looking to bid on, watch the flow of the sale. If the auctioneer and staff regularly lose track of where the bid is and have to drop back to a lower dollar value, be cautious of phantom bids when it comes to the lots you are looking to buy. When the lot you want to buy comes up, don't be the first to bid but bid early so that your ring man will keep an eye on you, then don't hesitate to take your time as the lot progresses. When the ring man or auctioneer calls for your next bid don't hesitate to wait a beat or two, so they know you are thinking. When making your budget, stick to it, but remember that most budgets are made at a round number. For example, there may be three of you participating with a budget of \$5,000 on a bull, and \$5,250 might get him bought. If your budget is a round number, consider adding one bid on top, it might be all it takes.

This information is based on personal experience and mistakes I have made. My goal is not to degrade auctioneers, sales staff, or the live auction process, it is a great way to do business for the buyer and the seller and most folks have plenty of integrity. My goal in these tips is to help you get the most from this format and gain the confidence to participate.

## KCYF&R

Continued from PAGE 2



Tim Collins repairing a Challenger tractor out by Arvin, CA. you are working on research or continuing a long family tradition, jobs in the agriculture industry leave a legacy like no other. The possibilities are endless for feeding the masses and bringing food poverty to a halt.

This year we added officer positions for Clay Shoot Chair and Farmers Market Chair to take the lead on our major events of the year. Cory Camp jumped right in this year as the Clay Shoot Chair and now has his hard work behind him. Cory works as the Asset Manager for Kern Machinery after working for Wonderful Citrus as a Farming Supervisor. He has been around agriculture all his life and enjoys doing his part to help feed the world.

Our Farmers Market Chair is Katelyn Filkins. Instagram: <u>@Kern\_YFR</u> She is a Multi-Channel Sales Representative at Facebook: KernYoungFarmersAndRanchers

Driscoll's with over three years of experience in the berry industry. She has been involved in agriculture since a young age, including breeding, raising, training, and showing lambs at the Kern County Fair for ten years through 4-H. Working with people who are just as passionate about agriculture as she is and being exposed to different aspects of the ag industry is something she looks forward to!

I hope you can see our common interest in being part of agriculture. This is the industry that literally feeds the world, and no one can live without it. Let us take pride in being part of that.

Email: KernYFR@KernCFB.com



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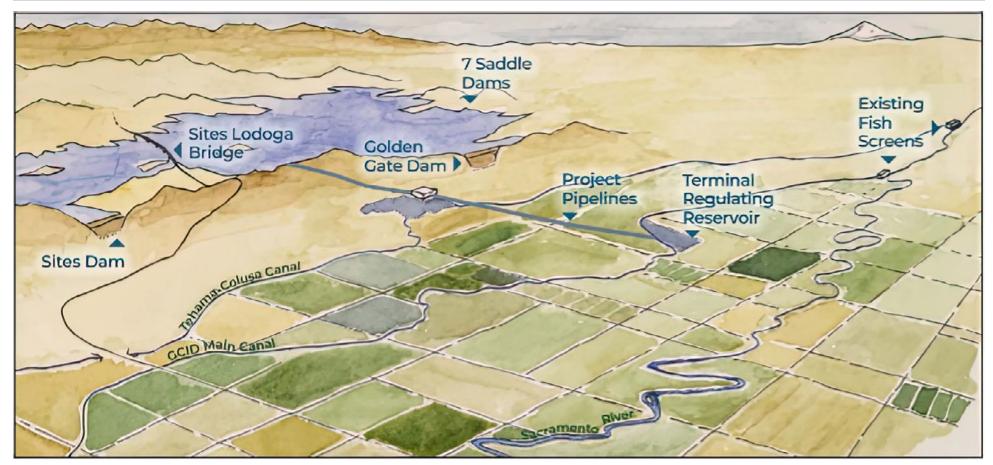






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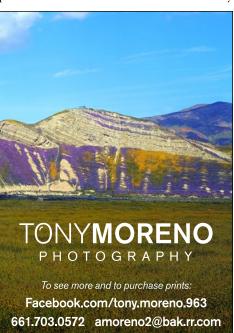
A graphic representation of the Sites Reservoir project, one of several projects being developed to improve water supplies for California (source: Sites Project Authority Annual Report 2021). High flow water is pumped from the Sacramento River to fill the reservoir and released during the summer and fall as needed.

# **Water Projects**

Continued from PAGE 1

primarily on what it will do to the farm's overall water cost and also the farmer's ability to endure economic hardship. If new water from the Delta comprises only a small portion of the farm water costs and commodity prices dip, the consequences to the bottom line might be bad but not devastating. If water already comprises a large part of the farm budget, acquiring additional expensive water has a heightened risk during periods of poor prices.

In 1991, agricultural contractors on the State Water Project received a zero allocation. Districts on the Westside of I5 paid millions for a water supply they have yet to receive. Commodity prices were low. Disaster struck. For many



farmers, resources stretched beyond what they could bear. In Berrenda Mesa Water District, where water costs were already high due to additional conveyance costs, one-third of the landowners defaulted on their water district payments. That increased the fixed water costs for the remaining landowners in the district by fifty percent. The situation was dire. Lawsuits ensued. Ultimately, the district survived, but there was much reason for concern at the time.

The lesson here is to base payment capacity on something other than long term averages. The probability is very high that there will be sustained low commodity prices during a thirty-year repayment period for a project. The question is whether the farm can survive financially during that period while still meeting the payment obligations of a new water project. Keep in mind most water districts are already taking on innovative, new water projects to achieve groundwater sustainability, the costs of which will most likely be passed onto landowners. Some of the new proposed projects, like Sites Reservoir, have an opt-out provision - if the project becomes unaffordable, participants can opt-out – a great safety valve – but not the preferred path forward. Farmers won't want to return the leased tractors because they can't make the payments; they will want to keep farming. The affordability of a new water project varies from farmer to farmer. The decision to participate or not has far-reaching consequences and requires careful consideration.

It is also imperative that the water communities throughout the state keep searching for feasible, affordable water projects. Severe social and economic consequences are likely to result if they do not. Stay up-to-date with current reservoir conditions here: https://cdec.water.ca.gov/resapp/RescondMain



# **Farmers Brace For More Destruction, Losses From Floods**



Lerda-Goni Farms in Tulare was one of the first dairies to evacuate cattle last month when Lake Success overflowed, flooding the owners' houses and other structures, feed supplies and cropland, (Photo by Tyler Ribeiro)

## By Ching Lee Assistant Editor Ag Alert

Reprinted with Permission from the California Farm Bureau Federation

Months of heavy rainfall and subsequent flooding have dealt a new financial blow to California farmers as they come out of a multiyear drought that had them fallowing land and plowing under crops due to water shortages.

They now face flooded fields, waterlogged plants, crop delays and property damage. From dairies and orchards in the San Joaquin Valley to strawberry and vegetable fields along the Central Coast, farmers are also bracing for longer-term fallout that could threaten one of the most productive agricultural regions in the world.

With some fields still underwater and farmers

continuing to tally losses and damage, full extent of the storm impacts remains unclear. Farmers say time will tell how fast fields dry out and whether crops on them will survive.

"We've still got ways to go in all this," said Tricia Stever Blattler, executive director of Tulare County Farm Bureau. With a record snowpack in the Sierra Nevada mountains, "there could be months of flooding in front of us," she added, as warmer weather and rain melt the snow in the weeks ahead.

In the Salinas Valley, a survey has begun collecting data on flood impacts, "but it will be weeks before we have a good sense of damages," said Norm Groot, executive director of Monterey County Farm Bureau. He noted many fields remain in flood stage and said he expects new agricultural damage will exceed the \$330 million caused by storms in January, when more than 15,000 acres were hit by March storms.

An estimated 47,000 acres of farmland have so far been impacted by floodwaters in Kings County, said Dusty Ference, executive director of Kings County Farm Bureau. The number is expected to grow. With the return of Tulare Lake—once the largest body of freshwater west of the Mississippi River—areas around the town of Corcoran, which sits near the lake bottom, have seen substantial amounts of flooding. Ference noted crops including alfalfa, barley, wheat, canning tomatoes, corn silage, grapes, pistachios, almonds, walnuts are all grown in the lakebed and have been underwater for weeks.

"We don't know what all we're going to see yet, but we are expecting significant crop loss," he said.

Tulare County farmer Josh Pitigliano, who has wheat, almonds, and pistachios in standing water for several weeks, said he doesn't think those crops will survive. The wheat crop "looks very yellow." The almond trees still have green leaves on them, with nutlets developing, "but I think it's just a matter of time till they shrivel up and are no longer

Pistachios are coming out of dormancy and going through bud swell. But trees on the edge of the lake bottom probably won't make it, he said, as "the water is not going to come off of them anytime

As many as 40,000 to 75,000 acres in Tulare County could still be underwater, Stever Blattler said. She noted a lot of standing water is going down faster on the east side of the valley. That means permanent crops there will probably survive, even though they will encounter some disease and rot

were flooded. He estimated another 20,000 acres from being wet for an extended period. That will impact their ability to set a crop this year, she said. The region also has many newly planted pistachio trees on the southwest side, she added, and if those trees stand in water for one to two months, they likely will be destroyed.

> As the largest dairy-producing region in the state, Tulare County has so far seen 12 to 15 dairies needing to move some animals due to flooding. Stever Blattler estimated around 20,000 to 25,000 dairy cattle have been evacuated, with another 10,000 to 20,000 that may need to be moved depending on severity of floodwaters in the coming days.

> Anja Raudabaugh, CEO of Western United Dairies, estimated some 75,000 dairy cattle statewide had to be hauled to safer ground due to flooding. Evacuating dairy livestock took a 'mind-numbing amount of logistics," she said, as it required identifying not just places to relocate them but facilities where the cows could be milked. Going too long without milking could adversely impact the cows' health and even result in death, she pointed out.

> Some cows were moved to vacant dairies that had gone out of business, others to feedlots and stockyards that sell cattle, Stever Blattler said. The rest went to neighboring dairies on higher ground generous enough to take them. To be able to milk the cows, milking permits had to be transferred to those dairies. Empty dairies had to be cleaned and inspected by the state.

> There are other "hidden impacts" to evacuating dairies, Stever Blattler said, noting that replacing damaged feed "is a major problem," with silage in short supply. Flooded dairies not only lost their stored silage and hay but crops in the field.

Though some flooded cows and calves were not evacuated in time, Raudabaugh said, "we haven't lost a lot of cows" thanks to the hundreds of people who volunteered their time, vehicles and equipment without expecting any compensation.

People dropped everything," she said. "If they had a truck and trailer, they showed up to move these animals, sometimes moving through the night without sleep."

The crisis has proved the resilience of the agricultural community and its willingness to band together in times of need, said Stephen Mancebo, a dairy farmer in Tulare County.

Lerda-Goni Farms in Tulare, whose owners are related to Mancebo by marriage, was one of the first ones to evacuate when Lake Success spilled 2 feet of standing water onto the dairy last month. Housing and feed crops were flooded. Mancebo, whose own dairy was not hit, helped with the evacuation and took in some of Lerda-Goni's more than 2,000 animals, now housed in six different

'It took a village to help save those cattle and what business they might have left," Mancebo said, describing the emotional toll the ordeal had on his in-laws, who initially did not think they could salvage the dairy. The farm is now "in a better spot," Mancebo said, noting the property has dried, and the owners are rebuilding and starting to take some cattle back.

# **Disaster Relief**

Continued from PAGE 1

together to educate those needing California's more than 70 available disaster relief programs. Gloria Montano Greene, the USDA Deputy Under Secretary for Farm Production and Conservation, moderated the webinar. Speaking first was USDA Rural Development State Director Maria Gallegos Herrera, who touched upon many programs aimed at helping farmers and rural community members get back on their feet after a natural disaster.

For instance, the Section 504 Grant Program helps low-income homeowners over the age of 62 make necessary home repairs with grants of up to \$10,000. The program also offers loans up to \$40,000 for those in need. The Section 502 Direct Home Loan Programs also help low-income rural homeowners purchase new homes or build homes after a natural disaster. This program requires FEMA registration, and the disaster must be federally declared.

Water assistance grants are also offered to ensure safe and reliable drinking water is available to those affected by natural disasters. Unlike the previously mentioned grants, federal disaster declaration is not needed to obtain water assistance grants, which can provide up to \$1 million for new water sources and \$150,000 for water

distribution repairs. In addition, the program funds may also be used for sewer and solid waste system repairs.

One of the most valuable programs offered for Kern ag is the Value-Added Producer Grant Program, which provides funding for planning, product packaging and labeling, ingredients, and promotional materials for farmers suffering monetary setbacks due to natural disasters. For more information on the programs mentioned above or to apply, please visit www.rd.usda.gov/ca.

Representatives from the Farm Service Agency (FSA) were also present for the webinar. They spoke on the disaster assistance programs that their more than 30 offices cover in California. The FSA provides severe storm and flood assistance through its Emergency Conservation Program (ECP). This cost-share program offers funding to rehabilitate farmland and other conservation structures damaged by natural disasters. Fence repair/replacement, debris removal, irrigation systems repairs, and more are all included under the ECP, which offers up to \$500,000 per individual. The program has no Adjusted Gross Income requirements, and the application deadline is October 13th, 2023.

The FSA also offers emergency loans to those who have suffered a minimum 30% loss in

The deadline to apply for these loans is within eight months of the natural disaster occurrence. There is also a Tree Assistance Program (TAP) for those who have suffered a loss over 18% of normal mortality rates. Applications for this program must be filed within 90 days, are limited to 1,000 acres, and AGI can be at most \$900,000 annually. The FSA also offers Severe Storm and Flood Assistance, Non-insured Crop Disaster Assistance, and a Livestock Indemnity Program. For more information on these and other programs, please visit www.fsa.usda.gov/ state-offices/California/index.

Lastly, Carlos Suarez, California NRCS State Conservationist, spoke on programs the National Resources Conservation Service provides for rural communities affected by natural disasters. The Emergency Watershed Protection Program (EWP) provides assistance through public sponsors for relief from imminent hazards to life and property caused by flooding and soil erosion, fires, drought, and hurricanes. The program cannot be used for pre-existing issues or upgrades, only to repair damage caused by recent disasters. For more information on programs offered by the NRCS, please visit www.ca.nrcs.usda.gov.

If you would like to watch the webinar for more in-depth information, the video is posted on the revenue and cannot obtain a commercial loan. USDAs website at www.farmers.gov and on YouTube.

See MORE DESTRUCTION on PAGE 9

# **Tulare Citrus Farmers Battle Mud, Debris**



Farmers in the state's top citrus-growing region are undergoing cleanup during harvest. (Photo by Matt McEwen,

#### By Lisa McEwen

Reprinted with permission from the California Farm Bureau Federation

Growers in Tulare County normally would be enjoying harvest and fragrant orange blossoms this time of year. But last month's flooding is requiring an extensive cleanup operation and is a major challenge for the state's top citrus-growing region.

Flooding from multiple levee breaks in the east county Yokohl Creek carried away newly planted trees, ripped out irrigation systems, washed away valuable topsoil and scattered debris across the farming landscape.

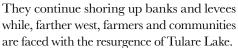
Tulare County produces California's largest share A ponding basin he constructed was no match of navel and Valencia oranges and mandarins.

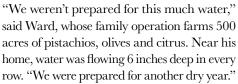
Now farmers there are dealing with standing water in groves, mucky sediment several inches deep and chunks of driftwood strewn across their ranches.

while, farther west, farmers and communities

The weather whiplash from prolonged drought to flooding took Exeter farmer Bob Ward and many of his neighbors by surprise.

home, water was flowing 6 inches deep in every





for the historic flow of water. "The water ran



Tulare County farmer Bob Ward is shown on his farm, which suffered damages estimated at \$100,000. (Photo by Lisa McEwen,

right over it. Who would have thought we would "I don't expect the average consumer will see ever have to deal with this?" he said.

A 10-acre block ready for a spring planting will need to be re-leveled before a replacement irrigation system can be installed. "We'll basically have to start over on this one," he said.

Like many colleagues, Ward plans to seek disaster assistance from a variety of U.S. Department of Agriculture programs. Farmers are reporting damages to the county agricultural commissioner and assessing overall impacts for the citrus sector.

Ward estimated that 150 acres on his farm suffered damages, saying he anticipates a minimum \$100,000 of repairs to irrigation systems, tree replacement and eroded farm roads. Cleanup will require manual labor, with workers using rakes to remove woody debris and silt from tree trunks while pulling irrigation hoses and emitters back into place in preparation for spring farming tasks such as topping, hedging, spraying and irrigating.

much difference based on rain and flooding."

Christina Saenger has been managing her family's 340 acres for the past two years in the Exeter area. She is now delaying plans for a sinking basin for aquifer recharge to pay for repairing flood damage.

"I don't know yet how much all of this is going to cost, and I've tightened my belt a little bit," she said. "Picking has been delayed because it's just still too mucky, and the equipment can't get in. Our biggest thing is we're going to have some costs just trying to rebuild roads and clean up the debris."

Rain and muddy groves have delayed a second application of fungicide, which is causing fruit drop in some orchards. Farmers are seeing premature rot and a decline in fruit quality from hail damage.

Other concerns, especially those with trees in



Propane tanks float in an Exeter citrus grove after levees breached in mid-March. (Photo by Matt McEwen)

picked, according to Casey Creamer, president of California Citrus Mutual. But the wet weather has hampered harvest across the industry, and lingering issue. export windows have been missed.

"It's been a little bit of an up and down roller coaster," Creamer said as he described the season thus far. "The wet weather has caused a lot of problems, but we don't like to complain about rain and snowpack because we've been praying for that. There have been some missed opportunities for export markets because it has been difficult to get into certain fields."

Localized impacts will be felt for months, but Creamer stressed that shoppers won't notice much difference in grocery stores.

"Our packinghouses are good at picking the right blocks at the right time and have systems in place to keep a steady supply of fruit," he said.

More than 60% of the state's citrus crop is standing water, include water-borne diseases such as Phytophthora and root rot. Poor fruit set for the upcoming season is another potential

> One bright side for farm manager Milo Gorden has been a long stretch of cold weather. "It has been wet, but it has also been cold, and that has helped with fruit quality," he said. "If it had been warm and wet, our quality would be absolute crap."

> Gorden, who manages 1,200 acres of mostly citrus in Exeter and Lemon Cove for family and clients, anticipates farmers compensating for nutrients leached from fields due to the rains.

> "One of the issues I will see this spring is spending extra money on fertilizer right off the bat, because nitrogen and potassium are highly leachable," he said. "We need to replace those nutrients."

> > See MUD, DEBRIS on PAGE 8

# **State Water Board Weighs Status of Six Aquifer Plans**



Local agencies in the San Joaquin Valley's Delta-Mendota subbasin, which features the Delta-Mendota Canal, are working to fix deficiencies in state-mandated plans to bring groundwater supplies into balance within 20 years. The basin is one of six under scrutiny by state water officials.

# Christine Souza Assistant Editor Ag Alert Reprinted with permission from

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Local agencies for six San Joaquin Valley subbasins, facing possible state intervention after their groundwater sustainability plans were deemed inadequate, learned more about next steps last week from California water officials.

During a board meeting of the California State Water Resources Control Board, officials signaled a willingness to allow agencies to bring aquifer plans into compliance with state sustainability mandates.

"The board's role is intended to be temporary, so state intervention is not a replacement for a groundwater sustainability plan," said Natalie Stork, state water board supervising engineering geologist of the groundwater management program. "Our goal is to help get basins back on track with DWR (California Department of Water Resources), so it's a temporary process."

The water board took no action on the issue but heard from staff about ways it could intervene in addressing inadequacy determinations for six rejected plans. They include plans for Chowchilla subbasin, Delta-Mendota subbasin, Kaweah subbasin, Kern County subbasin, Tulare Lake subbasin and Tule subbasin.

Under the 2014 Sustainable Groundwater Management Act, the state intervention process begins with a determination by the board as to whether inadequacies identified by DWR warrant placing the basin in probationary status. The board makes its basin designations through a public process that includes notice and a public hearing.

SGMA requires local agencies to adopt sustainability plans for high-priority and medium-priority groundwater basins. Local agencies must report annually and meet five-year milestones to bring aquifers into balance within 20 years.

State officials said the six plans were missing information that the state needs to determine compliance. The plans must show a roadmap for how groundwater basins will achieve long-term sustainability by limiting overdraft, land subsidence and impacts to drinking water.

Local groundwater sustainability plans, or GSAs, must implement near-term actions, such as expanding monitoring programs, reporting annually on groundwater conditions, implementing aquifer recharge projects and designing allocation programs. Once plans are implemented locally, measures must continue even if basins are under state intervention.

"With all of the deadlines that have come in on SGMA, agencies by and large have hit every deadline, which I think is a remarkable feat," said Paul Gosselin, deputy director of DWR's Sustainable Groundwater Management Office. "These are not easy plans to develop and work on, especially when there's a lot of uncertainty and data gaps, which are in every basin."

Staff from the water board and DWR discussed the state intervention process by the board, which has the authority to step in to manage a basin if necessary. Stork explained that the board decides whether a probationary hearing is warranted. If so, a notice of a public hearing is issued and cities, counties and well owners are contacted. In the meantime, she said, the board collects data and fees while agencies work to fix deficiencies.

"When the board puts a basin on probation, it must identify deficiencies and actions to remedy those deficiencies," Stork said, adding that GSAs have time to address issues and continue to implement their plans during probation. "Any basin put on probation would have a minimum of one year before the board could (give) notice for the adoption of an interim plan."

One of the basins under scrutiny, the Delta-Mendota subbasin, spans six counties and has 23 groundwater sustainability agencies.

"We're fully committed to getting a groundwater sustainability plan that is not only adequate but

See AQUIFER PLANS on PAGE 9

## FARM, RANCH AND TRANSITIONAL USE PROPERTIES

#### TABLE GRAPES - \$27,500±/AC & \$28,500±/AC

119.92± & 150.27± acres | Delano Earlimart Irrigation District, Lower Tule River Irrigation District, Quality Varieties, Productive Soils.

#### WALNUTS - \$22,099±/AC (SALE PENDING)

149.33± acres | Lindsay Area, Lindmore ID, 3 Wells, and Productive Soils.

#### ALMONDS - \$29,994±/AC (PRICED REDUCED)

155.73± acres | Wasco Area, 2 SOURCES OF SEMI-TROPIC WSD CONTRACT WATER, 1 Well, Solar, Class 1 Soils, Almonds in full production.

#### FARMLAND - \$12,000±/AC (PRICED REDUCED)

156.96± acres | Wasco Area, Semi-Tropic WSD non-contract water, 1 well, Productive Soils, and Perfect for permanent crops.

#### DRY LAND - \$2,250±/AC (PRICED REDUCED)

160 acres | Valley Acres, Recreation and Rural home site, Good Soils.

#### WINE GRAPES - \$18,378±/AC

161.06± acres | Wasco Area, Semi-Tropic WSD non-contract water, 1 Well, High-Density planting.

#### PISTACHIOS - \$51.898±/AC (NEW LISTING)

237.31± acres | Wasco Area, Southern San Joaquin Municipal Utility District, Pistachios in full production, Productive Soils.

#### DRY LAND - \$2,105±/AC

290.41± acres | Taft Area, Wheeler Ridge Maricopa WSD Non-Contract, West Kern WD Residential service, Recreational and Rural home site. Rental Income.

#### ALMONDS - \$22,307±/AC (PRICED REDUCED)

295.46± acres | Arvin Area, Arvin Edison WSD Contract Water, 2 Wells, Excellent Soils, Almonds in Full Production.

## WALNUTS, TABLE GRAPES, PISTACHIOS — \$28,611±/AC (PRICED REDUCED)

345.95± acres | Selma Area, North Fork GSA, Excellent Soils, Quality Well Water, Diversified Portfolio, Solar System.

#### ALMONDS - \$18,457±/AC (PRICED REDUCED)

394.47± acres | Wasco Area, Semi Tropic non-contract water, 3 wells, 863.4±KW Solar System, Productive Soils, Almonds in full production

#### ALMONDS AND FARMLAND - \$21,790±/AC

995.11± acres | Wasco Area, Semi-Tropic WSD Contract and non-contract water, 5 wells, Productive Soils, and Almonds in full production

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# **Court Agrees with Farmers On Water Quality Rules Cases**

#### By Caleb Hampton Assistant Editor Ag Alert

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A Sacramento appeals court has sided with California farmers on three cases related to water quality regulations, which environmental groups had challenged for years.

On March 17, the Third District Court of Appeal decided the cases in favor of the California State Water Resources Control Board, the California Farm Bureau and others that sought to maintain a water quality regulatory program in the Eastern San Joaquin watershed.

"The Court of Appeal's landmark decision supports reasonableness and balancing in protecting water quality, while also maintaining our food supply and the economic viability of agriculture," said California Farm Bureau President Jamie Johansson.

The cases, which all pertained to the Central Valley's Irrigated Lands Regulatory Program, centered around regulations meant to ensure runoff from irrigated agriculture does not contaminate water supplies used by people or aquatic life.

While the cases specifically apply to the Central Valley, "the court's decision is precedential and applies to irrigated lands regulatory programs throughout the state," Johansson said.

The appeals court ruling marks the end of a

decade-long dispute. In 2012, the Central Valley "They wanted individual field level monitoring, that expanded water monitoring from surface water to groundwater.

"This was a fundamental shift," said Kari Fisher, senior counsel for the California Farm Bureau.

The program strengthened water quality regulations, but environmental groups argued they did not go far enough.

"They were asking for a lot more requirements and stricter requirements," Fisher said.

The groups' petitions were referred to the California State Water Resources Control Board, which made various compromises and published a revised regulatory program in 2018. At that point, environmental groups sued to block aspects

The California Farm Bureau and other agricultural groups then filed motions to intervene in the lawsuits.

In one case, the environmental groups sued to invalidate a provision of the regulatory program, which allows agricultural coalitions to submit data such as crop yield and applied nitrogen without divulging the names of individual growers to the Central Valley water board.

The groups also challenged the adequacy of the water board's water representative quality monitoring programs and demanded stricter and more expensive monitoring practices.

water board introduced a regulatory program which is extremely costly, instead of a representative monitoring program where samples are taken at representative sites in the watershed rather than on each individual field level," Fisher said.

For hearing purposes, the cases were consolidated.

In 2020, a Superior Court sided with the state water board, the Farm Bureau and other farm groups on all three cases. Last month, the appeals court upheld those rulings in a decision that will serve as precedent throughout

"Regulating waste discharges from irrigated agriculture involves an unusually complex set of policy judgments and trade-offs," the court said in its decision. "Regulators must balance the need to ensure a reliable food supply and preserve the economic viability of agriculture against the need to protect the waters of the state."

By making the decision precedential, Fisher said, the court signaled its ruling should apply to all irrigated lands regulatory programs through-

"That's why it's so important for our members," she said. "If someone sued in Southern California, the trial court would say, 'They're suing on the same laws and policies that the Court of Appeal in Sacramento already ruled on. We need to look toward that case over there."

# **Mud, Debris**

Continued from PAGE 6

As fruit begins to set this month, Gorden pointed to other concerns for citrus growers: rising costs of fertilizer, chemicals, labor, fuel and insurance.

"That's probably my biggest concern right now, how costs are increasing. We're just getting squeezed and squeezed," he said.

Creamer said the cost to grow citrus has increased in the past two years from \$3,300 to \$5,000 an acre, "a huge increase in just a couple of years."

Looming over the shoulders of many farmers is a monster snowpack, which could bring more flooding along uncontrolled waterways such as Yokohl Creek and other drainages. On April 1, the California Department of Water Resources said the snowpack is one of the largest on record. In the southern Sierra region, it is 300% of average.

The possibility of more flooding means Saenger is looking at her properties more closely and deepening sloughs that naturally run through ranches. "We are anticipating more water, thinking about the next runoff and where all that water is going to go," she said. "But I am also going to try to sink some of this, too" to enhance groundwater supplies.

Ward has been farming since 1957 and said the past year is one of the toughest he's been through.

"Just about everything that could go wrong this year has, between the damage we've incurred from the drought and now trees with very little bloom because we just had a big crop of small oranges."

Despite the setbacks, Ward said he remains hopeful.

"We've got water," he said. "That's a big one."

# **Emily Rooney Named to DWR Task Force**

Reprinted with Permission from the Department of Water Resources (DWR)

The Department of Water Resources (DWR) selected Ag Council President Emily Rooney to serve on The Drought Resiliency Interagency & Partners (DRIP) Collaborative, which is a newly formed 26-member task force to proactively plan for future drought events, such as mitigation, emergencies, and response.

With swings between severe weather patterns have this opportunity to be proactive and becoming more intense, the DWR-led task force comprises 18 members from the private ually reacting to disasters. I look forward to sector with Rooney participating as an agricultural representative.

"I am thankful DWR made room for agriculture on this important committee. We are



plan for future events, as opposed to contingetting to work."

State agency representatives will also serve on DRIP, including the California Natural Resources Agency, State Water Resources often the first to experience pressure from Control Board, California Department of extreme weather events – whether it be the Food and Agriculture and Department of ruthless flooding many are facing right now Fish and Wildlife, as well as officials from or devastating drought. I am pleased we other areas within state government.



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# **Aquifer Plans**

Continued from PAGE 7

that addresses sustainability into the future for our communities, our ecosystems, our farmers and our businesses," said Jarrett Martin, chair of the Delta-Mendota subbasin and general manager of the Central California Irrigation District.

"We do have a long history in our subbasin of working together, and with time, we will address these deficiencies," Martin said. "We've gone back to the drawing board, and we're taking some honest criticism from DWR and making it a strong point for us to be very progressive and very active to get those deficiencies fixed."

Justin Fredrickson, California Farm Bureau environmental policy analyst, told the board he is encouraged by its "repeated restatement of the board's goal, recognizing that this (intervention) is a temporary process."

"Hopefully, state intervention in these various basins can be narrowly tailored and can build on the existing plans and work that has been done to date, and can line up as much as possible, so that we're not wasting expense," Fredrickson said. "The board and the state really need to be working together with the locals to get this right over the next 20 years."

For agencies put on probation, the board and staff discussed ways to get them back on the path to groundwater sustainability, including by requiring meters on wells for more accurate extraction data.

Matt Zidar, water resources manager for San Joaquin County, told the board that metering is not required under the statute. "It is going to be up to the state board to make some determinations based on good engineering evidence and science in terms of what would be appropriate," he said.

"Metering isn't the only thing, and I get worried that when that is perceived as the hammer that is available to you, you are going to find that everything you encounter is going to need pounding, so I'd counsel on taking a look a little deeper beyond that," Zidar added. "I think we can accomplish the same ends in terms of accurate volumetric reporting without requiring a meter."

Related to intervention, the board decided to meet again in two months to discuss the issue.

E. Joaquin Esquivel, chair of the state water board, said, "There's been an incredible amount of progress actually that has been made."

"We need everyone to take these issues as seriously as I know everyone feels them to be, given how intense the drought has been these last years and how impactful they've been to so many of our communities," he said.

Of a total 94 groundwater basins required to submit plans under SGMA, state water officials in March provided determinations for 24 basins and is reviewing an additional 61 plans from 59 California high- and medium-priority basins submitted to DWR in January 2022. DWR said it anticipates issuing determinations for the remaining basins throughout 2023.



Bales of hay are inundated with floodwaters at Lerda-Goni Farms in Tulare. (Photo by Anja Raudabaugh)

# **More Destruction**

Continued from PAGE 5

But other flooded dairies in the region have not been as lucky, he said. Those on the west side of the valley, particularly in the Corcoran area, are expected to remain underwater for some time, possibly months to a year, according to estimates.

"It's really hard for me to fathom how some of these people are going to come back to business," Raudabaugh said, noting two dairies that were forced to disperse their herds have called it quits.

Despite recent floods, Jeff Cardinale, spokesman for the California Strawberry Commission, said 95% of the state's strawberry farms remain in good shape and are waiting for warming weather to boost productivity of the plants. As with other state crops, strawberry production has struggled due to delays from rain and below-normal temperatures.

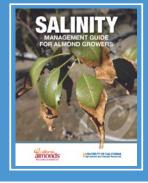
"As soon as the California sunshine returns, we expect strawberry farms to surge with hiring and harvesting," Cardinale said, adding that by Mother's Day, the state should be supplying more than 95% of all strawberries on grocery store shelves.



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# **Wolf Program to Pay Ranchers for Livestock Impacts**

#### By Ching Lee Assistant Editor Ag Alert

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As a sheep and cattle rancher who's had wolves come through his Siskiyou County property, Jeff Fowle has seen the impacts on his livestock with the predators being around.

None of his sheep and cattle have so far been killed by wolves, but their behavior has "noticeably changed," he said. When there's a wolf in the area, the stress on his animals causes them to lose weight, he added. Breeding is also affected.

A new state program has Fowle "cautiously optimistic" that he would be compensated for some of the impacts. The program pays ranchers for livestock losses due to wolf depredation. It also reimburses ranchers for the cost of using nonlethal tools such as livestock guardian dogs, fladry fencing and range riders to deter wolf depredation. Perhaps more importantly, the program pays for impacts of wolf presence on livestock.

"That is going to be a significant aid," Fowle said.

Though other states such as New Mexico also pay for wolf presence, no other wolf compensation program in North America offers all three components as in the state program, said Vicky Monroe, conflict programs coordinator for the California Department of Fish and Wildlife.

The state allocated \$3 million for the pilot program. The first two parts—compensating for livestock losses and deterrence—were implemented last year. Implementation of "pay for presence" remains

"imminent," Monroe said, adding she expects it will start this spring. Compensation is retroactive from Sept. 23, 2021 through June 20, 2026, or when funds run out.

As of last week, 32 application packages have been processed and approved, with a total compensation request of \$437,851.70, Monroe said. Of the 32 applications, 11 are for direct livestock losses and 21 are for deterrence methods.

Under the program, Fowle will be compensated for the loss of two guardian dogs that were killed by wolves. He will also be reimbursed for costs of replacing the two dogs. The program does not pay for regular costs associated with keeping guardian dogs, such as feeding them, Monroe said. But time and labor spent on monitoring wolves and livestock, herd management, husbandry practices and removing wolf attractants are considered allowable costs eligible for compensation, she added.

To protect his sheep, Fowle said he's been locking them up in the barn for the past year and half, which he didn't have to do in the past. He's also running his cattle closer to home when they're calving, which means he's feeding hay instead of letting them graze on ground where he's seeing wolves. The pasture is wasted because he doesn't want to run the risk of losing livestock, he said.

"It's a pain in the neck," Fowle said. "I really do not appreciate (wolves) being here."

Though the compensation program begins to assist ranchers with wolf-related financial losses, ranchers tend to agree that aspects of the program need tweaking.



A yearling male wolf from the Whaleback Pack in Siskiyou County returns to the wild after the state Department of Fish and Wildlife outfitted the predator with a satellite collar in March. (Photo by California Department of Fish and Wildlife)

For example, the program pays for livestock death and injury due to "confirmed" or "probable" wolf depredation, as determined by CDFW investigations. Some ranchers believe cases ruled as "possible" depredation should also be eligible for compensation, especially when there was evidence of wolf presence at the site and the carcass was too fully consumed to make a determination.

"Often environmental factors mess up the carcass," said Katie Little, policy advocate for the California Farm Bureau. "Maybe the rancher doesn't even see it within the first 24 hours."

She said there are also "major concerns" with the pay-for-presence component of the program, which has a strict formula on how it pays ranchers based on the percentage of their grazing allotment that falls within known wolf-pack territory. Payment is higher within the core area where wolves are most of the time and less in the peripheral area.

Other rancher frustrations relate to the lack of updated data on known wolf territory. CDFW last month collared two wolves in the Whaleback Pack, which occupies a 341-mile home range in eastern

See WOLF PROGRAM on PAGE 11



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# **Wolf Program**

Continued from PAGE 10

Siskiyou County, according to the department. The GPS collars allow CDFW to track the wolves' whereabouts. But no other wolves in the state are currently fitted with functional radio collars, and that has stymied the department's identification of pack territory and core range, ranchers point out.

The program does not compensate ranchers for the presence of a dispersing wolf outside of known pack territory. The department has said dispersing wolves travel widely and may not be in one place long enough to cause health effects on livestock, Little said.

Siskiyou County rancher Pat Griffin said he was hoping the program would use a "multiplying factor" to increase pay for ranchers who are harder hit, as they're likely spending more time in the field than those who may not have as many depredations.

Griffin, who retired in 2015 as the county's agricultural commissioner, now serves as the region's wolf consultant. He monitors wolves with his own trail camera and notifies ranchers on where wolves are most recently. He also helps investigate depredations, assisting in necropsy and looking for evidence.

Griffin acknowledged it's sometimes difficult to make a probable or confirmed wolf-kill determination if there's not much carcass left. He said the response time in getting someone to the investigation site is usually within hours, at least in his county. The problem is detecting the carcass and finding the lost animal, he said.

"We've had lots of cases where we get called, and it's three or four days old or more," he said. "When you've got wolves, you're going to have those losses that you can't really confirm, so the pay for presence helps make up for that."

Compensating ranchers for wolf depredation remains controversial within the ranching community. Rancher Fowle calls it "a double-edged sword." While it's helpful that they're reimbursed for losses they incur, ranchers say, the payments do not begin to replace the true value of the lost animals and their genetics, which sometimes take generations to build.

Because of multiple wolf depredations, Billie Roney and her husband Wally are unable to use all their leases and federal permits in Lassen County. She described some of that territory as "the killing fields," saying she and her husband no longer run calves in the mountains because "they're just appetizers." But she also expressed uneasiness about taking compensation for wolf-related losses.

"Once you compensate me for the wolf kills, it's like agreeing that it's OK. The other side says, 'It's no big deal," Roney said. "That's the part I'm not OK with."

Siskiyou County rancher Jim Morris faced similar public reaction when he gave a presentation from a rancher's perspective at the Oakland Zoo, where the crowd was "really pumped up about wolves." He said he tried to explain why ranchers and rural communities have concerns about wolves by using an analogy of a thief breaking into someone's home and pillaging the owner's belongings.

"But you shouldn't worry about it because you have insurance," he told the crowd. "I have many people come up to me and tell me later that that really resonated with them, and they get why I might feel the way I do."



# **Climate Change**

Continued from PAGE 1

successful, they are going to require real engagement with real people in local settings," says James Lawler, Climate Now's CEO, and founder. He later expanded on this to say that events are a "natural extension of their mission" because local economies, climate and possibilities will vary from region to region. Every region has its intricacies between each three. This is a fundamental concept to the mission of carbon output reduction as one solution in an area that could not be suitable for a neighboring region.

Not only is California ahead of the game in climate research and communication, but this state has also created some of the most efficient agricultural practices in the world. It is no accident that the Central Valley produces 1/4 of the nation's food on less than 1% of the nation's farmland (About Central Valley, USGS) and 80% of the world's almonds (2013 Fruit and Nut Statistics, CDFA)! Because producers in this state already practice some of the most efficient growing methods, it can be challenging to see how and why progress still needs to push on. However, the current situation with climate variability - which may have been partially responsible for the recent nine or more atmospheric rivers – will push farmers to their limits and could weaken yields as extreme conditions become more common. For the nation's food security and the world, California must do everything it can to protect its fertile landscape.

Attendees for the event were mainly California producers. However, almost everyone had the same goal: to modify today's practices to fit the environment better and take advantage of an opening economy centered around carbon sequestration. Academic panelists included CSU Bakersfield, Fresno, Stanislaus, and UC Merced. Topics for discussion mixed the ways producers, scientists, and policymakers can contribute to this goal. All panel discussions included:

- What does California policy provide for farmers, producers, and ranchers in response to climate change? What opportunities exist to support farmers to transition to more carbon-friendly practices, and increase profits?
- What techniques and technologies can be used to reduce water use in agriculture? What are the challenges to adopting new techniques, and what policies can support farmers in this adoption?
- What are farmers and producers already doing to support greater yield and climate smart practices? What challenges are they facing? What support do they need from scientists,

academia, and policymakers?

- With drought conditions and the Sustainable Groundwater Management Act, some former agricultural lands are proving difficult to sustain. What lands should be repurposed and what economic opportunities exist for landowners willing and able to repurpose their land?
- The war in Ukraine caused fertilizer costs to spike. How might climate change impact how and what Central Valley farmers are able to export (and import from) overseas? What funding is provided by the state and federal government to support farmers to adjust their operations?

Other topics included the "Smart Farm." The Smart Farm, presented by UC Merced, resembles the Smart City and focuses on the electrification of agriculture for careful and detailed oversight. In addition, many government programs such as the Healthy Soils Program and SWEEP, or State Water Efficiency

and Enhancement Program, are becoming available to help fund the increase in technology and movement towards more smart farming. Many of these programs exist, and producers are encouraged to reach out to a local UC Cooperative Extension office for information on how to get ahold of these funds.

Reducing and removing carbon emissions from the atmosphere enough to produce noticeable effects is a massive task. Still, if there has ever been a time in human history when it would be possible, it is now. It will take real passion-derived effort and, perhaps, a second Green Revolution to feed the world under these conditions. Fortunately, passionate and innovative producers are a namesake for California agriculture, and putting all heads together in an honest attempt is the first step.

Program and SWEEP, or State Water Efficiency Recorded webinar is on Climate Now's Fresno Event page.

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# **Despite More Water, Most Field Crop Plantings to Drop**



Photo provided by California Farm Bureau Federation

#### By Ching Lee Assistant Editor Ag Alert

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Having more water this year has not necessarily boosted state plantings of field crops.

Of the ones tracked by the U.S. Department of Agriculture, only three—corn, rice, and dry beans—are projected to increase in acreage, according to the department's prospective plantings report released on March 31. USDA made the acreage estimates based primarily on surveys conducted during the first two weeks of March.

State corn acreage is expected to climb by 2.7%—from 370,000 last year to 380,000 this year. After water shortages forced vast swaths of Sacramento Valley rice ground to lay idle last year, the grain is expected to make a comeback this year, with 404,000 acres compared to 256,000 acres in 2022.

USDA estimated medium-grain rice acreage will rise by 66%, while acreage of short-grain rice will go up 10%.

California farmers also plan to grow 50% more dry beans, with 18,000 acres this year compared to 12,000 acres last year. Of dry

beans, chickpea acreage is estimated to surge Canners in January agreed to pay growers a by more than 104%—from 2,200 acres in 2022 to 4,500 acres this year. In contrast, farmers nationwide are expected to grow 17% less chickpeas in 2023.

Several crops are projected to see record-low plantings, including barley, hay, sunflowers, and upland cotton.

Barley, with 40,000 acres in 2022, is expected to drop to 35,000 acres this year. Hay of all types reached 830,000 acres during the past two years but is estimated to dip by nearly 5% this year with 790,000 acres. Farmers grew 33,500 acres of sunflowers last year, but they expect to grow 31,000 acres this year.

A surge in cotton prices last spring encouraged growers who had water to plant more acreage of the fiber, supplies of which had dwindled. But they chose to plant more pima cotton over the upland variety, acreage of which dropped 23% from 2021.

This year, with upland prices back down to 2021 levels—about 83 cents a pound—farmers plan to grow even less upland. If realized, the 15,000 acres of upland represent a record low for the state.

Growers also plan to plant less pima this year about 90,000 acres compared to 116,000 in 2022. Current pima prices—about \$1.80 a poundhave plunged from their record high of \$3.50 a pound seen last spring, according to Supima.

Roger Isom, president and CEO of the California Cotton Ginners and Growers Association, said he thinks weather may prevent more cotton from being grown this year, as it's been too cold and wet to plant. Pima requires a longer growing As with other field crops in the state, wheat has season than upland.

Competition for ground with processing tomatoes may also shrink cotton acreage, Isom said.

contract price of \$138 per ton for tomatoes; that's 31.4% more than last year's price.

In its January report, USDA projected state processing tomato acreage at 248,000 this year, up from 229,000 acres in 2022. (See related story on Page 14.)

Isom noted that growers have traditionally grown "a lot of cotton in the Tulare Lake bottom," and with it being flooded, "there will be no cotton there this year."

"I doubt we hit 100,000 acres this year," he said of cotton acreage.

Wheat, most of it planted in the fall, is estimated at 355,000 acres this year, down from 380,000 acres in 2022. Acreage of durum wheat fell by 37.5%—from 40,000 in 2022 to a projected 25,000. If realized, total wheat acreage this year is among the lowest in state history and slightly higher than 2020's 350,000 acres, the lowest on record.

Claudia Carter, executive director of the California Wheat Commission, said two factors may be pushing wheat acreage down this year: increased plantings of triticale or other grain crops and planted wheat that has since been lost to flooding. She noted some flooded areas of Tulare had been used for growing wheat but is now "out of the picture."

"The positive note is that some dryland wheat grown in areas with some hills are seeing a great wheat crop thanks to the rain," Carter said, adding that this may lend to more wheat grain being harvested for milling rather than livestock feed.

been taking increasingly less acreage through the years as farmers switch to higher-value crops. Just 10 years ago, state wheat acreage reached 685,000—and this was during the state's last major drought that lasted from 2012 to 2016.

Yolo County farmer Fritz Durst said a lot of growers in his region planted wheat, but they are now taking it out to plant tomatoes because they have a full water supply. More and more ground has also been converted to permanent crops, he noted.

"There's just not as much land anymore to plant some of these (field) crops," Durst said. He planted less corn and more oat hay this year, "thinking if there was a drought, that I would be OK."

Durst planted wheat in the fall, but geese decimated the crop, so he replanted the field to barley in February. Though the geese are also eating the barley, he said it looks OK, as are his other crops in the foothills.

With more water this year, Durst said he plans to plant his normal acres of rice, though there is now concern that growers won't have enough time to plant all their ground due to oversatu-

In more typical years, farmers begin planting rice by April 20, he noted, but right now, there's still standing water in the field.

# Pesticide Use Declines in California, **Newly Released Data Confirms**

Press Release Provided by the California Department of Pesticide Regulation

The California Department of Pesticide Regulation (DPR) released its annual Pesticide Use Report for 2021 which confirmed preliminary data that showed a more than 10% statewide decline in pesticide use compared to the prior year.

In 2021, 191 million pounds of active ingredients – the chemicals that make pesticides work – were applied in California, and 95 million acres were treated. That was a decrease of 24.8 million pounds, and 10.9 million acres, compared to 2020.

Pesticides classified as cholinesterase inhibitors, which can damage the nervous system, and those classified as groundwater contaminants saw the biggest percentage

included those classified as carcinogens, Henderson. "We will continue to support biopesticides, toxic air contaminants and fumigants.

Declining use of the higher-risk pesticides is a longer-term trend. Since 2012, the use of pesticides classified as groundwater contaminants has declined by 81%, reproductive toxins by 58%, cholinesterase inhibitors by 40%, toxic air contaminants by 22%, fumigants by 18% and carcinogens by 17%, the report shows.

Notably, lower risk biopesticide and horticultural oil use increased during the ten-year timeframe.

"We applaud growers and others for moving to safer, more sustainable pest management alternatives, including oils and biopesticides, while decreasing overall pesticide use in

grants, funding and other opportunities to expand access to alternatives and decrease the use of higher-risk pesticides to accelerate the adoption of sustainable pest management across the state."

Earlier this year, the state joined a diverse group of leaders to unveil the Sustainable Pest Roadmap for California with the goal of eliminating the use of high-risk pesticides and adopting systemwide sustainable pest management by 2050 to better protect the health of all California communities and the environment.

DPR's Pesticide Use Reports are based on reported pesticide use for many agricultural and nonagricultural sites, including on farms, parks, managed urban landscapes, declines. Other high-risk pesticide declines the last decade," said DPR Director Julie rights of ways, roadsides and structures.



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# Giumarra Companies' Kristina Lorusso

**Discusses Citrus Outlook** 



Kristina Lorusso, Regional Business Development Director, Giumarra Companies

#### By Melissa De Leon Chavez

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The Golden State has seen more weather in previous months than in recent years combined, but days ahead are looking brighter. With them, appetites for fresh spring

produce, including some sweet citrus.

"Overall citrus quality and demand are looking really good. California Valencia oranges will start in mid-May. This summer, we will supply Australian and Chilean oranges and lemons to North American customers. Our import citrus offerings perfectly complement our domestic program," Kristina Lorusso, Regional Business Development Director for Giumarra Companies, summarized for me. "Obviously, we are exiting a very rainy last few months here in California. Despite that, we continue to grow our already comprehensive citrus program. We pride ourselves on providing the best possible quality and service we can with our year-round availability."

Given the economy, Kristina pointed out consumers are more price-conscious this year, however, the company **believes demand is steady** and, hopefully, the market will see good movement this summer. Giumarra Companies is ready, with a plentiful supply of California Mandarin oranges available into mid-May, and promotable volume across several citrus categories overall.

"We can custom pack them into our visually appealing Bright Bites<sup>TM</sup> brand bags and support a retailer's in-store displays with customized merchandising materials, including signage," Kristina explained.

This segues smoothly into what differentiates Giumarra Companies' citrus program:

a comprehensive, year-round offering that sources a variety of oranges and lemons from preferred growers from around the world.

"We pride ourselves on providing the best possible quality and service. As a company, we are able to utilize our creative marketing resources and apply them to citrus,

helping retailers boost sales and generate excitement in the category," Kristina assured me. Giumarra Companies
can custom pack
Mandarins into visually
appealing Bright
Bites™ brand bags
and support a retailer's
in-store displays
with customized
merchandising
materials, including
signage.



# CDFA Announces Awards For \$12.8 Million For the California Underserved and Small Producer Grant Program (CUSP)

Press Release Provided by the California Department of Food and Agriculture

The California Department of Food and Agriculture's (CDFA) Office of Farm Equity announces that it is awarding \$12.8 million in grants to 14 projects throughout the state via the 2023 California Underserved and Small Producer Grant Program (CUSP). Eight Resource Conservation Districts (RCDs) and 6 non-profit organizations will be providing technical assistance and distributing direct farmer grants to support producers recovering from drought impacts. Following the three driest years on record, many producers are still navigating the impacts of the prolonged drought, though recent rain and snowfall have dramatically changed conditions throughout the state. Funding for this grant program was made possible through the 2021 and 2022 Budget Act.

The CUSP Program is designed to facilitate support for small and medium scale California agricultural producers, or small and medium scale Socially Disadvantaged Farmers and Ranchers (SDFR's) through technical assistance with business planning, financial and marketing strategies. This two-year grant program also provides direct farmer grants

for relief from drought impacts for those same priority groups. The estimated start date for these projects is May 2023 and will continue through April 30, 2025.

"We have a critical need for programs like this," said CDFA Secretary Karen Ross. "This group of farmers and ranchers in particular can benefit greatly from technical assistance as they navigate the challenges of our changing climate."

The complete list of awardees and summaries of their projects can be found at https://www.cdfa.ca.gov/cusp/

The following entities were eligible to apply for this program: Non-profit organizations, Tribal Governments, County Departments of Agriculture and Resource Conservation Districts (RCDs). Entities receiving funding demonstrated expertise to facilitate business planning tools to small and medium scale producers, capacity to assist them to apply for State and Federal economic relief funds, and/or expertise in managing direct producer grants including previous rounds of CUSP Direct Farmer Grants.

# Western Growers to Honor John D'Arrigo at the 2023 Annual

Meeting



Press Release Provided by Western Growers

During its quarterly Board Meeting, the Western Growers Executive Committee announced it will bestow D'Arrigo Bros. Co. of California CEO/President and Chairman of the Board John D'Arrigo with the 2023 Award of Honor. The Award of Honor is Western Growers' highest recognition of achievement and is given to individuals who have contributed extensively to the agricultural community.

D'Arrigo Bros. Co. of California is a vertically integrated grower, packer and shipper of fresh fruits and vegetables in California, Arizona and Mexico. John D'Arrigo, a third-generation farmer, began his farming career cutting and packing lettuce, loading celery and planting fields in the Salinas Valley during the 1970s.

Under his leadership, D'Arrigo Bros. became pioneers in developing automated robotic harvesting equipment and drip irrigation systems. In addition,

the company is the largest, privately owned, net energy metered solar powered operator in Monterey County and recipient of the prestigious Clean Air Leader Climate Change Advocate Award from the Monterey Bay Air Resources District.

"Some say that maintaining a family legacy is both a blessing and a curse, but in his years at the helm of D'Arrigo Bros., John D'Arrigo has opted not only to count his blessings but to also build upon them," said Western Growers President and CEO Dave Puglia. "His pioneering innovations as a grower, packer and shipper are only matched by his dedication to lifting up those around him through his extensive charitable endeavors and advocacy to improve the lives and business opportunities for everyone in agriculture. John is widely admired for decades of support of his family, his company, and his community. No less important to him and to our industry is John's long and deeply engaged service on both the Western Growers Board of Directors and Western Growers Assurance Trust Board of Trustees. John D'Arrigo is among the most impactful leaders in our industry and is a natural selection to receive Western Growers' highest honor at our annual meeting in November."

John served on the Western Growers Board of Directors for 28 years and as Chair in 2004. In addition, he served on the Western Growers Assurance Trust Board of Directors from 1997 – 2022.

D'Arrigo was an inaugural appointee by the California Secretary of Agriculture to the board of the Leafy Greens Marketing Agreement (LGMA). He is a founding member and on the advisory council of the Yuma Center of Excellence for Desert Agriculture (YCEDA), an innovative public-private partnership with The University of Arizona to improve all aspects of desert crop production.

He has been a supporter of the Breast Cancer Research Foundation; D'Arrigo California has donated over \$2 million dollars to fund over 42,000 hours of breast cancer research. In 2010, John founded The Agricultural Leadership Council, known as TALC, which is dedicated to changing and saving lives of agricultural workers and their families at Natividad Medical Center.

"Given my family's three generations of involvement in Western Growers, this award is particularly meaningful for me," D'Arrigo said. "I am humbled and honored to be joining my father, Andy, and the many legendary award recipients who have come before me. Together, we have built an industry we can be proud to leave to the next generation."

John and his wife Sandy have been married for 32 years; they have three sons: Christopher, Michael, and Matthew.

D'Arrigo's achievements will be celebrated at the Award of Honor Dinner Gala at the Western Growers 2023 Annual Meeting at the Grand Hyatt Kauai Resort & Spa. The 2023 Annual Meeting will be held from Nov. 12-15, 2023.







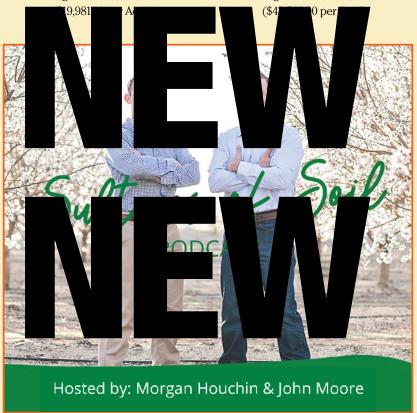


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# CDFA Now Accepting Applications for The Water Efficiency Technical Assistance Program (WETA)

Press Release Provided by the California Department of Food and Agriculture

The California Department of Food and Agriculture (CDFA) is now accepting applications for its Water Efficiency Technical Assistance (WETA) program.

The 2021 state budget appropriated \$15 million for the WETA program, which funds irrigation water efficiency and nutrient management technical assistance grants. The WETA grant program is designed to facilitate technical assistance to agricultural operations for on-farm water and energy use efficiency and nutrient management.

Through this solicitation, CDFA will award up to \$14.25 million to eligible organizations to provide technical assistance to farmers and ranchers through one or more of the program's three objectives:

1. Provide on-farm irrigation system evaluations

- 2. Coordinate or provide pump efficiency testing
- 3. Providing training on water use efficiency and nutrient management practices and technology

Resource Conservation Districts, University of California and California State University campuses, California Community Colleges, non-profits, and Federally- and California-Recognized Native American Tribes are eligible to apply for up to \$500,000 for a maximum grant term of three years.

Applications will be accepted in a competitive grant application process. Applications are due June 6, 2023, at 5 p.m. CDFA will host an application webinar during the application period to provide an overview of the program requirements and application process.

To register for the webinar and to review application materials visit the program website at https://www.cdfa.ca.gov/oefi/technical/weta.html.

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# **Eating Almonds Before Meals Improved Blood Sugar Levels in Some People with Prediabetes**

Two new research studies1-2with almonds, one conducted over three days and the other over three months, demonstrated benefits to blood sugar control for Asian Indians with prediabetes and overweight/obesity - and the three-month almond intervention broke new ground, reversing prediabetes, or glucose intolerance, to normal blood sugar levels in nearly one quarter (23.3%) of the people studied.

In both studies, 60 people ate 20 g (0.7 oz) of almonds, around a small handful, 30 minutes before breakfast, lunch, and dinner throughout the study durations. Researchers expressed their enthusiasm for these almond studies and the firstof-its-kind statistically significant reduction in measures of prediabetes by calling the reversal of prediabetes through diet "the holy grail of medicine." Better glucose control over time through dietary strategies like including almonds could help stave off diabetes progression. Nearly 70% of individuals with prediabetes will develop diabetes within their lifetime.

Both studies were randomized controlled trials funded by the Almond Board of California. The researchers hypothesized that the almond snack before major meals, known as "preloading," would reduce glucose and insulin fluctuations after meals and reduce overall hyperglycemia compared to the control diet. The findings complement the breadth of research on different populations on how almonds support healthy blood sugar as part of a balanced diet.

"Results from our studies indicate almonds might be a key differentiator in helping regulate blood glucose levels as part of a dietary strategy. These results showcase that the simple addition of a small portion of almonds before each meal can quickly and drastically improve glycemic control in Asian Indians in India with prediabetes in just three days. Eating 20 g of almonds 30 minutes before an oral glucose load showed a significant decrease in blood sugar and hormones. Almonds' nutritional makeup of fiber, monounsaturated fats, zinc, and magnesium work together to help provide better glycemic control and reduce hunger," said lead author Dr. Anoop Misra, Professor and Chairman, Fortis-C-DOC Centre of Excellence for Diabetes, Metabolic Diseases, and Endocrinology (New Delhi). "Our outcomes provide a promising dietary strategy for reducing prediabetes progression and returning people to normal glucose regulation."

His collaborators agree. "In view of the increasing prevalence of diabetes, dietary strategies like consuming almonds 30 minutes before major meals offers a good option to decrease the spike in blood glucose levels after meals," said Dr. Seema Gulati, head, Nutrition Research Group, National Diabetes, Obesity, and Cholesterol Foundation.



Photo by patrisyu / Adobe Stock

The longer-term study:

This three-month longer-term study was with overweight or obese Asian Indian adults who had prediabetes. Participants were randomized into either the almond treatment group or into the control group, and both were provided with diet and exercise counseling as well as home-use glucometers to measure their glucose levels, which were recorded in diaries along with dietary intake

Study measures comprised a variety of anthropometrics: body weight; circumferences of waists, hips, and arms; skinfolds of customary locations of the body; and body fat estimates. Biochemical measures included insulin, blood sugar, hemoglobin Alc, C-peptide, glucagon, proinsulin, high sensitivity C-reactive protein, tumor necrosis factor alpha, and lipids.

Eating 20 g (0.7 oz) almonds ahead of breakfast, lunch, and dinner, for three months resulted in first-of-its kind statistically significant reductions for the treatment group in body weight, body mass index, waist circumference, skinfold tests for shoulder and hip areas, as well as improved handgrip strength. Similarly, reductions were seen for fasting glucose, postprandial insulin, hemoglobin Alc, proinsulin, total cholesterol, LDL-cholesterol, and very low-density lipoprotein. Importantly, no changes occurred with beneficial HDL-cholesterol, meaning this cardioprotective lipid was maintained despite other observed biochemical alterations.

These substantial metabolic improvements led to nearly one-fourth (23.3%) of the prediabetes study participants returning to normal blood glucose regulation. These findings are meaningful for global public health given the prevalence of diabetes, the troubling rates of progression from prediabetes to diabetes, and are specifically relevant to Asian Indians in India who are disproportion- Upon conclusion of the short-term study, research-

ately impacted because of their greater tendency to progress from prediabetes to diabetes.

Researchers think the nutrients in almonds may play a role in the observed health benefits from this study. "The natural combination of monounsaturated fatty acids and soluble fiber could be responsible for the positive metabolic outcomes," Dr. Misra said. "Almonds may slow stomach emptying, which could help people ingest less food and fewer calories to promote weight management, which is important in helping reverse the course of prediabetes back to normal blood sugar regulation."

While the results are extremely promising, the researchers noted some limitations, including the relatively small sample size and limited period of intervention. They also noted that the study included Asian Indians who had well-controlled prediabetes, and the researchers cannot extrapolate the same impact of a premeal load of almonds in participants with type 2 diabetes. Including participants with poorly controlled metabolic states as well as those with diabetes could be useful.

The short-term study:

- Part 1: One Day Oral Glucose Tolerance Testing (OGTT): Participants were first divided into two groups of 30. The first group consumed a 20 g (0.7 oz) portion of almonds. The second group received no almonds and both groups were given an OGTT.
- Part 2: Three-Day Blood Glucose Monitoring: Using a continuous glucose monitoring system (CGMS), researchers compared the glycemic effects of preloading three meals a day (breakfast, lunch, dinner) with 20 g (0.7 oz) of almonds for three consecutive days in 60 participants, with the participants who received no preloading of

ers found that indicators for hyperglycemia, such as blood glucose, serum insulin, glucagon, and C-peptide (only OGTT results) were lower for the almond group versus the control group. There was an 18.05% decrease in PPBG levels, indicating improved regulation of glycemic responses among the almond consumers.

Results from the continual glucose monitoring system showed statistically significant improvement in glucose variability over the first 24 hours in the almond group, indicating appropriate glucose control. Specifically, PPHG levels were lowered by 10.07% in the almond group compared to control. Additionally, treatment with premeal almond loading significantly improved several indicators that reflect daily glycemic control compared to the control group: lower mean 24-hour blood glucose concentration, less time spent above an elevated blood glucose level of 140 mg/dL, lower peak 24-hour glucose levels, decreased post-prandial blood glucose levels, lower minimum glucose levels at night, and lower overall hyperglycemia.

Limitations of the short-term study include a limited period of intervention with a smaller sample size comprising people with prediabetes. Also, nutritional intervention studies can trigger behavioral changes in both groups as the participants are made aware of their risk during the recruitment process and were given dietary instruction prior to the study. Further research is needed to investigate the effects of almond preloading consumption on the same measures in different ethnicities and in individuals with diabetes and normal body weights to be able to provide broader recommendations.

In summary, with both studies, Dr. Misra and colleagues found that study participants who ate 20g (0.7oz) of almonds 30 minutes before a meal showed significant improvements in glycemic control compared to not eating almonds before meals over three months. Almonds can be part of a nutritious dietary solution offering good potential for the reversal of prediabetes to normal glucose regulation in some Asian Indians and therefore potentially prevent or delay the development of diabetes in people with prediabetes.

A one-ounce (28 g) serving of almonds provides 4 g (14% DV) fiber and 15 essential nutrients, including: 77 mg (20% DV) magnesium, 210 mg (4% DV) potassium, and 7.27 mg (50% DV) vitamin E, making them a perfect nutrient-rich snack for those with impaired glucose tolerance or type 2 diabetes.



# COMMENTARY: How Managing Flood Flows Can Help Rescue Aquifers

#### By Thomas Harter, Mallika Nocco, Isaya Kisekka and Helen Dahlke

Reprinted with Permission from the California Farm Bureau Federation

As a changing climate stresses water supplies, a key focus for California is on how to manage flood flows in ways that store more water for drought years while reducing risk to life and infrastructure.

A potential solution to this question is to enhance groundwater recharge, a natural process in the water cycle that leaks water from rainfall, rivers or flooded areas into the subsurface. Natural recharge is no longer enough to refill our overtapped groundwater reserves. But intentional, managed aquifer recharge, or MAR, can help reduce flood risk and store more water for dry

Some MAR has been practiced in California for a hundred years by either injection of water directly into the aquifer or, more commonly, the diversion of stream water into percolation basins where water can seep into storage. To achieve rapid percolation of water from several inches up to several feet per day, managed recharge basins need to be situated over portions of the aquifer that ensure water is quickly distributed underground into the broader aquifer system to avoid water "traffic jams."

California's challenge is to greatly enhance and modernize our existing MAR infrastructure. Under existing conditions, a landscape such as California's Central Valley—covering 13 million acres, half of which are irrigated for agricultural production—provides between 5 million acre-feet in dry years to as much as 15 million acre-feet of recharge in the wettest years.



Following recent storms, University of California researchers flooded vineyards for managed aquifer recharge at the UC Keamey Agricultural Research and Extension Center in Fresno County. (Photo/Helen Dahlke/University of California, Davis)

To prepare for longer droughts with shorter, more intensive wet periods, California must find ways for storing additional millions of acre-feet of water into its aguifers in a matter of weeks to few months while untapped flood supplies last. We need three pillars to achieve flood managed recharge, or "Flood-MAR," infrastructure at

1. We need more "supercharging" recharge sites. That involves identifying more places in the landscape that allow not only for rapid infiltration but also rapid distribution through natural underground sand and gravel channels that reach into the larger, less permeable parts of the aquifer system. In the Central Valley, so-called buried incised valley fills are among the most promising supercharging MAR sites. A hunt for those locations is ongoing, using 21st century aerial surveys of the underground and modern geophysical methods.

2. Our floodplains require reviving. Floodplains are natural places for MAR. They provide large tracts of land that are naturally accessible to

flood flows when they occur. They also form living ecosystems to store water for weeks so water can percolate into the aquifer instead of running to the ocean.

3. It is important to engage with our farmers to build healthy soils and use agricultural lands for MAR. Some sandy farmland may be highly suitable as supercharging sites. Much agricultural land may lack such conditions. Instead, by their immense size of more than 9 million acres, California's irrigated farmlands are key to facilitating the capture of large volumes of floodwater even if at mostly lower recharge rates, akin to millions of "trickle-charging" sites. Soil health practices such as cover cropping can be used to help increase infiltration.

We need to develop supercharging recharge sites as well as widespread, large-scale aquifer recharge in floodplains and agricultural lands through a trickle-charging infrastructure that will increase current MAR rates 100- to 1,000-10 years on average. It will take investments in

research, learning and an enormous amount of equitable civic engagement. We must be creative and expeditious to improve water rights permitting for MAR and to facilitate joint reservoir and Flood-MAR operations.

We need to modernize and increase the capacity of our water conveyance infrastructure to move much larger water amounts to managed recharge sites. Perhaps most importantly, we need to engage with a large number of landowners to fully realize the recharge potential of the agricultural and natural landscape on those few occasions when the opportunity arises.

Recent decisions by Gov. Gavin Newsom and the California State Water Resources Control Board provide an opportunity for local water management agencies, groundwater sustainability agencies and landowners to proactively engage in finding creative solutions for more MAR, while increasing protection from unwanted floods. That helps in planning for the next wet winter for those MAR activities that need more time to build than we have at hand this spring.

While a challenging undertaking, the lower cost compared to more surface water storage and the large benefits to the state's water supply, ecosystems and communities make this a promising future. It will not solve all the state's water problems, but managed aquifer recharge is the most promising approach to shift our water supply onto a sustainable pathway with more security.

(Thomas Harter and Mallika Nocco are professors and Cooperative Extension specialists at the University of California, Davis, and Isaya Kisekka and Helen Dahlke are UC Davis professors. All study water management in agriculfold. Wet years occur only three to five times in ture. They may be contacted via thharter@ ucdavis.edu.)



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# **Shameless Faith**

#### By Joshua Stevens Faith Contributor, Valley Ag Voice

And he said to them, "Go into all the world and proclaim the gospel to the whole creation. Whoever believes and is baptized will be saved, but whoever does not believe will be condemned." Mark 16:15-16 (Crossway Bibles, 2001)

Young salespeople and business owners are taught to "be shameless with their self-promotion." To let everyone from their friends to strangers in line at the grocery store know what they do and how it might benefit them. We see this all over, from commercials enticing you to use a particular insurance company to billboards for the best lawyer in town and even people waving signs on the street. They are shameless in promoting what they do.

Not only shameless, but they have to be bold to go door to door or pick up a phone and start dialing numbers knowing most people won't give them the time of day, and of the ones that do, a majority will not lead to anything. Yet day after day, they pick up their phone, lace up their shoes and look for anyone who will listen to how their product or service can improve a potential customer's life.

A famous saying attributed to Francis Assisi is, "Preach the gospel at all times. And if necessary, use words." For the past several decades, this quote has been transformed to mean that by simple acts of kindness, we may avoid the uncomfortable conversations that come with questioning someone's faith, what they believe happens after death, and proclaiming with boldness the truth of Christ.

But there is truth in such a saying and a line we must walk. As it is often said, we must be careful not to fall into place where we are mimicking acts of Christianity and not being transformed by the word. For we know that the work of the Spirit will be evident in our lives (Galatians 5:22). We also must understand that the

gospel must be proclaimed with our words.

Throughout scripture, the gospel is proclaimed. But, each time it is with words, whether it is Paul reminding the churches to whom he was writing that he came to them to proclaim the gospel. Whether it is the early church in Acts teaching and proclaiming the gospel, we see that it spreads wherever someone verbally proclaims the gospel.

Of course, some groups physically walk and proclaim Christianity and have done an excellent job of going out of their way to proclaim the good news they have. It is indeed a noble and challenging thing to do. However, the gospel some of these groups proclaim differs from the one given to us. Therefore, we must be bold in our proclamation and defense of the true faith of Christ so that no one would have an excuse before the Lord on that day.

In the end, it is not our job nor place to convince someone of salvation, only to head the calling of the gospel and allow the Spirit to work on the hearts and in the lives of those who hear it. We should be open to answering questions humbly and boldly live out a faith that is shameless in what we believe, why we believe, and why it is good for all.

Father, thank you for all you have given us. The faithful stewarding of the gospel to us today, and a spirit of boldness that accompanies us as we shamelessly proclaim Your good news to the world. As we go about this month, may You place opportunities in our midst so that we may share the gospel with anyone able to listen. Continue to shepherd us and continue to do that good work within us that we may grow more in righteousness, wisdom, and love. In Jesus' name I pray,

Ame

<sup>1</sup> Crossway Bibles. (2001). The Holy Bible English Standard Version. Wheaton: Good News Publishers.





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5600 Norris Road Bakersfield, CA 93308 661-328-5755 www. jssalmonds.com JSS Almonds is a growing processing and marketing company in Bakersfield, CA. Our facility specializes in shelled and inshell almonds, as well as organic almonds.

We strive to deliver continuously competitive and profitable returns to our growers through solid performance.





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