

**October 24, 2011 - Monday**

***California Farm Bureau Federation***

Much like Texas, the California Farm Bureau Federation promotes and protects agriculture producers in the state. The state's membership consists of county farm bureaus, 53 in total with 76,500 agriculture and associate members. It is estimated that of the 32 million people in the state, only 80,000 are agriculture producers. In California, members produce over 300 commodities with \$38 billion in farm sales. The President of the California Farm Bureau is Paul Wenger. Mr. Wenger offered a very candid discussion on the issues the producers in California and what challenges are coming in the future. In addition to Mr. Wenger, Rich Matteis also participated in the discussion. Mr. Matteis has been the administrator since August 2007. As a longtime agriculture advocate, he works very closely with the elected officials to protect the producer members. Both highlighted various issues that included:

- Immigration – Agriculture in California needs a portable, migratory workforce to produce the 300 given commodities. The programs, such as H2A and e-verify, still need work before implementation.
- State Budget – California has a \$10 Billion deficient and as the result the agriculture budget lost \$30 Million.
- Renewable, Solar and Biogas Projects – Producers are concerned about the loss of prime agriculture land to the state initiatives for solar projects.
- Delta Smelt – The protection of this small fish is creating some major issues in agriculture irrigation.
- Water – Water is an essential part of the agriculture production and a war has started between the north vs. south producers. Improvements to the water infrastructure is needed with more dams/reservoirs and conveyance systems. I was shocked to hear that some farmers are paying \$1000 per acre-foot while others were only paying \$7 per acre-foot. It was explained that some producers have constructed their own water infrastructure in given water districts; therefore, reducing their cost. Each year a larger allocation is dedicated to environmental projects and urban needs, while agriculture is facing restrictions.

The main message the class received was there is an over regulation of the agriculture sector and it is changing the way producers operate. Mr. Wenger explained producers, like him, are good at what they do but not so good at telling who we are or why we do it. The California Farm Bureau was the first stop the class made that week and gave everyone a good overview of the state's agriculture issues.

***California Department of Food and Agriculture***

The class traveled to the California Department of Food and Agriculture to hear from the Secretary of Agriculture, Mrs. Karen Ross. Prior to the 2011 appointment, Mrs. Ross had a vast leadership experience with the U.S. Department of Agriculture, California Association of Winegrape Growers of America, California Wine Grape Growers Foundation and Vice President of Governmental Affairs for the Agricultural Council of California. I was also impressed with her agricultural background being raised on a farm in Nebraska.

As the Secretary, Mrs. Ross discussed California Agricultural Policy and her office's role in keeping California the most productive agricultural state for more than 50 years. Her philosophy on any department program is to communicate who, when, how and why the programs exist. The largest division is plant health, then animal health division and the weights/measures department. Pest dominate the department's time and budget, with the nursery industry being a large part of the pest eradication program. The department has also engaged in social media, targeted their communication efforts to stakeholders and uses food as a portal to the

urban communications. A very interesting approach was mentioned by Mrs. Ross, the U.S. Farmers & Ranchers Alliance. This group has created the Food Dialogues in an effort to create a dialogue with Americans and answer those questions they have on how food is grown and raised, impacts to health and to the planet. Another successful approach has been the California Leafy Green Products Handler Marketing Agreement. The handler's membership requires compliance with accepted food safety practices and is subject to governmental audits. The goal is to work together to protect public health by reducing potential sources of contamination.

Mrs. Ross stressed that agriculture producers should speak from a values position. When you do that you present your position with feeling for what you are doing. I was impressed by this. So many times you hear not to let your emotions show in responses; however, the opposition is very passionate about their feelings. Agriculture should do the same in some situations.

### ***Assembly Committee on Agriculture***

Our final stop for the evening was to the Assembly Committee on Agriculture. There we were greeted by Mr. Jim Collins, Chief Consultant to the Assembly Committee on Agriculture. Mr. Collins explained how the committee consists of nine members and works for the speaker and chair. He explained the procedural aspect of California politics. His main job is to provide a policy analysis for the committee and floor that presents the facts and issues. In a handout provided by Mr. Collins, the top ten commodities were ranked in gross receipts. Those commodities included milk, grapes, almonds, greenhouse/nursery, cattle/calves, strawberries, lettuce, tomatoes, pistachios and walnuts. It was interesting to me that with the low milk prices in 2009, milk still remained the #1 commodity. In 2010, a total of \$37,521 Million in farm sales represented all commodities. This was a 9% increase from 2009 farm sales. The largest growth was seen in pistachios with a 95% increase in 2010 to \$1,274 Million.

Another very interesting handout from Mr. Collins, indicated the impacts of the 2011-12 State Budget would have on agriculture. In previous presentations earlier in the day, the class heard about over regulations. One particular bill approved the Governor's proposed fund shift from the general fund to fee-supported special funds. In addition to the regulations, the producers are having to pay fees as well. Agriculture is facing drastic cuts in all areas. As I reviewed the members of the Senate in the Senate File, I noticed only one senator had an occupation of family farmer. Similarly to Texas, the agricultural background of legislators is becoming too few.

### **October 25, 2011 – Tuesday**

#### ***California Farm Water Coalition***

Mr. Mike Wade is the Executive Director for the California Farm Water Coalition. The coalition began in 1989 and was designed to promote what farmers do with the water to grow the food, fiber and nursery products that makes California a leading agricultural state. Membership consists of 350 members that represent irrigation/water districts and individuals. The primary goals of the California Farm Water Coalition are to serve as a voice for farm water users, to educate the public about the benefits of irrigated agriculture and to represent irrigated agriculture to the media. The coalition presents the facts to various myths about California agriculture and its use of water.

It was interesting to hear that the first water rights were given in 1850 to Henry Miller. Later in 1930, the State Water Plan was created and then became The Federal Central Valley Project in 1940. The project was meant to control the salinity and provide water to the Sacramento-San Joaquin Valley. The controlled releases of water from upstream have helped control the salinity intrusion in the Delta but water supply has been reduced. According to the California Farm Water Coalition, the Central Valley Project comprises of 20 dams/reservoirs, 11 power plants and 500 miles of major canals with conduits and tunnels. The project delivers about 5 Million acre-feet for farms, which is enough to irrigate about 3 million acres or 1/3 of the agricultural land.

It is estimated that California receives 200 Million acre-feet of water from rain, snowfall and inflow from upstream rivers in a given normal year. It is estimated that around 55% is lost to evaporation. The remaining 85 Million acre-feet are used for environmental use (40%), agriculture use (35%) and urban use (9%). Between 1967 to 2000, the applied water increased 2% per acre, but production has drastically increased by 89%. While agriculture is making great strides in water use efficiencies and conservation, water allocations are being reduced each year. The big picture that I took from the presentation and from the literature, is that California agriculture is fighting to keep their livelihood as they know it and also ensure the reliable and reasonably priced food source that the urban users are accustomed to.

### ***San Luis Delta Mendota Water Agency***

Upon completion of the presentation, Mr. Pat Bell gave us a tour of the C.W. "Bill" Jones pumping plant. The plant lifts water from the Sacramento-San Joaquin Delta into the Delta-Mendota Canal and then discharges the water at three points for about one mile. The impressive plant contained six turbine pumps with a total pumping capacity of 4,600 cubic feet per second. The pumps are six stories in height. Each day the districts submit their water orders by 9am. The water is released and is pumped through over 110 miles in the canal for distribution. This accounts for around 9,000 acre-feet per day. The massive size in the pumps, electrically equipments and storage were definitely something to see.

### ***Lawrence Berkeley National Laboratory***

Our final tour of the day was to the Lawrence Berkeley National Laboratory to see the Advanced Light Source. The Advanced Light Source is a third-generation synchrotron. The lab is dedicated to scientific research by using particle acceleration that generates light beams of x-rays. The lab employees 4000 employees, mostly consists of scientists, engineers and students. To date, twelve Noble Prize Winners of Science has come from the Lawrence Berkeley National Laboratory. Most notable achievements of the lab are the Cyclotron: modern high energy physics, Nuclear Medicine, Identification of HIV as a blood borne pathogen and others. It was very interesting to hear how so many professionals and students from all over the globe wait for their chance to utilize the cyclotron for a given time slot. The tour showed the complexity of the lab and the highlighted the research that has been accomplished and is still ongoing.

### **October 26, 2011 - Wednesday**

#### ***Ocean Mist Farms***

In reading the company history, I quickly learned Ocean Mist Farms is a family farming operation that started back in 1924 and has grown over the years to lead the commercial growing and shipping of artichokes from Castroville, CA. The vast commodity list for Ocean Mist and Sea Mist Farms include: artichokes, broccoli, English peas, cabbage, cardone, fennel sprouts, asparagus, cauliflower, celery, corn, green onions, and iceberg lettuce. The company employs almost 1,500 people in the various stages of operation. The farm has satellite operations in Coachella Valley, Oxnard, Huron, CA and Yuma, AZ and Mexico.

The class arrived in the artichoke field before dawn. The farm manager, Chris Drew, gave us a tour and quick overview of the artichoke crop. Ocean Mist Farms grows approximately 3,000 acres of artichokes. I was shocked to learn the life span of the plant is 15 years. Artichokes are harvested weekly, about 360 days a year. As Chris highlighted the management of the farm, you could quickly tell this is a labor intensive operation.

The tour continued to the Ocean Mist Farms office and shipping facility. The class heard from Joe Pezzini, Chief Operating Officer, about the importance of food safety and its implications. Mr. Pezzini gave an overview of the Spinach crisis in 2006. Considering that there are 32,000 acres of spinach grown in the United States and 70% of the bagged spinach comes from California, the crisis had a drastic effect. There were 205

illnesses and 3 deaths from the E.coli O157.H7 outbreak. It was estimated that it caused a loss of \$100 million in sales and crop losses. He discussed the importance of media output and how he personally learned during the crisis on how to present information. As a result in 2006, the industry recognized the need for mandatory food safety standards. The industry through marketing agreement created the voluntary Leafy Green Program. The program is mainly voluntary best management practices with a governmental audit. It is estimated by the state that 99% of the producers are in the program. During our week in California, the program is widely recognized by many as a success and something to be modeled by other industries.

Not surprisingly, our next speaker was Jorge Suarez, Human Relations Director for Ocean Mist Farms. Of the 1,500 employed by the farm, nearly 1,200 individuals are ranch workers and harvesters. This labor intensive operation includes irrigators, foreman-supervisors, mechanics, farm labor contractors and truck drivers. I viewed labor as the most important issue effecting Ocean Mist Farms. Mr. Suarez discussed his challenges in this labor intensive business and indicated that 60% of his time is spent on this issue. It has been estimated that there are 1.6 million hired laborers in agriculture and 85% of the farm workers are foreign born.

He actively uses the H-2A program and gave us an overview of the issues they have faced. The program is administered by the Department of Labor and is a temporary program established for agricultural workers to bring nonimmigrant foreign workers to the U.S. to perform agricultural labor on a temporary or seasonal basis. I was shocked at the length of time it takes for the farm to obtain their H-2A work visas and the difficulty for agriculture employers to deal with the Department of Labor. On average, the program generated 22 days in delays on the sites. It has been reported that ½ the employees are not satisfied with the program and have contacted congress. The agriculture sector has reported losses around \$320 million. Only 2-3% of the labor needs are provided by the H-2A program. Mr. Suarez discussed some other options that are being discussed by the government, such as e-verify. The programs being created to deal with agricultural works have far reaching effects on the farm, local and national economies and even the U.S. demographics. While labor issues were discussed in a great deal, other emerging issues were briefly discussed. Those included China and European demographics and the economic power of the Chindia (China & India) in the future.

### ***Minturn Almond Huller Cooperative, Inc. & Minturn Nut Company***

After a wonderful lunch at the Riverview Ranch family park, we proceeded to the Minturn Nut Company, Inc. As we road on the tour bus, it was obvious to see that almonds are a large part of the agriculture sector in California. California grows 100% of the domestic almonds supply and 80% of the worlds almond supply. The Minturn Nut Company grow and process California almonds. Minturn Nut Company, Inc is owned and operated by a grower-owner base. The company was formed in 1996 as a means to better control markets, increase flexibility in distributing the growers almond product. Our tour began at the processing company. Mr. Hamilton discussed the Minturn Almond Huller Cooperative. He explained the almond production and how the life span of a tree is 25 years, with the first real production occurring in the 4<sup>th</sup> year. The almond yield in the area averages about 2,220 lbs/acre and are selling for \$1.75 per pound. The huller received commodity from the field and processed the product. The almond season runs from August to January each year. Mr. Hamilton explained to the class that only 25% of the harvested product is meat and the mill will produce around 70 million pounds of meat a year. The remaining harvested by-products are sold as commodities. One by-product is used by the dairy industry as feed. Our tour began at the processing plant and moved to the Minturn Nut Company adjacent to the site. Mr. Keith Rigg gave the class a tour of the processing site. The nut company takes the milled product and further processes, sorts and grades the nuts to process 72 million pounds of nuts a year. The company distributes the almonds grown by the producers in the cooperative. Minturn export almonds to more than 50 nations. Approximately 30% of the business goes to the "in shell" market, which primary are shipped to China and India. Mr. Rigg discussed how the almond industry has done a good job in their marketing strategies to create a need for their product. The last decade has seen sustainable growth in the industry.

### **Bright's Nursery Antique Tractor Museum and Ranch**

Our final stop of the day was to Bright's Antique Tractor Museum and Ranch. Prior to our museum tour, Mr. Bright gave the class a quick overview of the almond tree and their rootstock. This was extremely interesting. Mr. Bright's father, Author back in the 1970s began planting hybrid seedlings with almond and peach varieties interplanted. The results were successful and the Bright's Hybrid rootstock is well known for its vigor and reliability. I was amazed at how the seedlings are graphed from various rootstocks to create an almond tree. I would have loved to hear more about this process and got to see the nursery. The museum gave you a true picture of the love the family has for farming and building things. The Bright family has many "gems" in the museum. Mr. Bright told how the Smithsonian Museum has been to view their tractors.

### **October 27, 2011 - Thursday**

#### ***Red Rock Ranch, Inc.***

Red Rock Ranch in Five Points, CA is owned by John Diener. The ranch farms 7,000 acres of fruit and vegetable crops. Mr. Diener explained benefits of ranching in the California valley. The area is known for its Mediterranean climate, where citrus, fruits and nuts thrive due to the warm days and cooler nights. Almost daily the temperature shifts 30° and there are period of almost 180 days without rainfall. The largest challenge facing his farm is water and the fight to keep it for agriculture. He explained that 75% of California's large population lives within 60 miles of the ocean. Every one acre of house/residential is equivalent to one acre of agriculture production. With the growing population, water is reallocated from agriculture to urban uses. It takes 2.5 acre-feet of water to run a house of four for a year. Mr. Diener further discussed the need for resource management in the regulatory world and the balance on the political side.

As we toured the Five Points area, Mr. Diener discussed some of the input costs are various crops. For example, grapes have an input cost of approximately \$15,000 per acre and are a slow return on investment. Lettuce cost \$2,500 to \$3,000 per acre to produce a 60-day harvest. The largest costs include water, land rental and labor. For his area, the water cost is \$96 per acre-foot this year. During the tour, we got to witness lettuce harvest and the labor needs associated with this crop. I also noticed the solar panels being installed next to agricultural fields. Mr. Diener explained his concerns over how prime agricultural farmland is being replaced with solar panels. I enjoyed the tour and learning about the crop production aspects of Red Rock Ranch, Inc.

#### ***Citrus Mutual***

California Citrus Mutual (CCM) is a producer's trade association representing members who farm over 250,000 acres and generate around \$1 Billion in farm gate. The association was created in 1977 to represent their members in matters affecting their economics and also provide an avenue to gain information to be profitable. Mr. Joel Nelson, President and CEO of the California Citrus Mutual, discussed with the class the creation of and his job within the association. Among the various goals of the association, the CCM monitors and is involved in the regulatory and legislative processes of government that results in an economic impact to the growers. A regulatory analysis between California and Texas indicated that regulatory costs per acre to farm citrus in California were \$347 versus \$55 in Texas. It is estimated that the cost will rise due to air regulations to over \$400 per acre. The majority of his time is spent in the regulatory arena. In addition to the regulatory issues, the CCM has developed and coordinated other means to monitor seasonal and long-range marketing activities. The association believes in open lines of communication and cooperation. This includes the growers, suppliers, packers, researchers and marketing organizations. CCM believes this approach has been extremely successful for them.

#### ***California Agricultural Technology Institute***

Our final stop on the California trip was to the California Agricultural Technology Institute (CATI). Mr. Joe Bezerra, Director of Operations, introduced the class to the institute. The research priorities at CATI include

climate change/air quality, food safety/security, water, energy/alternative energies, environmental, invasive species and public health/safety. Due to the nature of the commodities grown in California, the safety and security of the exported food products is extremely important. The remainder of the discussion was highlighting some of the research projects at the institute. CATI is generally funded in a 3:1 ration of state versus private funding. The current projects and research results can be viewed at <http://cati.csufresno.edu/>. Additionally, I found the CATI updates to be very informative and offer a quick overview of the projects at <http://cati.csufresno.edu/publications/update/>.

### ***Conclusion***

As the week closed and as I looked back on the week, I was amazed with the volume of agriculture production and the diversity of the various commodities in California. Over the years, I have only heard about the vineyards and dairies. It was evident why California is a leading state in agriculture production. The trip was productive and opened my eyes to a vast array of commodities in such a unique climate. This was my first time in California and I definitely plan on going back to see the coast and other agricultural areas.

## **TALL XII, Session 6, California**

As a Texan, I naturally just assumed that we are the biggest agricultural state in the nation; as much as I hated to admit it, I was informed several times on this trip that California is in fact the largest agricultural state. Though I tended to think about their larger cities and coastal areas, a large part of the state is dedicated to agriculture; and I must admit I was very impressed and in awe of their production capabilities. They face the same issues we do, but at a more amplified level. I may not have even known I was in a different state based on some of the topics covered: immigration, water, labor issues and government regulations (ok, that was the one topic that let us KNOW we were in California. All kidding aside, we were made more aware of the power various anti-ag political groups have, and we have to look at California as a precedent for what could happen in other states. We should be preparing now.

**Monday, October 24, 2011**

### **California Agricultural Policy Briefing, California Farm Bureau Federation**

During our first meeting we had the opportunity to hear from Paul Wenger, President of the California Farm Bureau Federation and member of the California Ag Leadership Program (CALP) class 17. He gave us an overview of California agriculture and ag policy. He made us aware that if Texas and Iowa were combined, we would still be the 2<sup>nd</sup> largest ag state behind California. Water and immigration are two issues at the top of the ag policy list. California's water system was built for 18 million people and there are now 32 million people, clearly this is presenting some problems. Fights for water are erupting across the state. They have Reasonable Use Laws for water that provide guidelines for what they can and cannot use water to accomplish. Just within the past couple of weeks a law was passed to keep grape farmers from using water to prevent frost on their grapes. In the San Diego area farmers are being forced to pay \$1,000 per acre foot of water. This year the Sierra Nevada Mountains had 165% of normal snow pack and farmers still couldn't get the water allocation they needed.

Immigration is another issue that has farmers very concerned. California's farmers are dependent on foreign labor to harvest their crops. They are terrified about the E-Verify program. Some Americans argue that immigrants are taking jobs that U.S. citizens could be doing, but the farmers here can tell you that is not the case. Americans won't do these jobs no matter how good the pay and part of this is because of the migratory nature of the work. Most immigrants migrate around to different farms during the harvest season and then go back to Mexico when they are done. By making it harder for these workers to come over, we are encouraging them to find money in other ways, like by running drugs across the border for instance. This was an enlightening talk because it is very easy to get frustrated

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about the immigration process, but it is not an easy fix. There is no doubt that something needs to be done to create a guest worker program. Our farmers depend on this portable work force and we need to avoid regulation that keeps this workforce from coming over all together; it would be to the detriment of the ag industry.

Rich Matteis, Administrator of California Farm Bureau, has been with Farm Bureau for 30 years in Sacramento. He spoke to us more about California's government and policy. The House of Representatives is dominated by democrats; the Senate has a 50/50 split. Because of the frustrations behind e-verify and the immigration issues, some farmers that mostly lean republican are becoming frustrated with the party and are considering the democrat party. California had a \$10 billion deficit this past year so there is a large focus on spending cuts. The \$90 million general fund that was dedicated to ag has now been cut to \$31 million. This has been a blessing in some areas in which funding has been cut for regulatory agencies, but the crunch is felt across the industry. California has a 12% unemployment rate, but there is still not a move of people to agricultural jobs. California is known to be a "green" state and a big concern of California farmers is that prime farmland will go into solar projects (this is already happening in some of the best farming areas). California has the Williamson Act, which helps to protect farmers and ranchers; they are taxed less if they agree to continue farming the land for 10-20 years. Mr. Matteis reiterated that the key issue they face is over regulation. California has abundant resources suited for agriculture but the regulations such as requirements for air permits, irrigation evaluations and the Reasonable Use law for water make it hard to thrive in agriculture in this state.

California has an initiative process in which citizens can collect signatures to get a proposal put on a ballot. Prop 2 was a product of this process. The initiative process has been helpful to the ag industry in many ways, but Prop 2 is one example of how scary and crippling the process can be especially if a well funded organization such as HSUS is behind the proposal.

Jack King, who has been with Farm Bureau for 38 years just had a few minutes to address us and chose to reiterate some points on immigration. California has been butting heads with Lamar Smith and they see real problems down the road with immigration reform. California employs 400-425K ag workers each year; 300K are year round and the rest are seasonal. California farmers cannot function without the immigrant work force. Mr. King stressed that we need to educate people on how important this work force really is and that there is a great need for a guest worker program. We are unintentionally pushing migrants to become drug runners because they get paid to do it. He also noted that only 30% of foreigners that obtain green cards become citizens. Most of them just want to come over here, make money for their families and then head back to Mexico.

We really appreciate the time that these 3 men set aside to discuss California's ag industry. Mr. Wegner summed it up well when he said "As farmers and ranchers, we



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are good at what we do, but we are not good at who we are.” This was a challenge to us to make sure that we are telling our stories on a daily basis and educating the public on the importance of agriculture; we do feed the world after all!

### **Karen Ross, Secretary California Department of Food & Agriculture**

We walked over to the Capitol building to hear from Karen Ross, the Secretary of Agriculture in California. We had an informal meeting in which she discussed some of the topics we wanted to discuss. Again, we heard about some of the crippling regulations they face. In one case, they used some general fund dollars to develop a program to eradicate an apple moth that came from south of the border. They were sued by an activist group and had to stop the program to the detriment of the apple industry. California has the largest urban population but is also the largest agriculture state so it is hard to find middle ground between both extremes. She mentioned Prop 2 and stressed that it was a ballot initiative that passed by a large margin. Other states need to be fearful that this is headed down the pipeline. One organization that is making strides in portraying ag in a positive light is the U.S Farmers and Ranchers Alliance. They are using social media to make sure that the real story is told and that certain isolated incidents do not represent ag as a whole. Secretary Ross also talked about the issues they are beginning to face with the Marijuana industry. The industry is beginning to compete with agriculture because they have guns and they pay in cash. It is making it hard for produce farmers to compete. This is an issue that will continue to be closely monitored and has the potential to become a pretty large disaster in a hurry.

### **Jim Collin, Chief Consultant, Assembly Committee on Agriculture**

Mr. Collin met with our group to give us a California Agriculture Policy Briefing. The committee has 9 members; 5 democrats and 4 republicans. Members can be removed by the Speaker at any time. The legislative process works much like it does in Texas, however they are in session every year from Jan-Sep. The general fund has a shortfall of \$15 billion. The consequences have been cuts in agricultural funding. The top 10 commodities in 2010 were milk, grapes, almonds, greenhouse/nursery, cattle, strawberries, lettuce, tomatoes, pistachios and walnuts. He gave us several handouts which can be found at [www.assemblyca.gov](http://www.assemblyca.gov).

### **Tuesday, October 25, 11**

Tuesday morning we traveled to the Jones Pumping Plant in Byron, CA. Mike Wade, executive director of the California Farm Water Coalition greeted our group and spoke to us about California's water issues. California has abundant water supplies in the northern part of the state with the rivers and runoff from the mountains. They use pumps to pump water through canals to the southern part of the state. In the northern part of California some farmers pay \$4-5 per acre foot of water due to accessibility and grandfathered water rights, whereas farmers around San Diego have to pay as much as \$1,400 per acre foot because of the cost of getting the water

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down there. The pumps have been instrumental in getting water distributed to farms across the state. The Farm Water Coalition was formed to talk about how farmers use water and the issues they face and explain the water usage. It is a membership based organization with 350 members made up of ag districts, farmers and agribusiness. Delta exports have been at the forefront of criticism, but most reservoir releases go to uses other than exports. Of the 34 million acre feet diverted only 6 million acres are exported. They have received some backlash from groups saying that they are disturbing the natural habitat of the delta. Mr. Wade explained that 90% of the biomass of the delta is foreign due to the introduction of striped bass by sportsmen groups, the pollution by industrialism, and other invasive species. Pumping contributes very little to any change in the ecosystem, but groups are trying to prove that pumping is harmful to the ecosystem in order to put agricultural land out of production. From 1967 to 2000 applied water increased 2% per acre while the production value of crops increased 89%. Farmers are becoming more efficient and improving the soil in order to use less water. More information can be found at [www.farmwater.org](http://www.farmwater.org).

Next Steve Larsen, Maintenance Manager of the San Luis Delta Mendota Water Agency, gave us a tour of the plant. The plant is government controlled even though it is run by the agency. The plant lifts water from the Sacramento-San Joaquin Delta into the Delta-Mendota Canal. The intake to the pumps is about 9 miles northwest of Tracy, CA. We were able to walk through the entire plant and see the process by which the water is pumped to an area that is then distributed south through the 116 mile canal that ends at the Mendota Pool about 30 miles west of Fresno. Six pumps, each powered by a 22,500 horse power electric motor, lift Delta waters about 200 feet from the intake through three discharge pipes, which then carry it up a distance of about 1 mile to the Delta Mendota Canal. Power to run the pumps is generated by CVP facilities. The total capacity of the plant is about 4,600 cubic feet per second. At the intake channel is a fish screening facility designed to intercept migrating fish and allow them to be returned to the Delta waters. This was a fascinating tour and we are grateful to Mr. Larsen for the informative tour.

### **Rocky Saunders, Emergency Services Manager, Lawrence Berkeley National Laboratory**

Mr. Saunders, member of California Agriculture Leadership Program class 14, welcomed our group at the UC Berkeley campus. He gave us an overview and history of the laboratory. The lab is 100% funded by the Department of Energy. Several Nobel Peace Prize winners have come from Berkeley and with them has come great advancements in science. They have been working extensively with nanotechnology in which they can split something the circumference of a strand of hair into 80,000 pieces. This way they can get to such a finite level, they can deal with virus particles and study atoms. At this level, they can also make something as simple as a rope 1 million times stronger. The goal of the lab is to solve the most pressing and profound scientific challenges of our time. Some of the projects and discoveries that came out of the lab are the Cyclotron (a machine invented by Dr.

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Lawrence to study atoms by moving them around a circular magnet and crashing them into each other at almost the speed of light), the Manhattan Project, Nuclear Medicine, identification of HIV as a blood borne pathogen and Vitamin E.

There are different departments within the lab. Some of them are working directly with agricultural projects. The Joint Genome Institute is piecing together the genome of plants to produce fuels. Work is being done on using switchgrass, which does not compete as an animal feedstuff.

Dr. Douglas gave our group a tour of the plant. We were able to actually see the Cyclotron. I tried to grasp at the bits and pieces of information that weren't flying over my head, but they were few and far between. I think more than anything I was just in awe and fascinated by the intelligence of some people and the strides that are being made in science.

### **Ocean Mist Farms, Artichoke Field**

At 7am in Castroville, it was still too dark to see the fields which was surprising to me since this is the Sunshine State and all. By 7:30 we were able to see the sea of artichoke plants sprawling across the Artichoke capitol of the world. Chris Drew gave us an overview of the field and some background on the plant. Artichokes are native to the Mediterranean and can be traced back to India. They were introduced to California in the early 1800s. Artichokes are perennial plants; the part we eat is actually a flower and the plant is part of the sunflower family. At Ocean Mist Farms, the plants are moved about every 15 years to increase production and put nutrients back into the soil.

Ocean Mist Farms was started in 1924 and they grow more than 30 products including artichokes, spinach, fennel, radishes, lettuce, cauliflower and leeks. The artichokes are all harvested by hand mostly by migrant workers. The bags end up weighing about 100 pounds by the time workers get to the end of each row. They are harvesting now and will be for the next couple of weeks. The fields are irrigated with a drip sprinkler that uses recycled water. The water goes to a treatment plant and then is reused on the plants. Water conservation is very important to Ocean Mist Farms. They anticipate their water use and order it each week from the district to ensure it is in the system when it comes time to water. They spray pesticides as minimally as possible. The main predator is the artichoke plume moth, which is a worm that feeds on the plants. They trap these worms and when the number of worms begins to increase, it indicates a flight season and they will spray the plants to prevent destruction. About 40% of the plant matter is returned to the soil as organic matter. They generally only have to add nitrogen to the soil because there is so much P&K naturally. Ocean Mist Farms has about 75-80% of the artichoke market. It was a privilege to get to see a unique operation that we are not exposed to in Texas.

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### **Joe Pezzini, Chief Operating Officer, Ocean Mist Farms**

Mr. Pezzini spoke to us about food safety and discussed the spinach crisis of 2006. This crisis was an absolute nightmare for the spinach industry. Demand actually went to zero because FDA issued a consumer advisory to the public saying not to buy or eat spinach. California had a voluntary food safety program and one operator's negligence caused the entire industry \$100 million in losses. Out of this issue came the California Leafy Greens Marketing Agreement to ensure food safety practices are followed. The program is voluntary but 99% of producers participate because they cannot ship to Canada or Mexico if they are not following the practices. After 5 years, the spinach industry is finally seeing the demand it saw before the crisis. This issue is very similar to the mad cow incident we faced in the beef industry. Even though we are in different sectors we can all learn from each other within the industry as to how to handle these issues and push each other to voluntarily implement strict food safety measures.

Jorge Suarez, Ocean Mist Farms, Labor

Jorge spoke to us next about some of the labor issues in California. California needs 1.6 million workers every year to handle the harvest in the state. 85% of these workers are foreign and 75% of those are undocumented. California is highly dependent on this work force and is terrified of the E-Verify program. The E-Verify program passed in Georgia and it was devastating to the industry to the tune of several million dollars. The program doesn't go into effect until 2013 but the migrant workers packed up and left to other states immediately. The governor's "fix" for the program was to have inmates go in and harvest. The inmates went on strike at the end of day one complaining that the work was too hard and they wanted to go back to their jail cells. The economic downturn has not changed the fact that few Americans seek farm work. Only 5% of state agency referrals stay for the entire harvest season. Most of the workers that the state sends are either alcoholics, strung out on drugs or do not like hard work. California farmers are fretful about what is going to happen with the guest worker program and E-Verify. Right now the system is broken and none of the solutions being proposed are able to fix it. It was really interesting to get the viewpoint from California farmers. I am against and frustrated by illegal immigration, but it has been proven in California and other states that Americans will not take these harvesting jobs. There is a great need for migrant workers and the process does not need to be so complicated that it keeps these temporary guest workers from coming over. People need to look at all of the facts before just 100% saying that they do not want any migrant workers in the country at all. One thing we don't want to outsource in our nation is our food and if farmers in our country can't get the labor they need to efficiently produce our food, that is a big problem.

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### **Minturn Nut Company, Inc. - Hulling Co-op**

After having the opportunity to learn about artichoke farming, we had the privilege of learning about another “foreign” crop; the almond. California, by itself, is the largest almond producer in the world in front of Spain and Australia. Minturn Huller Co-op has an impressive factory that separates the hull and shell from the kernel (almond) so that the separate products can be sold. 75% of the almond is the hull, shell & trash and 25% is the kernel. The co-op sells the almond hulls as a feed substance to feedlots. We learned later that an almond hull has the same nutrient value as alfalfa hay. The hulls sell for about \$160/ton. Shells are used in Duraflame logs and bedding for dairies. The by-product is the major revenue source for the co-op. The co-op hulls almonds for over 300 growers. The plant runs 24/7 from August to January. The co-op put solar panels in 2 years ago and have saved 20% off their power bill.

After touring the factory, we crossed the road to the Minturn Nut Company where they sort and package the almonds. Mr. Rigg gave us some further background on the almond industry. Almond producers have doubled their production in the past 10 years; consumption has gone from 150 million pounds to 600 million tons in this same amount of time due to a marketing push in the late 90s. The almonds in the US must be pasteurized before they are sold and are sold as kernels. In shell product is sent to India and China. In India, worker shell the almonds by hand which produces a better product. In China, citizens eat almonds by first salting the shell much like we eat peanuts in the U.S. The Mercedes of the almond classes is the nonperel almond. Almonds sell on average from \$1.90-\$2.20/pound. There is an oversupply of almonds right now, so prices have actually come down over the past couple of years. Generally producers can get 2,600 pounds of almonds to the acre. The trees start producing in 3-4 years. This was a fascinating tour and was made even better by the samples of fresh almonds we tried. Mr. Rigg was kind enough to send some fresh almonds with us for our journey.

After the almond tour, we made a short trip to a museum owned by Mr. James Bright. We saw the older tractor ever made, the Aveling Porter made in 1878. The warehouse was full of old farm equipment, cars and machinery. There is no telling what some of those items would go for. It was a real treat to get to see all of these prize possessions and to have a guided tour by Mr. Bright.

### **John Diener, (CALP Class 20), President, Red Rock Ranch**

Mr. Diener met our group to discuss California agriculture particularly in the Westside of CA close to Fresno. The area is facing urban sprawl and as such rural and urban areas are competing for water. In the southern part of California people have to get water permits to build a house, up in this area they don't so more and more people are starting to build houses and take up valuable farm land and water. The Westland water district area is known for the choice citrus it produces. The

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warm days and cool nights create the perfect environment for citrus to ripen unlike anywhere else in the state. Mr. Diener reiterated that the biggest issue they face is water and there is a daily fight between the north and the south for this precious resource. Of course, much of the rulings from this are influenced by the areas with the most constituents.

Mr. Diener accompanied us on a tour via bus of the local farming areas. We were able to watch a work crew harvesting lettuce. It was amazing to see how fast and efficient the work crews were. Right now they are harvesting the fall crop of lettuce and planting the spring crop. Ninety percent of the lettuce is harvested in that area. California produces 80% of the garlic and 90% of the cannery tomatoes in the U.S. One of the most unusual sites we saw was solar panels sprawled across what used to be prime farm land. This is a frustration among farmers, but when the industry offers \$10,000 per acre for the land, it is no wonder people are selling out. It just seems like there would be better places to put them. Mr. Diener suggested that they should require them to be put on houses since they are already taking up land and kill 2 birds with one stone. I personally think that is a great idea and is a more efficient use of space. He also mentioned that Wall Street people were coming in and parking money in farmland because they needed a place to put money. He thinks that there is a bubble in farmland prices and that it will burst in 2013. The area we were driving through was a big oil area and 1/3 of the production was developed in the 1920s. It can't be drilled now because of regulations, but it is one of the largest reserves in the U.S. This was a really interesting tour and discussion and it was really neat to get to see the various crops. I've been stunned by the agricultural production in California.

### **Joel Nelson, California Citrus Mutual**

Joel Nelson and Mr. Bob Blakely of Citrus Mutual sponsored a lunch for us and Joel gave us an overview of Citrus Mutual and the citrus industry. Citrus mutual was formed in 1977 and is a voluntary member program made up of growers. They have a \$1.4 million budget. Members pay 3 cents per carton of citrus. Citrus Mutual is a spokesperson for the citrus industry in Washington, across the U.S and locally. They successfully fought the USDA in keeping lemons from Argentina out of the country. Growers in this area were the first to begin an eradication program for the Asian citrus psyllid, which is a pest that ruins the citrus crop. Citrus Mutual also initiated a study to show that the citrus industry is beneficial to air quality. They were actually able to quantify how much CO2 the trees absorb. California is the number 1 lemon producer and is the number 1 fresh citrus producer in the world. Citrus is a cost intensive business to start and production is delayed for several years after planting. For instance the California navel, which is the number one citrus commodity in the state, takes 10 years to begin offsetting the cost of planting and takes 20 years to pay off the investment. The trees live for 55-60 years. Lemons take 4 years to produce and last for 25-30 years. California has been conducting market research for the past decade on consumer taste preferences on citrus. They have discovered

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that sweetness is not the most preferred attribute. They will soon be setting a new standard across the industry of preferences so that growers can target to produce citrus that fits those criteria. Joel has been a valuable asset to the citrus industry and has demonstrated several times how important it is to approach state, local and national representatives to promote and fight for an industry.

**Joe Bezerra, Executive Director, Ag Research Institute, CSU Fresno.**

Dr. Bezerra gave us an overview of CSU Fresno and explained the research process. California State University has 6 campuses; 4 of these campuses have ag departments. The Ag Research Institute has been around for 12 years. CSU Fresno leverages public funds with external resources to fund research on issues facing agriculture. Most projects are brought to the institute by industry or regulatory agencies. They have 641 completed and active projects and only 29 that have been canceled. In order to get adequate funding, the University must stick with the research priority topics. These research priorities are: climate change, food safety, water, energy & alternative energy, environmental, invasive species and public health & safety.

California is transitioning from a commodity state to a specialty crop state due to costs and regulations that make it harder to compete in these commodity products. As such, some of the research being done focuses on these specialty crops. They have been working on finding a crop that does well with drain water with high selenium content and is salt tolerant. They've discovered that canola seems to grow well in this environment. In addition they are experimenting with camellina for "green" jet fuel. They have done research on ethanol; even though it is clean burning, it is not clean to produce. Mr. Bezerra provided us with booklets that have more information on various projects. To find out more about the work they are doing look up the Agriculture Research Institute, CSU Fresno.

**Dr. Charlie Krauter, CSU Fresno**

Dr. Krauter also of CSU Fresno was invited to speak to us about the dairy industry in California. He jokingly referred to himself as a dairy air specialist. The Fresno area has the largest dairy area in the world. This area just so happens to be in a valley that traps ozone in the atmosphere. The valley recently got a \$17 million fine because they have reached 5 violations in air quality. This fine is being paid by attaching a fee to license plate registrations. Many believed that much of the air quality issues had to do with the dairy industry. A study was done prior to 2004 that found that dairies emit 12.5 pounds / head / year of volatile organic compounds (VOCs). Opponents suggested that this research was highly flawed and that it had to be much more than that, so they approached ARI to conduct a research project on the subject. The research showed that virtually no VOCs were emitted in the lagoons, which was surprise since most people assumed it came from the manure. What they found was that the silage actually emitted the most VOCs and that the cows themselves emitted very little. The biggest emission rate was only

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2% of the estimated emissions. When the research was completed, they concluded that cows emit 12.5 pounds / head / year. The way the air hangs in the valley contributes to the ozone stagnating and sticking around but this is mostly due to cars. One scientist suggested that removing every single dairy in the area wouldn't make a significant impact on air quality. Our time was cut a little short with Dr. Krauter due to another engagement, but this was a very interesting discussion and it is good to know that research projects such as this are being conducted to clear up some of the misconceptions of the agriculture industry.

### **Summary**

I have been to California before, but only to the cities so I had a certain picture of the state in my mind and just failed to realize the vast amount of agriculture in the state. I was truly blown away by the farmland and the gorgeous scenery. I have a whole new respect and fondness for California. Everywhere we went, people met us with open arms and actually didn't seem any different from us. The issues they face are the same. As has been the case on our previous Texas trips, we didn't go to one session without hearing about water and immigration issues. California is being forced to deal with some unpleasant regulatory issues based on its urban population, but we can expect that similar groups will try to pass these same regulations in our own state. California is blazing the trail in both dealing with these issues, but also in developing practices to conserve water, farm more efficiently, work out labor arrangements and communicate their story to the public. I thoroughly enjoyed this trip, learned a lot, and really look forward to traveling back to California again at some point.