



Agriculture Emerging

Balanced Budgets, Big Decisions, Bright Future

Recent Efforts, Achievements, and Works in Progress
at the California Department of Food and Agriculture

Fall 2014





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Foreword

Agriculture Emerging

Innovation, Collaboration Feed CDFA's Success

by CDFA Secretary Karen Ross



**Like the farmers
we support,
CDFA has earned
a reputation for
innovation and
effectiveness.
I am proud of
the people here
who make that
possible.**

Positive. Productive. Creative, collaborative, cooperative ... CDFA's staff, from scientists and veterinarians to inspectors and technicians, embody these characteristics as they undertake a variety of projects and programs on behalf of the agricultural industry and the people of the Golden State. This report is our opportunity to share with you our recent successes and provide updates on many ongoing efforts. It also serves as an update to the 2013 publication "Protecting the Promise of California Agriculture," which covered CDFA's activities during the first two years of Governor Jerry Brown's administration.

Agriculture has its share of challenges, starting with the ongoing drought. Looking ahead, though, global demand for California's commodities is on the rise, and food and nutrition are front-and-center in the media and on the minds of consumers. Whether their crops, livestock and other products are headed for the produce aisle, the commodity exchange, international export or the local farmers' market, California's farmers are well-positioned to take advantage of these conditions.

Among the most significant changes at CDFA is the department's addition this year to the governor's Strategic Growth Council, which also includes agencies and departments within Business, Consumer Services and Housing, Transportation, Natural Resources, Health and Human Services, and Environmental Protection, along with the Governor's Office of Planning and Research. This core group provides local assistance grants and coordinates activities that support sustainable communities by emphasizing strong economies, social equity and environmental stewardship. When diverse agencies embrace these fundamental values and goals, the results are powerful. The inclusion of agriculture in this process is an important step.

With the Governor's leadership, the State of California is again on the rise. The budget is balanced. Businesses are getting back on track. Slowly but steadily, confidence is being restored. Throughout this recovery, agriculture has been a steady fixture in the state's economy.

This report is by no means a full account of the department's activities, but it does take stock of many of our efforts and achievements over the past few years. Like the farmers we support, CDFA has earned a reputation for innovation and effectiveness. I am proud of the people here who make that possible.

A handwritten signature in blue ink that reads "Karen Ross". The signature is written in a cursive, flowing style.

Karen Ross, Secretary
California Department of Food and Agriculture

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Drought in California

Even in a wet year, water in California is a complex issue. Storage. Transfers. Quality. Price. Efficiency. In a drought, though, the list of issues grows exponentially, exposing and magnifying problems with curtailment, local infrastructure, subsidence, groundwater management and a range of related concerns. The current drought is already claiming its place in California history as the worst in decades, with 2013 classified as the third driest year on record and 2014 providing scant relief thus far.



CDFA Secretary Karen Ross (standing) at the National Press Club in Washington DC with UC Davis professors Jay Lund (right) and Richard Howitt, co-authors of a key drought impact study.

What the coming winter provides will determine whether what we've seen so far is the problem or just the preview. Either way, California has taken an aggressive approach by dealing with localized emergencies in our rural communities, streamlining water transfers and addressing a host of policy needs – all while carefully recording and analyzing the data generated by this drought so that we can improve our preparedness for future events.

As unpredictable as weather is from day to day or even from year to year, we are nonetheless learning a great deal about climate and the broader effects of climate change. The science instructs us to expect extreme weather events to occur more frequently, so a renewed focus on preparedness is just good business.

Tracking the Drought: CDFA, UC Davis Conduct Economic Analysis to Strengthen State's Preparedness

In early 2014, as a dry winter became a dry spring, CDFA worked with researchers at UC Davis' Center for Watershed Sciences to fund and conduct a thorough economic analysis of the drought and its impacts on California agriculture.

The study finds that the 2014 drought will subtract 6.6 million acre-feet (MAF) from the surface water normally available to farmers and ranchers; this loss will be partially replaced by a 5.1 MAF increase in groundwater pumping, resulting in a net water shortage of 1.5 MAF.

(Continued on page 2)



Proposition One: Water Bond Approved

Governor Jerry Brown signed AB 1471, passed with almost unanimous bipartisan support, to put a new water bond on the November 2014 ballot. It includes \$7.12 billion in new debt plus the repurposing of existing unspent bond funds of \$425 million for a total of \$7.545 billion. None of the repurposed bond funds will be taken from existing projects. The measure passed as Proposition One on the ballot.

"Water is the lifeblood of any civilization and for California it's the precondition of healthy rivers, valleys, farms and a strong economy," said Governor Brown. "With this water bond, legislators from both parties have affirmed their faith in California's future."

The bond provides for water use efficiency and recycling, groundwater cleanup and management and \$2.7 billion for additional water storage. It invests in safe drinking water, particularly in disadvantaged communities, and provides for watershed restoration and increased flows in some of California's most important rivers and streams. An outline of the bond can be found online at http://gov.ca.gov/docs/Water_Bond_Outline_8_13_14.pdf

Drought in California (continued)

Focusing Resources & Response

The economic analysis also drills down into where and how the impacts will be most keenly felt. For example, approximately 60 percent of the fallowed cropland, 70 percent of the statewide crop revenue losses and most of the dairy losses are likely to occur in the San Joaquin Valley. By contrast, farms along the coast have access to groundwater and Southern California farms largely rely on Colorado River supplies which have been less affected by this drought.

From infrastructure repairs to providing emergency water supplies, California's response is buoyed by the availability of this timely data.

Importance of Groundwater

The CDFA/UC Davis economic analysis concludes that groundwater availability and use is "the key to agricultural prosperity in 2014 and future droughts." In a normal year, groundwater provides 31 percent of the agricultural water supply in California; this year, that share is expected to rise to 53 percent. It is indeed the key to many farmers' survival under these circumstances – but that system must be replenished in order to be sustainable.

Groundwater Legislation Signed

On September 16, 2014 Governor Jerry Brown signed a suite of three bills (AB 1739 by Assemblymember Roger Dickinson and Senate Bills 1168 and 1319 by Senator Fran Pavley) to create a framework for sustainable, local groundwater management for the first time in California history. The legislation allows local agencies to tailor plans to their regional needs.

The legislation prioritizes overdrafted groundwater basins and sets a timeline for implementation:

- » By 2017, local management agencies must be identified.
- » By 2020, overdrafted basins must have sustainability plans.
- » By 2022, other high- and medium-priority basins not currently in overdraft must adopt the plans.
- » By 2040, all high and medium priority groundwater basins must achieve sustainability.

California Water Action Plan

California's Water Action Plan is another key to California's response to the drought. Released jointly in January 2014 by the California Natural Resources Agency, the California Environmental Protection Agency and the California Department of Food and Agriculture, the document is designed to guide state efforts to enhance water supply reliability, restore damaged and destroyed ecosystems, and improve the resilience of our infrastructure.

"In the near term, we must do all we can to keep our fields productive," said California Department of Food and Agriculture Secretary Karen Ross. "In the long term, we have a once-in-a-generation opportunity to make the investments that will allow us to stay productive in the face of a changing climate."

The Water Action Plan, which dovetails with related actions spurred by the Governor's budget and by the proposed water bond (see previous page), gives California a roadmap to improved preparedness,

2014 Drought By the Numbers

- » 6.6 million acre-feet (MAF) surface water reduction
- » 5.1 MAF groundwater pumping increase
- » 1.5 MAF net water shortage
- » \$810 million in crop revenue losses
- » \$454 million in additional pumping costs for farmers
- » \$203 million in livestock and dairy revenue losses
- » \$1.5 billion in total direct losses
- » \$2.2 billion total economic cost
- » 17,100 total job losses

(Data from the CDFA/UC Davis report, "Economic Analysis of the 2014 Drought for California Agriculture")

enhanced infrastructure and environmental protection.

Key actions identified in the Water Action Plan include:

- » Make conservation a California way of life.
- » Increase regional self-reliance and integrated water management across all levels of government.
- » Achieve the co-equal goals for the Delta.
- » Protect and restore important ecosystems.
- » Manage and prepare for dry periods.
- » Expand water storage capacity and improve groundwater management.
- » Provide safe water for all communities.
- » Increase flood protection.
- » Increase operational and regulatory efficiency.
- » Identify sustainable and integrated financing opportunities.

Drought in California (continued)

CDFA's State Water Efficiency and Enhancement Program (SWEEP)

\$3.6 million and counting in grants to help farmers deal with the drought

The California Department of Food and Agriculture (CDFA) has awarded \$3.6 million to 93 agricultural operations to implement water irrigation and distribution systems that reduce water and energy use. This funding represents the first round of solicitation spurred by emergency drought legislation (SB 103) which authorized CDFA to disperse up to \$10 million to agricultural operations investing in irrigation and distribution systems in California that reduce water use and greenhouse gas (GHG) emissions.

The funding comes from the state's portion of Cap-and-Trade auction proceeds. The proceeds are deposited in the Greenhouse Gas Reduction Fund and appropriated to state agencies.

The first round of awards includes projects such as the installation of drip and microsprinkler systems, installation of energy efficient water

pumps that reduce GHG emissions, and use of soil moisture sensors and effective irrigation scheduling to apply water based on crop needs. These projects are important because they allow farmers an opportunity to continue to produce the high quality diverse foods that California is known for while at the same time reducing the amount of water and energy used. The result is a more efficient farming operation with multiple benefits including water conservation and reduced GHG emissions.

This program is the first of its kind for CDFA and fits well under the [Environmental Farming Act](#) which states the department should establish and oversee an Environmental Farming Program to provide incentives to farmers whose practices promote the well-being of ecosystem and air quality. SWEEP also complements the [Ecosystem Services](#) work established by the

[CDFA Environmental Farming Act Science Advisory Panel](#).

Ecosystem services in agriculture has been defined as the multiple benefits provided by farmers, including saving water and GHG reductions from water irrigation and distribution systems on farms.

A second solicitation, with grant awards up to \$150,000, began in Fall 2014 to allocate the remaining funds for SWEEP. More information, including information on how to complete an application, can be found by visiting the program webpage: <http://www.cdfa.ca.gov/EnvironmentalStewardship/WEEP.html>

These projects are important because they allow farmers an opportunity to continue to produce the high quality diverse foods that California is known for while at the same time reducing the amount of water and energy used.

The screenshot shows the CDFA website's page for the State Water Efficiency and Enhancement Program (SWEEP). The page is titled "environmental stewardship" and "STATE WATER EFFICIENCY AND ENHANCEMENT PROGRAM". It includes a navigation bar with links such as "Home", "Divisions", "Customer Service", "Meetings", "News", "Jobs", "Laws/Rings", "Statistics", and "Publications". The main content area lists "Application Guidelines", "Informational Presentation on the Second Solicitation of SWEEP", and "Greenhouse Gas Emission Calculator for Fuel Savings". A "General Information for Applicants" section states that CDFA will initiate a second application period for the SWEEP program, authorized by emergency drought legislation (Senate Bill 103). A "RESOURCES" section includes links to "California Drought Resources", "Fertilizer Research & Education", "Western Plant Health Association", and "FRP/WPHA Conference Proceedings". The WPHA logo is also visible.

Spotlight on CDFA Employees

What in the World is “Lean-6 Sigma?”

New Training Initiative Improves Efficiency, Cuts Red Tape

“Process improvement” may not sound inspiring, but in an age of downsized government and constricting budgets it has become a necessary and important part of how we work. A training initiative known as Lean-6 Sigma, with roots in the private sector originating at Motorola and made famous by Jack Welch at General Electric during that company’s legendary restructuring effort in the 1990s, has given CDFA a means of reviewing its operations for opportunities to increase efficiency and, ultimately, improve our service to the people of California.

Governor Brown also believes strongly in this approach, and that’s why his Office of Business and Economic Development (GoBiz) offered Lean-6 Sigma Training to several state departments, including CDFA. A good way to think about the focus of the training is to isolate the first word of its name, Lean. In order to receive certification, participants must complete projects that have vastly improved the efficiency of processes within their departments.

At CDFA, we have two stories to tell. In our Division of Animal Health and Food Safety Services, Director **Dr. Annette Jones**, Milk and Dairy Food Safety Branch Chief **Dr. Stephen Beam**, and analyst **Kimberly McCarthy** worked together to streamline the process by which local governments receive reimbursements for work at dairies performed on behalf of the State. As a result, counties get their money faster. In our Division of Measurement Standards, Director **Kristin Macey**, environmental scientist **Kevin Schnepf** and their team applied Lean-6 Sigma techniques to reduce the average time to evaluate new and prototype weighing and measuring devices by nearly half, from 138 days to 70 days.

The CDFA employees who have begun this department’s foray into Lean-6 Sigma are pioneers, leading the way to improved efficiency, savings and customer service throughout the organization. They have achieved the rank of “champion” in the parlance of Six Sigma, putting them in a position to help expand the success of the program at CDFA.

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CDFA Secretary Karen Ross (center) with the Department’s Lean 6 Sigma Training graduates. From left, Animal Health and Food Safety Services Director Dr. Annette Jones, division analyst Kimberly McCarthy, Division of Measurement Standards Environmental Scientist Kevin Schnepf, and Division of Measurement Standards Director Kristin Macey.



Spotlight on CDFA Employees

Q: What do CDFA and Weird Al Yankovic Have in Common?

A: Animator/IT Programmer Jarrett Heather!

A talented programmer in CDFA's information technology office, **Jarrett Heather**, recently enjoyed a richly deserved moment in the spotlight for his work on a side project, animation for a video by performer Weird Al Yankovic. The video, for a parody song called Word Crimes, is [viewable online](#) as part of a post on CDFA's [Planting Seeds](#) blog, as is a recent feature story about Jarrett in the [Sacramento Bee](#).

In a nod to the agency that was much appreciated, the video segment includes a "Care-O-Meter" that was certified by CDFA's Division of Measurement Standards, which is responsible for regulating all weights and measures in California.

The video reflects CDFA's philosophy that employees are encouraged to express creativity and explore their talents to find their true calling on the job. We see this as essential for our staff to foster relationships, identify additional aptitudes, and promote the learning process throughout their careers. Jarrett has created a number of highly valued animation projects for CDFA that helped prepare him for this opportunity.



The video reflects CDFA's philosophy that employees are encouraged to express creativity and explore their talents to find their true calling on the job.



Weird Al Yankovic with CDFA IT programmer and animator Jarrett Heather.

In a clever nod to CDFA, Jarrett's video includes a "Care-O-Meter" sporting a certification sticker from the department's Division of Measurement Standards, which is responsible for regulating weights and measures in California.

Spotlight on Climate Change

Safeguarding California: Preparing for Climate Risk

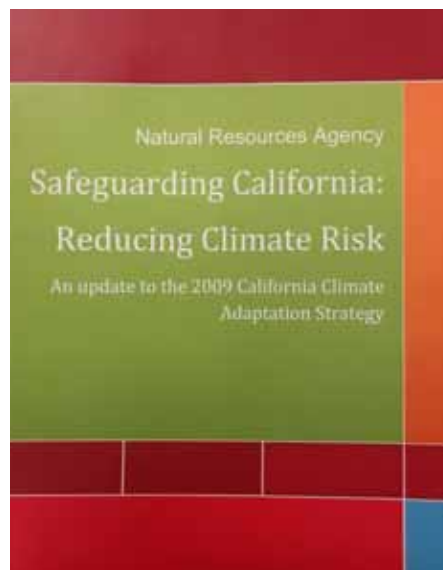
Climate change is no longer a vague or distant threat. Extreme weather, rising sea levels, shifting snowpack and a range of other impacts are beginning to manifest themselves, and they will touch every part of our lives in the next century. In government at every level, we must work together to safeguard our state. And ultimately, each and every one of us should take steps to reduce our impacts and increase our resilience. That's the impetus for the "Safeguarding California" plan generated in July 2014 by the state's Natural Resources Agency as an update to the 2009 California Climate Adaptation Strategy.

The plan covers nine areas that "touch every part of modern life for people and nature" and it is no accident that the first among them is agriculture. CDFA's leadership and scientific expertise contributed to the ag industry's section of the plan which states, "Climate risks to California's agriculture cannot be fully understood without consideration of its national and global context. California's agriculture is interconnected to the nation and the world in important ways ... Given these important interconnections, any climate-related vulnerabilities to agriculture within the state or within trading partner states can have implications for Californians and non-Californians alike."

The document acknowledges California farmers' and ranchers' "demonstrated history of innovation in enhancing agricultural resource use efficiency and environmental stewardship while at the same time growing more food with limited water and land." That's no small accomplishment, but as the report establishes, continuing that trend will require urgent investment in science and research to give growers the tools they will need to adapt to climate change.

The plan provides multiple risk management strategies for agriculture, as it does for other areas of the economy, environment and at-risk communities. It gives policy guidance for state decision makers, and is part of continuing efforts to reduce future impacts and manage those that have already begun.

CDFA is using the plan to inform the recently created USDA Climate Sub-Hub located in Davis, California, on the work that needs to be completed in terms of agricultural adaptation to climate change. The mission of the SubHub is to help California land users and land managers maintain sustainable communities and ecosystems by adapting to climate variability and change. More on the Sub-Hub and its benefit to California agriculture can be found here: <http://climatehubs.oce.usda.gov/southwest-hub>.



Climate Risks to Agriculture Include:

- **Changing air temperatures** including loss of chill hours (record warm temperatures are becoming more common)
- **More extreme weather events** (more frequent and severe drought, more intense storms, floods, etc.)
- **Changing water availability and quality** from loss of snowpack and natural water storage, sea level rise and saltwater intrusion, flood events and drought
- **Altered precipitation patterns and increased soil erosion**
- **Changing pressures from weeds, diseases and insect pests**
- **Changes in timing and coincidence of pollinator lifecycles**
- **Changing ground level ozone and cloud cover**
- **Heat impacts on ag workers**
- **Damage or disruption to energy and transportation infrastructure supporting ag production**
- **Increases in prices of ag inputs** (e.g. increased feed prices)
- **Changes to quality of ag inputs** (e.g. decline in forage quality)

Spotlight on Climate Change

AB 32 Cap & Trade Proceeds Benefit Ag Efforts to Reduce Greenhouse Gas Emissions

The California Department of Food and Agriculture received \$15 million in funding from the state's cap & trade program to support activities promoting greenhouse gas (GHG) emission reductions. Agriculture, like so many other industries in this diverse state, has an important role to play in protecting Californians from the effects of GHG emissions and related pollution components, many of which are exacerbated by climate change. Here's how CDFA is putting the \$15 million allotment to work:

Dairy Digester Research and Development Program

CDFA is establishing a new Dairy Digester Research and Development Program with funding from the cap & trade Energy Efficiency and Clean Energy category, which includes Agricultural Energy and Operational Efficiency. \$12 million is allocated to the CDFA to support projects that reduce GHG emissions from the agriculture sector by capturing these emissions and harnessing them as a renewable bioenergy source. Digester technology is precisely the kind of innovation that California farmers are famous for as it promotes low carbon fuels, agricultural energy efficiency and other operational advantages.

An estimated \$11 million in competitive grant funding will be awarded to provide financial assistance for the implementation of dairy digesters that result in reduced GHG emissions and provide other environmental benefits. An estimated \$500,000 will be made available for research and demonstration projects that improve

Digester technology is precisely the kind of innovation that California farmers are famous for.

the economic performance of dairy digesters.

A key to the success of this program will be the service of a Technical Advisory Committee (TAC) to be comprised of members from the California/Federal Dairy Digester Working Group and other stakeholders. The TAC will review the draft solicitations, evaluate applications, review research priorities and make funding recommendations to the CDFA Secretary. CDFA will implement the dairy digester development component first (Phase I) with the research component (Phase II) coming shortly thereafter.

Alternative and Renewable Fuels Program

AB 32's mandates to reduce GHG emissions were augmented by an Executive Order directing the state to produce 40 percent of biofuels from California bio-resources by 2020 and 75 percent by 2050. Alternative renewable fuels such as biofuels from agricultural waste have the potential to reduce air pollutants in both the transportation and agricultural sectors. Biofuels derived from agricultural waste are considered a

low carbon engine fuel that reduces GHG emissions..

However, at present, no fuel quality standards exist for renewable and low carbon biofuels commonly produced from agricultural waste, natural gas, renewable compressed natural gas, or zero emission fuels. That's where CDFA comes into the picture. Through its Division of Measurement Standards, CDFA establishes fuel standards that will be essential as the state embraces alternative fuel sources and systems. The standards provide a basis for value comparison for consumers, allow fair competition in the marketplace and ensure atmospheric protection from high carbon content.

Using \$3 million from the AB 32 funds, CDFA will hire personnel, conduct research and develop fuel quality specifications and laboratory test methods for several low carbon, renewable and zero emission fuels. The program will also acquire equipment necessary to perform fuel quality sampling, fuel quality and quantity verification, and development of training materials and protocols for weights and measures officials.

Agricultural regions, including disadvantaged communities in the Central Valley identified by CalEnviroScreen, will benefit from reduced GHG emissions, improved air quality, and revenue generation by converting agricultural waste into clean energy that can be used on-farm or as a transportation fuel. This program will lead to quantitative measurable GHG reductions during the life of the AB 32 Cap and Trade Program.

Spotlight on Interagency Cooperation

CDFA Formalizes MOUs with Sister Agencies, Organizations

Food Safety: MOU with OEHHA

In November 2013, CDFA formalized a Memorandum of Understanding (MOU) with the Office of Environmental Health Hazards Assessment (OEHHA) that both protects the public from exposure to Proposition 65-listed chemicals and helps to preserve the state's role as a world-class provider of safe, wholesome food.

The MOU serves establishes mechanisms of communication and cooperation between the two agencies with respect to Proposition 65 and exposure to chemicals in food and agricultural practices. OEHHA and CDFA have mutually agreed to share information and to collaborate as needed regarding both candidate chemicals and chemicals that are already listed under Proposition 65 that are or may be found in California's soil, food products, agricultural pesticides and fertilizers. The collaboration also includes OEHHA's establishment of safe harbor levels and development of warnings for these chemicals.



OEHHA, CDFA and their constituencies benefit from working together when the implementation of Proposition 65 involves listed chemicals in food. Sharing information, expertise and resources benefits the state's significant interest in protecting and promoting a safe and healthy food supply. California's renown as a premier source of wholesome food is worth protecting, and this MOU helps accomplish this goal – both by minimizing the risks and effects of contamination, and by communicating the state's dedication to prevention, preparedness and responsiveness.

Pesticides: MOU with DPR Stands the Test of Time

Since a 1991 reorganization that transferred CDFA's pesticide regulatory authority to the newly-formed Department of Pesticide Regulation (DPR), the two agencies have cooperated under a Memorandum of Understanding (MOU) that requires DPR to consult with CDFA on proposed pesticide regulations. The longstanding arrangement has become a model of interagency cooperation.

CDFA's Office of Pesticide Consultation and Analysis (OPCA) focuses on potential pesticide regulatory impacts and pest management alternatives that may mitigate or prevent such impacts on production agriculture. Complementing OPCA's internal work are outside research contracts, primarily with the University of California, that provide a source of independent, unbiased expertise.

Nitrogen: MOU with Water Board Protects Water Quality in Rural Areas

Nitrates are in the news lately, but CDFA's work on nitrates dates back decades – particularly through the work of its Fertilizer Research and Education (FREP) office. The State Water Resources Control Board's regulatory role in assuring water quality makes the agency a natural partner for CDFA and farmers in the pursuit of clear guidance toward achievable goals for the agricultural community.

CDFA and the State Water Board share a common goal to improve water quality and ensure safe drinking water to California residents in rural areas by promoting sustainable agricultural practices. The MOU establishes a formal interagency relationship to promote the balancing of nitrogen use and agricultural productivity with water quality protection. The MOU provides a framework for the parties to enhance interagency coordination and to cultivate greater cooperation in carrying out their authorized state government responsibilities.





Spotlight on Agritourism

“California, Always in Season”

Partnership Produces Marketing Campaign to Boost Agritourism

Driven by the farm-to-fork movement and a growing interest among travelers for culinary experiences, Visit California partnered with California Grown in 2014 to launch a new marketing campaign, “California, Always in Season.”

Tourists in California spent \$28.5 billion on food and beverages in 2012, making it the largest segment in the state’s tourism economy. The “California, Always in Season” program is designed to market California’s agricultural abundance and pioneering and innovative spirit of the state’s chefs, farmers and ranchers.

The cornerstone of this campaign is a \$1 million media buy with Food & Wine magazine, which will deliver more than 58 million impressions through print spreads, videos, custom media rich content, targeted digital media and a co-branded landing page on Food & Wine’s website. Much of the content in the magazine focuses on the relationship between California farmers and their collaboration with local chefs, the diversity and abundance of specialty crops throughout the state as well as stories that demonstrate that California’s culinary pioneers are part of the fabric that makes the state an iconic destination.

For a look at the campaign, visit www.FoodandWine.com/California. This project is made possible by funding from the California Department of Food and Agriculture’s Specialty Crop Block Grant Program.

Tourists in California spent \$28.5 billion on food and beverages in 2012, making it the largest segment in the state’s tourism economy.



The campaign includes **videos** that feature California’s regional agricultural attractions, from a fig farm in Fresno to artichokes in Monterey.

Print advertising along with online and social media marketing will carry the message that food is a big part of California’s enduring allure as a destination.



Section 1: The Emergence of Agriculture

Big Issues, Bold Leadership Bring Food & Farming to the Fore

Planting Seeds Blog: Keeping Cal Ag on the Social Media Menu

Invasive Snails? Honey Bee Robots? Foodies, fairs and alternative fuels? The daily flood of interesting, compelling, and just plain weird issues involving agriculture is enough to... to... to blog about! That's why Secretary Karen Ross instituted the department's first blog, "Planting Seeds." This thoroughly modern tool gives the agency a platform that extends its reach across an industry whose growth only promises to continue – and the blog has the additional benefit of broadening our audience with each eye-grabbing video, article and photograph. The blog enjoyed more than 50,000 page views in 2012, more than 86,000 in 2013, and it is on pace for well over 100,000 in 2014. Daily page views are up from an average of 171 in 2012 to 289 in 2014, so all indications are that the blog is trending upward. With about 620 posts since its inception in 2012, the blog has quickly become one of the busiest and most anticipated sources of CDFA outreach. And – thanks to our persistent presence on Twitter, Facebook, YouTube and other electronic avenues – CDFA has positioned itself to take full advantage of the tremendous communications opportunities that the dynamic social media field continues to invent, produce and promote.

CDFA has positioned itself to take full advantage of the tremendous communications opportunities that the dynamic social media field continues to invent, produce and promote.

The screenshot shows the CDFA website's 'Planting Seeds' blog. The header includes the CA.GOV logo and navigation links: Home, Divisions, Customer Service, Meetings, News, Jobs, Laws/Regs, Statistics, Publications. Below the header is a search bar and a main banner for 'Planting Seeds' with the subtitle 'FOOD & FARMING NEWS FROM CDFA'. The featured article is 'California Grown 'Snap a Selfie' benefits food banks', posted on July 3, 2014. The article includes a photo of three people (two women and one man) holding 'CALIFORNIA GROWN' signs and taking a selfie. The website also features sections for 'Recent Posts', 'Recent Comments', and 'Archives'.

Growing California: Video Series Captures Agriculture's Pride, Pace & Precision

The good reviews keep rolling in for the "Growing California" video series produced by CDFA in partnership with the California Grown campaign through a USDA Specialty Crop Block Grant. Secretary Karen Ross voiced her support for the project: "In an era when people want to know more than ever about the origins of their food, we wanted to do our part in sharing these important, compelling stories." Besides winning awards, the video project is also helping to widen the audience for messages about how modern agriculture fits into California's diverse communities - often by making the connection between a popular crop and the farmers who grow them. This personal approach puts a familiar face on farming.



The result of Phase One of the project is a slate of 25 videos produced on a range of appetite-whetting topics that only California could cover. The project puts the agricultural community in a position to capitalize on the public's growing interest in how their food is grown and who grows it for them.

Videos Garner Awards for Excellence and Social Responsibility

The Growing California video series has been recognized with three 2014 Telly Awards, a video competition now in its 35th year. Two of the segments that won, "Blossom Buddies" and "From Service to Harvest," were honored in the category of Online Video – Information. The third video, "Onion Power," was recognized in the category of Social Responsibility.



Trade Missions to Mexico, Asia Put Focus on Future of California's Agricultural Exports



Members of the California agricultural delegation in Mexico City (from left) Craig McNamara, State Board of Food and Agriculture President; Felipe Chavez, Mexico City wholesaler; Chris Rosander, Raisin Administrative Committee; CDFA Secretary Karen Ross; Richard Matoian, American Pistachio Growers; Bryce Lundberg, State Food and Ag Board Member; and Jake Lewin, California Certified Organic Farmers.

Governor Jerry Brown's trade mission to Mexico in July 2014 sought to build upon the strong connections that California already has established with its southern neighbor. Secretary Ross and members of the ag industry renewed old relationships and forged new ones in business meetings and market visits to the Mercado de Jamiaca (traditional market) and the Central de Abastos – one of the largest produce wholesale markets in the world. The trip's themes included advancing business, employing people and exchanging culture.

The Governor's earlier choice of China as a trade mission destination in 2013, as well as Secretary Karen Ross' leadership of a separate 2012 mission to China and South Korea, also put the focus on the future of agricultural exports. In both cases, Secretary Ross traveled with large groups of agricultural representatives to destinations that figure prominently in many firms' export plans in the coming decades. Population growth and gains in the Asian middle class are expected to be drivers of demand for high-quality agricultural products. California's expertise, experience and Pacific Rim placement all point to prime preparedness to meet the coming demand. On the 2012 trip alone, Secretary Ross and the 28 company representatives in her delegation conducted 934 one-on-one appointments, with 390 in China and 534 in South Korea (CITD). The big news during the 2013 trip was Governor Brown cutting the ribbon on the state's new California-China Trade and Investment Office to facilitate future trade growth.

Food Access and Security

Direct Marketing: Good Food is Only a Farmer's Handshake Away

Recent budget constraints and increased consumer focus on direct marketing outlets have contributed to renewed efforts to provide regulatory guidance and adequate funding for the Direct Marketing Program. These efforts culminated in the

formation of the Direct Marketing Ad Hoc Committee, which has developed several concepts with the potential to allow the direct marketing industry to flourish. Certified Farmers Markets (CFMs) are the most prevalent

form of direct marketing in California agriculture, but they are by no means the only one. CDFA's Direct Marketing Program provides opportunities for approximately 3,350 certified producers to sell certified agricultural products directly to the public at approximately 800 CFMs throughout California.

Fighting Food Insecurity in California's Heartland

Do you know where your next meal will come from? For more than four million people in this state, that answer is too often "No." What's worse, many who live in our Central Valley do not have access as consumers to the same food they may have picked, packed or otherwise handled just hours before. Farmers and ranchers want to be part of the solution, and that's why CDFA supported the Governor's signature on legislation to create a new tax credit for 10 percent of inventory costs of fresh fruits and vegetables donated to California food banks after January 1, 2012. It's an incentive that marks further progress toward a goal set by the California Board of Food and Agriculture and the California Association of Food Banks to double farm-to-food bank contributions from 100 million pounds to 200 million pounds by 2015.

From Interaction to Action: Engaging with Food Policy Councils

CDFA Secretary Karen Ross joined with California Health and Human Services Agency Secretary Diana Dooley in 2011 to convene a meeting inviting all local food policy councils to Sacramento. That kernel grew into what is now the statewide [Food Policy Council](#). Interaction with the local and state food policy councils ensures that CDFA can stay engaged with a broad base of diverse stakeholders on discussions of food access, improving nutrition in our communities, and creating robust local and regional food systems. CDFA has hosted the statewide group each year since, building toward policy consensus. Locally and individually, these councils are self-motivating and they are gaining momentum in their communities; united, they stand to extend and expand their reach into the policymaking process in Sacramento and well beyond.

Improving Farmers' Market Opportunities Across the State

On September 26, 2014, Governor Brown signed AB 1871 by Assembly member Roger Dickinson to increase direct marketing opportunities throughout California. The new law redesigns CDFA's direct marketing/certified farmers' market program to:

- » Increase flexibility in enforcement
- » Combat food fraud and mislabeling of products
- » Ensure traceability for consumers
- » Increase the efficacy of the program at new and existing certified farmers' markets

The department looks forward to working with stakeholders and partners in the implementation of this new governance structure.

What is Food Access?

Having access to a variety of affordable, good quality, healthy food within one's community requires:

» Proximity

The proximity of outlets that sell healthy foods can impact access to healthy food. Travel costs (including both travel time and the cost of driving a private vehicle or taking public transportation) can increase the real cost of healthy food.

» Variety

Variety ensures sufficient choice – beyond a single option or two – and supports a healthy diet.

» Quality

Accessible, healthy food should also be of good quality.

» Affordability

Applies to both the sticker price and the ability to use nutrition program benefits (e.g. CalFresh or WIC) in addition to cash.

More info: [Improving Food Access in California](#) report online.

California's Specialty: Specialty Crops

What is a “specialty crop?” Technically, it’s a term that includes “fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops.” Generally speaking, though, it’s a way of describing all of the things agriculture grows besides the most common commodity program crops nationally (think corn, soybeans and so forth). It’s also a way of describing what California does best – the Golden State’s agricultural claim to fame is its unmatched variety. The [Specialty Crop Block Grant Program \(SCBG\)](#) is part of a major USDA effort to encourage investment, research and development of these crops and markets, and California, as the largest specialty crop producer, receives the largest share of the federal funding for these efforts – more than \$19 million of the approximately \$66 million awarded nationally in 2014.

Previous rounds of funding included awards for projects including:

- » The development of a quick-drying method that reduces energy usage for almonds and pistachios while improving product quality and safety
- » Customized training and counseling on trade and export needs to assist industry stakeholders
- » Offering low-income families access to fruits and vegetables at Certified Farmers’ Markets through weight management and diabetes clinics
- » Researching strategies for efficient nitrogen management, including work by UC researchers to help growers reduce impacts from strawberry and tomato farming
- » Researching strategies to mitigate diseases affecting the citrus industry

In late Fall of 2013, the Small Farm Conference received funding for the 2014 conference held in March, an event designed to support and sustain California’s specialty crop farmers by providing educational and informational opportunities. Lessons learned at these sessions help ensure the viability of California specialty crops by investing in the next generation of farmers. Through this educational content, the conferences train and equip the next generation of young and beginning specialty crop farmers in agronomic, economic, and environmental stewardship skills.

As part of the continual improvement of this program, CDFA has also begun a partnership with the [Center for Produce Safety](#) for the evaluation and recommendation of food safety-related projects that will help minimize illness outbreaks.



California, as the largest specialty crop producer, receives the largest share of the federal funding for these efforts – more than \$19 million of the approximately \$66 million awarded nationally in 2014.

By the Numbers: SCBG Grant Awards, 2008-2013

1,335	Concept proposals submitted
682	Advanced to full grant proposal phase
335	Grants awarded
84	Million in grants awarded

2014 State Board of Food & Ag Topics Reflect Drought, Other Major Issues Facing Industry

- » **February:** Farm Bill and Immigration Issues
- » **March:** Governor’s Drought Task Force / Water Conditions
- » **April:** Pollinator Issues Related to Farming and the Environment
- » **May:** Agricultural Careers, Innovation and Industry Advancements
- » **June:** Groundwater
- » **July:** Cap-and-Trade Program / Climate Change
- » **August:** State Board to Visit Compton to Discuss Food Access Issues
- » **September:** Climate Change / CDFA’s Specialty Crop Block Grant Program
- » **October:** Soil Health

Ag Vision:

Will Your Great-Grandchildren Be Able to Choose to Farm?

That’s the kind of question the State Board of Food and Agriculture was asking itself, the industry it represented, the public and CDFA back in the mid-2000s, when the board created its Ag Vision Advisory Subcommittee. The board’s “California Agricultural Vision” report came out in December 2010, and it has since been updated with a [progress report](#). It is a durable document because the board has sustained its efforts to bring together diverse stakeholders who share a common goal – the long-term viability of California agriculture. The state board set out to build bridges with environmental, labor and food security interests to see if it could broaden the base of support for good agricultural public policy, and that work continues. Will your great-grandchildren still be able to choose to farm? CDFA and the State Board of Food and Agriculture want the answer to be “Yes,” and Ag Vision continues to provide an important framework for maintaining the environment to allow that to happen.

Ag Vision’s 12 key strategies:

- » Improve Access to Safe, Healthy Food for All Californians
- » Ease the Burden of Regulation on Agriculture While Maintaining Health, Safety and Environmental Standards
- » Secure an Adequate Supply of Water for Agricultural Purposes
- » Assure a Strong Labor Force through Fairness to Agricultural Workers and Employers
- » Effectively Detect, Exclude and Control Invasive Species
- » Adopt a Policy of Conserving Agricultural Land and Water Resources
- » Expand Environmental Stewardship on Farms and Ranches
- » Promote Renewable Energy & Substitutes for Fossil-Based Inputs
- » Assure Agricultural Adaptation to Climate Change
- » Promote Robust Regional Markets for All California Producers
- » Cultivate the Next Generation of Farmers and Ranchers
- » Promote Agricultural Research that Anticipates 21st Century Challenges



The Ag Vision 2030 web page includes links to additional resources including background documents, white papers and a video about the project’s listening sessions.

Shelter + Mobility

Report Provides Recommendations for California's Specialty Crop Ag Workforce

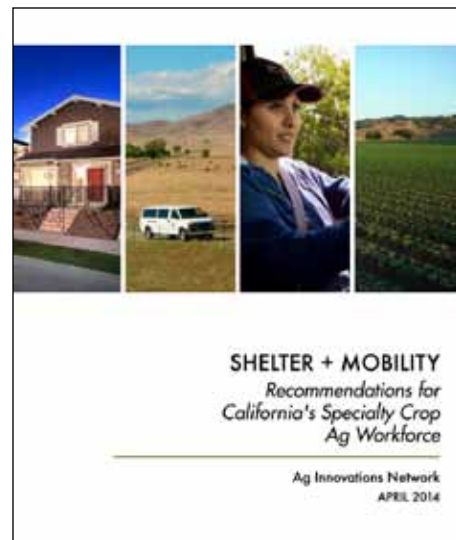
California's specialty crop producers rely heavily on the availability of farm labor in their operations. Over the past several years, these producers have reported a decreasing supply of available labor. In response to these reports, the California State Board of Food and Agriculture convened a panel of agricultural producers and employers and affordable housing experts in 2012 to investigate the housing and transportation issues faced by the state's agricultural producers and workforce, with the assumption that these issues present access barriers to workers and contribute to labor shortages.

This session was followed in early 2013 by the California Department of Food and Agriculture (CDFA) engaging Ag Innovations Network (AIN) in organizing a longer-term initiative to bring together the state's agricultural, labor, housing, and transportation leaders to develop a set of recommendations for addressing these issues. AIN is a nonprofit organization specializing in helping stakeholders solve problems in the food system through effective collaboration.

Working with a steering committee of representatives from CDFA, the State Board, and the Governor's office, AIN identified more than one hundred potential stakeholders from throughout the state, from farmers and farmworkers to unions, contractors, housing developers and government agencies. Fifty individuals were successfully recruited to participate in the California Agricultural Workforce Housing and Transportation Project. Of these, approximately forty were interviewed extensively to develop a broad understanding of

the stakeholders' perspectives on (a) the nature and extent of the housing and transportation challenges and barriers experienced by farmworkers and growers, (b) the community and political issues contributing to these challenges, and (c) the opportunities and possibilities for addressing them. The data collected in these interviews was summarized for the stakeholders at an initial meeting held in May 2013 in Sacramento at which 49 of the 50 stakeholders were present. During this meeting, the stakeholders further discussed their perspectives and decided upon a course of action for developing a set of recommendations. Their recommendations were published in the *Shelter+Mobility* report:

1. **Improve existing and develop new affordable and decent housing for specialty crop farmworkers and their families by reducing costs and barriers.**
2. **Improve existing and develop new farmworker housing by establishing new, dedicated state funding sources.**
3. **Collect, consolidate, and make accessible needed data and information on farmworker housing and transportation needs and solutions.**
4. **Increase effective incorporation of farmworker housing and transportation needs in federal, state, regional, and local planning and funding policies and priorities.**
5. **Increase farmworker transportation options.**



Over the past several years, California's specialty crop producers have reported a decreasing supply of available labor.

6. **Increase farmworker driver safety awareness and practice.**

Each recommendation is accompanied in the report by "context" and "strategy" sections that give farmers, labor organizations, policymakers and other stakeholders important information to work with toward solutions.

The *Shelter+Mobility* report was funded by a Specialty Crop Block Grant from the USDA, administered by CDFA.

Bumper Crop:

California Agriculture License Plates: 17,000 and counting!

Agriculture is a signature industry for the Golden State, so an agriculture-themed license plate just makes sense. What makes even more sense is for the proceeds from the so-called “vanity plates” to support future generations of farmers and ranchers through agricultural education, ag career awareness and training, and youth leadership programs.

The license plates are now available, and a flurry of orders has brought the running total to 17,000 plates (and counting) on the road so far! Proceeds from these plates have generated more than \$225,000 in grant funding to promote agricultural education and leadership activities for students at the K-12, post-secondary, and adult education levels. CDFA began accepting applications for the first round of grant funding in Fall 2015.

The agricultural community, with a big, early push from FFA students, has given this new license plate a tremendous show of support so far. Special thanks to all of the farmers, ranchers, workers, ag educators, supporters and others who have ordered the plates and are showing their affinity for agriculture on country roads and big-city freeways alike. If you would like to wear your “Food Fiber Fuel Flora” ag plate proudly, [applications are being accepted and processed through the DMV.](#)



If you would like to wear your “Food Fiber Fuel Flora” ag plate proudly, applications are being accepted and processed through the DMV.

Whenever a consumer can purchase fresh, California grown produce, it's good for farmers – but the health benefits for low-income seniors are what really make this program worthwhile.

A Healthy Combination: Seniors and Certified Farmers Markets

When you get right down to it, agriculture is about getting healthy, nutritious food to everyone who needs it. [CDFA's Senior Farmers' Market Nutrition Program \(SFMNP\)](#) is one way the department improves access to fresh fruits and vegetables for our older residents. This 100 percent federally funded program provides low-income seniors with check booklets that can be used to purchase locally grown produce and other items such as honey and fresh cut herbs from select Certified Farmers' Markets. CDFA partners with 32 of [California's Area Agencies on Aging](#) to distribute approximately 44,000 of the SFMNP booklets, which include ten checks redeemable for \$2 each. Whenever a consumer can purchase fresh, California grown produce, it's good for farmers – but the health benefits for low-income seniors are what really make this program worthwhile.





AB 2413 Farm to Fork Legislation Signed

When Governor Brown signed Ab 2413 by Assemblymember Perez in September 2014, he approved the creation of the Office of Farm to Fork at CDFA to work with the agricultural industry and other organizations to promote food access and increase the provision of agricultural products to underserved communities and schools. The bill also requires the Office to identify rural and urban communities that lack access to healthy foods and coordinate local, state, and federal agencies to alleviate this issue.

Drought Assistance

The mission of the Office has become more profound in light of the state's current drought. Increased access points, creative land usage, and expanding availability of resources are all means to increase food security. Similarly, improving healthy school environments and market accessibility to fresh fruits and vegetables is just as important to a lasting change within the diversity of our food system.

CDFA's Farm to Fork Office

CDFA's Farm to Fork Office is committed to helping all Californians access healthy and nutritious California-grown food. The Office connects individual consumers, school districts, and others directly with California's farmers and ranchers, and provides information and other resources.

The office collaborates with Health in All Policies Task Force, the California Department of Education, and the California Department of Public Health (CDPH), as well as local partners and community groups. These partnerships strengthen local food systems, increase connections between local farmers and consumers – including institutional consumers such as schools and food banks – and increase the availability of healthy and nutritious food for low-income Californians. In addition to developing nutrition education resources and working with local school districts, the Farm to Fork Office plans to work with county fairgrounds and other community hubs to develop aggregation and distribution centers to make more locally grown food available in an effort to spur consumer, institution, and community feeding programs.

Farm to School

The Farm to Fork Office is working on a number of projects to support Farm to School programs in California. In addition to compiling and creating resources regarding food safety in schools and career and technical education pathways in agriculture and culinary arts, the office has been working closely with Pittsburg Unified School District to create a model for a school district buyers' collaborative in Contra Costa County. The office is facilitating connections among school food service directors in Contra Costa County and conducting a needs assessment to determine the variety and amount of local produce the combined school districts would like to purchase. Farm to Fork staff will then work with local farmers to create a system for the school districts to buy food from local farms to include in their school meal programs. After piloting this system in Contra Costa and Ventura counties, the Farm to Fork Office will make this model and supporting tools available to school districts throughout California.

The Farm to Fork Office is also working on a project to help school districts and other institutional buyers connect with and purchase produce directly from California farmers. The "California Farmer Database" will enable schools and other purchasers to discover the farmers in their region as well as the crops they grow. In addition to crop and location data, the database will have information on Good Agricultural Practices (GAP) certification and liability insurance, which are often required by institutions. This project will enhance the schools' ability to run farm to school programs and support their local farmers.

www.farmtofork.com

The Farm to Fork Office launched its website, www.farmtofork.com, which highlights innovative farm to fork programs, provides seasonal and regional fruit and vegetable information (complete with recipes), and hosts the Farm to Fork Blog "Tales from the Field."

Section 2: Resources, Research and Renewable Energy

Climate Change:

Consortium Developing Strategies to Help Agriculture Adapt

California's finely tuned agricultural industry is threatened by climate-related phenomena including reduced water supplies, increased heat stress for plants, decreased chill hours, shifts in pollinator life cycles, and increased influx of invasive species – just to name a few. Addressing these risks requires a concerted effort. To address this need, Secretary Karen Ross in 2012 announced the formation of a consortium of growers, educators and technical experts to study and make recommendations on strategies for climate change adaptation. The project was funded by a Specialty Crop Block Grant. The Climate Change Consortium met four times during 2012 and 2013 to hear from researchers on the impacts of increasing temperatures, changing precipitation patterns and water availability, increased pest pressures, and pollination concerns. The consortium made several recommendations for climate change adaptation drawing from their varied backgrounds as growers, researchers, and representatives from agricultural associations. Through several initiatives, CDFA has included the final report recommendations in numerous state climate change adaptation documents including:

- » Seeking funding to complete one of the research recommendations on the economic and environmental costs, benefits, and risks of climate change adaptation including crop relocation, infrastructure consideration and defining where crops will be best suited under future climate conditions in consideration of soil type, topography, water availability, and potential hazards. CDFA has included this recommendation into the 4th Climate Change Assessment Research Plan which funds climate adaptation research using state financial resources.
- » Using the recommendations as a foundation for the Safeguarding California Report (formally known as the State Climate Change Adaptation Report) agriculture chapter.
- » Sharing and highlighting the final report with the recently created USDA Climate Sub-Hub located in Davis, California. The mission of the Sub Hub is to help California land users and land managers maintain sustainable communities and ecosystems by adapting to climate variability and change.

The final report was published in 2013 (online at: www.cdfa.ca.gov/environmentalstewardship/pdfs/cc-report.pdf) and is directed toward a large audience including growers, researchers, and agency partners.

The California Department of Food and Agriculture convened the Climate Change Consortium, a diverse group of individuals involved in California specialty crop agriculture, to identify specific climate change adaptation strategies for growers.



Ecosystem Services:

Recognizing Agricultural Stewardship Practices

CDFA recognizes the importance of environmental stewardship practices in agriculture – and we want to make sure our farmers and ranchers get the credit they deserve for the good work they do in that regard. Ecosystem services are defined as “the multiple benefits we gain from farming and ranching including crop and livestock production. In addition to valuable open space and wildlife habitat, the management decisions and conservation practices of farmers and ranchers also enhance environmental quality, provide recreational opportunities and offer social benefits.” CDFA has embarked on an ambitious effort to highlight agriculture’s ecosystem services, and to increase awareness on the part of other regulatory agencies and stakeholders who will benefit from this deeper knowledge of farming’s stewardship.

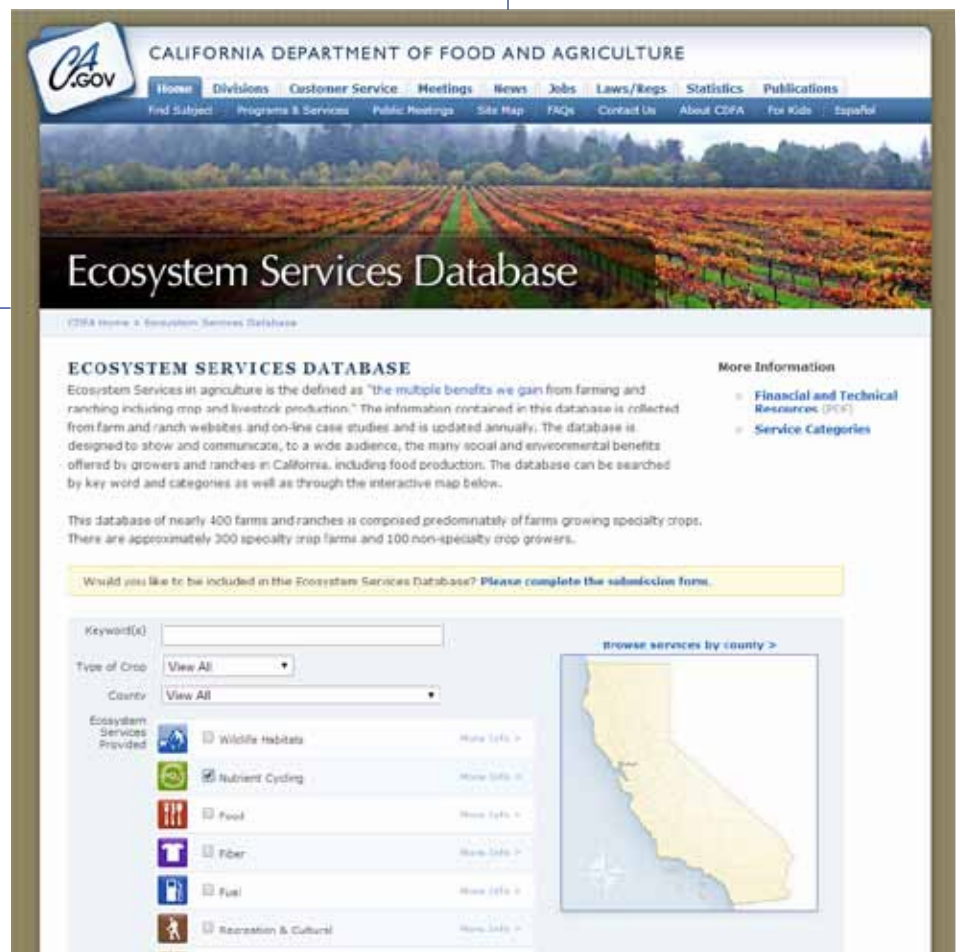
A few examples of ecosystem services:

- » Wildlife habitat
- » Nutrient cycling
- » Recreational, cultural activities
- » Soil structure, formation, fertility
- » Biodiversity conservation
- » Water cycling
- » Water quality
- » Pollination services

Ecosystem services are defined as “the multiple benefits we gain from farming and ranching including crop and livestock production.”

Further information on CDFA's efforts regarding ecosystem services is available online:

www.cdfa.ca.gov/EnvironmentalStewardship/EcosystemServices.html



The screenshot shows the CDFA Ecosystem Services Database website. The header includes the CDFA logo and navigation links such as Home, Divisions, Customer Service, Meetings, News, Jobs, Laws/Regs, Statistics, and Publications. The main content area is titled "Ecosystem Services Database" and features a search bar and a list of services provided by farmers and ranches. The services listed are: Wildlife habitats, Nutrient Cycling, Food, Fiber, Fuel, and Recreation & Cultural. A map of California is also visible on the right side of the page.

Spotlight:

CDFA's Nutrient Management Efforts

Nitrogen Management: CDFA Pursuing Several Parallel Initiatives

Water quality carries such importance for consumers, farmers and industrial users that the issue has, over time, generated a complex regulatory system overseen by a dedicated slate of water quality agencies at several levels of government. While CDFA does not own a lead role on this issue, the agricultural agency in the nation's number-one ag state has a clear responsibility to ensure that its growers maintain a meaningful presence at this particular regulatory table. CDFA is currently pursuing initiatives related to water quality and nitrogen, of which five are being addressed directly through the Fertilizer Research and Education Program (FREP):

FREP-Funded Research on Nitrogen

FREP has remained true to its original mission by continuing to fund research on the management of agricultural nitrogen. For example, FREP is currently funding projects with University of California that were chosen during the 2012 Special Request For Proposals, titled "Optimizing the Use of Groundwater Nitrogen for Nut Crops," and "Determining the Fertilizer Value of Ambient Nitrogen in Irrigation Water."

CCA/Grower Nitrogen Management Training & Certification

FREP is currently working on two nitrogen management training programs: the first is a [nitrogen management training and certification program for Certified Crop Advisors \(CCAs\)](#), and the second is a nitrogen management education and outreach program targeting growers. Five CCA trainings were done in the first quarter of 2014 in Modesto, Woodland, Salinas, Fresno and Tulare. Approximately 60% of current California CCA's were certified by these trainings. At least three more trainings will be conducted in the first quarter of 2015. CDFA is consulting with commodity groups and coalitions, among others, to determine the best method of developing and delivering grower training.



ISO Guide Certification for Review of Organic Input Materials

Consumers nationwide place great trust in California's organic farming industry. The CDFA Fertilizing Materials Inspection Program responded to the needs of an expanding organic farming industry by creating a review and registration program specifically for Organic Input Materials (OIM). The program reviews and registers fertilizing materials for compliance to standards created by the National Organic Program. Recently, the integrity of the review program has been ramped up by the effort to achieve USDA ISO 17065 Program certification. The International Standards Organization (ISO) created a set of operating principles and quality standards that ensures a premium level of operating procedures. The CDFA-OIM program has been creating internal procedures and protocols designed to meet those standards and provide the utmost quality of review work. The quality and integrity of CDFA's efforts will be recognized when final ISO certification is received. Ultimately, the growing is being done by farmers but the trust that farmers and the public place in organic foods will be enhanced by a premium fertilizer review organization.

Spotlight:

CDFA's Nutrient Management Efforts

CDFA Collaboration with Central Valley Water Board/ Coalition on Waste Discharge Requirements

CDFA has engaged in discussions with the Central Valley Water Quality Control Board (CVWQCB) staff on the East San Joaquin Valley Water Quality Coalition (ESJVWQC) waste discharge requirements (WDR) for irrigated lands by providing agronomic expertise and addressing the feasibility of some of the requirements. At the current time (primarily due to the drought), the WDR has not been implemented. CDFA has also been engaged in discussions with the coalition on providing scientific expertise on potential practical solutions to address nitrates in groundwater systems. The FREP CCA/grower nitrogen management training and certification initiatives (see previous page) were designed to help growers with nitrogen management plans which will be required in some areas according to the waste discharge requirements.



This diverse task force was successful in reaching general agreement on a set of recommendations in a relatively short amount of time (two months).

CDFA Nitrogen Tracking and Reporting Task Force

This task force was charged with implementing Recommendation 11 of several recommendations made to the Legislature by the State Water Board: "CDFA, in coordination with the Water Boards, should convene a task force to identify intended outcomes and expected benefits of a nitrogen mass balance tracking system in nitrate high-risk areas. The task force should identify appropriate nitrogen tracking and reporting systems, and potential alternatives, that would provide meaningful and high quality data to help better protect groundwater quality."

The task force membership was diverse with 28 representatives from several different sectors; agricultural sector, environmental community, environmental justice community, government entities at local, regional, and state levels, and both of California's university systems (the University of California and California State University). Efforts were made to ensure that Central Valley and Central Coast interests were well-represented based on the fact that those regions are at the forefront of currently addressing nitrates in groundwater. This diverse task force was successful in reaching general agreement on a set of recommendations in a relatively short amount of time (two months). Their recommendation, detailed in Section IV of the report, identifies the intended outcome of their recommended nitrogen tracking and reporting system. The system addresses eight key topics including: (1) System Structure; (2) Data Elements; (3) Roles, Responsibilities and Data Accessibility; (4) Benefits of Participation; (5) Verifiability; (6) Societal Benefits of the Recommended System; (7) Limitations; and (8) System Phase-in.

The Nitrogen Tracking and Reporting Task Force Final Report can be viewed at <http://www.cdca.ca.gov/environmentalstewardship/PDFs/NTRSTFFinalReport122013.pdf>

Spotlight:

CDFA's Nutrient Management Efforts

Fertilizer Research & Education Program (FREP): Putting the Power of Research in the Hands of Farmers

The term "nutrient management" is nothing new to a farmer, but it has enjoyed a definite increase in usage among government agencies recently – largely due to discussions about nitrate contamination in the water supply, but also due to the general advancement of technology and research that give farmers new tools to precisely tailor their fertilizer inputs. CDFA's credentials are well recognized on issues surrounding fertilizer use and management because of the department's Fertilizer Research and Education Program (FREP), a long-term partnership with the University of California, California State University and other entities.

FREP has launched a searchable, web-based database of all completed FREP research projects. This database serves to disseminate FREP research findings and is an easily accessible, understandable, and convenient way for growers and crop advisors to learn about and implement the findings. Phase I of the project, completed in July 2012, summarized all completed projects and entered them into the database,

available online at <http://www.cdfa.ca.gov/is/frep/Default.aspx>. Additional summaries will be added as current and future studies are completed.

Phase II includes the creation of crop fertilization guidelines, based in part on nitrate sensitivities, of a given agricultural area or region. The first guidelines will focus on crops in the nitrate sensitive regions of the Tulare Lake Basin and the Salinas Valley. Guidelines for ten crops (cotton, almonds, processing tomatoes, broccoli, lettuce, wheat, corn, rice, walnuts and grapes) have been completed and are available online. A second group of five crops is being developed: cauliflower, strawberries, oranges, pistachios and barley. Phase II is anticipated to conclude in mid- 2015. The fertilizer guidelines are available at: <http://apps.cdfa.ca.gov/frep/docs/Guidelines.html>.

CDFA's Fertilizer Research and Education Program (FREP) is a long-term partnership with the University of California, California State University and other entities.

The screenshot shows the 'Almond Fertilization Guidelines' page from the CDFA website. The page is titled 'Almond Fertilization Guidelines' and includes a navigation menu at the top with links for 'CDFA Home', 'Inspection Home', 'Programs', 'Apply/Register', 'Laws & Regs', 'Meetings', and 'Contact Us'. Below the navigation, there is a breadcrumb trail: 'CDFA home > Inspection Services > PFLDRS > FREP > Fertilization Guidelines > Almonds'. The main content area features a diagram of an almond tree's growth cycle with five stages: 'Young Trees', 'Bloom Spring', 'Fruit Development Summer', 'Post-Harvest Fall', and 'Dormancy Winter'. Below the diagram, there are sections for 'Nitrogen (N)', 'Phosphorus (P₂O₅)', 'Potassium (K₂O)', and 'Boron (B)'. Each section includes buttons for 'Soil Test', 'Leaf analysis', 'Soil applied', and 'Foliar' application. At the bottom, there is an 'Acknowledgments' section and a 'Links' section with five numbered links to related resources.

Avian Influenza: Early Detection + Rapid Response = Quick Containment

On April 14, 2014, avian influenza (AI) was confirmed in quail from a local farm by CDFA's California Animal Health and Food Safety (CAHFS) lab in Turlock.

The strain, later determined to be Low Pathogenicity Avian Influenza (LPAI) H5N8, was not the worst version of this disease, but it posed a significant risk nonetheless. This subtype is not only a high risk to commercial poultry, but also had been recently linked to serious human infections in other countries. Protection of public health immediately became a primary concern as CDFA, USDA, health officials and other cooperating agencies initiated their response.

Fast-forward just a few weeks to May 20, 2014, and not only had the infected flocks been humanely depopulated and the infection eliminated, but veterinarians and investigators had also traced all movement of birds and eggs to and from the facility, conducted environmental sampling, and tested and cleared all commercial poultry farms in a 10-kilometer zone surrounding the detection. Incident personnel also conducted door-to-door outreach for everyone within a three-kilometer area, and performed additional outreach out to 20 kilometers targeting feeds stores, pet stores and ag-related youth organizations.

That's the kind of response CDFA is prepared to mount at any given moment, for any number of animal and plant diseases, pest infestations and other problems that impact not just agriculture but also public health and the environment. The avian influenza incident put that system into action



Wild geese on farmland in Colusa County, California. Wild waterfowl and migratory birds around the world can act as a reservoir for avian influenza, which can then be spread to commercial flocks.

in 2014, reinforcing the importance of rapid reporting and diagnosis of these diseases so that they can be eliminated before they spread and develop into more dangerous, complex and costly problems.

California's experience with avian influenza could have been quite different, as it has been at other places on the international map. Highly pathogenic avian influenza (HPAI) is a well known foreign animal disease that is reportable to the United States Department of Agriculture (USDA) and CDFA. Detections are subject to quarantine, eradication, and control procedures. LPAI subtypes H5 and H7 are less virulent but have been shown to mutate into HPAI subtypes, so even the presence of LPAI can pose a serious threat.

This complex disease remains a constant threat in large part because it is carried and spread by wild waterfowl worldwide. Beyond the wild birds

acting as a reservoir of the disease, it can also be introduced into our commercial poultry farms by contact with people, feed or equipment that have been contaminated. It is such a serious risk that these farms maintain constant biosecurity measures specifically to mitigate these known risks.

CDFA's Animal Health Branch performs multiple roles in response to a disease outbreak such as avian influenza, including early detection and confirmation by its network of CAHFS labs as well as the hands-on veterinary work, disinfecting, disposal, sampling, testing, investigation and outreach that are all parts of a coordinated, comprehensive system. Ongoing surveillance of at-risk bird populations thus far confirms that California has succeeded in eliminating this outbreak, but readiness for the next response effort is always the focus.

FSMA: Setting Standards for Livestock Health and Food Safety

The passage of the US FDA's Food Safety Modernization Act (FSMA) prompted CDFA's Feed Inspection Advisory Board to take a proactive approach, developing a working group of individuals tasked with evaluating the feed program's current activities and budget, and better aligning staff and resources to food and feed safety. Resulting changes include a shift in field activities from end-product testing at feed mill facilities to more comprehensive and thorough inspections, along with feed/food safety focused sampling, rather than the majority of sampling performed for label compliance. In addition, the program has organized field activities into a three-pronged approach:

- » In addition to current FDA contract work, CDFA investigators,

commissioned by the FDA will conduct comprehensive process verification inspections, verification sampling, and assisting the CA feed industry in gaining compliance with FSMA at the firm level.

- » Inspection and enforcement activities are performed by Feed, Fertilizer, and Livestock Drugs Inspectors. These individuals will perform routine inspections, follow-up on industry complaints, and enforce state and federal laws and regulations, including quarantine activities.
- » Safe Animal Feed Education Program (SAFE) historically has spent a great deal of time in the field conducting voluntary audits and mixer profiles. Looking ahead, this program will be the

lead in the Technical Advisory Subcommittee work for new feed ingredients, facilitating workshops for the feed industry, and working closely with academia on developing outreach and education materials to assist industry grain compliance with FSMA.

Other changes within the program include amendments to the Feed Law to include Hazard Analysis and Critical Control Points (HACCP)-like language, as well as adopting Association of American Feed Control Officials (AAFCO) analytical variances and feed ingredient definitions. Furthermore, risk assessments were completed on all California feed facilities, and a prioritized inspection schedule is being developed based upon firm "risk."

FSMA: The Importance of Auditing for Effective Food Safety Programs

CDFA's Shipping Point Inspection (SPI) Program continues to foster effective working relationships with their industry partners, providing food safety auditing services to growers and handlers through a number of audit schemes including:

- » Good Agricultural Practices/ Good Handling Practices (USDA GAP/GHP)
- » USDA Harmonized
- » Leafy Green Marketing Agreement (LGMA)
- » California Cantaloupe Advisory Board (CCAB)

As part of our efforts to meet these needs the SPI Program is seeking accreditation as a Certifying Body by the American National Standards Institute (ANSI) through ISO 65. This

The goal of FSMA is to shift the focus from responding to food safety issues to ensuring minimum safety standards are in place to minimize risks related to food safety outbreaks.

accreditation provides assurance that the inspection program carries out our audit certification in accordance with requirements defined in international standards. The accreditation will also provide opportunities in the future to offer Global Food Safety Initiative (GFSI) audits.

SPI has participated in the FDA listening sessions regarding implementation of the FSMA. The goal

of FSMA is to shift the focus from responding to food safety issues to ensuring minimum safety standards are in place to minimize risks related to food safety outbreaks. CDFA in cooperation with the National Association of State Departments of Agriculture's (NASDA) efforts are engaged in providing sensible solutions to ensure current food safety programs, such as the LGMA and the CCAB satisfy FSMA compliance. SPI continues to provide an increasing number of Food Safety audits and is in the process of expanding its services to meet the needs of growers and handlers throughout California. In today's food market, many retailers, buyers and processors require food safety audits in order to assure that safely produced and handled produce makes it to the marketplace.

Enforcing Standards for Quality and Labeling

The Feed and Livestock Drugs Program took a firm stance on regulatory and enforcement compliance in 2013. Five almond hullers and processors had their inventory quarantined for not meeting minimum quality standards, and misbranding/labeling issues pertaining to “almond hull” products. Gin trash, an unapproved feed ingredient that is a bi-product of cotton, was found to contain pesticide residues, and was being illegally fed to dairy cattle. Program staff quarantined the material and industry was notified. Additionally, the program worked collaboratively with the Milk and Dairy Foods Branch on several dairy industry-related issues, including the diversion of milk that tested positive for antibiotics to calves.

The program licenses more than 1,800 locations throughout the world, of which approximately 900 are located in state. The program oversees two of the largest ports in Western North America (Oakland and Long Beach) and has an international border. While California grows over 400 different commodities, we still import a vast majority of feed stuffs such as corn, soybean meal, and cottonseed from mid-western states and Canada as well as vitamins and minerals from around the globe. Almond hulls are just one example of the many by-products fed in California. Other by-products range from bakery waste, cull produce, tomato pomace, olive meal, and sweet potatoes, just to name a few. With millions of livestock to feed in a significantly grain-deficit state, California relies heavily on commodities, forage, and co-products. Last year more than 20 million tons of feed was produced for the livestock industry in California; however, this doesn't capture the total volume of forage and co-products fed to animals. That scale is one reason it is essential that the state has a robust regulatory program in place to help ensure food and feed safety.

Cowboy App!

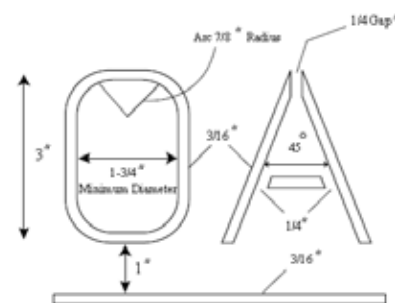
Digital Brand Book Lightens Brand Inspectors' Workload

Not so long ago, a brand was as good as a handshake... except for those pesky rustlers. Come to think of it, they're still around: in 2013, California cattle owners reported 1,095 cattle stolen with an estimated value of \$812,023. [CDFA's Bureau of Livestock Identification](#) oversees this and many other livestock-related issues with its team of 50 brand inspectors. Prior to this year, brand inspectors had no choice but to carry a 247-page Brand Book (think phone book) out to the fields, corrals, feedlots and fence lines that, on a good day, would keep their four-hooved workload contained. Brand inspection is perhaps the original “field job” and that's where a mobile app like CDFA's new digital Brand Book is a truly powerful proposition (currently a government-to-government app only; CDFA is considering expanding availability in the future). Where once brand inspectors had to swipe at flies with one hand while flipping through a phone-bookish tome searching for a tiny, printed brand with the other, CDFA's Livestock ID field staff now have a mobile app that helps them use database power, search capabilities and improved visibility to identify livestock brands on-site, without the old saddlebag full of soiled papers. When your workload consists of annually inspecting 3.2 million head of cattle, a little added efficiency goes a long, long way.

Inspectors and investigators throughout the state:

- Conduct routine sampling and inspections
- Conduct quality assurance inspections of the manufacturing facilities
- Respond to consumer complaints
- Enforce the laws and regulations that govern the manufacturing and distribution of livestock feed

Branding Diagram



Spotlight:

CDFA's Center for Analytical Chemistry

New Equipment and Expanded Methodology

Acquiring new instruments that improve pesticide-screening, broaden monitoring capability, and shorten assay time

The primary role of the laboratories at the Center for Analytical Chemistry (CAC) is to provide testing to government agencies that work to protect the nation's food supply, the consumers and the environment. The CAC supports enforcement activities and research programs of agencies including the US Department of Agriculture (USDA), the Environmental Protection Agency (EPA), the California Department of Pesticide Regulation (CDPR) and other programs within CDFA such as the State Organic program and the Feed, Fertilizer and Livestock Drugs Regulatory program.

For the third consecutive year, the Food Safety Laboratories at the CAC received funding from the Specialty Crop Block Grant and purchased sophisticated instruments that allow the program to broaden its monitoring capability, shorten assay time and produce quality results. As the food supply increasingly comes from all corners of the world, the food safety laboratories at the CAC recognize the importance of continuously expanding the scope of its activities to monitor for agro-chemicals used domestically and overseas as well to maintain program's effectiveness and relevance. The food safety team developed a new analytical screen that can detect a class of acid herbicides and added more than 100 new pesticides to the existing screens. Since the implementation of these new types of instruments, the food safety program has increased its detection potential by more than 70%. The method expansion was necessary for the program to remain pertinent in the food safety surveillance arena as a major portion of our foods comes from foreign countries where agricultural practices are different from those in the US. Data from the center's State Residue Monitoring program highlight the fact that the majority of tolerance violations come from imported produce. In 2013, data provided by the Food Safety Laboratories helped the California Department of Public Health release a health warning against eating pesticide-tainted imported cacti. Such data also emphasize the safety of California agriculture products.

Concurrently with food safety method expansion, the Environmental Testing Laboratory at the CAC entered into an agreement with CDPR's Environmental Monitoring Branch to develop a multi-residue screening method for well water samples with reporting levels for all chemicals at 0.05 parts per billion. The agreement will go from March 2013 through June 2015 and includes 129 pesticides currently on, or soon to be added to the Ground Water Protection List and part of Proposition 65.

Screening Prop 65 Pesticides

A Highlight from CDFA's Environmental Safety Lab is the purchase of new equipment to develop an analytical screening method for Proposition 65 pesticides. Addition of the first set of pesticides to the screening method from the Prop 65 list is near completion.

Data from the center's State Residue Monitoring program highlight the fact that the majority of tolerance violations come from imported produce.

CDFA's Inspection & Compliance Branch: 2013 Accomplishments

The Inspection and Compliance Branch is comprised of both regulatory enforcement programs and voluntary inspection services including the food safety auditing unit. Highlights from 2013 include:

- » Becoming ISO accredited by the American National Standards Institute (ANSI)
- » Creating on-line interactive commodity training modules for both industry and county agricultural commissioner staff
- » Partnered with BSI to offer Global Food Safety Initiative approved audits such as Global-Gap or Azure (Primus)
- » Completed a one-year data set for the organic community
- » Created a "to-be" document for a Direct Marketing database

The Shipping Point Inspection staff works in conjunction with the United States Department of Agriculture to provide the fruit and vegetable industries with third-party grade inspection and food safety auditing services. The unit currently audits to the following standards: Leafy Green Marketing Order; California Cantaloupe; Good Agricultural Practices; and Harmonized. Becoming ISO accredited will allow the unit to increase its standards to include those approved by the Global Food Safety Initiative. In order to provide that service prior to the accreditation, the program has contracted with an international certification company, BSI.

The regulatory side of the branch consists of five distinct programs:

- » **The Avocado Program** which enforces proper maturity and weight standards is in the process of a regulation review to ensure industry needs are being met.
- » **The Organic Program** doubled the number of samples to be analyzed this year. A new database now has a complete one-year data set. This online service allows for easier registration and enhances enforcement of the National Organic Program and the California Organic Products Act.
- » **The Citrus Program** is creating a 'Freeze Protocol' to ensure year to year consistency when addressing various freeze scenarios.
- » **The Direct Marketing Program** is responsible for enforcing Certified Farmers' Markets, and the producers that sell either at the markets or through Community Supported Agriculture. The Program is creating a "to-be" document to assist in guiding and implementing an online database system.
- » **The Standardization Program** is midway through its database project and has created a separate online interactive training module to enhance both industry and enforcement needs.



Olive Oil Commission: CDFA Launches New Grading and Labeling Standards

CDFA's Marketing Branch successfully implemented the new [Olive Oil Commission of California Law](#) in 2014, establishing the new commission to help ensure consistently high-quality olive oil produced in California. The commission worked with the branch to develop grade and labeling standards scheduled to take effect on September 26, 2014.

The standards will set California-specific guidelines that will apply to handlers producing 5,000 gallons or more of olive oil made from olives grown in California. Importers and distributors of bulk and bottled olive oil produced outside of California as well as smaller-scale in-state millers are exempt.

"California agriculture has an enviable reputation for high-quality products sought by consumers here and around the world," said CDFA Secretary Karen Ross. "We believe the time has come to designate a 'California-grown' olive oil, and these standards are an excellent way to do it."

From Smart Phones to Sensors, Data Drives the Future of Farming

In CDFA's balanced, agency-wide roadmap, information technology drives and supports innovative and cutting-edge initiatives that will position board members, inspectors, veterinarians, scientists, technicians and other CDFA constituents not only to achieve the goals of today and tomorrow, but to reach beyond and foster the information technology of the future. CDFA is focused on four technology areas to drive this future:

Big Data: Specialists in CDFA and elsewhere are generating data at increasing rates. To maximize knowledge extracted from these large and diverse data sets, CDFA supports computing to efficiently manage its data and geospatial information which will further its organization's mission. This includes moving from collecting data on paper to systems that capture the information at the source and eventually providing predicative and real-time analytics.

User Interface: Field office specialists need flexible software and hardware to accomplish their mission. CDFA is shifting its development team from desktop applications to mobile web development and in-time alternative user interfaces such as voice and gesturing. These alternative interfaces will make it possible to capture data efficiently.

Social Communication: As the world becomes increasingly interconnected, people are finding new ways of sending and receiving information. In the new social media arena, the public is an active participant and user instead of a passive reader or viewer. Self-signup channels, real-time feedback and social media-enabled applications are part of CDFA's technology evolution.

Sensors: In the future CDFA will use remote-sensing data from ground, aircraft, and satellite platforms to develop methods to monitor, assess, and manage the agricultural ecosystem on small and large scales. This will include airborne and satellite hyperspectral images to help detect problem areas and the chemical composition of plants.



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IT has recently updated the 15-year-old Animal Border Crossing data system with a user-friendly interface.

Updating the Animal Border Crossing Data System

California Border Protection Stations (BPS) are the first line of defense in protecting our environment and resources from invasive species. At these stations, vehicles are inspected for commodities infested with invasive species. California established its first agricultural inspection stations in the early 1920s. Today there are 16 of these facilities located on the major highways entering the state. At these stations, vehicles and commodities are checked to ensure they are pest-free and meet all regulatory requirements.

One of these BPS responsibilities is ensuring that animal movements into California are registered by species, border station of entry, state or country of origin and Animal Health Branch District destination for any time period. Most livestock and poultry have entry permit and Certificate of Veterinary Inspection (CVI) requirements to enter California. Horses and other equines do not require a permit.

IT has recently updated the 15-year-old Animal Border Crossing data system with a user-friendly interface that now tracks non-hatching eggs and egg products and the company of origin of the egg shipments as well as enhancements to the animal movement data. By IT business analysis staff visiting the border crossings and observing transactions, a short list (10-20) of the most common destination operations was developed, saving BPS staff time to process transactions and keeping the traffic flowing smoothly.

CDFA Growing Mobile Apps for California Citizens

CDFA's ongoing commitment to outreach through technology has led to the development of three new applications for smart phones. The first is a [guide to local farmers' markets](#). The new application was developed in collaboration with the State Department of Technology and works across all smart phones. It leverages California's mobile framework with location-aware services and map features. Our application will help you locate the nearest certified farmers market in your area along with contact information.

Through our work in weights and measures, which includes the regulation of public scales, a [mobile application for truckers](#) has been developed to help locate the nearest scales. The need for this application was identified after tracking 2,500 unique visitors each month to CDFA's web site in search of locations.

We have also expanded our [Report-A-Pest](#) app. Developed by the CDFA mobile development team, the app provides the ability to photograph and report suspected harmful pests to state and local agricultural officials. Using camera and GPS technology, the app provides invasive species specialists with valuable sighting information that could shorten response time, save taxpayer money and protect our crops from pests and diseases.

CDFA's ongoing commitment to outreach through technology has led to the development of three new applications for smart phones.

National IT Group Recognizes CDFA's Tech Talent

Leveraging information technology is one of the ways agencies like CDFA have weathered the budgetary storm of the past several years. A 2012 National Association of Chief Information Officers (NASCIO) *Recognition Award* was given to an exemplary undertaking: the department's Emerging Threats (ET) project, a comprehensive solution for the surveillance of animal disease and food safety threats that can cause huge economic losses, the deaths of millions of animals, and even disease transmission to humans. This web-based, GIS-enabled system provides accurate animal population information and milk safety surveillance information at all times. Significantly, this system is not only designed to be used under emergency conditions, but will also support day-to-day operations related to food safety and livestock and poultry disease testing. The daily use will ensure that the information remains current and will also help avoid duplication of effort while improving data integrity.

The NASCIO award for the ET project was one of two presented to CDFA's IT office in 2012 – the other being its Video Interact Project (VIP) that is essentially a portable cart providing two-way, interactive video conferencing that enables CDFA employees to communicate with peers by voice, video and instant messaging over the Internet using common collaboration tools. For CDFA's far-flung urban/suburban/rural/remote/field employees, this solution saves time, reduces the need for travel, and keeps information flowing toward solutions.

Leveraging information technology is one of the ways agencies like CDFA have weathered the budgetary storm of the past several years.

Every so often, inventions come along like the tablet computer that aren't just an end-point innovation but rather a *driver* of innovation that ripples through entire industries.

iPads Poised to Power CDFA's Field Staff

Technology is often seen as a constant flow of incremental innovation, such as the speed of a processor or the size of a hard drive. But every so often, inventions come along like the tablet computer that aren't just an end-point innovation but rather a *driver* of innovation that ripples through entire industries. For example, these powerful, portable devices promise a sea-change for field staff like CDFA biologists who generate data all day as they work in the fields checking and setting traps, or our veterinarians who detect and report animal illnesses. Thanks to projects like CDFA's implementation of iPads as data collection devices for field staff in our Asian citrus psyllid (ACP) response program, we are hastening the end of the era when field-generated paperwork has to be driven back to a satellite office, collated with other field workers' forms, and finally keyed into office-anchored computers, then transferred via email or database to the decision-makers. Because of their portability, connectivity, durability and ease of use, tablets can erase some of those steps completely and accelerate or automate others – adding valuable minutes to every hour for field staff who will now be free to concentrate more on agricultural pests and diseases and less on the paperwork that awaits them back at the office.

Report A Pest: Giving Consumers the Power to Protect the Food Supply

With every public meeting, blog post, press release and poster, CDFA reaches out to consumers of agriculture with an invitation to participate. Often, these invitations involve CDFA asking for the public's assistance in an effort to respond to an invasive pest infestation. It's the responsibility of government to provide such outreach opportunities – and to pursue new ones. That's where the department's Report A Pest mobile app comes in: it enables people to take photos of a suspected invasive pest or plant and send them to CDFA for evaluation. The app includes an option for GPS coordinates of the find, just in case a rapid response is deemed necessary. [It is available as a free download for Apple iPhones, iPads, and in a web based platform that works with most cell phone types.](#) The application is an extension of the Report A Pest link on CDFA's web site, which features more information on submitting photographs or even live specimens of suspected invasive species. CDFA's divisions of Plant Health and Pest Prevention Services and Information Technology Services worked together to develop the app with funds coming from the USDA Farm Bill.

The app is available as a free download for Apple iPhones, iPads, and in a web based platform that works with most cell phone types.

The application is an extension of the Report A Pest link on CDFA's web site, which features more information on submitting photographs or even live specimens of suspected invasive species.



Section 3: From Persistence to Prevention

Progress on Invasive Pests, Pollinators

CDFA's Program EIR: Toward a Time-Sensitive, Efficient Framework for Pest Prevention and Management

If California agriculture has a defining characteristic, it is “variety” – the impressive range of its crops is due in part to its widely differing topography, climate, soil types, and other factors that produce the variability of CDFA’s many growing regions. Unfortunately, the qualities that make California so desirable for farmers also make it a must-see destination for invasive pests, weeds and other organisms that threaten our farms, our habitat and environment, and the food supply we all depend upon. Protecting these resources is CDFA’s mission, and that’s why CDFA continues development of an environmental impact report for its Statewide Plant Pest Prevention and Management Program. Knowing that pests and other invasive species can and do breach our borders, CDFA has a responsibility to provide a time-sensitive framework for efficiently evaluating potential impacts so that our response can be as swift and effective as possible. The development of this Program EIR also provides expanded participation, comprehensive human health and ecological risk assessment, and consideration of a wide variety of treatment methods including cultural, physical, biological and chemical options. To keep stakeholders apprised of the project’s progress, CDFA has established a free [Listserv](#) that sends periodic e-mails with the newest Program EIR Updates. Go to www.cdfa.ca.gov/plant/peir for more information.



Gypsy moth caterpillar

Citrus Pest and Disease Prevention Program (CPDPP)

Collaborative Effort Synchronizes Daily Operations with Outreach and Long-Term Research

Back in 2008, when the Asian citrus psyllid (ACP) was first detected in California, the state’s citrus growers had already been hard at work on both the science and the outreach that would be required to deal with this complex problem. One important part of the process has been the formation of the Citrus Pest and Disease Prevention Program (CPDPP) as a collaborative effort by growers and CDFA to incorporate the industry’s expertise and access to research and funding with the agency’s regulatory roles and responsibilities.

The pest’s ability to transmit a fatal disease, huanglongbing (HLB), to citrus trees had wreaked havoc in Florida and elsewhere around the globe in recent years, so growers and regulators alike were well aware that early detection, combined with long-term research and outreach efforts, would be required to keep the disease from decimating the state’s citrus industry.

The formation of this program and the appointment of an executive committee comprised of industry leaders who advise the department have allowed the combined effort

to maintain a focused and unified effort in response to each pest detection. Just as importantly, the program guides research efforts toward an eventual solution for the disease, which has been detected in just a single, residential citrus tree in Southern California.

Growers and regulators have known from the start that this would be a long-term effort, requiring both concerted planning and short-term adaptability. The establishment of the CPDPP enhances the state’s ability to achieve that balance.

Pierce's Disease:

A Program Designed to Protect Vines Matures Into a Model for Government/Industry Collaboration


Back in 1999, California's grape growers and wine producers came face-to-face with the specter of widespread destruction when a new invasive insect, the glassy-winged sharpshooter, spread the vine-killing Pierce's disease to large sections of vineyards in Southern California. By rapidly mobilizing and coordinating the collective pest prevention resources of government and industry, California has managed to keep the sharpshooter from spreading to other areas of the state, while a sustained and aggressive research effort has sought more permanent, long-term solutions to this ongoing threat.

That work is bearing fruit: the research effort has yielded a solution in the form of conventionally bred wine grape vines that are on track to commercial availability within 2 to 4 years. From lab work to test plantings to harvested grapes to bottles of wine that have passed the taste test, all systems are "go."

Ongoing research continues to zero in on not just the disease but also control of the pest as well as methods to interrupt or otherwise thwart the transmission of the bacteria from pest to vine. What's more, this "pest-disease complex" bears strong resemblances to similar problems that have surfaced more recently in California – the Asian citrus psyllid and the disease huanglongbing, and the polyphagous shot-hole borer and the fungus it spreads, for example. Scientists have the benefit of more than a decade of research into PD and the sharpshooter to help guide them and perhaps shorten the learning curve as they address these newer arrivals.

CDFA's Pierce's Disease Control Program was formed in response to a single disease, but it has succeeded in much broader terms. It has become a resource for scientists seeking to address the state's unending influx of pests and diseases, and it has matured into a model for coordinated, sustained, collaborative response by government and industry.

"Pierce's Disease: A Decade of Progress" is available online from the program's web site, <http://www.cdfa.ca.gov/pdcp/>.




PIERCE'S DISEASE | A Decade of **PROGRESS**

"Research helped Temecula recover from our devastating losses. The lessons learned and the partnerships formed here with other industries are helping to keep GWSS and PD from spreading to other parts of the state until there is a permanent solution"

BEN DRAKE
Grape Grower, Temecula

In the late '90s, a new pest, the glassy-winged sharpshooter (GWSS), caused severe damage to grapevines in California, spreading the fatal Pierce's disease (PD) through vineyards at a rapid pace. California was facing its biggest threat to grapevines since phylloxera.

Today, 10 years later, the future is looking brighter. A unique partnership of state, federal, and local agriculture departments, industry, and research institutions is not only controlling the pest, but through research is also building a foundation of new information and advances helping to close in on solutions to Pierce's disease.



PD/GWSS BOARD

Responding to – and Preventing – Invasive Pest Infestations

On any given day, you'll find CDFA staff responding to many invasive pest infestations. Farmers depend on our ability to quickly detect, measure, respond to and often eradicate these infestations. But the bigger story is that these response efforts often protect much more than our crops – the same pests often threaten backyard gardens, landscaping, natural habitat and the larger environment. Some of our larger and more recent response programs include:

European Grapevine Moth (EGVM):

The infestation is down from 100,959 moths in 2010 to 1 so far in 2014. This program is successful due to the cooperation of residents, industry and stakeholders working together to rid our state of this invasive species.

Asian Citrus Psyllid (ACP) and Huanglongbing (HLB):

A pest-disease complex as daunting as this one deserves a response that is as dynamic and multi-faceted as the problem itself. Since



the detection of the pest, CDFA and its partners remain committed to protecting the state's citrus industry and residential backyard citrus alike, partnering with researchers to develop response options like biological control, and giving the scientific community ample opportunity to provide an eventual solution.

Japanese Beetle: In the Sacramento-area community of Fair Oaks, the original detection of a single beetle in 2010 was followed by two more in 2011 and four in 2012, triggering treatments on approximately 100 local properties. So far in 2014, 3 beetles have been detected; however, the infestation has not been permitted to spread beyond its original neighborhood, and with the support of local residents we will rid California of this invasive species.

Mediterranean Fruit Fly: Since 1996, the Preventative Release Program (PRP) has released sterile male medflies throughout the Los Angeles Basin. The sterile flies mate with any wild female flies in the region but produce no offspring, so infestations are curtailed. The PRP releases have reduced the number of medfly incursions into California each year from an average of 7.5 to about 1.

"Buy It Where You Burn It"

Firewood Campaign: To help prevent the spread of pests such as the goldspotted oak borer, Emerald ash borer, sirex woodwasp, gypsy moth and Asian long-horned beetle (not to mention diseases like Sudden Oak Death), CDFA has joined the multi-agency CA Firewood Task Force to deliver key messages to Californians such as: "use firewood from local sources" and "if you're going camping, leave firewood at home" through web sites (www.firewood.ca.gov and www.dontmovefirewood.org), videos, billboards, posters at rest stops, handouts at campgrounds, and other means.



Pink Bollworm: The CDFA Pink Bollworm (PBW) Program, in cooperation with the USDA PBW Eradication Program, is on the verge of eradicating the PBW from the entire southwest US and northern Mexico. This would be an historic achievement, representing only the third time a pest insect has been eradicated over an area of multiple states. This feat has been accomplished entirely without conventional insecticides. Instead, it employs area-wide host-free periods, releases of sterile moths, planting of 100% Bt cotton, and treating local infestations with pheromones. Before the Program began in 2007, captures of fertile moths routinely numbered hundreds of thousands per year in the California eradication area. In just one year, captures dropped by over 96%. They continued to decline rapidly until reaching zero moths in both 2012 and 2013; so far in 2014 zero moths have been detected. Prior to the Program, PBW was the second most important pest of cotton, and farmers sprayed their fields six to seven times each year to control it.

Border Stations: Agricultural Inspections are Just the Beginning



Border Stations Prioritize Inspections

Activities at CDFA's border protection stations focus on specific pathways that might allow the highest risk invasive species access to our state's agriculture and environment. Quarantine monitoring of commercial shipments and regulated commodity movement are among the highest priorities for the program. Recent activity at these stations has identified a new pest pathway: self-packed containers, a trend that has gained popularity in the commercial shipping industry. These containers are dropped off in a driveway or at a business to be packed, then they are picked up, transported and stored until they are needed. Inspectors find various regulated invasive species including moths, ants and other significant pests hitchhiking between and under the containers.

Continuing to Help CalRecycle Find More Fraudulent Recycle Shipments

Under an interagency agreement with CalRecycle an effort is being made to stop illegal claims of California Redemption Value moving through the stations. Beverage distributors pay into a fund used to reimburse consumers who redeem recyclable containers that have been *purchased in California*. Unscrupulous individuals defraud California taxpayers when they smuggle in and redeem recyclables that were purchased outside California. Because no fee was paid into the California system for those containers, they don't qualify for reimbursement. Information provided by our border stations has also uncovered a type of commercial shipment that may be an unexpected pathway of concern to CalRecycle called "slip stream": baled recycling refuse materials commercially shipped from outside of California. The pathway is under investigation for possible illegal redemption value collection.

Assisting BOE with Tax Collection

The stations continue to have success with an interagency relationship with the Board of Equalization (BOE). The Program assists BOE on fuel tax and use tax collection by providing access to the stations and by collecting information on interstate commercial shipments of interest to BOE. This interagency work helps ensure out-of-state transporters pay for their fair share of roadway use and fosters fair business practices.

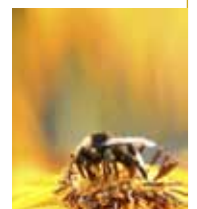
Pests: Interceptions Every Day

Watercraft, self-movers, recreational vehicles and utility vehicles comprise about five percent of the vehicles that pass through the border inspection stations yearly. Commercial vehicles cover more than 25 percent of the traffic. The remaining, 70% are classified as passenger private vehicles that are required to be screened for routes of travel, which helps determine pest risk and the appropriate level of inspection. Inspectors are busy day in and day out, filtering and inspecting these 20 million vehicles that come into the state. As a result, inspectors intercept thousands of plants, fruits, vegetables and other contraband

items annually – any one of which could harbor a pest or disease that could lead to a costly and damaging infestation or outbreak.

Protecting the Farmer's Favorite Bug: Bees!

While we're on the subject of "things you probably didn't know our border stations do," try this one: bee watering! Yes, you read that right. Bees need water just like the rest of us. Every year, more than a million beehives are trucked into the golden state to help pollinate our crops. The apiary industry (that's beekeepers for the rest of us) has worked with CDFA to help upgrade or install relatively simple but important watering systems at key border stations, where the bulk of the beehives come into California. Kudos to the folks at the California State Beekeepers Association (CSBA), Project Apis m (PAM), the Almond Board of California and the California State Apiary Board for finding the funds and working with CDFA to make this happen.



Pollinator Projects:

Specialty Crop Block Grants to Fortify Forage, Food and Best Management Practices for Bees

Project Apis m (PAm) \$254,400

Best Management Practices (BMPs) for Honey Bees

Pollinating California's Specialty Crops

This grant seeks to improve pollination services for California's specialty crops by developing and implementing an outreach program of sustainable Best Management Practices (BMPs) for commercially managed honey bees. Growers will have access to BMPs to encourage their beekeepers to adopt sustainable colony-management practices.

California State Beekeepers Assn. \$260,675

Improving Forage Resources for Pollinators of California's Specialty Crops

Bees require a diversity of food sources to maintain health. Drought, wildfires, herbicide use, urbanization and other factors have reduced natural pollinator habitat and food sources. This project encourages land owners and land managers to produce food resources for pollinators, specifically forage crops for honey bees pollinating California specialty crops.

San Luis Obispo Bee Company \$280,138

Best Management Practices (BMPs) for Blue Orchard Bees, Wildflower Seed Production

The research develops BMPs for (1) California native blue orchard bees (BOBs) in Central Valley orchards, coastal vineyards and wild coastal production areas, and (2) native wildflower seed production in Central valley orchards and coastal vineyards.

Project Apis m. \$344,124

Building California Bees for California Specialty Crops

This project aims to identify, develop, and test low-water-use wildflower and oilseed mixtures as a means of providing sustainable nutritional sources for the building and retention of honey bees in California.

Growers will have access to best management practices (BMPs) to encourage their beekeepers to adopt sustainable colony-management practices.



Spotlight on Measurement Standards

Fostering Accuracy, Fairness in the Marketplace

Measurement Standards: Protection for Ag Producers, Processors, Distributors, and Much More

The Division of Measurement Standards (DMS) ensures the accuracy of transactions throughout the farm-to-fork journey, from the time farmers and ranchers obtain the materials they need to produce their harvest to the time when consumers purchase the food they put on their tables. DMS oversees county sealers of weights and measures, who check scales and meters for accuracy, inspect packages for accurate net contents and truth in labeling, verify prices, and audit weighmasters for correct measurements of commodities brought from the field.

CDFA's Division of Measurement Standards (DMS) Accelerates the Adoption of Alternative Fuels

The transportation sector is responsible for 40% of California's greenhouse gas (GHG) emissions. CDFA DMS is actively pursuing strategies to reduce GHG produced from fuels by assisting sister agencies and industry stakeholders:

- » DMS received \$3 million from the Greenhouse Gas Reduction Fund to research analytical test procedures to support the adoption of fuel quality specifications for low-carbon and zero-emission alternative and renewable fuels produced from agricultural waste.
- » DMS is member of ARB's Low Carbon Fuel Standard (LCFS) Advisory Panel, which reviews ARB's progress in implementing the LCFS and issues a report advising the ARB on LCFS' effectiveness and impacts on California.
- » DMS is a significant contributor to the ARB's Alternative Diesel Regulation, which is modeled after DMS' developmental engine fuel variance program.
- » After three years of hydrogen fuel and dispenser research, DMS is implementing its official fuel quality and dispenser standards that will allow California fuel cell vehicle drivers ready access to quality fuel that is accurately measured in time to meet the goals of Governor's Executive Order B-16-12.
- » In 2014, DMS conducted 8 hydrogen dispenser evaluations across the state using state-of-the-art test equipment. There are currently 49 additional stations under development, expanding the number of locations supporting the growing hydrogen vehicle population.
- » DMS, in collaboration with industry, successfully developed and adopted an ASTM International standard D7901 for Dimethyl Ether (DME). DME is a promising low-carbon diesel fuel substitute that can be produced from many sources, including dairy digesters.
- » DMS' electric submeter regulations served as the straw man for public electric vehicle charging stations. California weights and measures officials are key contributors to developing national standards for the retail sale of electricity as a motor vehicle fuel.



Dimethyl ether is a promising low-carbon diesel fuel substitute that can be produced from many sources, including dairy digesters.

Spotlight on Measurement Standards

CDFA's Division of Measurement Standards (DMS) Protects Marketplace Confidence

The variety and types of cases investigated by DMS is surprising to many by its diversity. Staff investigators have documented and assisted California District Attorneys with prosecutions for

everything including improper representation of lumber sizes and other building materials; deceptive packaging of anti-aging cream; improper weighing of deli salads; short weight canned tuna; and substandard fuel

quality. Total settlement amounts from these cases are \$11 million, demonstrating the value of marketplace oversight to consumers and competing businesses.

CDFA DMS Does its Part to Keep the Lights On

The high value of scrap copper and other metals has fed an unprecedented rise in metal theft from citizens, businesses, railroads and public utilities. To deter theft, the Weighmaster Program expanded its inspections in 2014 to ensure that junk dealers and recyclers had

the necessary fingerprinting and photographic equipment. Proper documentation of these transactions assists with the successful prosecution of thieves. In 2015, the law will be expanded to require all junk dealers/recyclers to sign up to receive stolen property notifications

from ScrapTheftAlert.com. DMS partners with federal and other state agencies and local law enforcement officials like the California Rural Crimes Prevention Task Force to deter metal theft. Staff also perform outreach activities with businesses to assist them with compliance with weighmaster laws and regulations.



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