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

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Agriculture Drone Market to Hit \$9 Billion by 2028

By Natalie Willis Reporter, Valley Ag Voice

As labor costs continue to increase, agriculture is moving toward a technical future. According to the U.S. Department of Agriculture's Economic Research Service, labor expenses are expected to increase more than 4% in 2023.

For every \$100 spent on production, almost \$10 goes toward labor, including contract and hired labor payments, the report explained. One That is the use of drones to spray fields as an alternative to the tight labor market.

According to Jon Slikker, aerial applicator at Vince Dusters in Buttonwillow, agriculture drones are embedded into the future industry but face considerable challenges in terms of regulation and cost. Troubleshooting issues lay primarily in reducing drift to other materials.

"If we can't figure out how to control the spray

of the most prevalent modern technologies in from getting off target, then you're gonna have agriculture is the Unmanned Aircraft System. complaints, and the county ag commissioner's office has to investigate. That means that the California Department of Pesticide Regulation will more than likely get involved," Slikker said. "We've got a lot of years of doing this and studying these issues, and we've got some UAS operations and pilots in our association...so we're definitely trying to educate them on where we came from and how we became as regulated as we are so that way, they don't make the same

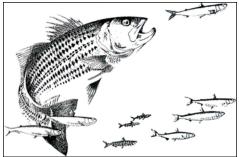
mistakes we did in the past."

MARKET FUTURE

A global agricultural drone market report for 2023-2028 expects the overall market size to reach \$9.01 billion by 2028. While drones are changing certain industry practices, traditional, manned applications are not expected to become obsolete. Slikker explained that both practices will have a place in the industry, at least for him.

See **DRONE MARKET** on PAGE 5

The Need to Do Your Homework and Carry a Big Stick



Striped bass are an introduced species in the Delta. It is a veracious predator of native fish. Modification of delta flows and restrictions on exports have been ineffective in protecting endangered fish from predation by striped bass. The Coalition for a Sustainable Delta is working on several fronts to implement more effective measures. (Illustration by CA Dept of Fish and Game)

By Scott Hamilton President, Hamilton Resource Economics

Farmers' water rights have been under attack for decades now. The list of acronyms is daunting: CVPIA, SJRRP, Bay-Delta Accord, D-1641, 2008 BiOps, ITP, VAMP and the list goes on. Each one of these acronyms represents a major regulatory decision that cost farmers in the San Joaquin Valley hundreds of thousands of acre feet of water. Frequently, regulators promise this is the last time that agricultural water supplies will be cut. But with every listed species and every state board plan, the cuts keep coming. Sometimes the policy — and sometimes not. The concern is that too much of the time, the science behind the regulation is inadequate and the initiative either will not provide the expected benefits or will have significant unintended consequences for farmers and farm workers.

Much of the water needed to maintain the level of agricultural production in the San Joaquin Valley comes through the Sacramento-San Joaquin Delta. That water serves the State Water Project Contractors in Kern County, federal water contractors on the westside of the Valley, and by exchange, the whole of the Friant Division. But the Delta is

regulations reflect a defensible shift in resource highly regulated by a variety of state and federal agencies. In some cases, the science underlying the regulation is wanting. For instance, a recent set of regulations promoted more flows for delta smelt when a myriad of studies has shown that the delta smelt population is limited far more by a lack of food than a lack of flows. And regulations have been implemented to restrict pumping during spring to protect out migrating salmon in the San Joaquin River, when salmon losses to predators are orders of magnitude higher than losses at the pumps.

> Some farmers have had enough. For more than a decade a group of farmers have invested in an orga-

> > See CARRY A BIG STICK on PAGE 4

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Agave in the Central Valley

By Audrey Hill Feature Contributor, Valley Ag Voice

Agriculture is changing for California and the Central Valley. All scientific evidence points to rising temperatures and more extreme weather patterns with worsening effects as years progress. But rather resigning to a doomed future, some have found great opportunity and are being rewarded for it.

Agave has grown as a commercial good in Mexico for Tequila and Mezcal production throughout antiquity. The spirits themselves are representative of the Tequila and Mezcal regions of Mexico, and the country has proprietary rights over their names. Similarly, France has propriety rights over Champagne but not sparkling wine, and Italy over Parmigiano Reggiano. With rising winter temperatures and an intensifying demand for water,



(Photo: Anselm / Adobe)

See AGAVE on PAGE 4



FARM BUREAU NEWS

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



President's Message

By Jenny Holtermann President, Kern County Farm Bureau

We are in the season of giving and holiday

cheer. However, the farming industry isn't quite full of hopes and blessings this year as we are experiencing some of the lowest commodity prices in decades. With inputs higher than our return, it doesn't seem like the time to celebrate, and as the year comes to its end, we reflect on our struggles and successes.

Our Board of Directors went through a strategic planning session for the first time in several years. We looked at all our events, committees, and the general board directives. We analyzed the successes, struggles, areas of growth, and threats that we are facing as an organization and as an industry. There is no opportunity to grow unless we take an internal look to figure out a path forward. It isn't always comfortable or easy, but it is often extremely necessary to build back up.

We understand and acknowledge that KCFB has been disengaged from the community and disconnected from our members over the past years. The legislative losses, increase in regulations, environmental pressure, labor changes and consolidation of farmers have all played a role in threatening our industry's success. We strive to be more focused on community engagement, media involvement, member outreach, social media influence, and overall connection with our members on the key issues impacting us every day. I understand all too well these challenges and will strive to connect our farmers with the resources needed to stay farming.

We have a strong new Executive Director, leadership that is willing to put in work, a

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KERN COUNTY FARM BUREAU

Rachel Nettleton, Executive Director 661-397-9635 • KCFB@KernCFB.com

Articles or commentaries are not direct opinions of Kern County Farm Bureau.

diverse group of board members, an active and involved Young Farmers & Ranchers program, and some pretty awesome annual events. We plan to build on these strengths to help us expand our community involvement and outreach to our members.

Stay tuned for more engagement in tailgate talks where we will come to you with key influential community members who are willing to fight for us and want your opinions. Having stakeholders at the same table as farmers will ensure our voices and thoughts are heard. We plan to host more outreach events in our rural areas of Kern County, closer to your farms and businesses. We also have exciting ideas and areas of interest to provide more county specific benefits and perks to your membership. It is our goal to bring you more transparency and communication. We have big dreams and plans for KCFB, as well as energy and excitement. There are positive plans for the future, and we are eager to bring you along.

In 2024, it is our hope to provide more value to your membership in tailgate talks, connections, local benefits, collaborations, and a team willing and able to assist you. All our members are invited to participate and attend any KCFB Board of Director meeting, on the third Thursday of every month. Contact the KCFB office for more information.



Executive Director's

Report

By Rachel Nettleton Exec. Director, Kern County Farm Bureau

With the new year approaching, it's remarkable to reflect on how fast the first five months have passed since assuming the position of Executive Director at the Kern County Farm Bureau. Since July, KCFB has successfully organized two events — "Save Water, Drink Beer" and the "Bounty of Kern County." These events have been just the tip of the iceberg, as we have an exciting lineup scheduled for 2024!

My goal for the rest of the year and moving forward is to nurture and strengthen the connections within our agricultural industry, our community, and governmental representatives. This objective has been a driving force behind my work, and I am delighted to share some of the significant experiences that have already set this goal into motion.

I've been fortunate enough to engage with a multitude of elected officials and their district representatives. These meetings have provided invaluable insights into the complex and interconnected world of agriculture and policymaking. One experience that stands out is the full day of farm tours I attended in October with Assemblymembers Vince Fong and David Alvarez. These visits not only exposed me to the exceptional work of our local farms but also deepened my understanding of the unique challenges our farming community is experiencing.

Moreover, I have taken part in various pivotal agricultural gatherings. This has included not only having the chance to do the coin toss during Bakersfield College's Oil and Agriculture Night but also participating in numerous significant events, including a recent international conference where I had the opportunity to engage with a group of French farmers. This global perspective was enlightening and offered insights into the shared challenges farmers and ranchers face on a global scale.

Lastly, I had the pleasure to connect with many of our Platinum Partners and engaged in meaningful conversations with several KCFB members. I am looking forward to the opportunity to expand these conversations by meeting more of our members in the future, thus ensuring that we continue to tailor our efforts to best serve the evolving needs of our agriculture community.

While I could continue recounting these remarkable experiences, I will conclude with saying that I am committed to continuing my efforts as well as building upon the impressive work our agricultural community is already undertaking. The collaboration and support of our dedicated members, agricultural leaders, and community stakeholders are instrumental, and I am excited to work hand in hand with all of you to strengthen the future of agriculture.

Young Farmers & Ranchers



By Timothy Collins Chair, Kern County Young Farmers & Ranchers

I have been honored to chair the Kern County Young Farmers & Ranchers over the past two years,

and I am both sad and excited for this time to come to an end. Sad because I have thoroughly enjoyed this time and it feels like it has gone by so quickly. But I am also excited to see new leadership take over, knowing the club will be in good hands. Although I will still be involved, I will not complain about having a few less responsibilities.

YF&R has continued to stay busy throughout the fall. Between our monthly meetings, we have been reaching out to the local ag programs by giving presentations to the Ag Club at Bakersfield College and an ag economics class at Cal State Bakersfield. YF&R provides a great learning, leadership, and community service opportunity for college agricultural students and we hope to have more of them involved. Perhaps a future chair of YF&R was among the students we spoke to.

I think back to my first YF&R meeting back in 2018 and I never would have imagined that three years later I would be elected chair. After spending the last two years as chair, I am following in the footsteps of many past YF&R chairs as I move up to the Farm Bureau as a director.

So many things in life are like this, including my job as an ag diesel mechanics teacher and even writing an article every month for this newspaper. Had one of my teachers told my high school self either of these things, I would never have believed them. But here I am, standing in my shop today at the Regional Occupational Center, waiting for the next class of high school students to come in. None of them are ready to become mechanics vet. but in a number of years, I am sure many of them will surpass my mechanical experience and make great careers wherever they are. So, who knows what the future will hold, but I know I will keep working at what I believe is good and right to see where the Lord leads me.

I certainly feel that YF&R has done more for me than I've been able to do for the organization. I have made great friendships and worked with an incredible executive team whose aptitude makes their Chair look good. I've learned much about the Instagram: @Kern_YFR local ag industry and agriculture across the state. I Facebook: KernYoungFarmersAndRanchers



Timothy Collins standing in his ag diesel mechanics class shop at the Regional Occupational Center. (Photo courtesy of Timothy Collins)

have built leadership skills that will greatly help me in many other areas of life as I continue to build on them. All of this came from a friend inviting me to a group meeting I had never heard of before. I did not know what YF&R meant, but five years later, I could not be more thankful for what the group has meant to me.

Sometimes I still do not enjoy the writing, but I am always proud to have an article each month representing what I believe to be an important, rewarding, and fun organization: The Kern County Young Farmers & Ranchers.

Email: KernYFR@KernCFB.com



(Photo: Bell Ka Pang / Shutterstock.com)

USDA Pushes New Regulations for Organic Livestock, Poultry

By Natalie Willis Reporter, Valley Ag Voice

The U.S. Department of Agriculture reached a final ruling on the organic labeling of livestock and poultry, establishing stricter standards for space requirements, conditions, and density regulations.

The ruling finalized organic regulations after amendments were first proposed on Aug. 9, 2022. The Agricultural Marketing Services extended the public comment period and involved various discussions with organics groups, farming organizations, and other industry professionals — the USDA received 40,000 written comments before the final ruling.

The Organic Livestock and Poultry Standards At the time of Proposition 12's favorable ruling establish regulations for organic livestock and poultry production to promote a more competitive market, according to a USDA press release. Agriculture Secretary Tom Vilsack previewed the rule, but it has not been officially published.

"This organic poultry and livestock standard establishes clear and strong standards that will increase the consistency of animal welfare practices in organic production and in how these practices are enforced," Vilsack said in the release. "Competitive markets help deliver greater value to all producers, regardless of

The rule establishes six key areas for organic livestock and poultry farmers, including a minimum outdoor space requirement where

areas must be at least 75% soil and include vegetation to the degree possible.

Indoor facilities also have reestablished space requirements where livestock can lie down, stand up, turn around, fully stretch, and express natural behaviors. This national regulation follows the implementation of California's Proposition 12, which set new confinement regulations for pig farmers in the state regardless of organic labeling.

Under Prop 12, it is a criminal offense to sell whole pork meat in California unless the sow that bore the pig was housed within 24 square feet of space. All breeding swine farms will need Prop 12 certification for buyers and pork distributors to sell pork to the California market.

by the U.S. Supreme Court, pork industry leaders across the nation were concerned that the regulations would extend to other commodities and other states, Farm Week Now reported.

"Farmers in other states' ag industries have to match California's regulations, then they have to go try to match what another state does — that creates a lot of issues and too much instability for the market," Christina Weller, agribusiness attorney in Illinois said at a Capitol Hill meeting.

Along with spacing requirements, the USDA's new regulations extend to preventative healthcare practices and seasonally appropriate transportation to protect livestock from cold



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DELANO COLD STORAGE - \$5,900,000

 $\underline{15.66} \pm acres,$ Delano Area, Rd 176 and 1/3 mile North of County Line Rd. Total Cold area 81,416± sqft, Pallet capacity including precoolers 5,040, Equipment yard, Shop, Storage and Office space.

TABLE GRAPES - \$25.500±/AC & \$26.500±/AC (PRICE REDUCED) 119.92± & 150.27± acres | Delano Earlimart Irrigation District, Lower Tule River Irrigation District, Quality Varieties, Productive Soils,

PISTACHIOS. ALMONDS AND FARMLAND - \$37.829±/AC (PRICE REDUCED) 152.81± acres | Shafter City Limits and Sphere of Influence,

Shafter Wasco Irrigation District, 2 Wells, Excellent Soils.

ALMONDS - \$24,747±/AC (PRICE 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 (PRICE REDUCED) 156.96± acres | Wasco Area, Semi-Tropic WSD non-contract water, 1 well, Productive Soils, and Perfect for permanent crops.

WINE GRAPES - \$18,378±/AC 161.06± acres | Wasco Area, Semi-Tropic WSD non-contract water, 1 Well, High-Density planting.

VINEYARD - \$16,502±/AC (PRICE REDUCED) 240.88± acres I Delano Area, Southern San Joaquin Municipal Utility District, Allison Table Grapes, Strong soils.

231.42± acres | Taft Area, West Kern WD Residential service. Recreational and Rural home site.

ALMONDS - \$15,000±/AC (PRICE REDUCED)

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

WALNUTS, TABLE GRAPES, PISTACHIOS - \$22,500±/AC

345.95± acres | Selma Area, North Fork GSA, Excellent Soils.

ALMONDS - \$15,084±/AC (PRICE 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 - \$17,660±/AC (NEW LISTING)

906.8± acres | Wasco Area, Matador/Sunbird Ranch, Semi-Tropic WSD Contract and non-contract water, Well water, Productive Soils, and Young Almonds in production.

ALMONDS - \$17,988±/AC (PRICE REDUCED)

contract water, 5 wells, Productive Soils, and Almonds in full production.

ALMONDS — \$18,261±/AC (NEW LISTING)
1,237.33± acres | Wasco Area, Portwood Ranch, Semi-Tropic
WSD Contract non-contract water, 7 Wells, Productive Soils,
and Young Almonds in production.

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Carry a Big Stick

Continued from PAGE 1

A review of science achievements and challenges was presented at a recent meeting in Bakersfield on November 16. The Coalition was formed to hold regulators accountable for their bad regulations. That happens first by really digging into science to understand what is credible and what is not (doing the homework). That work has been conducted by a team of state and nationally renowned scientists under the auspices of the Center for California Water Policy and Management. Second, the Coalition works with regulators to implement better management actions, and if that fails, then there is a need to litigate. But without the threat of litigation (the big stick), it is easy for bureaucrats to ignore credible science and pursue their own agenda.

It is not easy to undo bad regulations once they have been implemented. Consider the "Fall X2" action. In order to continue water exports, albeit at a reduced level, water exporters had to provide additional flows in the fall for delta smelt in wetter than normal years. The original science underlying the decision was flawed – there were errors in

statistical methodology that a reasonable review would have corrected. And despite more than a dozen subsequent studies showing no support for the action, it continues to be required by CDFW. The Coalition and its allies were successful in relaxing the action, saving around 150,000-acre feet of water per year on average. Bill Phillimore, the founder of the Coalition, estimates that it saves water users in Kern County around \$45 million per year.

The Coalition for a Sustainable Delta is governed by a Board of Directors, and funded by individual landowners. It can both lobby and litigate – actions that water districts cannot do or are unwilling to do. It continues to actively engage with state and federal agencies to protect water rights and water supplies. But if the organization is to continue to fulfill its purpose, the support must be broader. It is not reasonable or sustainable for a few landowners to protect the rights of the many. Small contributions from many create strength in numbers. The Coalition is managed by the Brad Samuelson bsamuelson@waterandlandsolutions.com and he would appreciate your support.

Agave

Continued from PAGE 1

California farmers have found space for agave on their farms. California

nization known as

the Coalition for a

Sustainable Delta.

distilleries began bottling agave spirits in 2019, and thus the agave spirit market began in the state. Craig Reynolds, perhaps the first agave pioneer in California, has been growing agave for nine years, and his passion for the crop has inspired many growers.

Reynolds started growing agave in Mexico through a fundraiser, which led him to experiment with the crop in California. Using only 3-4 inches of water at a time, or one-tenth of the water other traditional California crops (almonds, pistachios, tomatoes) use, agave seemed to be a great fit during an increasingly difficult time to get water. Of course, nine years ago, California was in mid-drought and had yet to hear of the Sustainable Groundwater Management Act. Today, the natural landscape and water logistical landscape are in much more severe condition, and many are looking to agave as a low-risk crop.

Agave takes five to seven years to mature, so spirit production today is reflective of the number of crops from many years ago. Since then, many have started growing agave, and production and supply is expected to increase. This crop also produces its own rhizomes, or new shoots, which are sold or propagated as they are currently in high demand. Demand for small agave plants by interested farmers has grown so rapidly in California that there is now a plant shortage.

In 2022, agave production gained more recognition when Reynolds founded the California Agave Council with 10 growers as the first distilleries with an open mind on California agave spirits. Their two goals after forming the council established a quality standard backed by legislation and held the first California Agave Symposium at UC Davis.

The quality standard requires that any spirit in the state and have absolutely no preservatives in similar circumstances."

or additives. This is higher than Mexico's tequila standard, which states that bottles must be a minimum of 51% tequila and can include up to 1% of additives of four different types: sugar syrup, caramel color, oak extract, and glycerin. In the tequila spirits world, 100% Blue Agave Tequila is the highest standard, yet it is still allowed to contain 1% additives.

California's new spirit already has higher standards than the traditional. At the first California Agave Symposium, Stuart and Lisa Woolf, among some of the largest names in California agave farming, announced their donation of \$100,000 to UC Davis to begin the university's research on the viability of agave in the state. The council has grown threefold since its start a year and a half ago and will be hosting a second symposium for California agave growers and distillers on December 13, 2023, at UC Davis.

Because agave grows slowly, the project is in its early phases, but the crop is already proving to be a promising sustainable option for farmers in the state. Agave grows in various soil types and is very tolerant of drought. If there is a catch, it is that the crop does not do well when winter temperatures drop below freezing. Fortunately, farmers have found ways around this before - such as California's extensive citrus crop - and with rapidly changing temperatures (on global time scales), new areas viable for the crop could emerge fairly soon.

Some Central Valley farmers have taken up the crop, but most growers farm outside of the Valley in Sonoma, the Central Coast, the Inland Empire, and even the Sierra Foothills.

"There are many microclimates in the Central Valley, so it's very difficult to generalize, and we're learning as we go there," Reynolds said. "We are going to have some success and some failures. I'm sure of that. So, I always advise people to look at a variety of agaves that you initially plant and see labeled "California agave" must have been grown which ones do the best and learn from other people



An exhibitor at the Small Farm Expo in Fresno displays agriculture drone technology, Parabug. (Photo: Natalie Willis/Valley

Drone Market

Continued from PAGE 1

"I mean, we all have or are going to recognize that the

future is unmanned aerial. I personally don't see one or the other, I see an integration of the two in the future," Slikker said. "I do see the unmanned platforms reaching to the levels of what our modern aircraft are - the size and the weight capabilities — but I don't know when that's gonna happen."

He noted that the price of unmanned applications must come down to enter that realm, given that the UAS performs at the same level a manned aircraft does. The price of agricultural drones varies based on size and included features, but they are generally large expenses. According to the global report, the high cost of drones poses a barrier to entry for small-scale farmers.

Included in the cost of a drone are additional software, training, and maintenance expenses. However, according to Slikker, cost accessibility may develop in the coming years once UAS is well-established.

"As the technology just gets more advanced and more accessible, you're gonna find that the price does go down. Everything's kind of high, everything's still kind of in the research phase...so with that, there comes a lot of costs with trying to figure out how they're gonna work, how they're gonna be implemented," Slikker said. "The infrastructure is still pretty new [but] as things get bigger and infrastructure increases, I think you're gonna see the price of things go down to be able to have one."

North America accounts for the highest share of the global agriculture drone market due to the availability of advanced technology, the global report explained. The presence of essential drone manufacturers and technology providers also characterizes the region.

Until recently, farmers in California faced several permitting obstacles in getting approval for agricultural drones. On Oct. 7, Governor Gavin Newsom signed Assembly Bill 1016, which expedites the training and licensing programs for the use of drones in pesticide applications.

The California Farm Bureau Federation fostered in the same line, that area will be the hottest the bill's creation in response to the outdated regulatory process required for farmers and employees to obtain drone application licenses.

"The regulations that have been in place for upwards of 40 years weren't a really great fit with the technology coming to market and how farmers wanted to use it," Peter Ansel, policy advocate for the California Farm Bureau, told Ag Alert.

According to Slikker, as the technology moves forward, troubleshooting potential drift is still

will mitigate the drift potential and accurately put material on the field in an effective and safe for the pattern, trying to find a uniform, even controllable pattern."

LOCAL RESEARCH

Researchers from the University of California, Davis, created a web application to help farmers and industry workers use drones and other unarmed aerial vehicles to generate more accurate data across various climates.

The When2Fly app, developed by Associate Professor at UC Davis Alireza Pourreza and postdoctoral researcher Hamid Jafarbiglu, was specifically created to address hotspots that impact the reliability of drone data.

Hotspots are glare-like areas that distort the collected information, essentially ruining the data. Jafarbiglu explained that he first noticed the hotspot phenomenon after analyzing a data set from Fresno.

Generally, researchers gather data from a field by collecting several images and analyzing for differences in colors or spectral reflectance. Any difference in the spectral reflectance of a tree might indicate an underlying issue, he explained.

With the use of a reflectance panel, the values should be similar, if not comparable, no matter the time-of-day data is gathered. For Jafarbigulu, however, discrepancies were still present, which led to the discovery of hotspots.

"In California, we have this problem that [when] it's completely sunny — the sun is above our head — and then we are taking images when the drone, a plant, and the sun happens to be spot," Jafarbigulu said. "In that area, you will see higher reflectance values, so even though the tree is completely normal and similar to the other trees, if it's closer to the hottest spot, you will see a higher reflectance."

The When2Fly app was created to tell growers when the best time to fly is and when not to in terms of hotspot prevalence. Through the app, drone users select the date, type of camera, and location they plan to fly to calculate the best times of that day for data collection.

"A proper equipment setup is something that Jafarbigulu explained that the Central Valley's unique climate and topography present specific challenges that the application is tailored to, and manner to property and persons," Slikker said. in avoiding specific hours, drone users can ensure "So, that goes back to that drift. Trying to check more reliable data, which in turn better informs decisions in precision agriculture practices.

> For Slikker, the development of drone technologies and application aids is an exciting fact of the future, but farmers in the Central Valley are still in the early stages of adoption.

> "I think farmers are interested in it, but I think the overall cost is still a barrier...but you still get the unmanned ground spray systems that are on tractors that are doing a good job," Slikker said. "Overall, it's positive. I know from mapping and surveying that it's a very effective tool, but we're still just dipping our toes into the water here with [using it for] spraying ag fields.



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Thomas J. Willis, D.V.M.

3441 Allen Road Bakersfield, CA 93314 (661) 588-3299 Fax: (661) 588-6373 SJVHVet@aol.com



Daniel Palla Grower Relations Manager

daniel@jssalmonds.com

661-345-6613

William Oliveira **Grower Relations Manager** 559-816-5000

willie@jssalmonds.com 5600 Norris Road

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New Pest Infests Almonds and Pistachios in Central Valley

By Natalie Willis, Reporter, Valley Ag Voice

A new pest called the carpophilus beetle was recently found in the San Joaquin Valley, infesting almonds and pistachios in the confirmed counties of Stanislaus, Merced, Madera, and Kings. According to a press release from the University of California Agriculture and Natural Resources, the beetle is recognized as one of the top two pests of almond production in Australia.

Damage caused by the carpophilus beetle occurs when adults and larvae feed on the kernel, causing reduced quality and yield. Despite the recent detection, the press release explained that the pest has likely been well-established in the valley, with some specimens from Merced County recognized from 2022 collections.

Jhalendra Rijal, a UC integrated pest management advisor, is working alongside David Haviland, UCCE farm advisor in Kern County, to conduct a broader survey of orchards throughout the San Joaquin Valley to determine the outbreak's extent.

"It has likely been here for a few years based on the damage we've seen," Rijal noted in

larvae, or adult beetles — a new pheromone to California citrus.



Adult carpophilus beetle, circled in blue, inside a hull split almond. (Photo: Jhalendra Rijal/ UC ANR)

lure is being developed in Australia to provide a more efficient monitoring tool.

The lifecycle of the carpophilus beetle is spent within the nut, restricting the opportunity to attack adults while they are exposed. The UC ANR team is expanding research activities on the beetle and started a plan of action for research and extension in 2024.

"We're lucky to have colleagues abroad that have already been hammering away at this pest for almost a decade," Haviland said in the release. "Hopefully, we can learn from their experiences and quickly get this new beetle under control."

Haviland has also been involved in mitigation Monitoring efforts are limited to direct inspection efforts and research of the Asian Citrus of hull split nuts for the presence of feeding holes, Psyllid, an invasive pest that poses a threat



OPINION: Progress?



attleman's orner

Bv Austin Snedden Ranching Contributor, Valley Ag Voice

I was recently at a meeting where a panel of

genetic lab vendors were touting the value of gene editing to achieve traits that could be accomplished through traditional breeding. Those of us who were skeptical about this technology were labeled as antiquated if we did not embrace advancement. As more and more folks try to latch onto the dollars that cattlemen produce, the message of "progress" has been the biggest selling point. From supplement to vaccines, ID and to tag companies, to 3rd party verification, to genomics companies, there is a long list of folks that want a cut of your production. Some of these services are justified and add value, but others are just looking to milk from your production, and all of them are sold to you as "progress" reinforced with the fear of getting left behind.

As the genetic marketeers continued in their panel discussion, common technologies were brought up and discussed with a focus on past trepidation in their inception from rail to air travel to artificial insemination, and to embryo transfer. The message was that these technologies have been so beneficial, that anyone that was skeptical at the time of their inception has been made to look like a fool. Using examples of technology that has worked with no examples of technology that failed, to push a narrative of "progress," is wrong. Yes, there were people skeptical of rail and airplanes, but there were also people skeptical of Hindenburg and the Titanic. Yes, there were people skeptical of artificial insemination and

embryo transfer, but there were also people skeptical of the off-target mutations that have occurred with gene editing. Doing things to be progressive does not have a perfect track record.

There is a message I see people in agriculture pass around on social media that expands on the concept of being progressive: "The most dangerous phrase in business is, 'We have always done it this way." Not only is this statement false, but it plays on people's fears of being left behind. I know there are individuals in agriculture, possibly younger folks, who feel some operations are stuck in the mud because of multi-generational tradition. I know that some might get frustrated carrying out ideas that started decades or longer before, and this leads to people sharing the concept of progressive thought, but learning from the past is valuable. Doing something purely because "we have always done it this way" is not good on its own, and maybe not good at all, but maybe examine why it has always been done that way.

Here are some reasons why that phrase is not "the most dangerous" to business:

- 1. Apparently, that way has worked.
- 2. Saying that we have "always" done it this way implies it has worked many times.
- 3. Don't assume there was no trial and error with other methods in the beginning.
- 4. Saying something that has proven to work is "dangerous" is dumb on its face.

Progress is good, and a dose of skepticism is also good. Don't get pressured down the wrong trail purely to be on the cutting edge. If you are a young person coming back to a family business, bring new ideas, but don't automatically assume the old ways are garbage. Steady steps forward are better than rapid steps in all directions.



California Water Rights: SB 389 Signed, 2 Bills Stall

By Natalie Willis, Reporter, Valley Ag Voice

Increasing state interest in water rights claims resulted in three proposed bills meant to change the current Water Code, but policy advocates from the California Farm Bureau Federation, as well as other agricultural stakeholders, stalled two bills and amended SB 389 before it was signed into law.

Governor Gavin Newsom signed SB 389 on Oct. 8, granting the State Water Board authority to investigate water rights claims that extend to pre-1914 appropriative rights. Despite initial concerns that this legislation would allow the SWB to investigate water rights claims at will, Senior Policy Advocate for CFBF Alexandra Tollette Biering explained that new amendments neutralized this possibility.

"Originally, the bill had some provisions that gave the water board the authority to determine whether water rights were forfeited and could basically take them away...another had the burden of proof to prove that you had a water right that was valid," Biering said. "But what we ended up doing was working with them to set certain thresholds and certain requirements that the water board had to meet in order to ask about a water rights claim."

The amended bill, introduced by Democratic Senator Ben Allen, now confirms that the State Water Resources Control Board can ask for information through an information order, Biering explained. Additional requirements for the SWB include the need to explain why it is requesting that information with attached evidence that has led to the question of the validity of a water rights claim. The board's executive director must make the official request, Biering added.



(Photo: Piyaset / Shutterstock)

In its original text, the bill would have provided the SWB with tools to enforce or revoke a water right at the discretion of the board. The amendments pushed by the Farm Bureau changed it into a tool for the water board to use under certain conditions to further their interest in expanding data information, Biering explained.

"Instead of them just having a blank check to go out, issue information orders — request information about your water rights whenever they can, whenever they want to for any reason at all, with no explanation — and then follow it up with an enforcement action, this is really focused on information gathering," Biering said. "They have to prove that there's a really valid reason that they need to do it."

According to Biering, SB 389 is less of a threat to agricultural water rights holders now that the

nature of the bill has changed from enforcement through an altered water code to a bill that clarifies its existing power to collect information.

"At the end of the day, we're moving into an era where more information is going to be requested... in the absence of good information, it's really hard to make truly impartial data-driven management decisions," Biering said. "Instead, you end up making decisions that are based on partially complete information or political pressures or things like that. And those are not the sort of decisions we want made — we would rather have transparent, understandable, impartial, data-driven decisions made with good information than the alternative."

STALLED BILLS

The two water bills that were stalled, however, have larger implications for Central Valley farmers. Assembly Bill 1337, introduced by Democratic

Assemblymember Buffy Wicks, would give the water board the authority to curtail pre-1914 water rights outside of a drought emergency.

In an opinion piece for the Orange County Register, Justin Caporusso, executive director of the Mountain Counties Water Resources Association, explained that the bill subjects water users "to the whims of the state."

The second stalled bill, Assembly Bill 460, introduced by Democratic Assemblymember Rebecca Bauer-Kahan, would grant the water board the ability to intervene in water diversions without due process as well as increasing fines.

"Increasing fines by such crippling amounts that only those with the deepest pockets would be willing to take the risk to divert water legally, thereby killing family farming," Caporusso wrote.

According to Biering, these bills would increase penalties for diverting water in violation of a board order and could ultimately curtail all existing water rights.

"Those two other bills would also give the water board more power to issue curtailment orders over every watershed as well as to stop people from diverting for an entire irrigation season," Biering said. "Those are the things that I think are probably more worth focusing on going forward and making sure that some of the more harmful aspects of those bills don't get signed into law.

While both bills are not currently moving forward, they are not fully dead and have turned into two-year bills. Biering explained that the decision to either push harder for the bills or drop them will be determined in January 2024.



Climate Change Initiatives Alter Dairy Industry Forefront

By Natalie Willis Reporter, Valley Ag Voice

With dairy at the forefront of the Central Valley's top commodities, the regulations dairy producers and processors face are underscored by California's growing efforts to combat climate change. One effort, pushed by the Physicians Committee for Responsible Medicine, sponsored a billboard in Tulare County — the nation's top dairy-producing

"Ditch Dairy to Fight the Climate Crisis" was displayed on Highway 99 south of Tagus. The billboard went up within the same month as Tulare's 2022 crop report, which attributed 31% of its \$8.6 billion crop and livestock revenue to dairy products.

On its website, the Physicians Committee for Responsible Medicine claims that milk and other dairy products are linked to heart disease and cancer, among other unfavorable health concerns.

However, a 2016 study from the National Library of Medicine claims that the intake of milk and dairy products was associated with a reduced risk of childhood obesity,

improved body composition in adults, reduced risk of type 2 diabetes, and a reduced risk of cardiovascular disease. The totality of available scientific evidence, according to the study, supports milk intake to meet nutrient recommendations and may protect against prevalent chronic disease with few adverse

According to Katie Davey, Bakersfield High School alumna and newly appointed Executive Director of the Dairy Institute of California, the most pressing issues for dairy processors in the state are related to climate change.

"If California continues to lead in battling climate change, we're gonna see more legislation passed in the capitol that will fundamentally alter the way we do business," Davey said.

She explained that the Dairy Institute will remain engaged in regulatory matters to ensure that dairy processors have a voice in that process. Dairy processors in California are facing increased regulations as a result of Extended Producer Responsibility laws, which aim to limit waste through sustainability

After failing in legislative session twice, Senate Bill 54 marked a landmark bill for



EPR legislation in California. The bill, signed by providing various low-carbon and renewinto law in June 2022, creates a producer responsibility organization to implement a statewide collection and recycling program for packaging, with regulatory oversight.

packaging and recycling process in California, and manufacturers need to use plastic to package their foods to ensure efficacy and safety for the consumer," Davey said.

ENDING CLIMATE CREDITS

The California Air Resources Board announced a plan to phase out climate credits Now, with CARB proposing to gradually by 2040 for methane emitted by cows that end the practice of giving credits for reducing produce natural gas. The Low Carbon Fuel methane emissions from dairy and swine Standard was implemented to decrease the amount of carbon in California transportation

able alternatives.

Under SB 1383, California is required to cut methane emissions by 40% by 2030. According to CARB, roughly 20% of state "[It] will fundamentally change our plastic methane emissions come from landfills, and the remainder comes from dairies and livestock, oil and natural gas extraction, wastewater, and agriculture. The collection of gases from cattle manure offered a renewable source of fuel, but a shift to an electric-based solution has affected this practice.

> manure, natural gas production will be further limited.

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From Drought to Deluge: Kern **County's Historic Water Year**

By Providence Strategic Consulting

In the heart of the Central Valley, Kern County has experienced an extraordinary water year in 2023, one that mirrors a historic event from four decades ago. The region hasn't witnessed a water year quite like this since the record-breaking deluge of 1983. The parallels between 1983 and 2023 are truly remarkable. The amount of water flowing through Lake Isabella via Kern River during the first six months of 2023 matches the 1983 water year's flow for that same period. In June 1983, a colossal snowpack surged down the Kern River watershed, surprising residents as Lake Isabella overflowed, surpassing its capacity of 568,075 acre-feet. By July of that same year, the Lake Isabella Reservoir reached its highest level in history at 630,825 acre-feet of storage.

In 2023 the Kern River Watershed experienced similar conditions and thereby comparisons to the unforgettable 1983 water year. The U.S. Army Corps of Engineers has been preparing space to facilitate surplus runoff from the southern mountain range snowmelt. The responsible water management conducted by local officials has been pivotal in safeguarding the county's water after experiencing a drastic drought for years.

Here's what makes 2023 a historic water year for Kern County:

- 1. Flow Rates: Flows from Lake Isabella peaked at around 7,500 cubic feet per second (cfs) and were subsequently reduced to 4,500 cfs when reaching Bakersfield.
- **2. A New Diversion:** For the first time in 17 years, 24,639 acre-feet of water went to the California Aqueduct from the Kern River flood flow, which allowed the water to remain locally.
- 3. Kern River's Destination: Unlike 1983, when 213,827 acre-feet of water emptied into the old Tulare Lake, this year, the Kern River in Kern County.
- 4. Lake Isabella's Capacity: The Lake's capacity is 568,000-acre feet of water; however, the current level of Lake Isabella is at 549,889 acre-feet.

- 5. Current Outflow: The outflow from Lake Isabella sits at 3,500 cubic feet per second and with the reduced outflow from the Lake it will reach about 4.500 cfs.
- 6. Interties Usage: Between May 20th and June 12th, 25,000 acre-feet of Kern River transferred through the interties, marking the first time it had been used since 2006 when the U.S. Army Corps of Engineers ordered the lowering of Lake Isabella due to safety precautions.

What does this mean for Kern County?

Drought conditions in Kern County were halted this year thanks to the formation of atmospheric rivers that flowed into the subbasin. On April 1st, a surplus of snowmelt runoff fed the Kern River, reaching 237% greater than the historical average. Dedicated stewardship and coordinated efforts of local authorities have ensured that this precious resource has remained in Kern County, benefiting the local community's water needs. As Kern County continues to navigate this unprecedented water year, it is a testament to the community's adaptability and the vital role of responsible water management.

Documenting History

Are you interested in learning more about this record-breaking water year for Kern County? The Bakersfield-based firm Providence Strategic Consulting Inc. worked closely with the Kern County Water Agency to create an in-depth video documenting this historic water year. Providence has expertise and an extensive background in collaborating with water organizations throughout the Central Valley. The video showcases the importance of this water year and highlights the great success of water management in Kern County, including the teamwork of organizations, agencies, districts, and managers that worked together to retain water locally. If you would like to view this video on the extraordinary water year of 2023, please visit the Kern County Water Agency website at www.kcwa.com.

did not empty into Tulare Lake, remaining Providence Strategic Consulting, Inc. is a public affairs firm in the San Joaquin Valley representing water, agriculture, energy, telecommunications, commercial developers and many other industries with marketing, communications, and advocacy.

Visit their website at provconsult.com to learn more.

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Arvin High School Receives Donation for Outdoor Learning Space

Press release provided by AgWest Farm Credit

Tulare, California – Arvin High School, located in the heart of California's Central Valley, serves a community and students deeply rooted in agriculture and other related industries. Arvin High School's thriving FFA chapter is an important program offered to students and provides many opportunities to learn more about agriculture and employment opportunities in the area. By participating in FFA, students gain access to various learning opportunities and the high school's 40-acre farm, which supports a unique animal science program.

To expand the offerings provided through the Arvin FFA chapter, the school wanted to enhance the farm, and build an outdoor classroom space for students to do hands-on learning and cooking. For the high school, providing the necessary funds for this project on their own would be a challenge.

This funding need was recently met by a \$35,000 donation from AgWest Farm Credit's Local Advisory Committee (LAC) Guided Stewardship Program.

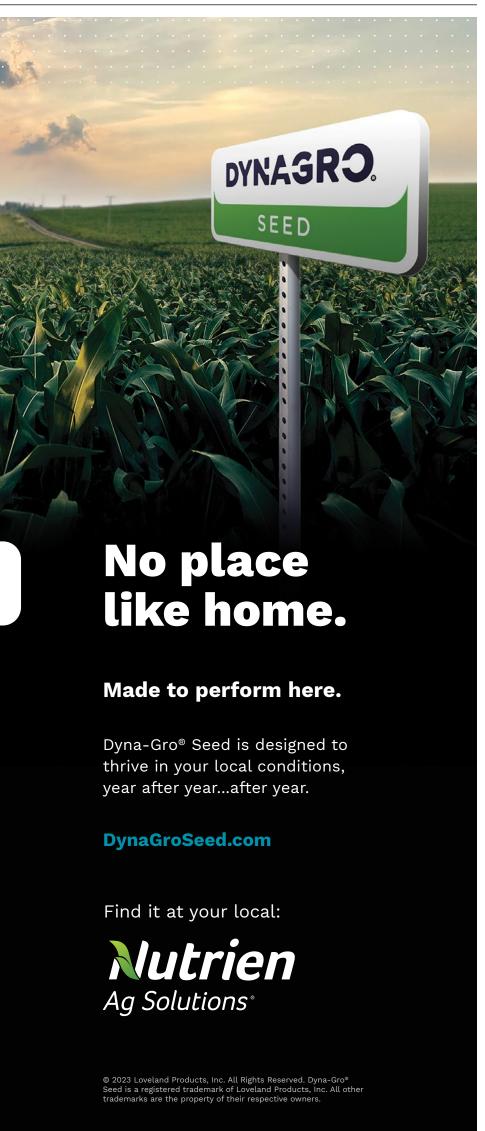
"Without industry partners like AgWest Farm

Credit, Arvin High FFA would not be able to provide enrichment opportunities like this to FFA members." says Donald Mills, Arvin High Department Chair. "Thanks to the wonderful people at AgWest Farm Credit, our students will be able to further develop as budding young professionals while expanding ag industry skills, ultimately bettering their lives and futures."

Stewardship investments at AgWest are guided by its customers, including Local Advisory Committee (LAC) members, who live in and understand the needs of rural communities. LAC members serve as a liaison between AgWest and their customers and communities and help to ensure stewardship investments are made in a variety of ways that will help rural communities thrive.

Kent Stenderup, who farms in Arvin and serves as an AgWest LAC Member, brought this project forward for consideration. Stenderup commented on the importance of supporting youth in agriculture. "Investing in agricultural education is more than a gesture; It enables young minds to gain real life experience of a global industry that we call our livelihood."





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D57VC75: This dual-purpose hybrid is a true powerhouse, delivering exceptional forage tonnage or grain yield. With excellent stay green and late-season intactness, it minimizes greensnap risk. Its tall hybrid structure, coupled with a semi-determinate ear type, makes it an excellent choice for silage production in the west.

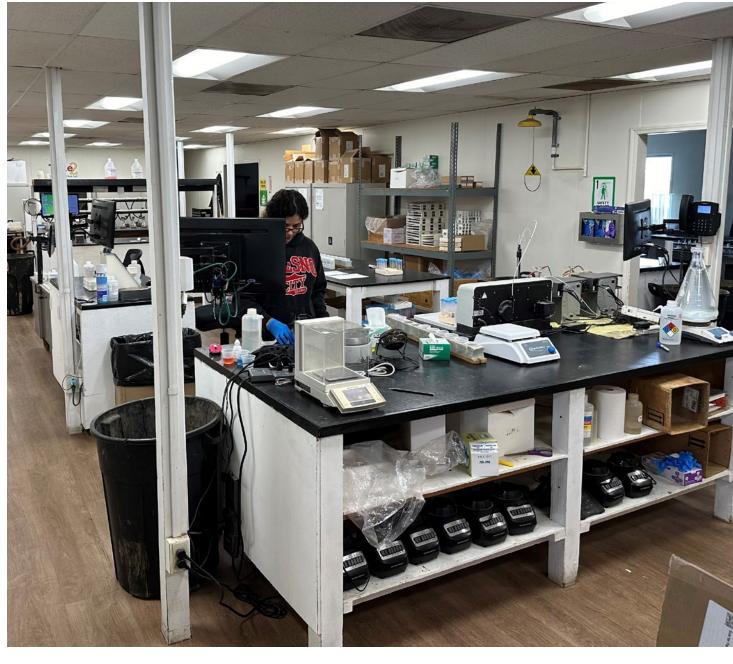
D58SS65: Looking for a hybrid that adapts well across various regions, from east to west, and down south? D58SS65 offers exceptional stalks and roots, along with impressive tolerance for northern leaf blight, southern leaf blight, Goss's wilt, and gray leaf spot. With good stress and heat tolerance, it is a versatile hybrid suited for both grain and silage purposes.

D57VC51: This full-season VT Double Pro® hybrid is characterized by its high yield and tropical background. With medium plant height and a full canopy, it performs well in both dryland and irrigated conditions. It exhibits very good stalk and root strength, late-season staygreen, intactness, and excellent plant health.

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Mulkay Receives WAKC Awards At 67th Annual Meeting in the success of managing

Press release provided by the Water Assoc. of Kern County

BAKERSFIELD, CA - The Water Association of Kern County proudly presented its Water Leader of the Year and Water Legacy Awards last Wednesday, November 8th, at its 2023 WAKC Annual Meeting held at Stockdale Country Club.

Board members and guests gathered for the 67th Annual Meeting and were excited to come together and surprise the award recipient. Scott Thayer, 2021-2023 WAKC President, welcomed everyone to the Annual Meeting and introduced the evenings agenda. Guest Speaker. Lois Henry spoke about the historic wet year, the flooding and "how we whistled past the graveyard".

WAKC elected new officers to lead the organization; President Jason Giannelli (Old River Farming), 1 st Vice President Stephanie Hearn (GEI Consultants), 2 nd Vice President Dolores Salgado (Ardurra) and Secretary Kristina Budak (City of Bakersfield). We also recognized retiring Board Members: David Nixon (Arvin-Edison Water Storage District) and Tim Ruiz (East Niles Community Services District).

Every year WAKC presents the Water Leader of the Year and the Water Legacy Awards at the Annual Meeting. The Water Leader of the Year award is given for significant contributions, leadership and integrity over the past year. Steven Teglia, General Manager of Kern Delta Water District, presented the 2023 Water Leader of the Year award to Mark Mulkay.

Mulkay, who is retiring this December after a 30-year career as the General Manager of Kern Delta was singled out for his contributions over the past year as the Kern River Watermaster. Mulkay was instrumental the historically wet year on the Kern River. In his

introductory comments Teglia recalled "The timing was perfect, Mark's responsibilities with Kern Delta were winding down and serving as Watermaster for a short term would be a nice way to ease into retirement. Unfortunately for Mark that was not the case." It was a term like no other before him, Teglia continued "During Mark's nearly two-year tenure as Watermaster, the runoff from the Kern River switched from abnormally low in 2022 to historically high in 2023. What is normally an obscure role with little public interest, suddenly became the center of attention." Mulkay's service and acts of leadership made him a well deserving awardee for our Water Leader of the year.

Rodney Palla, President of Kern Delta Water District next presented the Water Legacy Award to honor a recipient who spent his life working in water issues. demonstrated leadership and long-term commitment to Kern County water. Palla presented the Water $Legacy\,Award\,to\,Mark\,Mulkay.\,Palla\,stated\,"During$ these early years...Mark introduced a new fandangle idea called water banking. Mark was persistent in convincing the Board that Water Banking was the way of the future for Kern Delta and was instrumental in bringing a banking partner that changed the way the district would operate for years to come."

It speaks to the magnitude of Mulkay's tenure that he was the recipient of both awards. Palla stated "Although Mark ended his career as the Watermaster, I truly believe he will be remembered as the Master of the Kern River." The evening was a remarkable testament to the longevity of service in the amazing individuals that represent our Kern County water community.

California Fresh Fruit Assoc. Names Daniel Hartwig New President

Press release provided by the California Fresh Fruit Association

FRESNO, CA - Today, Wayde Kirschenman, the Chairman of the California Fresh Fruit Association (CFFA) Board of Directors announced that Daniel Hartwig has been selected to serve as the Association's new president. Hartwig will succeed Ian LeMay, who has held the position since 2019 and will depart CFFA to assume the role of President/CEO of the California Table Grape Commission.

Chairman Kirschenman stated, "We are excited to welcome Daniel to the CFFA team and look forward to him continuing the long legacy of strong leadership on behalf of the California fresh fruit industry." He continued, "Our Board engaged in a thorough search process to fill this important role and we are confident that Daniel's experience in both association management and within the private agriculture sector have prepared him to serve our membership well. I'd also like to take this opportunity to thank Ian for Hartwig will begin his tenure as CFFA his leadership and the positive impact he has President on December 4. Daniel and his made over the nine years as a CFFA team wife Jennifer reside in Fresno with their two member. Ian's service is greatly appreciated children, Brooke, and Colby.

by our entire membership, and we are glad to know that he will remain within the fresh fruit family while he serves at the Commission."

Hartwig has extensive experience in both the private sector and within agriculture associations. Since 2014, Hartwig has been employed by Woolf Enterprises, first as a Procurement Manager and most recently as their Director of Sustainability. From 2008 to 2014, Hartwig served as the VP of Grower Relations for the Nisei Farmers League. Beyond work, he has also served on the Board of the Fresno County Farm Bureau, most recently as the organization's Board President from 2020-2022. Additionally, Hartwig is a recent graduate of the California Agricultural Leadership Program (Class 49).

'I could not be more thrilled to join the great team at CFFA," said Hartwig. "I have always had a deep admiration for the work done by the Association's staff and the leadership of the board. I also look forward to working with our partners in the industry to continue to protect agriculture from the many threats before us."

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CAFF Hosts Small Farm Tech Expo in Fresno



(Photo: Valley Ag Voice)

Natalie Willis, Reporter, Valley Ag Voice

In partnership, the Kearney Agriculture Research and Extension Center and the Community Alliance with Family Farmers hosted a Small Farm Tech Demo day in Fresno. Hundreds of growers and industry researchers in the Central Valley attended the event to view demonstrations of the latest agriculture technologies with a specialized focus on small-scale farms.

According to CAFF, a similar event targeted at creating accessible technology for farmers will take place annually. Elizabeth Vaughan, Farm to Market Tech Hub Specialist at CAFF, explained the first Small Farm Tech Expo was held in 2019 in Sonoma County.

"We've been really working hard to try to bring this event back for our small farm community...so we're going to be hosting this event or a similar event to it every year," Vaughan said. "We really want to make appropriate technology, accessible technology, affordable technology available to our small farm community."

The tech expo included four stations targeting specific needs for small farmers, from irrigation to weeding.



Dynamax offers solutions for water, wind, and solar monitoring. (Photo: Valley Aq Voice)

IRRIGATION

Three irrigation technologies were presented — Dynamax, Irrometer, and Sprouts Lab.

The first irrigation company, Dynamax, showcased an agri-sensor that offers hourly water use and daily water use totals for crops and trees. This, in turn, helps growers monitor soil moisture and how much water is available for their crops.



Irrometer's tensiometers have been utilized for decades for measuring soil moisture. (Photo: Valley Ag Voice)

Another soil moisture sensor from Irrometer was commercialized back in 1951. This sensor measures the tension in the soil, allowing growers to understand how hard a specific plant is working to extract water and nutrients.

According to Jacob Moreno, factory representative at Irrometer Company, the sensor is meant to guide growers in reducing plant stress.

"The tensiometer works by putting liquid inside, putting the instrument in the ground, and as the soil dries out the liquid from inside the instrument, it is pulled through the ceramic tip and into the soil," Moreno explained.

Sprouts Lab created the last irrigation technology presented at the event was marketed



The Sprouts Lab device is a one-time cost of \$100 and includes access to software. (Photo: Valley Ag Voice)

as an all-in-one sensor device that will last indefinitely. According to Babandeep Singh, lead hardware engineer, the device connects to any cellular network and continuously sends sensor data.

"Basically, if there's any radiowaves out there, we'll find a way to get the data out to the cloud," Singh said.

"There are no electrical wires. All you have to do is turn it on — there's no base station — each device finds its own cellular network, connects to it, sends data, and goes back to sleep," Singh said. "Just turn it on, drop it in the ground, and it should just work."

Sprouts Lab is in early development, but pre-orders are available for the first production batch, configured with soil moisture, relative air humidity, temperature, and sunlight sensors.

SMALL ROBOTS AND WEEDERS

Various small robots and weeding technologies were demonstrated at the event at varying capacities and prices.

Farm-ng, a well-established farm robotics company, showcased Amiga, which includes various attachments for tools, including finger weeders. The Amiga is fully modular and, after a charge, runs for 8 hours with two batteries

Sutton Ag out of Salinas demonstrated a



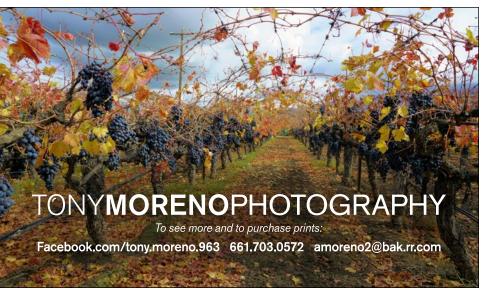
The Farm-ng robot is adjustable to several tasks ranging from soil prep, planting, and crop care to pest management and packaging. (Photo: Valley Ag Voice)

Sfoggia Florida Transplanter, a two-row unit wherein each unit does one plant line. The model is best for transplanting tall and difficult plants such as tobacco.



The Sfoggia Florida Transplanter retails for \$15,000 and includes adjustable features and transplant timing. (Photo: Valley Ag Voice)

CAFF will continue to host small farm tech events in the future to address specific production challenges as well as to hear feedback on accessibility and affordability. These expos promise to be opportunities for small farmers to remain aware of the latest advancements as well as to provide them with tools to enhance efficiency, reduce crop stress, and compete in the evolving agricultural landscape.



Floodwaters On Farms Help Boost Aquifers



By Christine Souza Assistant Editor, Ag Alert

Reprinted with permission from California Farm Bureau Federation

The historically wet

winter early this year motivated greater adoption of a water management strategy known as flood-managed aquifer recharge, or flood-MAR, in which excess flood flows are diverted onto farmland to boost depleted groundwater aquifers.

"We knew from the previous year, even in intense drought years, we have opportunities with these big storm events and need to do everything we can," said California Department of Water Resources Director Karla Nemeth, addressing water managers, farmers, government officials and others, as part of the Flood-MAR Forum in Sacramento last week. "Our ability to respond to those kinds of intense rain events is becoming increasingly important."

Pointing to atmospheric rivers that hit the state in January, Nemeth highlighted the executive order by Gov. Gavin Newsom that enabled farmers to divert water onto farmland for groundwater recharge, which also helped mitigate flooding impacts.

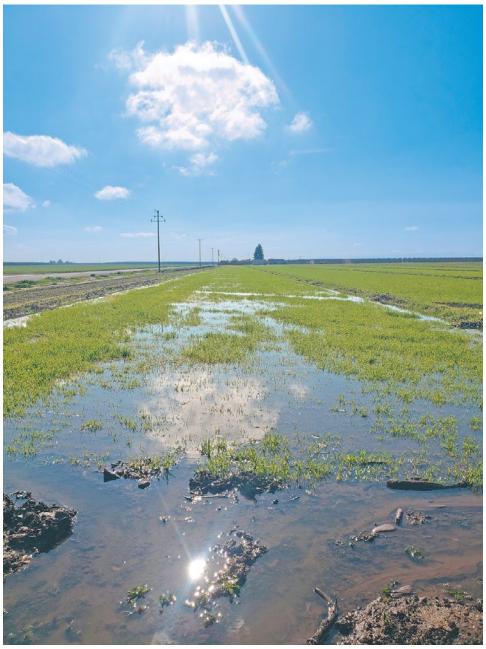
Taking advantage of wet conditions is important for the state, especially as local groundwater sustainability agencies, or GSAs, have until 2040 and 2042 to implement plans and projects to bring groundwater basins into balance, as required by the Sustainable Groundwater Management Act, or SGMA.

Tulare Irrigation District general manager Aaron Fukuda, who also serves as interim general manager of the Mid-Kaweah Groundwater Sustainability Agency, located in the critically overdrafted Kaweah subbasin, offered insight in how the GSA uses recharge as a strategy.

"This time last year, we were going into three years of drought. We transitioned three months later into what was unexpectedly a tremendously wet year and spent the next nine months recharging," Fukuda said. "We're beginning to learn a lot more about putting excess water out in our fields in the wintertime."

He said farmers in the subbasin who accepted floodwater to recharge groundwater this winter experimented with different ways to apply water to fields and found that standing water did not harm pistachio or walnut orchards.

"Our growers really took to the idea that this (flood-MAR) is going to be part of their future of managing their groundwater supplies," Fukuda said. "Our growers are learning through these tools to be their own recharge agents. Everybody is cooperating and participating and learning and building



Flood-managed aquifer recharge, or flood-MAR, takes place at a 40-acre beardless barley field in Madera County after this year's atmospheric storms. Chowchilla farmer Mark Hutson said he received a federal grant for help with costs of leveling ground and adding a pipeline and water meter. (Photo/Mark Hutson)

the knowledge base."

To meet SGMA requirements, Fukuda said, time is of the essence.

"SGMA allows 20 years to come into compliance, but you only have four years to solve the problem because you only have four years in the hydrologic cycle where you're going to get wet years," he said. "I encourage everybody—dig deep and look at recharge."

Offering her agricultural perspective as part of a panel on flood-MAR success stories, Stanislaus County farmer Christine Gemperle, who farms almonds near Turlock, noticed last December water traveling down a Turlock Irrigation District canal near her farm. After several years of drought, the water appeared when her trees were stressed and a neighbor's well had gone dry, she said.

"I was thinking it wasn't going to rain at all," Gemperle said. "If I had an opportunity to recharge in my area to benefit my neighbor, well, I was going to do it. TID helped make that happen."

By Jan. 12, she said she opened the gate and began flooding her sandy loam soil with water for recharge.

"We flooded approximately 40 acres three different times, and it still continued to rain over that entire period," Gemperle said. "We applied approximately 44 acre-feet and we didn't lose any trees, which is a miracle because we had some very violent and windy storms come through."

Madera County farmer Mark Hutson, who farms in Chowchilla, discussed applying floodwater on 40-acres early this year for recharge. He said he paid \$10 per acre-foot for water used for recharge but stopped the effort in June when the cost increased to \$97 per acre-foot.

"I just can't do it. I'm not making enough money. I need to stay in business to be sustainable," Hutson said. "Being able to do flood-MAR, I can help my community with water quality and the environment.

"Recharge areas will benefit wildlife because

it's a management practice that I plan for, budget for, and get some sort of payment for, hopefully," he added.

It is important that farmers embrace flood-MAR and put it into practice, Hutson said.

"Farmers should start diving in and practicing it so they can get better at it, expand on it, or help their neighbors expand on it," Hutson said. "They should talk to their water districts about supplying water at an affordable cost so they can learn this management practice."

Discussing environmental benefits of flood-MAR, Julia Barfield, program manager at The Nature Conservancy, described a multibenefit project for farmers and GSAs that creates habitat for migrating shorebirds.

"As recharge was going to be ramping up with SGMA implementation, we wanted to demo to water managers how they could include wildlife benefits in their recharge projects, so we part started piloting a multibenefit recharge approach," Barfield said. "To create critical habitat for migrating shorebirds, we use a reverse auction system where we ask landowners to tell us how much it will cost them to create the habitat, and then we select the bids that give us the greatest return on investment."

As part of a state agency panel on advancing groundwater recharge, Kamyar Guivetchi, manager of DWR's Division of Planning, said conversations about using flood flows to recharge groundwater "really took flood-MAR out of a theoretical, ethereal kind of abstract concept to something that really can and has to happen in California water management going forward."

The Flood-MAR Network formed action teams that worked on six topics to remove challenges and/or leverage opportunities, he said, adding, "Everyone recognized, why aren't we recharging more of this water?"

Paul Gosselin, DWR deputy director for sustainable groundwater management, emphasized how winter storms offer local GSAs a great opportunity.

"Looking at the half a million acres of agriculture that may go out in the San Joaquin Valley through implementation of SGMA, maximizing what's available for recharge is going to be really important to minimize that amount of ag land going out of production," Gosselin said. "This is going to be a good balance for trying to minimize the impact, which is going to be pretty severe, but doing nothing would be catastrophic."

Addressing barriers to flood-MAR, Erik Ekdahl, California State Water Resources Control Board deputy director of water rights, said his agency is viewed as a barrier in many circumstances. But he said that is the water board's role

"We are supposed to make sure that if there is water for diversion, that it can be safely and appropriately diverted and stored, or used for flood-MAR and recharge purposes," Ekdahl said.

USDA Launches Initiative to Enhance Competitiveness of the U.S. Specialty Crops Industry

Press release provided by the U.S. Department of Agri-

Agriculture Deputy Secretary Torres Small today announced that the U.S. Department of Agriculture (USDA) is initiating a new effort to further support the U.S. specialty crops sector and increase the competitiveness of its products as part of the Biden-Harris Administration's efforts to build new, more and better markets that catalyze opportunity for American farmers.

"We all count on America's specialty crops for reliable access to nutritious, fresh foods," said USDA Deputy Secretary Xochitl Torres Small. "Specialty crop producers are hard at work to keep operations profitable while implementing sustainable practices, and President Biden is proud to invest in innovation within the industry to remain competitive domestically and in markets across the world."

As part of this new effort, USDA conducted a departmentwide review of its current services and programs that support the specialty crops industry and compiled the information into a Specialty Crops Resource Directory (PDF, 1.6 MB). The directory, being launched today, is a one-stop shop for the sector and contains a comprehensive snapshot of USDA's resources and services for specialty crops producers and businesses in one convenient location.

Additionally, over the next several months, USDA leadership will engage directly with the specialty crop industry and producers to gain feedback on how the Department can better address gaps in services and better meet the industry's needs. Dates and locations of roundtables and other live opportunities for stakeholder feedback are to be announced.

USDA also encourages U.S. specialty crops stakeholders to submit comments on how USDA can better support and meet the needs of the industry. To submit a comment, visit the Request for Information posted in the Federal Register. Comments are due by March 8, 2024. A new specialty crops-dedicated webpage designed to provide information on the initiative is available at www.usda.gov/specialty-crops.

Deputy Secretary Torres Small is making this announcement as officials from the Administration are traveling the country as part of the Investing in Rural America Event Series to highlight how the Biden-Harris Administration's investments are bringing new revenue to farms, increased economic development in rural towns and communities, and more opportunity throughout the country. Increasing competition is a key pillar of Bidenomics and President Biden's Investing in America agenda.

Specialty Crop Research Initiative

In addition, USDA today announced that it is investing \$70.2 million in the Specialty Crop Research Initiative to support 21 research and Extension projects that address key challenges of national, regional and multistate importance in sustaining all components of food and agriculture, including conventional and organic food production systems.

The grant program, administered by USDA's National Institute of Food and Agriculture (NIFA), prioritizes projects that improve crop characteristics; manages threats from pests and diseases; improves production efficiency, profitability and technological innovation; and mitigates food safety hazards.

Examples of the 21 projects include:

Michigan State University will increase competitiveness and sustainability of the U.S. blueberry industry by developing methods to improve fruit quality and reduce crop loss.

Pennsylvania State University will focus on new pest and disease management strategies for mushroom farms, specifically by transitioning the management of mushroom pathogens and flies beyond short-term reliance on pesticides.

University of Georgia will undertake a coordinated, multistate effort to improve the understanding of the recent anthracnose outbreaks by determining pathogen biology, population structure, host specificity and fungicide resistance profiles of the pathogen causing severe anthracnose outbreaks in cucurbit crops.

Additional Efforts to Support the U.S. Specialty Crop Industry

Today's announcement is just one part of USDA's ongoing efforts to support the U.S. specialty crops industry. Recently, USDA announced the new Regional Agricultural Promotion Program (RAPP), with \$100 million set aside to help specialty crop producers access global markets through targeted technical assistance to overcome onerous trade barriers. USDA implemented new and expanded crop insurance options for specialty crop and organic producers and implemented the 2022 Emergency Relief Program for specialty crop producers impacted by natural disaster events. In August, USDA marked over \$1 billion invested in nearly 12,000 projects through the Specialty Crop Block Grant awards.

USDA also continues its support for the industry through its food purchases for nutrition assistance programs, which encourages the consumption of domestic foods. In fiscal year 2023, USDA purchased \$1.8 billion of U.S.-produced specialty crops products for use by federal nutrition assistance programs to deliver food to schools, food banks, and households in communities across the country and to international food aid programs assisting vulnerable populations around the world.

For more information, and to stay engaged with USDA Specialty Crops Competitiveness Initiative, please go to www.usda.gov/specialty-crops.



POM Wonderful Receives Upcycled Certification

Natalie Willis, Reporter, Valley Ag Voice

POM Wonderful's liquid pomegranate extract, POMxL, received an Upcycled Certification through the world's first third-party certification program for upcycled food ingredients and products.

According to Jason Horvath, sales manager for POM Wonderful Specialty Ingredients, upcycled foods use ingredients that would not effectively reducing waste.

"As an agriculture company, sustainability is at the core of everything we do. We believe POM Wonderful, in all its operations, must be a deeply responsible steward of the environment, and this certification is another important step towards creating a sustainable future and leading by example for other businesses to follow suit," Horvath said in an email.

POMxL underwent a significant audit by the certifying body, Where Food Comes From, before receiving official certification. Horvath explained that the company has been implementing various sustainability practices throughout the years, including converting its 16 oz bottle packaging to 100% recycled plastic.

As a certified upcycled ingredient, POMxL is made with pomegranate rinds.

"We do an initial press of the whole fruit more than 90% of the facility's energy.

pomegranate rinds for animal feed," Horvath said. "A second press allows us to extract the remaining liquid and antioxidant goodness through chemical-free pressure extraction without impacting the quality or nutritional value of the final product - this is POMxL."

According to a press release, the Wonderful Company, owned by Stewart and Lynda Rae Resnick, has invested \$1.3 billion toward enhave originally gone to human consumption, vironmental sustainability projects. Horvath noted that over \$500 million has been invested in sustainable agriculture, such as water-efficient irrigation, eco-friendly pest control, and research and development.

> "Additionally, we have pledged \$850 million to leading universities for sustainability research and technologies that help protect our planet," Horvath said. "This includes a \$750 million commitment to Caltech and \$50 million to UC Davis in support of the schools' efforts to address today's most pressing challenges in agriculture and environmental sustainability, including byproduct research and innovation."

> By 2025, the company plans to transition all U.S. operations to 100% renewable electricity and has invested \$130 million in solar farms. POM Wonderful recently completed a 40-acre solar farm to power the processing plant, delivering

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The proposed Sites Reservoir, designed to hold 1.5 million acre-feet of water, would be the first major reservoir built in California in almost half a century. It would be located about 80 miles northwest of Sacramento, left, in Colusa and Glenn counties. (Photo: John Hannon)

Sites Reservoir on Fast Track For Final Legal Green Light

By Caleb Hampton, Assistant Editor, Ag Alert

Reprinted with permission from the California Farm Bureau Federation

After decades of discussions and delays, a major new reservoir in Northern California is close to becoming reality.

Last week, Gov. Gavin Newsom certified the Sites Reservoir project to be fast-tracked for construction, exercising for the first time his power under a new state law to streamline the process to break ground on infrastructure projects.

The reservoir, estimated to cost \$4.5 billion and hold 1.5 million acre-feet of water, would be the first major reservoir built in California in almost half a century.

It would be located about 80 miles northwest of Sacramento on ranchlands in Colusa and Glenn counties.

"The project we are considering today will help the state meet key climate change goals and create a more resilient water supply for Californians and the environment," Fritz Durst, chairman of the Sites Joint Project Authority, said in a statement.

Earlier this year, Newsom pushed the California Legislature to pass a package of bills designed to limit regulatory delays to water, energy and transportation infrastructure projects.

Senate Bill 149, authored by state Sen. Anna Caballero, D-Merced, requires courts to resolve legal challenges brought under the California Environmental Quality Act within 270 days for certified projects.

In the past, such challenges have delayed infrastructure projects for years.

"We're cutting red tape to build more faster," Newsom said in a statement. "These are projects that will address our state's biggest challenges faster, and the Sites Reservoir is fully representative of the goal—making sure Californians have access to clean drinking water and making sure we're more resilient against future droughts."

The first plans for Sites Reservoir were drawn up more than 40 years ago.

The project has gained momentum since 2014, when California voters overwhelmingly approved a bond authorizing \$2.7 billion for new water storage projects. About \$875 million from that bond, alongside other state funds and federal loans, would be used for Sites Reservoir, with the remaining balance paid by water agencies and communities benefiting from the reservoir.

"Water infrastructure needs to move forward," said Chris Scheuring, senior counsel for the California Farm Bureau. "It's in the best interest of all the people in the state of California."

Water users in the state have long expressed frustration at missed opportunities to capture water in wet years—such as this past year that brought historic storms and flooding—and store it for use on farms and in homes during drought years.

"There is no existing infrastructure in place to capture and store excess water flows from the Sacramento River when they happen," Durst, a Yolo County farmer, said last year.

The reservoir will play a key role in managing runoff to support the flood control system in the Sacramento-San Joaquin River Delta, he added.

concert with our existing water management systems, could also help us respond more rapidly and in an adaptive fashion to the changing hydrologic conditions and the changing needs," Durst said.

On Nov. 2, the U.S. Bureau of Reclamation released its environmental impact report and statement for Sites Reservoir, finalizing plans for the project and opening it to legal challenges that would now be subject to California's new time limits on litigation.

"We are proud to support projects that will provide operational flexibility and more reliable water delivery to benefit farms, communities and the environment," Reclamation Commissioner Camille Calimlim Touton said in a statement.

The off-stream storage facility, set to become the eighth-largest reservoir in the state, would not sit on a waterway but would have water piped into it from the Sacramento River.

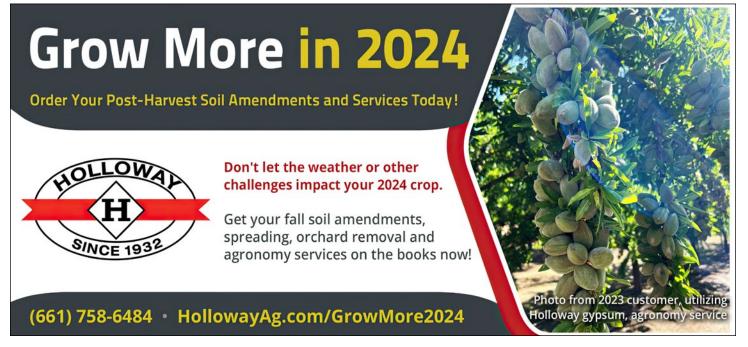
The reservoir would increase Northern California's water storage capacity by up to 15% and boost water supplies for 24 million people, mostly in Southern California, and a half-million acres of farmland in the Central Valley. It would also store water that could be used for environmental purposes.

The reservoir's off-channel design means it will not impede fish migration routes. But environmental groups have still criticized the project because it will divert water that nourishes wildlife and natural landscapes.

"I would guess we're going to see some legal challenges," Scheuring said. "However, it's nice to know that a fixed time period is now established and that we'll move through those challenges as expeditiously as possible."

Construction of the reservoir is expected to begin within the next two years and be completed around 2030 or 2031.

"The name of the game," Scheuring said, "is to get done with all the process—the funding, legislation, litigation, environmental reviewand get a shovel in the ground to do what we've "The reservoir's storage flexibility, working in been talking about doing for a generation."



COMMENTARY: A Flood of Specialty-Crop Imports Hurts U.S. Farmers



By Zippy Duvall, President American Farm **Bureau Federation**

Reprinted with permission from the California Farm Bureau Federation

There is a quiet battle

being waged to ensure the high-quality food and fuel produced by U.S. farmers and ranchers reach eager consumers around the world. From nonscientific trade barriers to market prices and even constant changing trade agreements, it seems new challenges are always arising.

This is why trade has long been a top priority for Farm Bureau. Farmers and ranchers feel these struggles directly, and we want to ensure they have the tools of strong trade agreements and fair markets to win the battle.

We put special focus on this cause through our trade advisory committee, made up of state Farm Bureau presidents who are tasked with researching trade challenges and opportunities, and establishing recommendations.

Last week, I was joined by several advisory committee members in Traverse City, Michigan, to meet directly with produce growers and agricultural leaders on issues affecting seasonal produce markets. Attending members included California Farm Bureau President Jamie Johansson, whose state is the leading supplier of seasonal produce in the U.S.

It was really impactful to visit the Michigan farms, hear the farmers' stories and discuss changes they think need to be made. That is because our seasonal produce growers continue to be heavily impacted by the substantial increase in imports of fruits and vegetables to the U.S.

Since 2000, there has been a major influx of imported fruits and vegetables—an increase of more than 120%. Some of this increase is attributed to product dumping by other countries, which means they offload products at a price lower than their own market price and sometimes lower than the cost of production. While there is a way for farmers who are harmed by product dumping to seek help from the federal government, the burden of proof falls heavily on us. Even when we successfully navigate that labyrinth, relief I also learned a lot from talking to many for lawmakers and trade officials.

comes far too slowly.

We saw firsthand as we toured Michigan orchards and processing facilities how harshly this issue affects them. These sectors made a compelling case that there is simply no way to compete with countries that grow the same produce year-round and flood the U.S. market during the narrow six- to eight-week window of harvest for U.S. produce.

Many of the farmers we visited shared that they originally moved to the area or switched from row crops or dairy due to the area's climate and the booming seasonal produce market. However, they now feel it is impossible to compete. Lacking good options, they must accept the losing market or find another way to stay in business.

farmers, and this trip delivered more examples of this. One family completely switched their business model to make sure they kept their orchard going for the next generation. They turned their multigeneration apple orchard into a very successful business producing craft apple cider.

Unfortunately, massive makeovers are not within reach for other producers we met. Frankly, forcing fruit and other produce growers to get into the processing or product Our specialty-crop growers are at a crossdevelopment business to stay afloat amid a market flooded with imported products is an unfortunate road for our country to go down.

cherry, blueberry and other produce farmers to hear more in-depth about their concerns. It was alarming to me how many had to shut down multigeneration orchards or consolidate just to stay afloat.

The seasonal produce industry is hard enough as it is, so hearing the stories of how these farmers had to completely change their channels of revenue, consolidate or ultimately give up farming altogether to support their families is simply heartbreaking.

U.S. farmers have shown time and time again that we compete and win in any market when we're given a fair opportunity. However, when it comes to seasonal produce, it's not just about establishing fair I'm always impressed by the resilience of international markets. We must ensure fair competition for farmers right here in our own market.

> These individual stories are compelling, but collectively, they impact the strength and stability of our food supply. They color in the picture of what needs to be done and help illustrate for the public and our elected leaders just how steep the climb can be for farmers who are eager to persevere.

> roads, and our federation stands with them in calling for action. Leveling the playing field at home and abroad must be a priority

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The Shepherd's Sheep

By Joshua Stevens Faith Contributor, Valley Ag Voice

We hear the story every Christmas. "Tis the reason for the season," people will say while setting up nativity scenes in their front yards or in their homes. But what if there was something more to the story? Not something that changes the story in any significant way but adds a small amount of depth to a story already teeming with promises past and hope's future.

We start in the Gospel of Luke: "And in the same region there were shepherds out in the field, keeping watch over their flock by night. And an angel of the Lord appeared to them, and the glory of the Lord shone around them, and they were filled with great fear."

This angel would go on to tell the shepherds in verses 11-12: "For unto you is born this day in the city of David a Savior, who is Christ the Lord. And this will be a sign for you: you will find a baby wrapped in swaddling cloths and lying in a manger" (English Standard Version Bible, 2001, Luke. 2:8-9, 11-12).

The story from here is familiar — shepherds were used by God just as He used them in the past with Abraham, David, and many others. God has again decided a shepherd should be the first to know the good news. This time the good news is of Jesus' birth.

And we've heard it discussed why Jesus was born in Bethlehem, hometown of King David himself and how Christ's humble birth was foretold in Malachi. We know the shepherds brought the news the angel told them of a newly born messiah, but what is seldom talked about is the sheep those shepherds left behind. They left — not to find the one lost sheep who had wandered off —but to join in heralding the

lamb who had come to redeem all the lost of the world.

According to an article written by Bryce Hamond, the sheep being watched over by the shepherds in Luke 2 may have been temple sheep, which would go on to be used as sacrifices in Jerusalem (Hamond, 2009). This may or may not be true, however let us for a moment entertain the possibility that the same shepherds who were watching over sacrificial sheep went on to be some of the first to not only greet the baby Jesus but to announce that the Messiah was born.

It seems equally curious and fitting that the Lamb of God would not only be heralded by shepherds but heralded by the shepherds who oversaw the temple sacrifice. Hebrews 9:12 says, "he [Christ] entered once for all into the holy places, not by means of the blood of goats and calves but by means of his own blood, thus securing an eternal redemption" (English Standard Version Bible, 2001, Heb. 9:12).

The Christmas story we know remains the same, but now when we think of those shepherds greeting our newly born Savior, we find another reminder — from the Messiah's first breath, He willingly gave His life so that we may find reconciliation through Him. As Paul says in Romans 5:8-9, "but God shows his love for us in that while we were still sinners, Christ died for us. Since, therefore, we have now been justified by his blood, much more shall we be saved by him from the wrath of God" (English Standard Version Bible, 2001, Rom. 5:8-9).

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KERN COUNTY WILDLIFE PROFILE: BUENA VISTA LAKE ORNATE SHREW



Buena Vista Lake omate shrew. (Photo: Moose Peterson/MoosePeterson.com)

The Buena Vista Lake ornate shrew is a small mouse-sized mammal found only in the Tulare Basin of the San Joaquin Valley, California. It is one of nine subspecies of ornate shrew and is a member of the red-toothed shrew subfamily, which gets its name from the reddish, ironbased pigment that is thought to strengthen their tooth enamel and give their teeth a red color. The Buena Vista Lake ornate shrew requires dense groundcover to protect it from predators and moist soil that support diverse prey populations of insects, earthworms, and other small invertebrates. The shrew's moist habitat surrounding the wetlands of elevations of 350 feet. Much of the shrew's original wetland habitat has been drained and well as some plants and fungi.

converted to agricultural land or is no longer suitable habitat due to changes in vegetation and the spread of non-native plant species. Ornate shrews live 12 to 16 months and are solitary and typically breed from early spring through May. Females establish territories that they tend to stay in their whole life, while males may travel between territories. Gestation lasts approximately 21 days, and females give birth to four to six young. Females nurse the young for less than a month. After they are weaned, the young leave to find their own territories. The shrew must eat every few hours, so it is historical range is thought to be within the active during the day and night. The specific feeding and foraging habits are not well known, the Kern, Buena Vista, Goose, and Tulare but closely related species eat insects, sow lakes on the San Joaquin Valley floor, below bugs, centipedes, spiders, earthworms, slugs, springtails, small frogs, and salamanders, as







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