

Kody Cox (#9)

TALL XIX

Session 6 – California

September 7-12, 2025

The sixth session of TALL was an amazing experience. At this point in the journey through this program this has been one of my favorite trips as far as it relates to true agricultural production. I had only been to California a couple of times in my life prior to this trip, but I was not ever able to experience the central valley or the diversity that California agriculture has to offer. It is by far the largest state in the country in terms of gross ag receipts, with over \$60B annually in ag related sales. The central valley itself produces more than four hundred plus diverse crops that are only grown in that state due to its mediterranean climate. In addition to the farm tours, we were able to learn about California ag policies as well. Water rights, subsidence, environmental and immigration policies (to name only a few) continue to be at the top of the list for California farmers. These issues are a key driver in the decisions these farmers make for the operations and will continue to be as they determine how viable their operations will remain over the next 10-15 years. This was an amazing experience for anyone that loves agriculture, as we were able to learn about all the various aspects of agriculture that we would not otherwise have the privilege of seeing in Texas.

September 7

We flew into Sacramento earlier in the day on Sunday, and the program started that evening with a reception dinner hosted by American Pistachio Growers and OrCal. This was a great reception to start off the week, as we were able to mingle and get to know people like Jonah Parker (MyLand & TALL alum) and Thomas Putzel (OrCal) who would inevitably be with our group the remainder of the week. Thomas later provided a quick speech to the group regarding the state of agriculture in California which really set the tone for the week.

September 8

Monday started off with a short drive to capital building and then we met and discussed numerous topics with the current Secretary of Agriculture, Karen Ross. This was an excellent meeting, as Secretary Ross was an open book, and she was willing to answer any questions we had. This conversation provided a lot of the groundwork for what we were going to see and learn throughout the week as it relates to agriculture in California. The overall size, economic prevalence, policy, and regulations agriculture is currently facing is vast.



We then traveled to the California Farm Bureau headquarters. Here we heard from multiple speakers, including COO Dan Durham, along with multiple attorneys that work for Farm Bureau specializing in different commodities and issues. These issues and specialties ranged from energy, water, immigration, predatory issues, all the way to insurance and the availability of residents to obtain adequate insurance given the wildfire events.

That afternoon we were able to have our first farm tour at Nuss Farms just outside of Sacramento. This was a great stop to have because it immediately provided the diverse crop mix that California farmers are accustomed to, that we are not in Texas. The operations grew a large amount of vegetable crops such as tomatoes, basil, garlic, and banana peppers. Being able to discuss their overall input cost and marketing abilities was enlightening.



September 9

Tuesday started off by checking out of the hotel and riding the bus to Lodi Farms. Lodi Farms is operated by Jeff Colombini, and he was willing to tour us around his operation for a generous portion of the morning. His operations are very diversified with multiple nut orchards, along with apple orchards. The apple orchards were interesting, specifically how they hand harvest each fruit depending on the color and texture.

Our next stop was at Pearl Crop which is a nut (almond, cashews) processing facility. This facility is operated by Ulash Turkhan. His story is very inspiring as he is a third-generation producer that is of immigrant decent. He has taken his Octonuts product national, as they are now marketing multiple nuts varieties/flavors, along with almond and cashew butter products. We were able to tour the facility and meet with the head of marketing to learn about their marketing strategies and growth plans.

The afternoon was one of my favorite parts of the trip, as we were able to tour Mapes Ranch with the family that owns it. This is fourth-generation cattle, almond and row crop farm located in Modesto, CA. We had a personal tour of the property with Bill Lyons. Bill was the former Secretary of Agriculture and was a wealth of knowledge both agriculturally and politically. The farm they operate spans approximately 10,000 acres and is located directly between two water canals which provides an advantage for them over any other farm in the area and will allow the farm to continue for many years.



September 10

Wednesday started in the morning with a meeting and breakfast hosted by The Almond Board of California. We stayed in the Double Tree Hotel in Modesto the night before and The Almond Board's offices were on the business level of the hotel. They presented information regarding almond production and trade, which is primarily reserved only for California in the US. Bryce Spycher also provided a quick presentation regarding his experience with the California Ag Leadership Program along with those programs' strategies.

The next stop was a quick tour of the Hilmar Cheese Plant. California, and more specifically the Hilmar/Modesto area, has numerous dairy operations which can feed the plant and allow it to have become such a viable business. The most interesting part of Hilmar Cheese Company was the backstory and how it was founded by twelve local dairy farmers back in 1984 to be able to market their products more effectively. Now the company produces over two million pounds of cheese per day and remains privately owned.

We also visited DeJager Farms which is now a multi-generational dairy and corn silage operation. The unique thing about this enterprise is that the family has now split into six different operations, each run individually, but all operated under the DeJager Farms primary entity. The family farms combine about 10,000 acres of operatable land. We were provided a tour of the area and the different farms by the General Manager of Farming Operations, Nate Ray. He is primarily in charge of all the farming practices as it relates to corn silage and feed for each of the operations. The water allotments and new requirements that will begin in 2026 are going to have a significant impact on how he manages the operations going forward.

Nate joined us for the next stop on the tour which was Live Oak Farms. This is a vegetable farm and processing facility. The facility will process and box up thousands of pounds of vegetables during the harvest season and was very impressive to see. The amount of labor required during the time of harvest and processing was astounding. With these commodities all being processed by hand, it requires an extraordinary amount of manual labor.



The last farm tour of the day was East Horizon Ranch. This was an orange and mango farm that is operated by Justin Wylie. Justin is a business partner with Jonah Parker (TALL alum) who was gracious enough to facilitate the entire week for our group. Jonah provided an overview of his company MyLand and Justin provided a short tour of the orange orchards where we were able to sample a few of the cutie oranges.

That evening we drove to Fresno and had a reception dinner and presentation at the California Cotton Ginners Association headquarters. Each person that ate with us provided a short presentation on their specific job duties. We were also provided with an overview of the cotton market in the Fresno area which had decreased from over one million acres of planted cotton 10 years ago, down to approximately 106,000 acres currently. The market and production are decreasing at a rapid rate primarily due to regulatory pressures, water, and

prices. That evening, I was able to eat dinner with Mandy Critchley, a local farmer who operates a blueberry and grape farm. One thing she told me that I found intriguing was the regulatory pressures the farmers are experiencing with hired harvest workers and the number of hours they are allowed to work in each day. This is extremely important to her specifically, as she provided us with the details on blueberries which are harvested on her farm by hand with the help of about 1,500 workers at a time. Given the short shelf-life of 18 days between the harvest of the blueberries to a non-marketable product, the regulatory pressures on her operation are currently a huge issue when it comes to harvest and marketability of her product.

September 11

Thursday was the last day of the tour, which started out with a guided tour of the J.D. Heiskell Feed Mill. This was a great tour, as the size of the mill and the amount of product that is sent in and out every day was impressive. Again, with the location of the mill as compared to the sizeable number of dairy farms in the area, this was a strategic advantage and allowed them to facilitate a massive number of commodities every day.

Hansen Ranches was our last farm tour of the week and was in Corcoran, CA. This is a sixth-generation family farming operation that specializes in Pima Cotton and Pomegranate's. The farm is in an old lakebed that flooded a few years back, and at that time, the family lost all their pomegranate stands. Since then, they have been rotating crops and trying new commodities that would turn a profit. They also had a 150-acre block of hemp at that time we visited which was an interesting crop to see in the field.



The final stop of the tour was a fun experience, as we were able to visit the Sequoia National Forest. We were guided by Kelly Kucharski with the Sierra Resource Conservation District. She was a wealth of knowledge and provided us with a great experience. This was a fun side trip that Dr. Jim allowed us to take, and it was well worth the experience. This completed a wonderful week in California for the class.



David Derry (#10)
TALL XIX
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The first things that pop into your head when someone mentions California generally do not involve agriculture. Most people think Hollywood or surfers or if agriculture does come into mind, it involves the wine region of the Napa Valley. The central valley of California is rich in agricultural tradition. As we toured different operations and spoke with those involved in agriculture the theme became evident: “The Haves and the Have Nots.” What defines agriculture in the central valley is whether you have water or not. That seems like an obvious statement, but for an area that receives limited rainfall the lifeblood of the region is access to irrigation water. While there are other issues facing agriculture in California it seemed that discussion always came back to water.

Monday – 9/8

My plane arrived late Sunday night so I was not able to join in the Sunday evening activities, and my session began on Monday. We began our day at the California Department of Food and Agriculture. Ag Secretary, Karen Ross, addressed the state of agriculture. The position is appointed by the governor as opposed to in Texas where it is an elected position. This allows the Ag Secretary to perform his/her duties without worrying about campaigning or pending elections. Each county has a county ag commissioner that is a county employee. Karen emphasized the importance of agriculture in the state and its importance as a major player in the ag sector for not only the US, but also the world.

California agriculture is defined by regulation, and those regulations are driven by the federal clean water act and clean air act. Karen made the statement that farmers are resilient and can handle the regulatory pressure in California. This was a statement that was referenced later in our session by Bill Lyons (a former Ag Secretary) and refuted. Never the less, California farmers are faced with a highly regulated environment in which to conduct business. These regulations increase the cost of production and in some instances pull land out of agricultural production. It was evident in speaking with Karen that she was very knowledgeable about agriculture and the issues pertaining to agriculture.

Later that morning we visited with the California Farm Bureau where we learned about CFB’s activities. Dan Durheim, COO, opened the session giving us an overview of the importance of agriculture in the state. There are \$60 billion in ag receipts in California, with the next largest state accounting for \$45 billion. There are a lot of high-value perishable crops grown in California. The “social license to operate” is one of the biggest challenges. The public perception of agriculture and its production practices drive much of the regulatory burden and stress on agriculture. As a result, CFB tries to educate the populace about agriculture through various program.

Karen Mills and Kevin Johnston gave an overview of energy in California. The cost of electricity has skyrocketed over recent years. This is in part due to increased regulations concerning wildfire prevention and remediation. California is pushing to rid the state of petroleum energy sources, move to using electricity to power everything and generate the electricity with renewable resources. There is one nuclear reactor left in the state and there will not be any others built. No new coal or gas fired plants can be built. Solar supplies a lot of the electricity for the state and they utilize a lot of battery storage and backup. However, a lot of electricity is imported from other states that still use coal and gas fired generation.

Next Kari Fisher and Alex Biering gave an overview of water issues in the state. Surface water is a major source of water used for irrigation and consumption. This water is fed by winter snow packs in the mountains. California has a system of reservoirs, canals and levees to help deliver water. All of this water flows from the eastern mountains toward the delta near San Francisco. The Delta Smelt (which ironically is not a native fish) is endangered and the delivery of fresh water to the delta to support the smelt is key to much of the water regulation. California has three main types of water rights related to surface water. Riparian Rights are superior and are held by properties that touch a natural waterway. Next are pre-1914 rights, which are the next superior rights. These rights go with the property and are not separated. The most junior rights are called appropriation rights. Appropriation right holders must obtain permits and there is a priority system to allocate water if available. Groundwater is the primary source of water for the population. Groundwater was largely unregulated until 2014 when SGMA was enacted. SGMA will require much of the state's lands irrigated with groundwater to curtail use and will fallow large amounts of the state's farmland. This was a recurring topic of discussion with the operators we visited.

Bryan Little and Matthew Viohl gave an overview of immigration issues facing the state and the importance of the H2A program for agricultural laborers. After that Peter Ansel discussed the state of insurance. Because of the risk of wildfire many are finding it difficult to insure their homes. California has addressed this issue with a program of last resort called FAIR. This allows homeowners to get insurance through this program when they can't find insurance coverage elsewhere. However, premiums are expensive, and the rising costs are impacting homeowners. To round out our visit with CFB Steven Fenaroli discussed the predator issue facing California cattle producers mainly in the northern part of the state. Wolves introduced in Oregon have made their way into California and have made packs permanently located in the state. These wolves are protected by the Federal Endangered Species Act so ranchers cannot protect livestock by shooting or trapping the wolves. This has created a huge issue for livestock producers and there are no good solutions for producers in sight.

After departing CFB we travelled to Nuss Farms where Tim Nuss and his dad gave us an overview of their farming operation. They farm garlic, tomatoes, peppers and basil, as well as other crops. Their garlic had just been harvested and was still in crates in the field. The garlic is dug, then harvested by hand, placed in crates then left in the field to dry until picked up. The tomatoes they grow are for processing. These are machine harvested. This year was a bumper yielding crop, but tomato prices are low. After leaving this area of the farm we visited a pepper

field. Tim said that one of the fields was a second planting that will not be harvested. The field was planted before their contract buyer cancelled further orders because of oversupply. Next we visited their basil field. Basil is an intensive crop that requires hand labor to weed. They have tried laser weeding machines but have found that labor is still better and less expensive. This was the first time that I noticed a trend among many of the farmers that we visited. The trend was that they did not have a lot of new equipment. Most of the equipment on site was older equipment that they maintained instead of investing heavily in new equipment.

Tuesday – 9/9

We began Tuesday with a tour of Lodi Farms from Jeff Colombini. Jeff worked for a food processing company that canned tomatoes, fruit cocktail and other canned products. The company was bought out in 1992 and Jeff had the opportunity to lease farmland and start farming. Lodi Farms is diversified growing apples, cherries, walnuts, almonds, tomatoes for processing, olives and some rice. About 10 years ago they added almonds to their crop mix because they were facing pressure from China on walnuts. Almonds can't be grown in China due to climate issues. We were able to witness part of the almond harvest. The almonds are shaken from the trees and left on the ground for approximately two weeks to dry. After they dry a windrower is used to windrow the almonds and another machine gathers the almonds from the windrow. For this reason, the rows between the almond trees are plowed and then packed to provide a clean surface for harvest. Apples in California are regular height varieties instead of dwarf. The apples are harvested with self-propelled platforms eliminating the need for ladders. This has helped with labor issues, expanding the pool of laborers and has cut down on work related injuries related to the ladders. The variety of rice they grow here is different from varieties grown in other areas. This rice is primarily the type used in sushi and is a specialty crop. Again, water was a main topic of the discussion.

Our next stop was Perl Crop where we were able to tour an almond processing plant. Ulash Turkhan gave an overview of the company and family history. Ulash immigrated from Turkey, where his family was involved in nut processing. He first started his business procuring nuts in California and shipping to Turkey for processing. He has grown the company into a diversified company procuring nuts, processing them and supplying them to various end users. They also entered the branded product market with their Octonuts brand. Jared, the VP of Procurement, discussed their relationship with growers and the issues facing the growers. Because of various issues almond growers are declining and fields are going out of production. One major issue with fields being fallowed is what to do with the fields. It is expensive to remove the trees and farmers can no longer burn the residue. The residue must now be chipped and incorporated back into the soil. This has caused some farmers just to abandon fields instead of removing the trees. These abandoned fields have compounded issues for neighboring farms like pest management. Greg Nielson, CEO of Octonuts Brand, gave us an overview of how they penetrated the nut market with their branded goods and the reasons behind their success. They have taken the opportunity provided by the health movement to position their products as healthy alternatives. Their approach to getting on the selves could be

described as a rifle approach as opposed to a shotgun approach targeting specific stores and segments to market.

That afternoon we visited the Mapes Ranch. Bill Lyons gave us an overview of the ranching operation and California agriculture in general. Bill was a former California Secretary of Agriculture. The ranch was started by his great uncle, Ed Mapes, as a hunting club. Cattle were soon added to the ranch as they established a herd of Hereford cattle that persisted until the family transitioned to Angus cattle to take advantage of the marketing success of the Angus breed association. The operation is now a diversified operation covering 10,000 acres of prime agricultural land. They are situated between two rivers having riparian water rights from both rivers, in addition they have pre-1914 water rights and some appropriative rights. Bill explained that they were at the end of the line for water so they were not restricted. Bill's father improved the ranch with an irrigation system that covered the property so that they could deliver water wherever they needed from any source. They also drilled wells adding groundwater to their water sources. This is where it became very evident that there were two classes of farmers in California, "the Haves and the Have Nots." Bill explained that there were 26 partners (all family) that owned the ranch. Bill serves as the CEO and as he says controls the operation as a "democratic dictatorship." This organization has allowed the operation to not only survive, but to thrive. That evening Bill hosted a reception where we were able to visit with him in more detail about his experience as Secretary of Ag and about the ranch.

Wednesday – 9/10

We began Wednesday visiting with The Almond Board of California. Bryce Spycher gave us an overview of the California Ag Leadership Program (CALP). My biggest takeaway was that CALP is much different from TALL. CALP seems to take a much more theoretical approach to leadership training, while TALL takes a much more practical approach. Next Julie Adams gave us an overview of the almond industry. The Almond Board was founded in 1950 and funded by an assessment on almond sales. The board cannot engage in lobbying activities. Almond exports account for 75% of almond sales and have become more diversified over the years. As such, tariffs pose a large challenge for the industry.

Next we toured the Hilmar Cheese plant. Hilmar began in 1984 with 12 Jersey dairy farms. They now have facilities in Dalhart, TX and Dodge City, KS and employ over 1,000 people at the California facility. They have invested heavily in educating the public about dairy and have a store and educational center there on site. They provide school tours for over 17,000 students per year.

After grabbing lunch, we headed to DeJager Farms. DeJager Farms is a farming operation supporting ten dairies. They have 20,000 acres of wheat, alfalfa and corn to support the dairies and 3,000 acres of almonds and pistachios. Again, water was a key topic of conversation from the use in the dairies to irrigation. Interestingly enough, water used for the dairy operations is considered to be an animal welfare issue and so the use is less criticized than irrigation water. We were able to view a methane digester at this facility which is used to help power the dairy. Other dairies have digesters where the methane is piped elsewhere. On the subject of water we learned that groundwater is governed by basins and sometimes those

basins are separated by roads or other boundaries. Even if the infrastructure exists you can't move water from one basin to another. So a field on one side of the road could have plenty of water because of the basin its water comes from and on the other side of the road they could be lacking water.

We then left for Live Oak Farms to tour the vegetable processing facility. This facility is a 4th generation family operation packaging jalapenos, bell peppers and tomatoes. They need to update the tomato shed but are reluctant to do so due to the volatile tomato market. Mexico has become a major player in the tomato market and the future of production in the US is uncertain.

East Horizon Ranch and Wylie Farms was our next stop where we heard from Justin Wylie. Justin discussed their transition from traditional production to regenerative organic. This transition is still ongoing. They grow mandarin and navel oranges along with pistachios. The transition in production methods was really a result of some health issues their son experienced. They made a move to consume more organically produced products and saw an improvement with him. So they decided that they should shift their production methods to be consistent with what they were doing personally. Part of this includes utilization of MyLand, which Jonah Parker explained.

On our way to our evening activities we stopped by a pistachio farm where we were able to view pistachios being harvested. Unlike almonds pistachios never touch the ground. They are shaken from the tree by a harvester that catches the nuts as they fall from the tree. During our visit they again reiterated the changes coming because of water regulation, particularly SGMA. It will require that they fallow approximately one-third of the land they currently farm.

That evening we were treated to dinner by the California Cotton Ginners and Growers Association and Western Tree Nut Association. At dinner we were able to visit with individual guests. I was seated near Mandy Critchley who raises blueberries, raspberries and other products. It was very interesting to learn how they got into growing the crops they did and the challenges they faced. After dinner each guest gave us an overview of issues related to their particular commodity.

Thursday – 9/11

Our first stop was the Pixley Mill, which is the largest feed mill in North America by volume. Founded in 1886 it is family owned and privately managed. Over the years the local production of commodities needed for feed production has decreased and the mill now relies on commodities brought in by train from other states.

After departing the Pixley Mill we headed for Hansen Ranches located in outside of Corcoran. This farming operation is located in a old lakebed that was drained and a system of levees and canals maintains the dry lakebed. In 2023 the area experienced flooding that filled the lake bottom with water with parts of the are remaining underwater for about a year. This area reminded me a lot of the panhandle area of Texas with its large, flat fields. Hansen Farms has traditionally farmed cotton and tomatoes but has added hemp production to replace tomatoes since that market had declined. Hemp production is a niche crop, but does provide an option for diversification. The hemp must be harvested by hand because of how fragile the

seed pod is. Water is provided by both groundwater and surface water, but SGMA restrictions on groundwater use will cause them to fallow much of their farm land in the area.

From there we traveled east toward the Sierra Nevada mountains, where we picked up our guides for the evening Kelly Kucharski and Chelsea Hutchins with Sierra Resource Conservation District. Much of the discussion centered around proper management of the forest to prevent devastating forest fires. This management includes thinning undergrowth by mechanical means and prescribed burning. The prescribed burning that they described was much different than what we think about on the rangelands. Here they mechanically remove undergrowth and dead trees, pile the debris and burn the piles. We toured the Big Stump Grove of Kings Canyon National Park where we were able to view the giant Sequoia trees. Most of us had never seen the trees. No matter how many times you see them it reminds you how large living things can actually be. After touring the Big Stump Grove we headed toward Denham Forest, where we spent the evening. Joe Denham is the current president of the Sierra Resource Conservation District and purchased a 40 acre tract of forest land several years ago. He has spent the time since he purchased it managing the forest and educating neighbors about how to be “firewise” and protect themselves from wildfire. Much of the surrounding area burned in the 2020 Creek Fire. Along with making the area his home, Joe operates a campsite and retreat area on the property. Joe and his family were terrific hosts for an enjoyable evening.

Conclusion

While I had spent time in California before and was familiar with California agriculture, this trip gave me a new appreciation for the challenges facing California producers. It also made me realize that much of that area is not suitable for intensive farming without man’s intervention in shaping the landscape to bring irrigation water to the land. With the regulations surrounding water use it is likely that a lot of the land will have to be repurposed. What is that new purpose going to be and what will it look like? This is where leaders in agriculture will have to learn to adapt and lead others to shape the future of agriculture in California. It also made me realize that California did not become over-regulated overnight. It was a long process to get to where they are today. That process of regulation is happening today in Texas, but we are much further behind California. Leaders in Texas will need to be vigilant to protect our freedom to effectively farm and ranch.

Jaylen Wallace - #23
TALL XIX Session #6 – California
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Sunday, September 7

TALL XIX met for their sixth session of the cohort in the capital of California. After everyone had arrived, we socialized and caught up on the goings on in each other's lives in old town Sacramento before heading to a social hour and dinner sponsored by California Pistachio Growers and OrCal.

The hospitality shown by California agriculturists was present as soon as we arrived at an historic home in Sacramento that had been reserved for us with a private chef from Fresno that incorporated locally grown products into our evening meal. Met at the door by our new friends Zach Fraiser with American Pistachio Growers, Thomas Putzel with OrCal, the Hansen family, and Heath Flora – California State Assemblyman. With freshly caught local salmon, local pistachios, and excellent culinary work we were treated to a meal fit for the best of receptions.

As we socialized and listened to our new friends, we learned that agriculture is vital to California's economy though it sometimes gets overshadowed by larger populations in the metropolitan areas of San Francisco, Los Angeles, San Diego, and other large cities. However, a key takeaway from the evening was that agriculture is strong and will get stronger if we continue to collaborate, share ideas, and join together to make our voices heard across local and state lines. Texas and California are more alike than many care to admit, and it is evident that the people that feed America are in every corner of the country.

Monday, September 8

The TALL cohort convened near the Capitol building in Sacramento prepared to set out on another day of interesting conversation and networking. We got fifteen minutes to go to view the Capitol prior to our meeting with Secretary Ross. The Capitol building paled in comparison to Texas's Capitol, but it was beautiful, nonetheless. Sec. Ross discussed the

current state of agriculture in the state, alluding to the depressed wine and grape market, SGMA and other water issues, and the highlights of what agriculture does for the state. Total cash receipts for the state in 2024 are estimated to be \$60 Billion.

Our next stop was across the city at California Farm Bureau. We were greeted by Dan Durheim, COO of California Farm Bureau. Previously, from Minnesota, he explained his journey that led him to California after having spent his career in Minnesota and Washington DC. He introduced his colleague, Karen Mills, Attorney and Vice President with Farm Bureau in addition to fellow attorney Kevin Johnston. Together they spoke on the topic of water rights in the state and how that affects agriculture – especially SGMA (Sustainable Groundwater Management Act). Under SGMA, agriculturists have to reach groundwater sustainability goals by 2040. While that seems like sometime away, there are only fifteen more crop cycles before then. The Farm Bureau sees this as a troubling future for an agricultural enterprise in California that relies solely on the ability to irrigate. While some farmers benefit from riparian rights next to rivers, many producers rely on groundwater irrigation.

Our next speaker from the Farm Bureau was Kari Fisher and Alex Biering who both continued the discussion on water and the laws pertaining to water rights in California. Water was the most prominent issue to farmers, ranchers, and politicians in the state. Unlike Texas, who has a right to capture, California is much different. They receive little rainfall in the Central Valley from Redding to Bakersfield. Most, if not all, of the water originates in the Sierra Nevada Mountain range through snowpack and rainfall. A system of channels, or aqueducts, channel water down the state to supply cities and irrigation needs to millions of Californians.

Peter Ansel with the Farm Bureau discussed the insurance issues facing California. Due to excessive and unpredictable wildfires, many homes are no longer eligible for insurance given the high loss rates. This poses an issue for long-term and new residents alike when it comes to financing requirements to purchase a home in the state. Many lenders will not finance improvements that are not insurable. This is not just a regional problem as we see the ability to insure being a problem in Texas with natural disasters such as hurricanes and tornados posing a threat.

Our final speaker from California Farm Bureau brought the most interesting topic of the day so far. Our speaker, Steven Fenaroli, through charismatic discussion talked about the wildlife and predator problems facing California agriculture. Mr. Fenaroli discussed how non-native grey wolves have migrated to California in the past decade. Federally and State protected, the control of this predator is impossible given current regulations. As he put it, "If you even point a gun at a wolf, you can end up in the pokey." While wildlife is important to the overall ecosystem, they kill livestock at an alarming rate. One producer had lost seventy calves on lease land in the Sierra Nevada range. Between wolves and mountain lions, it was apparent that wildlife is different in California. Not only is the wildlife different, but the priorities of legislators are as well.

After departing from the Farm Bureau, we made our way down state to just outside of Stockton/Lodi where we toured Nuss Farms - a diverse operation growing tomatoes, garlic, peppers, and other crops. It was evident that the cost of production on a produce operation is higher than conventional farming in Texas. Land prices, water, chemical applications, labor, and regulations were all factors of production that were higher than what I had been used to. It was clear that farming in California was not for the faint of heart. The producers had to have had a good start, utilized diversification, and had the wherewithal to continue through mounting obstacles.

We finished our day with a nice dinner of our choice, though we all went together, for our one night in Lodi. TALL XIX is a cohesive cohort.

Tuesday, September 9

Tuesday morning came early as many of us were awake at 5:00 and ready to go due to the two-hour time change from Texas. We did not have many stops planned for the day, but each stop was in depth and insightful. We loaded the bus and took a short trip to Lodi Farming just south of Lodi proper. Jeff Colombini, President of Lodi Farming, showed us around the immaculately kept farm that specialized in pistachios, almonds, walnuts, olives, and apples, amongst other crops. We were fortunate to be able to get off the bus at some of the crops

and see them up close. Shelling almonds by hand, picking fresh apples, and admiring the set up was eye-opening for conventional producers. The number of inputs required put another level of risk to the success of a harvest, price volatility, and labor availability.

The bus then took us to Pearl Crop, a nut processor, in Stockton where we were met in the parking lot by owner and founder Ulash Turkhan. Originally from Turkey, Ulash came to the United States in college. Backed by a prior history of the nut business started in Turkey by his grandfather he sold nuts out of his garage in college and turned it into a large processing facility in a building previously used by Toyota as a manufacturing plant. They produced flavored almonds, nut butters, and other goods for nationwide distribution. Octonuts® was their main product line that focused on trending markets for consumers. Each TALL cohort member left with samples to try and take home to their families.

The rest of our day would be hosted by Mapes Ranch and Bill Lyons, Owner, and Management Partner in Mapes Ranch. Mr. Lyons welcomed us to his ranch, started by his grandfather as a hunting club in the early 1900s. Years of ownership is important as the riparian water rights that belong to the ranch are some of the strongest remaining in California. With rivers running through the property and groundwater available as well, they have the ability to continue to operate for years to come. They have strategically placed their livestock and crop business in a position to hold on for many years. Previously the Secretary of Agriculture for the state, Mr. Lyons, is well known throughout the agricultural community and is abreast of the current state of affairs. Water, again, became the focus of discussion. Due to SGMA and current legislation, he predicts that California will lose over 1,000,000 acres of farmland by 2040. Orchards, vineyards, and fields are due to be left fallow and land values are due to decrease due to water use issues. This poses a problem for producers, lenders, and consumers as the availability of produce will reduce in a state that is the only source of production for many of these crops in the United States.

He uses this knowledge to protect a family asset that is managed by himself, brothers, sons, and nephew. We toured the original farmhouse recently used by his mother that has since been made into their conference center/ranch museum and then got on the bus to see their

walnut and other specialty crop production. It was apparent that this operation was the gem of the farms and ranches throughout the Central Valley.

Mr. Lyons was gracious enough to host us for a reception at Camp 4 Wine Bar in Modesto, California. We were treated to an evening with Mr. Lyons, wine, and charcuterie. We spent the evening discussing the current state of agriculture in California with Mr. Lyons and fellowshiping with our fellow TALL members. It was a great end to an exciting day.

Wednesday, September 10

The TALL cohort prepared for our fourth day of the session and met in the lobby of the hotel to attend a breakfast provided by the Almond Board of California. Their office was conveniently located on the fifteenth floor of the Hilton where we stayed. Over a special breakfast, we heard from Bryce Spycher, Sr. Manager of Marketing Order Services for the Almond Board, about his experience in the California Ag Leaders Program (CALP). Though similar to TALL, the CALP program focuses on different areas of emphasis than the TALL program. While they did beneficial work, the TALL program offers more firsthand agricultural experiences. Both have their benefits, and it was refreshing to see a state that often gets a tough reputation for friendliness to agriculture have a program that produces leaders in the industry.

Julie Adams, VP of Global Technical and Regulatory Affairs with the Almond Board highlighted the global almond industry. California produces over 80% of the world's almonds. Through tariffs, market development, and production the almond market is ever shifting with emerging markets in the middle east in addition to the EU. Asian markets are shifting given the current state of geopolitical affairs with China. The discussion was wrapped up and we got on the bus for the rest of our day.

We arrived at Hilmar Cheese in Hilmar, California mid-morning. Formed as a cooperative, Hilmar Cheese serves as a market for local dairies within 200 miles of the plant in Hilmar. They produce many cheeses for the American market, many of which we consume regularly.

The tour guides provided a bus tour of the plant and an inside look at the cheese production in their visitor center area. The market where they had fresh cheeses for purchase was a treat as they provided us with a sandwich and chips for the road. Of course, we each had to have a dairy treat before departing.

The tour bus and our faithful driver, Ed, took us to DeJager Farms – a multi-dairy, nut, and forage production operation. Mr. Nate Ray, General Manager/CEO, took us on a bus tour while discussing the need for water legislation and challenges facing their operation. The issues facing producers seemed to be commonplace throughout California. Water, regulations, and the future were all uncertain.

The next to last stop of the day highlighted a new trend in agriculture. Met by TALL alum Jonah Parker with MyLand, we were introduced to Justin Wylie with East Horizon Ranch. Mr. Wylie was growing citrus in his operation that focused on regenerative agriculture and organic production.

MyLand focuses on soil health and management through bacterial growth distributed through irrigation facilities. It focuses on taking bacteria from the soil, growing it, and redistributing it throughout the orchard or field. It is not a widely used practice, but it appeals to producers wanting to focus on soil health in an unconventional manner. Mr. Wylie utilizes MyLand in his operation. We heard from him and his experience with growing food that he believed to be better for consumption. His ultimate goal was to focus on the soil structure and reduce other conventional inputs to achieve sustainability. Though it is not prime citrus harvesting season, we toured the orchard and saw mandarin oranges growing that would be ready in December.

The evening portion of our Wednesday was an information packed dinner hosted by the California Cotton Ginners & Growers Association, California Fresh Fruit Association, and Fresno County Farm Bureau. We were treated to locally produced wines and a dinner of tri-tip and sides. Prior to the program, we each got to visit with the different industry representatives while we ate. Each speaker brought an area of expertise and experience that was unique but interesting.

Thursday, September 11

Our final day of the TALL session began at J.D. Heiskell & Co. Mill in Pixley, California. The mill produces feedstuff primarily for the dairy industry in Central Valley. They had two 750,000-bushel grain silos where grain brought in from across the Midwest by rail was held prior to production. Similar to the feed mills we toured in the panhandle of Texas; they provided a much-needed product to a large dairy industry.

We then met at the Hansen Ranch, owned by the same Hansen family who we had met on the Sunday evening of our arrival. They farm in the Tulare Lake bottom and have a mix of cotton, cannabis for CBD, and other crops. They emphasized the importance of the levee system in California as well as the troubles associated with flooding the farm ground and homes that sit in what was once a lake. The floods of 2023 destroyed their crops and homes and put many producers out of business.

Seeing the cannabis/hemp production was a unique experience. They toured us through one 150-acre field. As we gazed across the field in the lake bottom, it brought back memories of the panhandle plains – sans the hemp. It was flat and open, with soils rich from millennia of being a lake. Pima and upland cotton were the family's largest crops that were healthy from canal and ground water irrigation.

The final stops on our session proved to be remarkable. Met by Kelly Kucharski and associate with Sierra Resource Conservation District, we got a tour of Kings Canyon National Park and the giant Sequoia trees. As the bus meandered along the mountain road, we prayed the bus driver was paying attention! When we finally arrived at the gate of the park and saw the first Sequoia, it was worth every hairpin turn we had made on the way up. Trees that were older and larger than anything I had seen before scattered throughout the forest. General Grant, one of the largest trees in the world, served as a meeting point for discussion about the parks, wildfire management, and park history. The TALL group took pictures and discussed the ecosystem necessary for trees like these to grow. It was an unforgettable experience.

After viewing the Sequoias, our hosts guided us to nearby Auberry, California close to Shaver Lake where we were hosted by Joe Denham, private landowner at the top of one of the

mountains. Denham Forest, as it was called, highlighted the proper wildfire management techniques needed to prevent catastrophic loss. The Camp fire that destroyed hundreds of homes was evident on our way to the destination. Hundreds of thousands of acres were destroyed; all of which could have been minimized by proper forest and resource management. Driven by politics and recreational use, overgrown forests with over abundant fuel loads provide the perfect opportunity for a small spark to turn into massive wildfires. The ladies with Sierra Resource Conservation stressed the importance of controlled/prescribed burns, thinning, and forest diversification with younger and older trees spaced properly.

The evening concluded with a roundtable discussion over homemade pizza at the top of the mountain. We listened to Mr. Denham discuss the importance of forest and wildfire management. Last but not least, we got the opportunity to sing “Happy Birthday” to our director, Dr. Jim Mazurkiewicz as he turned seventy years young. His leadership and connections made this trip and all of the trips possible and unforgettable.

Summary

The TALL XIX Cohort’s sixth session in California highlighted both the resilience and challenges of the state’s agriculture. From Sacramento to the Central Valley, participants met with industry leaders, policymakers, and producers who emphasized water scarcity, SGMA regulations, wildfire risks, insurance challenges, and predator impacts on livestock. Farm and ranch visits highlighted the excessive costs, innovation, and diversification required to succeed in California agriculture, from nut processing and dairies to regenerative citrus and specialty crops. Despite the pressures, the cohort saw firsthand that California remains a cornerstone of U.S. food production, with lessons on collaboration, adaptation, and leadership that extend far beyond state lines.

Rex E. Brandon (5)

TALL XIX

Session 6 California- Employment, Emigration, Environment

September 8-12, 2025

This report summarizes a multi-day deep dive into California agriculture industry. Beginning in the state capital of Sacramento and extending through the fertile Central Valley. The journey provided a firsthand look at the scale and complexity of the nation's top agriculture economy, which generates over \$60 billion in cash receipts annually. Through meetings with key figures like Secretary of Agriculture Karen Ross and leaders from the California Farm Bureau, combined with farm and processing plant tours, this trip showed us the challenges facing California's growers: water availability and regulation, labor issues, and the push for sustainability amidst a Mediterranean climate that demands year-round production. We toured almond, pistachio, and other specialized vegetable crops. This itinerary offered a fundamental perspective of the Golden State that only one can truly understand when a trip like this is available firsthand.

Upon arrival in Sacramento California, we were welcomed into a historic home, built in 1910, by Zachery Frasier, CEO of American Pistachio Growers, Heath Flora, CA State Assembly Minority Leader, Dinner host; Thomas Putzel, Owner of OrCal, along with some other guests. They had dinner ready with a fantastic set of hors d'oeuvres and fresh salmon caught by Thomas himself from the Oregon Bay. A fantastic opening with a glimpse ahead of what California has to offer. Given the mix of our speakers, (growers/industry + government + agribusiness) These main topics remained consistent. Water policy and sustainability, production and demand, export and trade policy, regulatory environment, and challenges and risks.

We kick off the first full day in the California State capitol of Sacramento. A short walk by the capital building and into the CA Dept. of Food and Ag. We meet Sec of Ag, Karen Ross, a position appointed by the gov. Not elected by votes like Texas', Sid Miller. Sec Ross has initiated programs to provide greater opportunities for farmers and ranchers to engage in sustainable environmental

stewardship practices through water conservation, energy efficiency, nutrient management, and ecosystem services: all big hurdles when it comes to CA ag. Ca is a Mediterranean climate with harvest continuing 365 days of the year. The availability and quality of water will be the biggest factor for all Californians to combat. The most precious commodity is public trust. There is always a threat/worry about health outbreaks. Spinach was the most recent outbreak as you may recall. Soil amendments as they increase organic agriculture is a rising factor. Adjacent land use, and movement of E-coli through the air - all challenges. Top 10 crops- Dairy, grapes, cattle and calves, almonds, lettuce, pistachios, strawberries, broilers, tomatoes, and carrots. Also, big US producers of walnuts, berries, other leafy greens, and oranges. CA has been known to overproduce, creating a a new problem, tanking the market. New winery grape varieties are getting popular. An improved health movement contributes to that. Top 10 counties are in the central valley. Half of the state has legal marijuana and yes we smelt it often. Water and snowpack for storage are big factors when it comes to who gets water first. 1,600 miles of canals deliver water throughout the valleys and eventually dump into the San Francisco Bay. Sec Ross's group is working on recharge of the basin and storing water underground to cut down on ET.

Next stop we spend a few hours at the California Farm Bureau headquarters to learn more about water, energy, immigration, insurance, political affairs, and predatory issues.

Pest Health Division- Check stations to keep infestation out of the state. Worried about the spotted mud fly, a devastating tree pest. 1,600 dairies in CA. 776 dairies have infection. 60 in quarantine. must pass inspection to resume production. Why regulations? Two acts to govern this practice through the two big valleys. Two big bills- Federal clean air act. And clean water act. Created these regulations. Nitrates in groundwater are heavily monitored. It's addressing a 50-year-old issue. Improved precision irrigation helps. Regulated pesticide program since 1976. These valleys hold smog and create bad air quality. The highly urbanized population, biggest in the US, votes on regulations, ag is forced to make changes or a least provide feedback on why these regulations will not work.

Healthy Soils Program- Drive carbon and store in the soils. On farm water usage efficiency, pollinator health, and build up soil organic matter, productivity and nitrogen monitoring programs, reduce greenhouse gas emissions, 4th largest wine producer in the world.

Agriculture in general has seen a 1,400% increase in policies and is the #1 in cash receipts for the state of CA.- \$60 bil. The #2 spot is very much lower, almost half. 25,000 farm members, which is only 40% of growers, have an avg farm income approaching \$1mil each. Farm Bureau has 75 people working on behalf of ag in this state with 21 districts and 54 counties. A huge supporter of CA ag.

Labor, water, energy affordability, and land issues (William's act,) tax credit or less tax on your area, pressure from solar and predators (wolves,) legalities dealing with electrical line and power grids are all issues growers deal with day to day. Farm Bureau has an overall goal to support and educate on what it takes to produce food, fiber, and energy in this state.

Karis Fischer reviewed water issues- 171" rainfall on the mountain tops and 1.8" at the bottoms. It's all about snow melt. Prec x pop x land cover. How do we get water from there to here for crops and people. State is dependent on water delivery. Just under 60 mil people population. Californias delta is the biggest natural freshwater estuary in the US. actually, pushing water up hill. Majority of the delta is below sea level. The delta has outdated infrastructure. Karis gave us an explain about the Orval dam busting and spilling downstream. There are species that are becoming extinct which thrive in these areas. Lots of legalization on this topic. Which is preventing the delivery of water to protect the species. And issues within this of salt in the water that builds up as it moves down stream.

Water Rights Regulations- 3 types. Riparian rights- land must touch stream. Cannot store water. Pre-1914- state board permits water use. First in time, first in right. Littoral rights- Non flowing bodies of water or groundwater.

Water Regulation Laws- Buy permits for water, \$6-8/ac up to \$38. Must monitor, and report. Lots of groundwater is legacy nitrate contaminated. Cannot discharge any waste on land. Looking to potentially cap nitrogen application to no more than 50 lbs. n/ac on any crop.

Hot topics in water- Regulation. Government has taken over two basins to make plans better than what locals are doing (so they claim.) Supporting salmon and other fish habitat and quality control. New infrastructure- new dam, delta conveyance tunnels, and a dam expansion. Water rights- Accounting for tribal and cultural needs (equity.) Human Rights to Water- Clean drinking water. Ag has property rights, urbans have votes and dollars. Environmentalists have co-opted urbans over ag.

Brian Little and Matthew Bole- These guys talked about Immigration- Labor force is in the mid-40s and getting older. No outside labor coming in and no younger labor to be found. Cost of labor is \$16.50/hr.

Peter Ansel- Insurance- The insurance crisis has a direct correlation to wildfire. State Farm is 22% of market share, at 28% YOY increase. followed by Farmers at 15% and a 15% rate increase. 123% residential increases since 2021 of renewal plan growth. Average farm size of 400 ac. Pacific/Palisades fire cost \$5,398mil. What's going to happen? Dept of insurance is working to modernize regulations for catastrophic events.

Steve Federeloi- Livestock and the imminent threat of Grey wolves which are endangered and protected. There are 10 packs in northern CA. Heavily restricted to shoot or even harass.

Now for the Fun part- After hearing what the government thinks, let's start the farm tour and hear firsthand from the local growers! Tim Nuss- Check him out on "The Modern Farmer" podcast. Growing acres and acres of garlic, banana peppers, bell peppers, jalapeños, tomato and basil just to name a few. Tomatoes can be 58-62 tons per acre. A fascinating stop to get our first example of true CA ag.

Day 2, Tuesday- Lodi Farms tour. 1,800 acres of fiji and pink lady apples, cherries, olives, and walnuts in the northern San Joaquin Valley. Several short bus stops at each crop made for an exciting Q&A with Mr. Jeff Colombini, President.

Next stop is at Pearl Crop- Ulash Turkhan, owner and CEO, runs a dried fruit and nut processor and began in 2007. It's a family business with three generations in the making that combines

historical knowledge and expertise with new innovations in processing. California is home, but their reach and reputation for quality extend around the world. The company exports almonds and walnuts to more than 45 countries, and it creates more opportunities for local growers to have their products utilized in the best way possible. Ulash is also Co-Founder at Octonuts. He was gracious enough to send us out with several samples!

Next, we load the bus and head to Mapes Ranch. The ranch is a 3,500-acre diversified farming and cattle operation producing almonds, wheat, tomatoes, alfalfa, corn, grapes, oats, barley, beans, forage mix, and melons adjacent to 3,000 acres of rangeland. Here water is plentiful due to the Pre 1914 water rights regulations. Bill has implemented several conservation practices to create a fail proof productive farm for many more generations to come. Bill was also our host at an evening reception where he shared more stories and history from his 60+ year career. Bill was once the CA Sec. of Agriculture as well.

Day 3- Up the elevator to the top of the hotel to meet with the Almond Board of California. Here we learn about the CA ag leader program. A great comparison to how our TALL program is set up.

Almond Association Sr. manager Bryce Spycher recapped his CA ag Leadership experience. He recommended books “Primal Leadership” and “Leadership and Self Deception.” More on the Almonds- 1.526 mil acres of almonds. 7,600 growers. Many below 100 ac. 100% of us production, 80% worldwide. Top US specialty crop. 75% are exports. Tariffs have changed since 2019. China is buying less, and Africa is buying more. Duty free tariffs in Morocco, Africa is reason for the increase. Almond hulls for food anyone? They have already been fed to dairy, why not humans? The board works to push and build on the health aspects of almonds to the public.

Next on the route, all the way to California for a tour, is Hilmar Cheese located in Hilmar, CA. Makes sense because no tours are given in Dalhart. This is the original location producing over 2 million pounds of cheese per day. A nice stop with lunch.

DeJager Farms- Nae Ray, general manager in charge of 17,000 acres of mostly forage crops along with permanent and other rotational crops. Nae joined our bus tour to explain how he

successfully manages these 8 families' independent resources and independent dairy operations while on our moving tour. All family but operated separately. Don't ask me how that works...

Live Oak Farms- Briana Giampaoli, family farmer and owner is a fourth-generation member of the Live Oak Farms family, approaching 100 years of business. Here tomatoes, bell peppers and jalapenos are grown, unloaded, cleaned, sorted, packaged, and shipped to provide customers with a year-round consistent supply. They focus on their family legacy of sustainability and quality.

Wylie Farms- Mandarin and navel oranges. Also known as Cuties or Halos. Name change from a landowner/grower split. But still the same orchards. Shifting to organic. Justin Wylie also grows pistachios, pomegranate, and almonds. Justin shared a personal story of his child with autism and his amazing recovery with an all-organic diet. Justin uses sodium chlorate to treat his salty water by lowering the pH, but with this he is losing organic matter and microbial activity. This is where the MyLand system was incorporated to feed good biology into the soil. Representative and former TALL graduate Jonah Parker was present to give us the scoop and show off the impressive enclosed MyLand setup.

After a full day of field tours we met for a reception and dinner hosted by the Western Agricultural Processors Association, California Cotton Ginners and Growers Association, California Fresh Fruit Association, and Fresno County Farm Bureau. Roger Isom, President and CEO of CCGGA and WTNA introduces his guests and begins with issues facing ag. Set to be all electric by 2040! Not even possible. But ag groups must prove why not. Can you imagine electric forklifts successfully moving around wet/muddy/rough terrain fields? Improving air quality. Remember CA is a desert in a valley that traps in smog. Nitrates in water- working on building a database of N and crop usage. The state is working on data to tell a grower how much nitrogen to use on a specific crop. Worker standards in heat and cool. Labor and financing. Consider blueberries- 3 types: blue-pink-red. With a 8–10-day shelf life. These must be picked by hand, packed, shipped and into store fronts in a hurry! And there is a huge decline in cotton. 1+ mil acres down to 107,000 acres in 2025. 130 gins down to 13 gins today. Each guest gave an overview of their area of expertise as we continued.

Day 4. Final day. No water in the hotel but off with an early start on the charter bus to visit the J.D. Heiskell & CO Mill in Pixley, CA. Matt Creighton is a large cotton hull broker who buys product from Texas cotton growers to use in their mill. He gave us a tour of the facility to show the real demand for feed necessary for cattle in the area. At this mill, most product was in pellet form for ease to mix in rations.

Next stop we headed to Hansen Ranches where a historic lake was once full. The land was levelled and manmade canals moved the water out. Home to several thousand acres of prime farmland now. Ideal conditions for Pima cotton, corn, wheat, CBD hemp, and a few pistachio and almonds orchards. They do have their own struggles. Corn is readily available. It yields well consistently over 35 tons/ac YOY. Not much profit in Pima cotton farming but most of this is grown for seed production. Water is bought in this area and is far along this list of availability. All depending on the reservoir's level and usage up stream. Our cohort was fortunate to drop in on an active pistachio harvest. It is impressive to watch the equipment harvest the tress, the labor involved, and the regulations incorporated to raise this unique crop.

We finish up the ag tour with a ride up into the Sierra Nevada Mountain range to check out the huge Sequoia tress. We were fortunate to have Kelly Kucharski with the Sierra Resource Conservation district hop on our bus to give an overview of the mountain range as we travelled to the visitor's center and home of the biggest and tallest tress in the world. Unique to this area only. 102 ft. base makes a big tree!

We finish the evening at Denham Forest, home of Joe Denham. President & Board Director - Sierra Resource Conservation District. A Fresno County native, Joe was a firefighter for the US Forest Service. In 2020, his family moved to a property that was affected by the "Creek Fire." After joining the SRCD Board, Joe became a leader in the firefighting community and has helped certify eight additional Firewise Communities. One of his goals is to ensure all residents in the area join a Firewise Community. Joe's dedication to being a steward of this forest was clear throughout the evening. And I might mention he cooked; had someone cook, some fantastic pizza in a homemade pizza oven. A great finish to conclude our trip in California.

In conclusion, this 5 day tour of California's agricultural landscape offered a critical perspective on an industry defined by its scale, innovation, and challenges. From the legislative talks in Sacramento to the Central Valley's diverse fields, the central themes of water security, regulatory pressures, and labor stability emerged as concerns for growers. Despite facing steep hurdles—including navigating complex water rights, adapting to stringent environmental mandates, and preparing for future energy demands—the resiliency and resourcefulness of California's farmers were evident. In the end, the journey proved that California agriculture is strong and globally important, but it faces major hurdles. Success in the future will be all about how well farmers can innovate despite tight water and tough regulations