



The California Department
of Food & Agriculture

2019-2020

*An Era of
Productivity
& Perseverance*

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FOOD & AGRICULTURE

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Foreword

by CDFA Secretary Karen Ross

2020.



It's strange now to think back to a year ago, to recall ending 2019 and beginning 2020 with a distinct sense of clarity about what we as an agency and we as a state were doing, where we were headed. We even had some ideas about messaging with the way the number "20/20" conveys clarity in the visual sense. Our purpose and our plans were in place.

COVID-19 had other ideas. There is simply no achievement or policy or election that can alter the simple, awful fact that our global community has lost millions of people to a disease that all of us have struggled to control. **It was clear from the start that the California Department of Food and Agriculture and the larger agricultural community had a job to do – an "essential" job.** That term took on new meaning and significance as the year progressed, and as Californians focused on what was truly necessary and most important. Our health, of course, was at the top of that list, and our food supply was not far behind it.

California's wildfire season also caused our agricultural regions considerable grief and disruption; at one point in September 2020, 17 of our fairgrounds were activated as community resource centers, animal rescue centers, and staging sites for fire and emergency response agencies.

In an ordinary year, this report would be about what we as a department do to help and protect farmers and consumers. This year, it's also about how we have changed the ways we do those things to fit the new realities that 2020 has brought.

I'm proud of the way this agency and this industry have adjusted. I'm proud of the way we have maintained our focus on the food supply and the essential people who grow, harvest and provide it to Californians and consumers around the world.

Karen Ross

Housing for the Harvest

What is it? It's how a state that cares about its farmworkers responds when these essential employees are put in harm's way by COVID-19. The work must go on because the food supply is such an integral and critical element of public health, right down to the immune systems we all use to fight off a virus in the first place. But the risks are real. That's where Housing for the Harvest comes in.

CDFA works with public health officials and charitable organizations to provide temporary hotel housing to ag workers who need to isolate due to COVID-19. It gives workers who test positive or were exposed a safe way to protect their loved ones and coworkers by giving them a space to self-isolate, heal and recover.

covid19.ca.gov



Farmers' markets: An important source of nutrition during COVID

Left: The Union City Farmers' Market demonstrates good crowd control and social distancing.

Right: Caution tape around a farmer stand at the Downtown San Leandro Farmers' Market in 2020 is an example of what Direct Marketing inspectors are seeing at Certified Farmers' Markets to ensure customers and farmers maintain proper social distancing during the COVID-19 pandemic.



Senior Farmers' Market Nutrition Program shifts its focus for COVID response

More than a few conversations this past year have included something about "silver linings." The pandemic has perhaps confirmed some very basic but very important facts about nutrition – including the simple fact that our immune systems depend on it. That's especially true for our society's most vulnerable members: our seniors.

A longstanding program at CDFA is our Senior Farmers' Market Nutrition Program which, in a normal year, distributes "check booklets" to seniors so they can purchase nutritionally valuable fruits, vegetables, herbs and selected other items at farmers' markets. Farmers love it, seniors need it, and they both get to meet each other and talk about food and farms and belonging to the same community. That's a "win-win" any way you look at it.

In 2020, in response to COVID-19, CDFA partnered with the California Association of Food Banks to tweak this program so that it can still get nutritional food to seniors, but also protect them from the spread of COVID and observe each community's important, health-based restrictions and guidance on public events and gatherings.

The result: Instead of traditional sales at farmers' markets, the program shifted its focus to facilitating the distribution of 20,242 produce boxes containing 506,050 pounds of fresh fruits and vegetables to low-income seniors. As a result of this partnership,

more than 20,000 low-income seniors were served by seven food banks, and 27 farmers throughout the state participated. Additionally, 2020 was the first time in our program's history that we achieved 100 percent redemption of these funds.



Delivering produce boxes to low-income seniors gave this program a means of continuing its important work while also protecting our most vulnerable residents from COVID.

20,242

Produce Boxes Delivered

506,050

Pounds of Produce



Senior Farmers' Market Nutrition Program

We speak "emergency."

When a public health crisis like COVID comes along, you might be surprised just how integrally involved the California Department of Food and Agriculture is. For example, our Animal Health Branch has directly relevant experience with disease outbreaks in livestock and other animal populations. We deal on a daily basis with the logistical demands of these emergency events.



Animal Health Branch supports California's COVID response

CDFA's Animal Health Branch is accustomed to responding to emergencies, whether that means foreign animal disease outbreaks or natural disasters that imperil livestock and other animals. That's why our staff are not just highly trained but also real-world tested in deploying and using California's Incident Command System. When a broader emergency such as COVID-19 comes along, people with these skills and this experience are tremendously valuable beyond their daily assignments protecting animal health.

That's why CDFA's Animal Health Branch was tasked with initiating and running the CDFA's Department Operations Center (DOC) for the COVID-19 response beginning in March and continuing through May, 2020. During the DOC activation, 13 AHB staff were activated to fulfill roles as DOC Director, Planning Section Chief, Logistics Section Chief, Situation Unit, animal industry liaisons, CARES liaison, and animal testing coordinators for the duration of the activation. These key staffers and their supporting teams worked to minimize and prevent food supply interruptions, including helping agricultural workers and employers work through the establishment of the "essential worker" designation and critical tasks such as acquisition and distribution of protective equipment. In each case, the issues were coordinated with the agriculture industry, tracked, and reported to the CDFA Executive Office.

Additionally, many subject matter experts on our staff were involved in developing guidance documents to help industry leaders and workers with continuity of business efforts in the face of public health guidance that was rapidly evolving during the early months of the response. While public health remains the appropriate focus of COVID response efforts, it is worth noting that CDFA's Animal Health Branch staff have also continued to coordinate nationally and with the California Department of Public Health on animal testing for SARS-CoV2.



Expanding California's Farm to Family Program

The COVID-19 pandemic has spurred an utterly unprecedented level of demand at California food banks, who have seen a year-over-year increase of approximately 73 percent.

Wind the clock back to the very beginning of the pandemic, and here's what you'll see: in the first three weeks of April 2020, CalFresh saw a 140 percent increase in the number of applications over the same time the previous year.

At the same time — almost overnight — California farmers and ranchers simultaneously saw their short-term market decrease by 50 percent. The fresh produce industry supply chain was especially hard hit because of the perishability of the products that must be harvested, shipped and consumed in a short period of time. Specialty crop growers faced billions of dollars in cancelled or reduced contracts — and, of course, California accounts for at least one-half of those losses.

California's Farm to Family program is a partnership between the California Department of Food and Agriculture (CDFA) and the California Association of Food Banks to facilitate food donations from farmers and ranchers by supporting food production, processing and distribution of the food supply chain. CDFA received approval from the USDA to redirect \$2 million in unused Specialty Crop Block Grant funds to the California Association of Food Banks to offset the costs of picking, packing

and transporting donated produce. An additional \$861,854 from the USDA Farm to Food Bank program was awarded to the California Department of Social Services (CDSS) to support the program. Farm to Family partners with 41 food banks serving all 58 counties, and handles the logistics of packaging the food and communicating with food banks.

Roughly 128 farmers and ranchers are donating to the California Association of Food Banks and another 200 farmers have expressed interest in participating. Flashing back to the beginning of the pandemic, Farm to Family distributed 14.5 million pounds of fresh fruits and vegetables in March 2020 — and in the first three weeks of April, the program distributed 18 million pounds of food. Both the need and the generosity were immediate.

Additionally, \$775,000 in private funds have been secured for the California Association of Food Banks to help provide a bridge to local food banks to be able to meet the increased demand through the end of May. This funding comes from three donors: Kat Taylor, Farm Credit/CoBank and an anonymous donor — and was leveraged to launch the \$15 million campaign to support the Farm to Family program through the end of 2020.





Biodiversity. It's a beautiful thing.

California's farmers and ranchers are among the foremost stewards of our working lands—providing ecosystem services and supporting biodiversity.

They undertake many practices to enhance biodiversity, such as planting pollinator species, growing cover crops for soil health, avoiding practices that disrupt nesting of bird species, providing winter habitat on rice fields and helping endangered species thrive to participating in large-scale habitat corridors, to name a few.

CDFA is participating in the California Natural Resources Agency's **Cutting Green Tape Roundtable initiative**, an interagency effort developing a preliminary set of recommendations for improving permitting and other efficiencies to increase the effectiveness, quality and quantity of environmental restoration in California

in partnership with the California Landscape Stewardship Network.

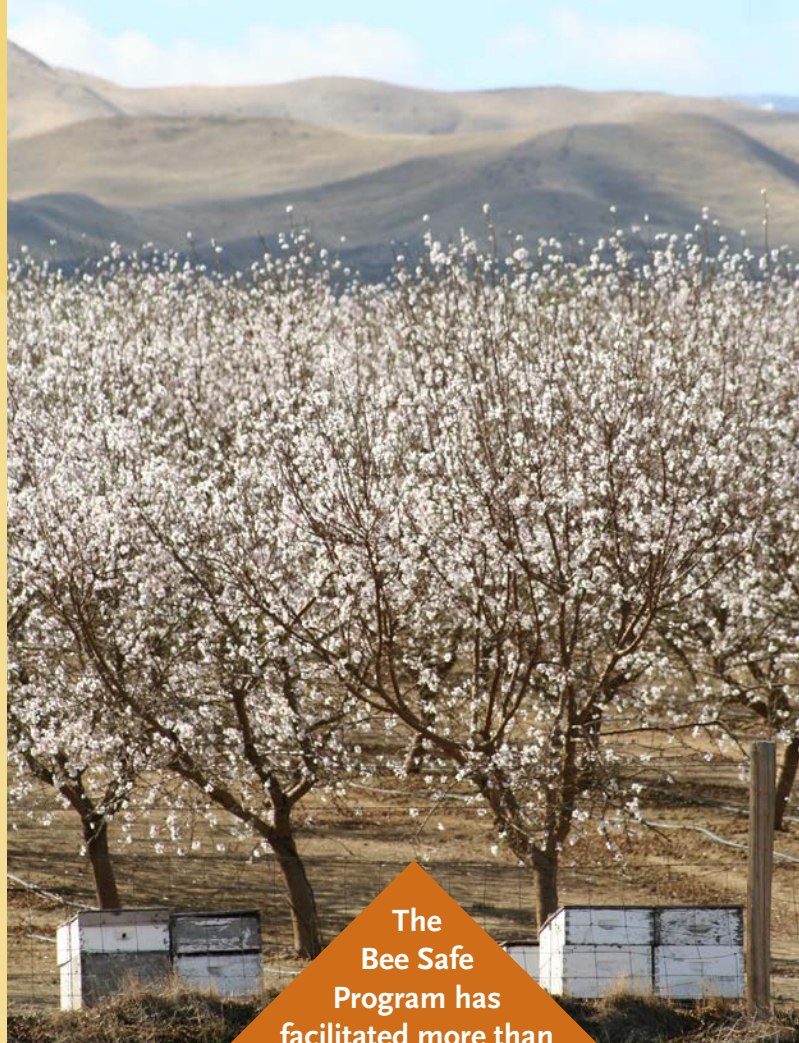
CDFA's Office of Environmental Farming and Innovation employed a Senior Environmental Scientist Specialist to serve as a coordinator for CDFA's activities related to biodiversity, to serve as a liaison to the **Biodiversity Initiative Collaborative** and to seek opportunities for engagement with agricultural stakeholders on matters of biodiversity conservation.

CDFA celebration of **Biodiversity Day** included launching its biodiversity web page and producing a video with Secretary as part of a public awareness campaign highlighting the importance of biodiversity in California.

CDFA celebrated **National Pollinator Week** with a public awareness campaign, producing three educational videos and hosting a successful webinar with over 250 attendees.

Helping bees help almond trees (and lots of other plants)

CDFA programs and partnerships provide resources that support pollinators statewide. CDFA's Bee Safe Program works closely with County Agricultural Commissioners to facilitate funding for regulatory and training activities that protect the state's pollinators, beekeepers, and the apiary industry. In 2019 – 2020, cooperative agreements in the amount of \$1.5 million dollars were provided to 43 counties for Bee Safe Program activities statewide. In collaboration with CDFA and the California Department of Pesticide Regulation, the California Agricultural Commissioners and Sealers Association released the BeeWhere software program in 2019. This program has increased the ability to provide much needed training, resources and communication to beekeepers and the agricultural industry, facilitating more than 14,000 bee checks in 2020, an increase of over 200% from the previous year. In addition, during the 2019/20 shipping season, CDFA Pest Exclusion Branch participated in cooperative pilot programs with Idaho and North Dakota to inspect and certify apiary shipments at origin. Under these programs, 275 shipment were pre-cleared for entry. Inspections and possible delays at Border Stations can place stress on bee colonies and decrease colony strength. Minimizing delays at Border Stations reduces these stresses and benefits both beekeepers and California farmers by ensuring colonies are as healthy as possible after being transported.



The Bee Safe Program has facilitated more than 14,000 bee checks in 2020 - a 200% increase



Registration Type	Calendar Year 2018	Calendar Year 2019	Calendar Year 2020*
Beekeepers	unknown†	2093	2216
Apiary locations	155	4,671	12,510
Beehives	115,967	904,466	1,423,893
Bee Checks	unknown†	6813	14,709

*Numbers as of June 30, 2020.

† Prior the implementation of BeeWhere

Advancing the cause of equity in agriculture and public service

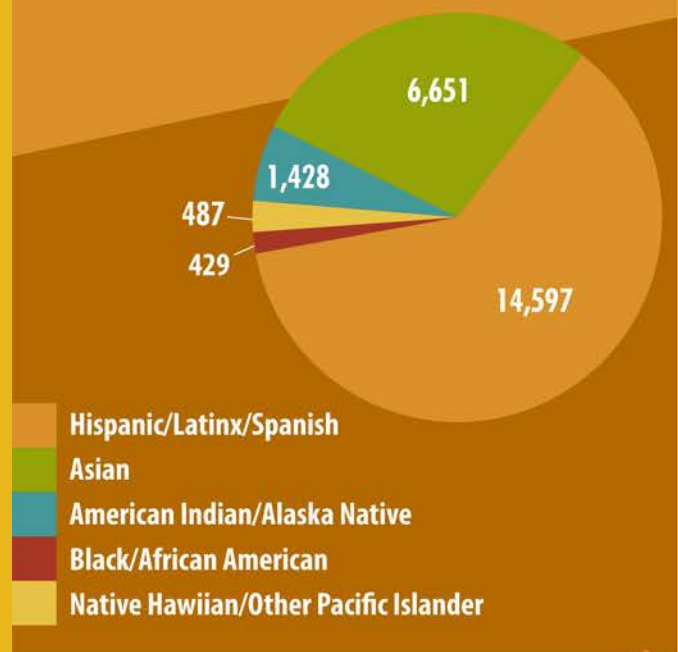
The Farmer Equity Act (AB 1348) by Assembly-member Cecilia Aguiar-Curry was signed into law in October 2017. This legislation recognized that California's farmers and ranchers are made up of a diverse group of people, and not all have historically had access to resources and information in order to successfully run their businesses. This group of farmers and ranchers has faced historical discrimination, some of which still exists today.

AB 1348 states that a socially disadvantaged farmer or rancher is a farmer or rancher who is a member of a socially disadvantaged group. A "socially disadvantaged group" means a group whose members have been subjected to racial, ethnic, or gender discrimination. These groups include the following:

- » **African Americans**
- » **American Indians**
- » **Alaskan Natives**
- » **Hispanics**
- » **Asian Americans**
- » **Native Hawaiians and Pacific Islanders**
- » **Female farmers and ranchers of color**

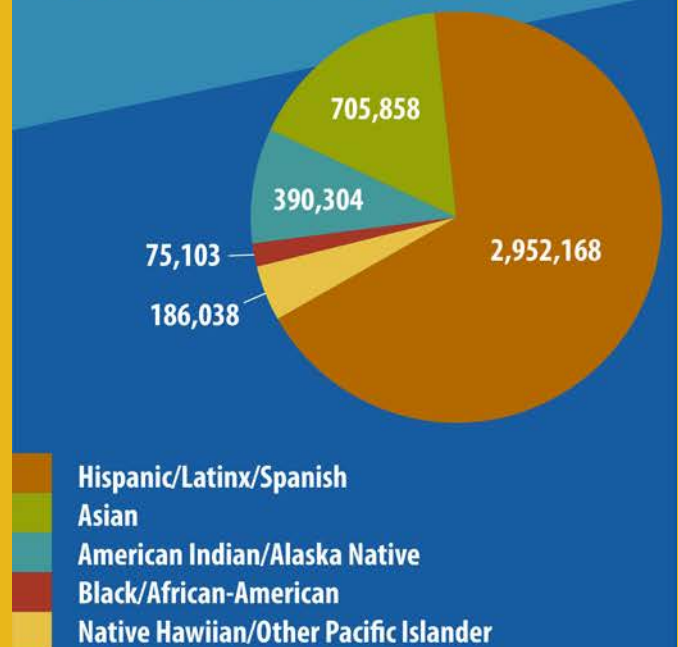
According to the most recent Department of Agriculture (USDA) National Agriculture Statistics Service (NASS) survey, California's 124,405 farmers include 23,592 socially disadvantaged farmers and ranchers in California, farming 4,309,471 acres. These farmers were located in almost all 58 counties of the state, and most heavily concentrated in San Diego, Fresno, Tulare, Stanislaus and Riverside counties. (Note: In a separate question on the Ag Census, 1,382 socially disadvantaged farmers reported "more than one race.")

Demographics of Socially Disadvantaged California Producers



2017 Census of Agriculture

Acreage Farmed by Socially Disadvantaged California Producers



Equity in California Agriculture, continued

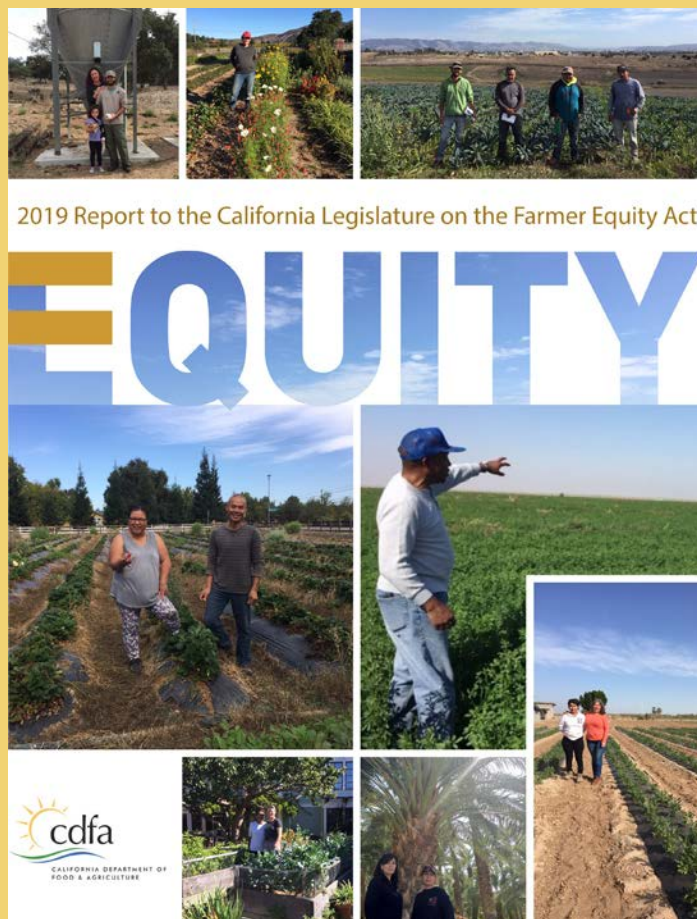
AB 1348 required that the California Department of Food and Agriculture (CDFA) submit a report to the Governor and the Legislature to outline CDFA's efforts to serve socially disadvantaged farmers and ranchers in California. The legislation also established a position within the Executive Office to support this work. The Farm Equity Advisor was hired in September 2018 to begin the important work of ensuring inclusion of socially disadvantaged farmers and ranchers in CDFA's vision and its relevant policies, programs, outreach and communication. CDFA is committed to addressing the challenges facing socially disadvantaged farmers and ranchers and contributing to Governor Newsom's commitment to a California for All.

The Farmer Equity Report was published in June 2020. The report identifies four key challenges facing socially disadvantaged farmers and ranchers and a set of recommendations for CDFA to address each of these challenges. Below are the challenges identified in the report, and steps CDFA has taken to address those challenges.

Land Tenure: Many socially disadvantaged farmers and ranchers do not have a stable, long-term arrangement for land. This affects the long-term sustainability of their businesses as well as the ability to incorporate conservation practices.

Language: Socially disadvantaged farmers and ranchers do not always speak English as a first language. This can be prohibitive when seeking information about regulations, programs, marketing products, pest management, business management, and public engagement.

- » CDFA began translating press releases into Spanish as of June 2019. Additional COVID-19 guidance documents, flyers and important information has been translated into Spanish and other indigenous languages.
- » In 2019, CDFA created a Spanish-language Twitter account, is now translating all CDFA news releases into Spanish and is assisting in translating other important public-facing documents for farmers and ranchers.



CDFA's 2019 legislative report on the Farmer Equity Act chronicled early actions to create, staff and roll out the department's equity efforts.

- » Simultaneous translation offered for CDFA State Board meetings starting 11/2020
- » CDFA Twitter Noticias: 547 followers

Engagement with Agricultural Industry and Boards/Commissions: Socially disadvantaged farmers and ranchers do not often belong to industry groups, and therefore do not always receive information through industry meetings or via the internet. Historically, very few are members of CDFA boards and commissions.

- » Board/Commission Diversity Small Group Task Force formed in Summer 2020 with 20 members across all divisions of CDFA
- » Formation of Ad-hoc Small Farm Advisory Committee meeting for the first time in December 2020



Equity in California Agriculture, continued

Access to Available Grants, Resources and Programs:

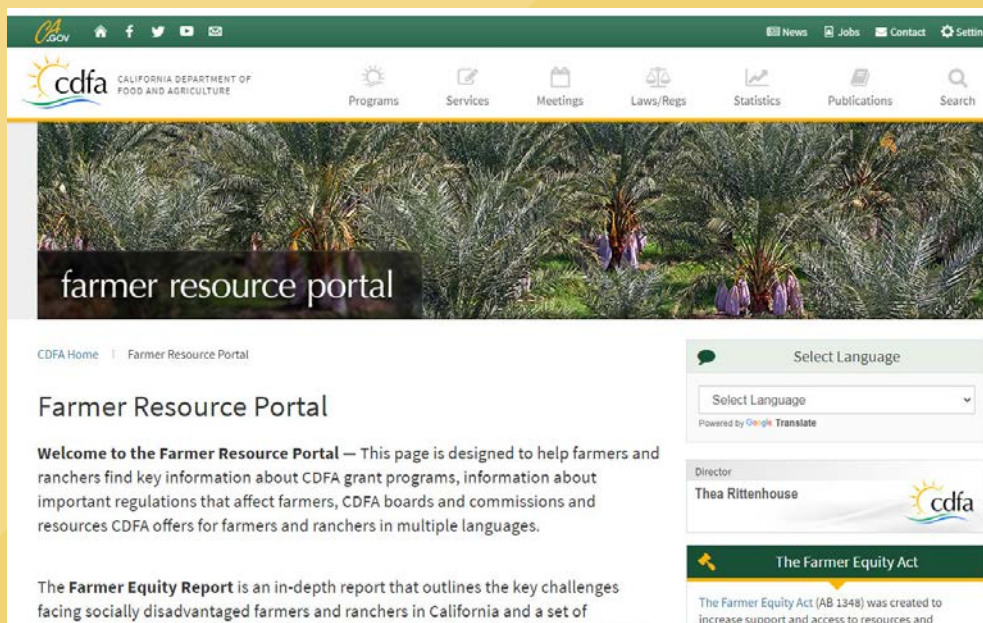
Socially disadvantaged farmers and ranchers are not familiar with resources such as grants, technical assistance, and other helpful programs because they do not know these resources exist or have been unable to seek out the information. In 2019, several new practices were implemented within CDFA's grant programs. These modifications are important steps to encourage socially disadvantaged farmers and ranchers to apply for the programs and to increase support for organizations that serve socially disadvantaged farmers and ranchers

- » **CDFA Farmer Resource Portal (2019):** Created to provide a “one stop shop” for information relevant to farmers, specifically for socially disadvantaged farmers and ranchers about grants, loans and conservation programs.
- » **Increasing Accessibility of CDFA grant programs** for socially disadvantaged farmers and ranchers

In 2019, a new category was developed within the Specialty Crop Block Grant Program for first-time applicants. This separate effort within the program offers additional assistance with application and grant implementation. The program prioritizes applicants from non-profit organizations who serve socially disadvantaged farmers/ranchers and/or disadvantaged communities, and those who are small grassroots organizations without paid grant-writing staff, to help build the capacity of those organizations to continue to apply for the program. The first round of the program funded seven projects.

Socially disadvantaged farmers and ranchers do not often belong to industry groups, and therefore do not always receive information through industry meetings or via the internet. Historically, very few are members of CDFA boards and commissions.

- » **Starting in 2019, Climate Smart Agriculture Programs prioritized funding for socially disadvantaged farmers and ranchers and female farmers.** In the first round of grant funding for the Healthy Soils Program, which prioritized socially disadvantaged applicants, nearly 50% of funded projects were from these groups. The range in size of operation for applicants was between 1.25 acres and 31,000 acres. The average size was 1,296 acres. The top counties for funded projects were Fresno, Sonoma, Solano and Butte.



Equity in California Agriculture, continued

» Increasing Stakeholder Input for Grant Program Priorities and Program Activities

- o In 2019, the Farm Equity Advisor assisted OEFI with facilitating a public meeting to help gather input on program priorities for the Climate Smart Ag Programs.
- o Three additional public meetings were held to gather input on the process and RFP for AB 2377, which created a Request for Proposals for a technical assistance program that would focus on helping farmers sign up for Climate Smart Ag Programs. A 25-percent share of the overall project funding was directed towards assisting socially disadvantaged farmers and ranchers.

Other Activities

MANRRS Pilot Program 2020 – Pilot project with NASDA to support and mentor student members to connect them with CDFA career opportunities and develop opportunities for California chapters of MANRRS students to meet CDFA leadership staff, build skills and also present to CDFA leadership about current ag issues facing youth in agriculture across California.

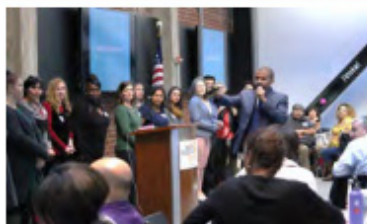
CDFA joins state's Capital Collaborative on Racial Equity (CCORE) Program

CDFA has a 16-member cohort attending a year long training on racial equity. This training offers tools to address racial equity within CDFA and provide resources and education for all CDFA employees. The outcome will be a racial equity action plan for CDFA in 2021.

In June 2020 CDFA issued a Racial Equity Statement in response to violence against black Americans. It was an acknowledgement of the historical structural and institutional racism that exists within the ag industry, and CDFA's commitment to addressing it, and it pledged to create opportunities for all staff to be involved in creating a more equitable future.

CCORE
is a community
of California State
government entities working
together since 2018 to learn about,
plan for, and implement activities that
embed racial equity approaches into
institutional culture, policies, and practices.
CCORE implements a commitment by the
Health in All Policies Task Force to
increase the capacity of
State government to
advance health and
racial equity.

Capitol Collaborative on Race & Equity (CCORE)



CDFA's Division of Measurement Standards

Setting the standards for California's zero-emission vehicle infrastructure

CDFA's Division of Measurement Standards (DMS) continues to protect both the marketplace and the environment for all Californians by establishing and maintaining standards for the state's zero-emission vehicle fueling infrastructure.

Battery Electric Vehicles: DMS established regulations for electric vehicle fueling systems, providing for commercialization of electric vehicle fueling essential for attaining the state's zero-emission vehicle (ZEV) goals. California has more than 6,600 electric vehicle supply equipment (EVSE) locations representing more than 26,000 individual charging ports.

Fuel Cell Electric Vehicles: CDFA DMS sampled and analyzed over 160 samples of hydrogen fuel maintaining a reliable supply for this emerging zero-emission transportation technology.

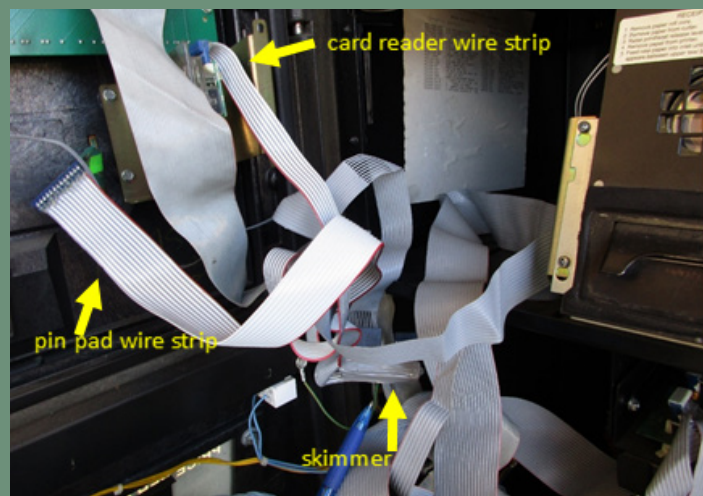
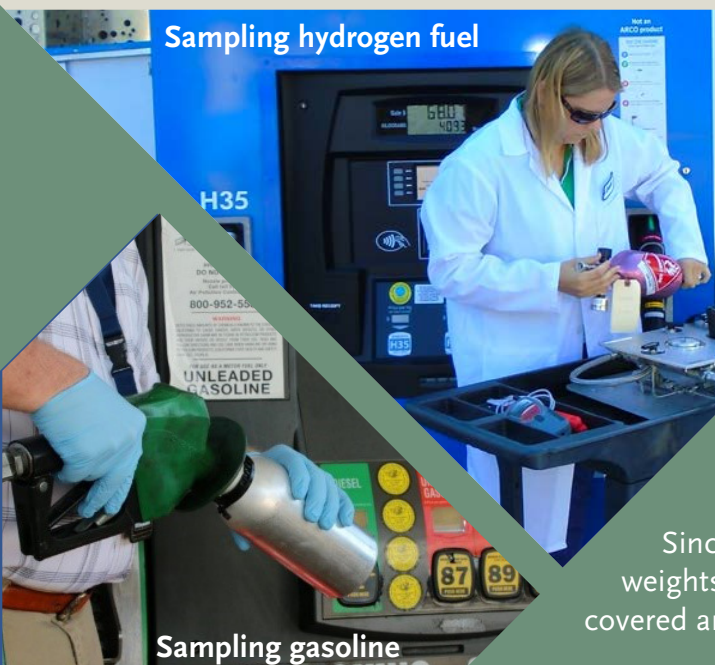
Fighting Fraud and ID Theft: Inspecting retail motor fuel dispensers

DMS protects consumers and businesses from fraud by inspecting retail motor fuel dispensers for credit/debit card skimming devices. The devices are surrendered to law enforcement for investigation and prosecution. Skimming is a misdemeanor in California, punishable by a fine of \$1,000 or a jail term up to one year, or both. Notably, Arizona, Nevada, Oregon, Idaho, Utah, and Washington classify it as a felony offense.

Since January 2019, our investigative staff, in concert with county weights and measures officials and local law enforcement, have discovered and seized 660 payment card skimming devices.

Safeguarding fuels, lubricants and other automotive products

DMS protects ground transportation vehicles by ensuring the quality of fuels, lubricants, and automotive products that provide for the essential movement of people and goods on state highways. California consumes approximately 21 billion gallons of gasoline and six billion gallons of diesel annually. To ensure that minimum quality standards are met and maintained, DMS sampled and tested over 4,280 fuel and automotive products.



CDFA's Animal Health Branch includes the Emergency Preparedness and Response Section (EPRS) which leads our efforts in caring for livestock and other animals during natural disasters and other emergencies.

Caring for animals during emergencies

Over the past two years, our staff has relaunched the CARES Program (California Animal Response Emergency System) as part of CDFA's core mission. As an example of our activities, we deployed 39 CDFA CARES personnel to support three major fire responses in 2020 (details in table, below), helping animal owners and local authorities rescue, treat and house horses, livestock, pets and other animals until they could be reunited with families and owners. We also delivered more than a dozen presentations and media interviews on the CARES Program.

Our staff also conducted three Foot-and-Mouth Disease Vaccination planning workshops designed to outline CDFA's response concept of operations and triggers for deploying vaccine during an outbreak.

Ten of 15 EPRS personnel served multiple deployments to the virulent Newcastle disease eradication efforts in Southern California, where their expertise aided in the eventual success of that project.

CARES highlights

- » The CDFA CARES program was activated to support three of the 10 largest California fire incidents that each burned more than 5,000 acres. CARES activated/deployed 39 employees during these incidents.
- » Our efforts during these fire responses included initiating more than 135 contacts with governmental and non-governmental entities to secure support and supplies (veterinary, feed, fencing, etc.) from throughout the United States.

CARES: 2020

	Monterey County	Solano County	Butte County
Animal shelters (including fairgrounds)	3	6	3
Animals: highest daily count	3	6	3
CARES staff contacts	20+	20+	95+
Staff activated/deployed	12	10	17



Wine & Wildfires

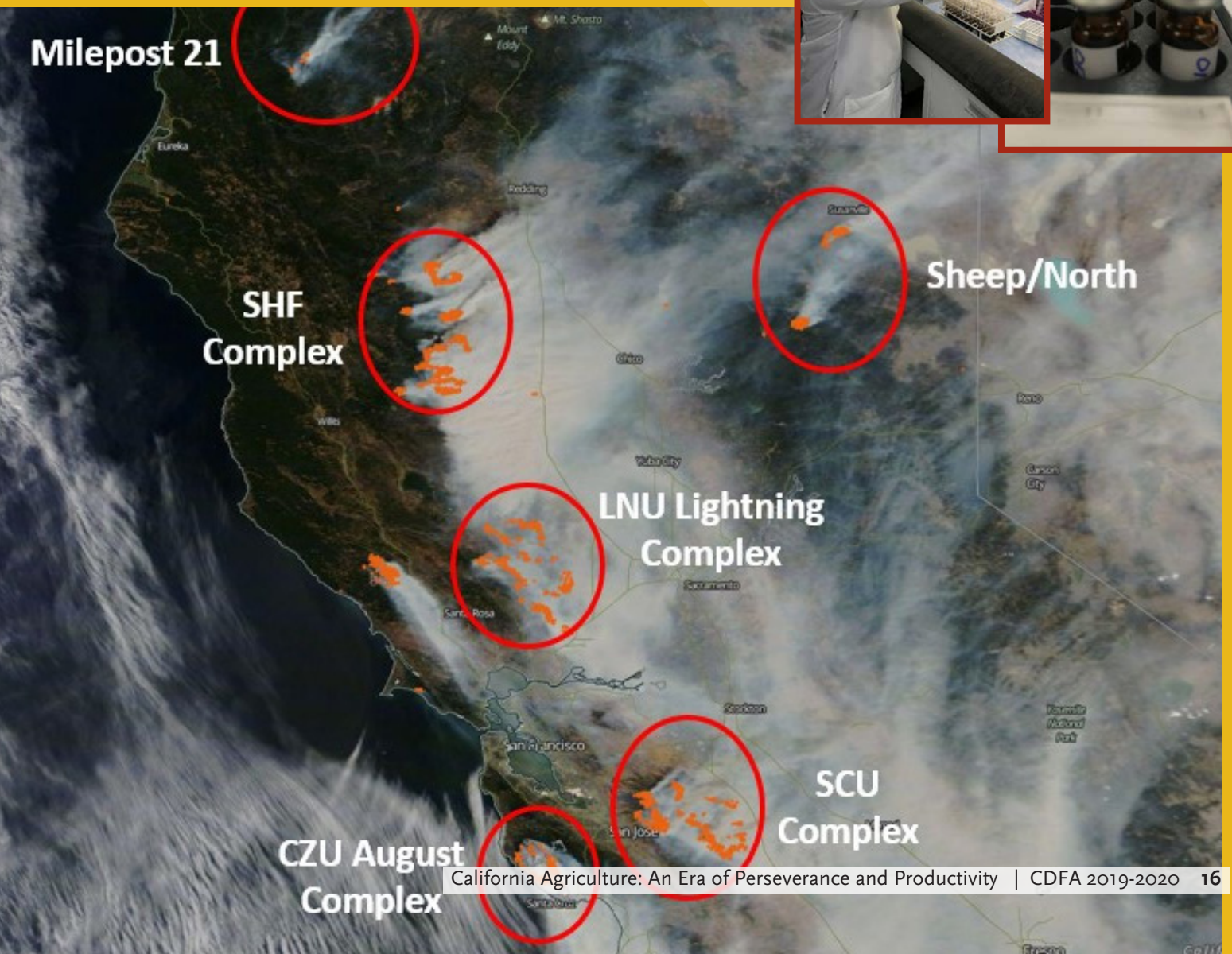
Helping growers assess smoke contamination

After wildfires in summer 2020, CDFA's Center for Analytical Chemistry (CAC) partnered with the UC Davis Department of Viticulture and Enology and College of Agricultural and Environmental Sciences to test wine grapes and wine for the presence of smoke compounds. It took only three weeks for scientists and researchers from CAC and UC Davis labs to work together closely to develop, test and validate analytical methods; put together instrumentation; and devise lab operation processes to receive and analyze samples. CAC is tested berries and

UCD labs tested wine samples. This collaboration maximized resources between the two entities in assisting grape growers and wine industry members who are in immediate need of laboratory testing. Testing results are needed to make decisions about harvesting wine grapes and to assess the resulting wine. CAC had run 130 samples from wine grape growers through October 20, 2020.

Concurrent fires in Northern California, August 2020. Credit: MISR Active Aerosol Plume-Height (AAP) Project / K.J. Noyes, R. Kahn, J. Limbacher (NASA Goddard Space Flight Center)

Inset: CAC Scientist Debora Cordova prepares wine grape samples for analysis



California Fairgrounds:

Hosting much more than the county fair



Firefighters and other emergency responders rely on fairgrounds as staging areas, evacuation centers and resource hubs.

California's fairgrounds are much more than once-a-year sites for county fairs and big events. They are community resources – and those resources have been pressed into service with increasing frequency in recent years, often in response to wildfires, floods and other natural disasters that bring residents together for shelter and safety, and also serve to gather, heal and protect livestock, horses and other animals during these emergencies.

The arrival of COVID-19 on the scene this past year added yet another level of value and importance to these facilities as

they provided central, accessible virus testing sites, overflow medical care sites, food bank services, and PPE and medical supply storage.

In 2019, 43 events took place at 30 different fairgrounds, activated in coordination with the California Office of Emergency Services and allied organizations. The fairgrounds served as human and/or animal evacuation centers, fire camps, staging areas for first responders, and as county resource centers during scheduled power outages.

By comparison, as of mid-October 2020, even with public events and gatherings largely curtailed for the year, these same fairgrounds had already hosted 60 emergency-related events - with 57 of those activations directly involved in the response to COVID-19.



Celebrating the generosity of public servants: the California State Employees Food Drive

CDFA has shepherded the California's State Employees Food Drive since 1986, with the 2019 edition managed by our Office of Farm to Fork. The drive includes 98 participating state agencies whose employees helped feed the 157,000 individuals served each month by the Sacramento Food Bank & Family Services.

Ways state agencies participated in the 2019 State Employees Food Drive include:

- » A Thanksgiving Turkey Drive resulting in the donation of 4,082 turkeys
- » The Annual "Run to Feed the Hungry" event in Sacramento on Thanksgiving Day to raise funds and awareness about food insecurity. It's the largest Thanksgiving Day run in the country: 27,700 runners participated in 2019. Like our statewide food drive and many other such events, the 2020 version was virtual; plans for a return to a live, in-person gathering for 2021 are on track.
- » Food Donations via donation barrels at participating state agencies in the 2019 holiday season, which resulted in 648,724 pounds of donated food.

CDFA is proud to have been the lead agency for the California State Employees Food Drive since 1986

2020 has brought a lot of changes, including to the State Employees Food Drive. Due to COVID-19, food banks face overwhelming demand yet are unable to safely accept canned food donations. This year we are encouraging employees to make monetary donations to the food bank of their choosing and to volunteer at their local food bank or in their communities.

FOOD BANKS NEED OUR HELP



Donating Online is
Safe & Easy



DONATE ONLINE TODAY



CDFA's Office of Farm to Fork

CDFA's Office of Farm to Fork has proven its worth: the 2020-21 State Budget includes a \$10 million General Fund allocation and \$1.5 million annually thereafter for CDFA to establish a Farm to School Grant Program. The proposed 2021-22 budget also includes \$10 million to continue the Farm to School program.



Helping low-income families improve their nutrition: California Nutrition Incentive Program (CNIP)

In 2019, CNIP distributed more than \$4.2 million in incentives and partner program costs to help low-income families purchase healthy, nutritious California-grown fresh fruits and vegetables at Certified Farmers' Markets and small businesses throughout California.

CNIP received \$7.1 million from USDA GusNIP and \$8.4 million from the California General Fund for 7 grantees to distribute incentives for CalFresh shoppers to purchase California grown fruits and vegetables at Certified Farmers' Markets and small businesses starting in 2020. The seven grantees include nonprofits focused on food access and farm-

ers' market associations. In March, several grantees began working with CNIP to find creative solutions to pandemic crisis circumstances, including offering prefilled market boxes of produce so that shoppers can still get their nutrition incentives while taking strict social distancing precautions.

Our program distributed \$2,851,365 in incentives to CalFresh, WIC and Senior Farmers Market Nutrition Program shoppers.

CNIP also announced a new round of grants in August 2020 that will utilize CNIP funds to double the amount of fruit and vegetables available for purchased at participating farmers' markets by shoppers using the Women, Infants, and Children (WIC) Farmers' Market Nutrition Program. Located in the San Francisco Bay Area, Los Angeles and Visalia, the new CNIP grantees are: The Model Neighborhood Program, Pacific Coast Farmers' Market Association, Sustainable Economic Enterprises of Los Angeles and Hunger Action Los Angeles, and Visalia Farmers' Market Association.



International collaborations and opportunities on trade and climate

CDFA's trade and climate activities provide opportunities for farmers, ranchers and food processors to connect with international partners to develop business, share on-farm practices/technologies, and further trade

and climate cooperation. California is the largest agricultural producer and exporter in the nation with more than \$21 billion (2018) in trade worldwide.



Agricultural trade in action

CDFA partners with the Western Association of State Departments of Agriculture (WUSATA) to assist California businesses in accessing foreign markets through trade programs supported by the USDA Foreign Agricultural Service.

In 2019, 121 California companies conducted promotions and attended trade events that generated an estimated \$406 million in sales through activities within 53 foreign markets. Federal funding awarded to California companies as part of this program was more than \$5 million. In 2020, as a result of COVID-19, 84 companies have been awarded more

than \$2.9 million to conduct activities in 25 foreign markets. Sales results for 2020 will be available in Summer 2021.

In addition to individual company awards, CDFA's collaboration with WUSATA activities and events has resulted in \$268 million in projected export sales in 2019, approximately 6,895 introductions to foreign buyers, and 407 distributorships gained. More than 138 companies participated in activities. In 2019, CDFA directly facilitated eight trade activities focusing on developing business connections in Asia, Europe, Middle East and Latin America. For 2020, the impact of COVID-19 has replaced in-person events with virtual activities. Hosted virtual trade events have connected California companies with buyers from ASEAN, the European Union, Japan, Korea, Mexico, and Israel.



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2019 California Trade Mission to Mexico

CDFA & SADER sign MOU on Agricultural Cooperation

During California's Trade Mission to Mexico led by Lieutenant Governor Eleni Kounalakis, Secretary Ross signed a Memorandum of Understanding with the Ministry of Agriculture and Rural Development of the United Mexican States (SADER). This MOU focuses on issues related to climate smart agriculture, plant/animal health, and international collaboration – strengthening the bonds between California and Mexico. Secretary Ross was accompanied on this trip by several representatives of the agricultural sector and conducted meetings and briefings to highlight trade and climate collaboration.

Agricultural Leadership on the Global Stage

Engaging international partners in climate smart agriculture

In August 2019, Secretary Ross led a Climate Smart Agriculture Policy Delegation to the Western Cape of South Africa. California and Western Cape farmers, academics and government officials connected on climate smart strategies related to healthy soils, water management and on-farm sustainability practices. South Africa, like California, is one of five Mediterranean climate regions in the world that allow for diverse production of specialty crops, and share similar climate challenges related to drought and fluctuating weather conditions. The trip was California's fifth Climate Smart Agricultural delegation over a five-year period. Other visits have included Australia, Chile, Israel and the Netherlands.

CDFA's Climate Smart Agricultural Policy Delegations serve as the foundation for ongoing engagement with international partners on climate initiatives. In 2019 and 2020, CDFA has conducted international webinars in Denmark, the Netherlands, the Western Cape and Portugal. Overall 15 Climate Smart Agricultural Webinars have been completed since 2016 with a total attendance of more than 1,600. Featured topics have included healthy soils, saline agriculture, dairy digesters, greenhouse production and agricultural water management.



Animal Health Branch: CDFA's veterinary medical experts

Protecting California's livestock and wild animal populations from foreign animal diseases is among CDFA's primary responsibilities. Keeping these diseases out, and controlling and eradicating them when they are detected here, are key ways that we protect our food supply along with the health of our pets, our native animals, and in certain cases public health as well.

Between January 1, 2019 and September 30, 2020, CDFA's Animal Health Branch conducted 1,560 foreign animal disease investigations in poultry (avian species), cattle (bovine), dogs (canine), horses (equine), sheep (ovine), pigs (porcine), and rabbits (lagamorphs) to rule out the possibility of a foreign animal disease.

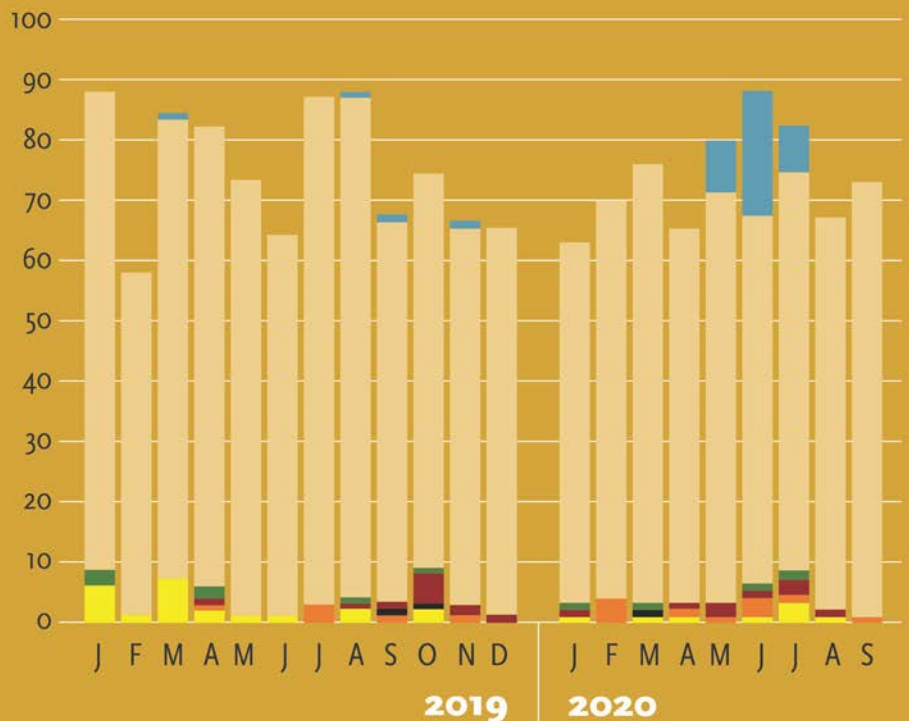
Foreign animal disease investigations of note during this time included a substantial outbreak of virulent Newcastle disease in poultry in Southern California, two smaller detections of Avian Influenza in 2019, and an outbreak of Rabbit Hemorrhagic Disease in California rabbits that began in summer 2020 killing both wild and domestic rabbits.



Dr. Josh Koepfel

Foreign Animal Disease Investigations Jan. 2019 - Sept. 2020

- ◆ Birds
- ◆ Cattle
- ◆ Dogs
- ◆ Horses
- ◆ Sheep
- ◆ Pigs
- ◆ Rabbits



Leading the nation in antimicrobial stewardship

CDFA's Antimicrobial Use and Stewardship Program

CDFA's Antimicrobial Use and Stewardship program was established in 2017 following the passage of SB 27 (Hill), a first-in-the-nation law requiring veterinary oversight for all uses of medically important antimicrobials in livestock. The AUS program's team of veterinarians, epidemiologists, and specialists work collaboratively in partnership with California livestock producers and other stakeholders to preserve the efficacy of antimicrobial drugs through a comprehensive antibiotic stewardship and monitoring program.

Highlights

AUS Collaboration: National Animal Health Monitoring System (NAHMS) Goat Study

The California goat industry is an important part of the state's agricultural landscape. Nearly 50 CDFA Animal Health Branch, AUS, and USDA staff worked together to conduct on-farm visits across the state that resulted in an impressive threefold increase in California's participation in the 2019 Goat Study versus prior, similar studies aimed to capture national-level information only. This first-of-its-kind collaboration will not only provide CDFA with invaluable state-level information on antimicrobial use, resistance, and health practices for the California goat industry, but also set the stage for a fruitful relationship with NAHMS moving forward.

AUS Outreach & Engagement: Multi-state Dairy Conference

"Partnering for Dairy Antimicrobial Stewardship in the West: A Conference for Farmers and Veterinarians" was originally an in-person event, redesigned to a four-part webinar series to continue AUS' goal to engage veterinarians and producers in antimicrobial stewardship. Hosted in conjunction with Washington State University and the University of California, Davis, the event targeted producers located in the western region; however, the event reached national and international audiences, as attendees from Florida, Minnesota, New York, Texas, Wisconsin, Australia, and the Federation of Saint Kitts and Nevis also participated. According to attendees, the top three perceived barriers affecting on-farm antibiotic stewardship are: communication among those responsible for drug use, uncertain diagnosis of disease, and employee training gaps. AUS relies upon engagement from stakeholders and will use this insight to guide future research and resource development to reduce antimicrobial use and resistance in California.



AUS By the Numbers

2019-2020

- » AUS has published 5 reports that describe its extensive research, stewardship, and monitoring work
- » CDFA collaboration tripled California's participation in the NAHMS 2019 Goat Study
- » Greater than 55% of goat producers contacted for Phase II of the NAHMS Goat Study agreed to participate
- » 388 farms engaged across 8 studies
- » More than 773 attendees engaged across 24 presentations
- » 99% of recent dairy survey respondents were aware that all uses of medically important antimicrobials in livestock required a VFD or prescription, ensuring the veterinarian is the key arbiter of stewardship



Eradicating Virulent Newcastle Disease in Southern California: 2018-2020

A lot of shade has been cast on the year 2020, and understandably so – but June 1, 2020 deserves a little sunlight; that was the day the California Department of Food and Agriculture (CDFA) and the United States Department of Agriculture (USDA) declared the state's freedom from Virulent Newcastle Disease (vND) and together ended the vND quarantine in Southern California, allowing poultry to again move freely within the state.

vND is classified as a foreign animal disease, a virus that affects birds with particularly lethal effects on poultry. It affects the digestive, nervous and respiratory systems. It spreads quickly between birds but is not considered a human health threat. Its presence is so detrimental to poultry health and the food supply that it triggers state, federal, and international regulatory responses.

vND has been introduced and eradicated from more than 15 U.S. states since 1950, with the largest outbreaks occurring in California in 1971-1974 and 2002-2003. Those events followed a similar

pattern but with wider spread than the recent 2018-2020 outbreak in Southern California.

Fighting an Animal Disease in an Urban/Suburban Setting

The most recent outbreak began with the detection of vND in May of 2018 in Los Angeles County. By December 2018, the virus had spread extensively within multiple counties in Southern California, affecting backyard poultry and commercial flocks.

The greater Los Angeles area is home to 18.7 million people from every culture and background imaginable. Many of these communities and families are accustomed to keeping poultry and other birds. Outbreaks of a rapidly spreading virus are challenging in any setting, but especially in such a densely and variously populated area.

If an avian disease is not eradicated quickly from backyards, history has demonstrated it will spill over into commercial flocks and spread to other states. These considerations increase the urgency of the response and also heighten the challenges and economic impacts.

During the 2018-2020 vND response, the keys to success were equal emphasis on: outreach to the public, disease detection and elimination, and verified biosecure barriers between commercial producers and surrounding backyards.





vND: A cooperative response

This two-year eradication effort, at a governmental cost of \$70.1M (state and federal), had at one point more than 300 emergency responders with more than 3,000 individual personnel rotations deployed throughout the response. The dedicated responders worked seven days a week, with 12-hour days the norm for nearly the entire period. vND emergency responders were employed by the United States Department of Food and Agriculture (USDA), California Department of Food and Agriculture (CDFA), the Cooperative Agricultural Support Services Authority (CASS), and the California Animal Health and Food Safety Laboratory (CAHFS), with additional support provided by Cal OES, California Highway Patrol, and others.

Dedicated responders worked seven days a week, with 12-hour days the norm for nearly the entire period

vND Outbreak By the Numbers

The regional quarantine area covered approximately
10,160 square miles

Birds were euthanized on more than
2,350 premises
to stop the spread of disease,
resulting in the death of more than
1.24 million birds

130,000
of those birds
were from small
backyard flocks

Despite intensive biosecurity protections, at the height of the outbreak in backyard birds, the virus spilled over into one large pullet farm and nine large layer farms ranging in size from
28,000 to 420,000 hens

After prolonged disease control efforts, the last confirmed positive case was detected in February 2020.

CAHEN: Improving California's community education, cooperation

The California Avian Health and Education Network (CAHEN) was established on June 1, 2020 to develop and implement prevention and mitigation measures ahead of another avian disease outbreak in California. The Program consists of a team of State and Federal personnel who remain in Southern California. The effort involves active (e.g. sampling and testing) and passive (e.g. self-reporting) surveillance to look for avian diseases, public education and outreach on avian health and disease detection, preparedness and response plans for industry partners and bird owners, a Quality Assurance and Certification Program for Retail Feed Stores, and a Game Fowl Quality Assurance Program.

Current projects include sampling at-risk poultry populations in the previously affected areas and delivering outreach materials and training to feed and pet stores, poultry producers, backyard flocks, animal shelters, auctions, swap meets, and live bird markets. In addition, CAHEN supports the Game Fowl Quality Assurance Program, a UC Davis cooperative extension project aiming to provide outreach and vaccination supplies to game fowl owners. CAHEN is also developing social media campaigns and promotional materials directed at youth groups and hobbyists to help improve public relations and distribute important avian health information.

Finally, the CAHEN program maintains the department's Sick Bird Hotline, a resource for the public to report any sick birds or receive direct information and access to the California Animal Health and Food Safety Laboratory necropsy program. The hotline provides CDFA direct access to the public and enables a quick and efficient response to new disease incursions.



**Active
Surveillance
June 1-Sept. 30
2020:**

- » 2,063 negative tests across 12 different poultry species groups

Rapid Response through Passive Surveillance:

- » Operate Sick Bird Hotline seven days a week.
- » June 1-September 30: 75 sick bird calls directed to appropriate districts.
- » Responded to 38 in Southern California

Outreach visits and materials

delivered to stores, auctions, and swap meets June 1 to Sept. 30, 2020:

- » Total number of premises visited for outreach = 369
- » Total number of visits = 926
- » Total outreach materials distributed = 18,857

Other Outreach:

- » Social Media posts twice a week (Wed. and Fri.) 49+ posts, 274 followers
- » Stakeholder ally emails once a month. 54 subscribers
- » Community Website, socialnestbox.com has gone live.
 - » Retail Feed Store Quality Assurance and Certification Program: 20 out of 36 qualifying stores enrolled as of Sept 30.
 - » Game fowl Quality Assurance Program: 950 program flyers and information slips distributed
 - » visited 16 feed stores that cater to the game fowl community
 - » 32 game fowl owners attended the first meeting

Rabbit Hemorrhagic Disease threatens wild and domestic rabbits and hares



Since it was first detected in New Mexico in March 2020, a strain of Rabbit Hemorrhagic Disease (RHDV2) has been spreading across the southwestern United States and northern Mexico, affecting both wild and domestic rabbits and hares. RHDV2 has now been reported from seven southwestern U.S. states.

In early May 2020, RHDV2 was detected in a wild black-tailed jackrabbit in Riverside County, near Palm Springs. Since then, it has been detected in wild jackrabbits and cottontail rabbits in San Bernardino County and wild cottontail rabbits in San Diego, Orange, and Los Angeles Counties. Since July 10, 2020, RHDV2 has been confirmed in three domestic backyard rabbitries in San Bernardino County, in areas near where the disease was previously detected in wild rabbits.



Rabbit Hemorrhagic Disease (RHD) is an acute viral disease of lagomorphs, including rabbits, hares, and possibly pikas. It is considered a Foreign Animal Disease (FAD) and is reportable to the United States Department of Food and Agriculture (USDA) and to the California Department of Food and Agriculture (CDFA). RHD does not affect other animal species or

Rabbit Hemorrhagic Disease (RHD) is an acute viral disease of lagomorphs, including rabbits, hares, and possibly pikas.

humans. In rabbits, RHD causes severe liver damage which can result in massive internal bleeding. Clinical signs include sudden death, fever, yellowing of the skin and gums, and bleeding from the nose or other body openings. It can also cause inappetence, lethargy, muscle spasms, and difficulty breathing.

There is no licensed vaccine for RHD available in the United States. Veterinarians licensed in the state of California can apply to the state veterinarian for approval to request a permit from the USDA's Center for Veterinary Biologics to import vaccine from Europe. To date, AHB has assisted the state veterinarian in approving 23 California licensed veterinarians to apply to import RHD vaccines. Of these, 17 have received imported vaccine and redistributed it to several other California licensed veterinarians for a total of about 80 veterinarians with vaccine to protect California's rabbits.

Rapidly tracing the movement of diseased or at-risk animals

When it comes to animal and livestock diseases, successful traceability depends on official identification of livestock and documentation to track movements, including records of livestock shipments crossing through California's border stations, incoming health certificates (Certificates of Veterinary Inspection), and livestock entry permits. These sources of movement data are reviewed daily, and Animal Health Branch (AHB) staff investigate livestock shipments that are noncompliant with California's entry requirements.

Between October 1, 2019 – September 30, 2020 the ADT and AHB field staff:

Reviewed data from border crossings and followed up on any violations of entry requirements:

- » • 52,262 crossings
- » • 25,545,874 animals

Reviewed health certificates for incoming livestock and poultry:

- » • 17,711 health certificates
- » • 944,687 animals

Issued entry permits for livestock and poultry:

- » • 8,555 permits
- » • 969,974 animals



AHB tracks:

25,545,874
animals and

52,262
border crossings

Official Animal ID Tag Distribution, October 2019 - September 2020

AIN 840 White/Yellow Tags	AIN 840 Brucellosis Orange Tags	NUES Brucellosis Orange Tags	NUES Silver Brite Tags	Scrapie Tags	NUES Plastic Swine Tags	Total Official ID Tags	USDA Backtags
							
2,716,618	3,600	704,533	303,367	107,843	10,224	3,846,185	494,000

Protecting California's 534,500 horses

CDFA's Animal Health Branch is a national leader in addressing situations that threaten the health of the equine industry. It is the Branch's responsibility to react promptly to threatening situations and address equine diseases of concern.

Private equine veterinary practitioners across the state are trained to identify and report clinical signs or positive test results for these diseases to the Branch Equine Veterinary Specialist. If the disease report is confirmed, the Veterinary Specialist coordinates with AHB District staff to respond and quarantine the animals if necessary.

Two equine-specific advisory committees, namely the Equine Advisory Committee and the Equine Medication Monitoring Program Advisory Committee, assist the State Veterinarian and the Secretary of Agriculture in making informed decisions on equine health. The committees are comprised of some of the nation's most respected practicing veterinarians, researchers, scientists, and industry leaders.

Reportable Equine Diseases by Year 2010-2020

	Equine Infectious Anemia (EIA)	Equine Piroplasmiasis (EP)	EIA/EP Dual Infection	Contagious Equine Metritis (CEM)	Equine Herpes Virus (EHV-1)	West Nile Virus (WNV)	Totals
2010	1	3	0	1	n/a	19	24
2011	1	0	0	0	35	15	51
2012	1	0	0	0	22	16	40
2013	9	7	2	4	4	8	34
2014	26	14	8	0	3	15	66
2015	3	0	0	0	5	19	27
2016	0	0	0	0	20	21	41
2017	1	0	0	0	5	21	27
2018	0	0	0	0	13	11	24
2019	0	0	0	0	17	15	32
(through 10/14) 2020	1	0	0	0	17	16	34
Totals	43	24	10	5	141	176	399



Helping producers maintain continuity of business during an animal disease outbreak



The California Secure Food Supply (SFS) program is the shield of enhanced biosecurity that protects California agriculture during a Foreign Animal Disease or Notifiable Animal Disease outbreak and provides a pathway to economic survival for the industry through conditions that provide safe, permitted movement of animals and animal products.

The SFS Program is designed to allow business operations that are unaffected by the disease (i.e. negative for the disease) but located within a quarantine Control Area to maintain some business operations to maintain economic viability.

Key Components of the Secure Food Supply Program:

1. **Enhanced Biosecurity** – Heightened levels of biosecurity in all aspects of the food supply chain including farm premises, haulers, animal product processors, feed mills, and renders to stop the spread of disease amongst operations.
2. **Sampling** (e.g. testing) – Periodic and frequent testing to ensure negative status of a premises or operation.
3. **Flock or Herd Health Monitoring** – Daily checks for signs of illness or increases in mortality.

4. **Training and Documentation** – Train employees and staff on biosecurity protocols; document all movements on and off the premises as well as maintenance and training logs.
5. **Permitted Movement of Animals and Animal Products** – Movement of animals and animal products may be allowed as long as all parts of the movement chain (origin, vehicle, destination) have completed steps 1 - 4.

Resources to help producers:

- » Poultry Farm Comprehensive Biosecurity Plan template to address daily and enhanced biosecurity to meet three (3) different state and one (1) federal regulatory program.
- » Job aids for producers, industry members, and regulatory auditors on program requirements.
- » Interactive map-making tool to help producers create their premises biosecurity map.
- » Example Standard Operating Procedures addressing key enhanced biosecurity practices.

56 State-Approved Poultry Secure Food Supply Plans:

- » Poultry Farm Premises: 31
- » Processors: 4
- » Poultry Farm Premises with Processor on site: 12
- » Live Bird Markets: 3
- » Feed Mills: 3
- » Egg Distributors: 2
- » Bird Transfer Station: 1



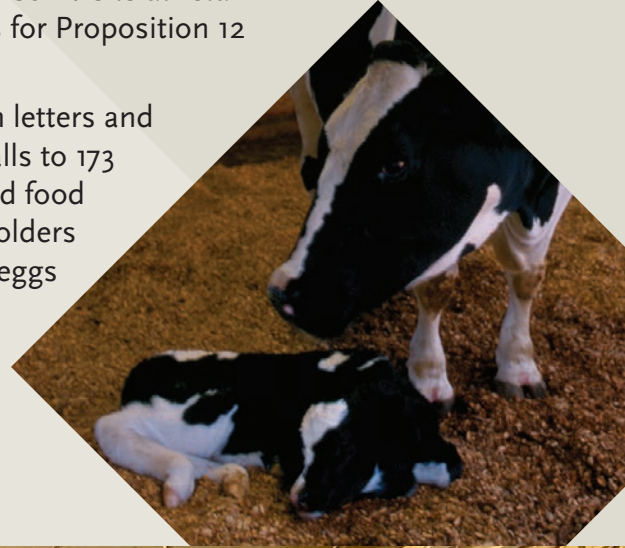
Animal Care Program

Implementing Proposition 12 animal cruelty protections

The Animal Care Program is the newest Branch in CDFA's Animal Health and Food Safety Services Division. This team implements and enforces Proposition 12, the animal cruelty law passed by California voters in 2018 that sets space requirements for egg laying hens, veal calves, and breeding pigs raised in California, and for products from those animals that are sold in California.

The program staff have been focused on outreach and education to stakeholders about specifics of the law that began in January 2020 and will go into full effect in January 2022.

- » Building our team – The Animal Care Program now includes six staff members
- » 765 in-person visits at retail locations for Proposition 12 outreach
- » Outreach letters and phone calls to 173 processed food permit holders that use eggs in their food manufacturing



Protecting livestock, owners for a secure marketplace



The Bureau of Livestock Identification is the state's brand registration and inspection program protecting cattle owners in California against loss of animals by theft, straying, or misappropriation. This bureau is financed in its entirety through brand registration and inspection fees paid by cattle owners. Here's a snapshot of the bureau's activities for fiscal year 2019-2020 (July-June).

Livestock Inspections by Type

Total:
22,624
Inspections

July 2019 - June 2020

- 330 Pasture (pt. of origin)
- 504 Feedlot
- 527 Slaughter (out of state)
- 556 Miscellaneous
- 2,010 Slaughter Plant
- 2,820 Sale Yard
- 3,935 Sale (out of state)
- 3,993 Pasture (out of state)
- 7,949 Sale (in state)

Livestock Head Count by Inspection Type

Total:
3,557,073
Inspected

July 2019 - June 2020

- 8,717 Miscellaneous
- 19,479 Slaughter (out of state)
- 34,459 Pasture (pt. of origin)
- 46,139 Consignment Sale
- 209,876 Sale (in state)
- 367,606 Slaughter Plant
- 435,947 Sale (out of state)
- 530,246 Pasture (out of state)
- 775,716 Feedlot
- 1,128,888 Sale Yard

The Bureau's
44 Inspectors
performed
22,624 inspections
at **4,546** locations

**Efficient
Use of Technology:**
We inspect 300,000 more
cattle than 20 years ago,
with 20 fewer inspectors

Safety First:
Proper use of personal
protective equipment (PPE),
allowed eight of our staff to safely
inspect livestock at processing
plants where COVID-19
was detected.

Milk and Dairy Food Safety

Maintaining essential food safety inspection work under COVID-19



Throughout the COVID-19 pandemic, Milk and Dairy Food Safety Branch (MDFS) field staff continued food safety inspection work to ensure the ongoing safety of milk and dairy products and to maintain confidence in the safety of the state's dairy supply chain. From April through September 2020, MDFS personnel conducted approximately 3,000 inspections of dairy farms, milk, and milk processing plants, and over 1,000 safety tests on milk pasteurization equipment. This was done while strictly following state and federal guidelines on face coverings, physical distancing, and other standard hygienic and biosecurity practices to protect the safety of staff and the industry.

Small Flock Egg Producers Outreach & education



Before the onset of the pandemic, the Meat, Poultry and Egg Safety Branch held workshops throughout California to educate Small Flock Egg Producers (fewer than 3,000 birds) on all aspects of egg production: husbandry, biosecurity, good sanitation practices, egg grade and quality factors, and regulatory requirements. The goal of this work is to enhance awareness and understanding of food safety and biosecurity.

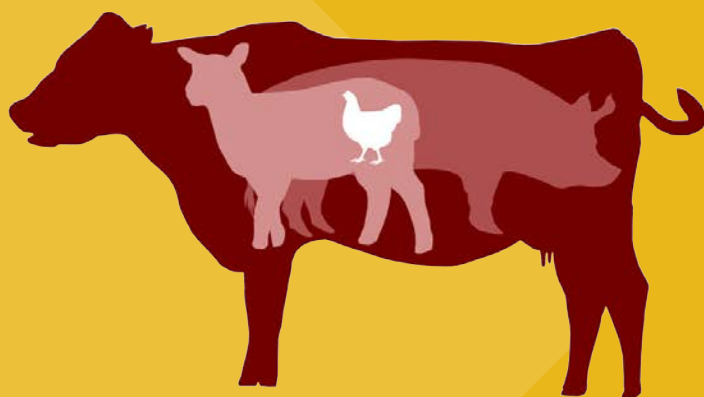
In the age of COVID, MPES is shifting to online workshops; this transition provides a safe way to enhance outreach to small producers beyond the normal classroom opportunities.

Meat, Poultry and Egg Safety Branch

Enhancing the diversity and inclusion of small producers

CDFA's Meat, Poultry and Egg Safety (MPES) Branch licenses, registers, and inspects meat processing establishments and meat and poultry slaughterhouses that are exempt from federal inspection. These smaller-scale producers meet the demands of California consumers who have diverse cultural backgrounds, responding to their specific needs for fresh, safe, wholesome, traditionally prepared local meats.

MPES trains and licenses Poultry Meat Inspectors, Livestock Meat Inspectors, and Processing Inspectors to help enforce sanitation standards, pest control, humane handling, and other regulatory requirements at state-licensed plants. MPES also conducts Annual Maintenance Training for more than 500 licensed industry inspectors via virtual, online and other technological methods.



CDFA & CAHFS partnership bringing a new diagnostic testing facility to the Central Valley

The CAHFS Laboratory System is the backbone of California's warning system that helps to protect the health of California's livestock and poultry

Efforts toward replacing a 1950's vintage laboratory in Turlock are continuing to move forward, as the state has acquired land for the facility and development of the design criteria for this design-build project is nearing completion.

Ultimately, the new facility will include the California Animal Health and Food Safety

(CAHFS) laboratory, which will accept avian and mammalian submissions, as well as relocated offices for CDFA's Modesto Animal Health and Milk and Dairy Foods branches. The co-housing of these three units is expected to provide greater synergy and communication during routine and emergency animal health efforts in a part of the state that is rich in animal agriculture.



The new facility will include the CAHFS lab as well as relocated offices for CDFA's Modesto Animal Health and Milk and Dairy Foods branches

CAHFS combats antimicrobial resistance, supports effective livestock management practices

Antimicrobial resistance (AMR) is a major health concern for both human and animal health. Utilizing methods and standards that are the same as those used in human labs, CAHFS tests bacteria isolated from livestock for resistance to a wide array of antibiotics. CAHFS provides data for practitioners who are managing disease in animal herds as well as monitoring for AMR in zoonotic and environmental bacteria. As the laboratory arm for CDFA, CAHFS performs bacterial identification and tests for AMR to support CDFA-funded programs. These have included a survey of AMR and promotion of judicious use of antibiotics in backyard poultry, a retrospective study of trends in AMR in a strain of Salmonella important

in dairy cattle, and an evaluation of AMR in respiratory pathogens in dairy heifers with consideration of the on-farm management practices. CAHFS is currently working to implement the use of methods that detect the genes encoding AMR. Recognizing that there may be significant variation in antimicrobial susceptibility regionally, by production type (e.g., dairy vs. beef), and at the individual farm level, CAHFS is exploring the development of "personalized antibiograms" that would allow veterinarians to have more directed and judicious use of antibiotics on individual premises. Lastly, CAHFS is an active participant in USDA programs for monitoring AMR in important animal pathogens across the country.

CAHFS provides data for practitioners who are managing disease in animal herds as well as monitoring for AMR in zoonotic and environmental bacteria.



CAHFS helps keep California safe from foreign animal diseases

Over the past two years, CAHFS has provided critical support to the joint USDA/CDFA taskforce as the state battled the virulent Newcastle disease (vND) outbreak in Southern California. In 2018, the disease was initially detected in a backyard flock, and for a short period of time affected commercial farms.

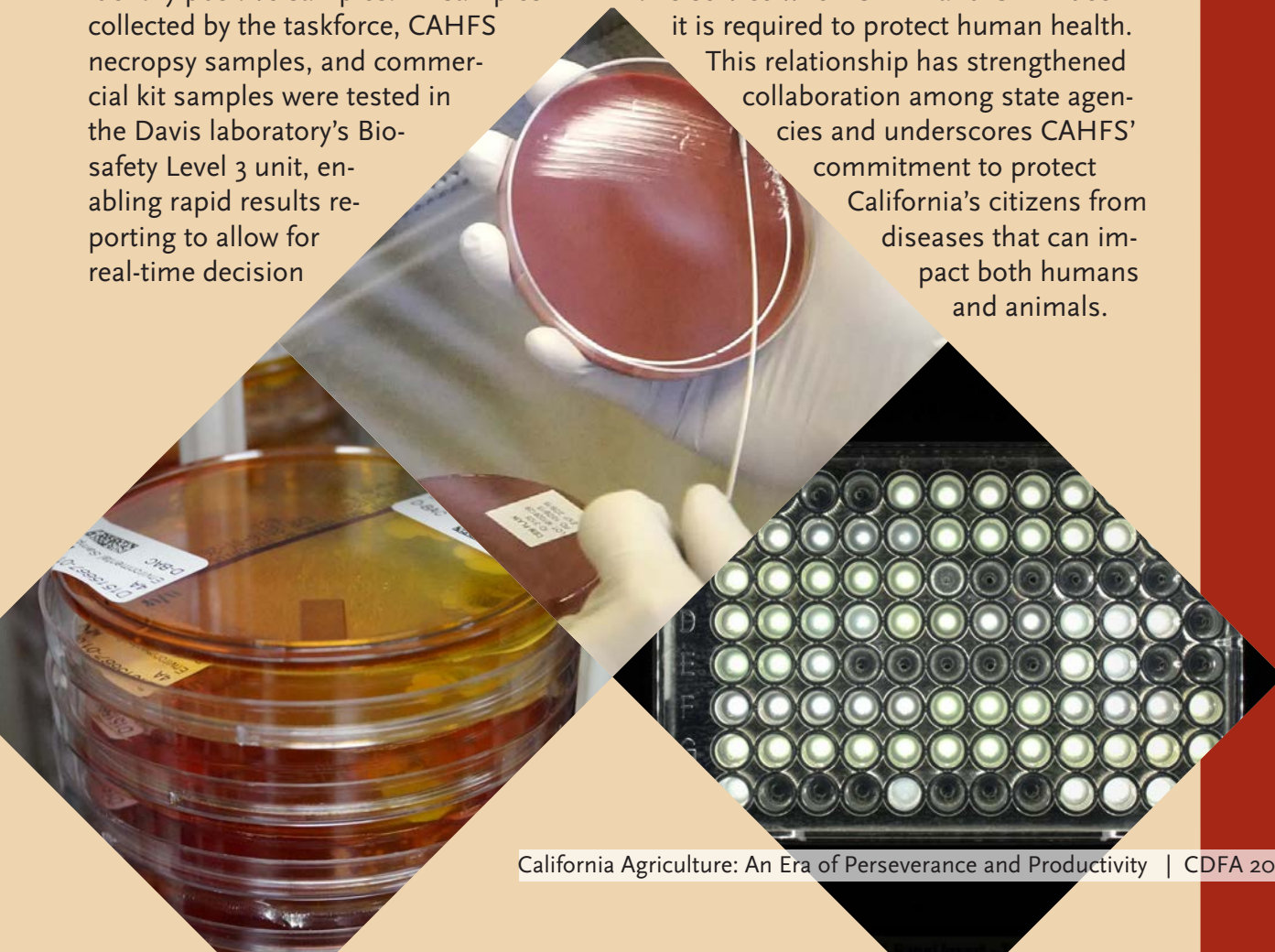
As a component of the laboratory response, CAHFS San Bernardino performed necropsies on suspect birds to identify potential infections; CAHFS Tulare shipped sampling kits to commercial farms so they could prevent spreading vND by self-sampling their flocks, and CAHFS Davis performed PCR testing to identify positive samples. All samples collected by the taskforce, CAHFS necropsy samples, and commercial kit samples were tested in the Davis laboratory's Biosafety Level 3 unit, enabling rapid results reporting to allow for real-time decision

making by the taskforce. California was declared "vND free" in 2020, and CAHFS continues to perform surveillance testing to protect the State from the disease.

In 2020, SARS-CoV-2, the virus causing COVID-19, made its first appearance in the United States. Although COVID-19 is a predominantly human disease, at the request of the California Department of Public Health (CDPH) and CDFA, CAHFS was the first animal diagnostic laboratory in the United States to test pets for it. Given the nationwide shortage of testing supplies and personal protective equipment for human testing, CAHFS does not offer widespread animal testing but instead provides this service when CDPH and CDFA deem it is required to protect human health.

This relationship has strengthened collaboration among state agencies and underscores CAHFS' commitment to protect California's citizens from diseases that can impact both humans and animals.

Although COVID-19 is a predominantly human disease, at the request of the California Department of Public Health and CDFA, CAHFS was the first animal diagnostic laboratory in the United States to test pets for it.



CalCannabis Cultivation Licensing Division

2018-2020 Highlights

CalCannabis Cultivation Licensing, a division of CDFA, ensures public safety and environmental protection by licensing and regulating commercial cannabis farmers throughout the state.

CalCannabis also manages the California Cannabis Track-and-Trace (CCTT)/Metrac system, which tracks all commercial cannabis and cannabis products through the state's commercial cannabis supply chain. The CCTT system is used by all state cannabis licensees, including those with licenses for cannabis cultivation, manufacturing, retail, distribution, testing labs, and microbusinesses.

In the last two years, CalCannabis has been preparing for the 2021 launch of two first-of-their-kind cannabis programs, the OCal Program and the Cannabis Appellations Program.



California's OCal Program

OCal is a statewide certification program that will establish and enforce comparable-to-organic cannabis standards. The OCal Program will ensure that cannabis products bearing the "OCal" seal have been certified to consistent, uniform standards comparable to the National Organic Program. Learn more at cdfa.ca.gov/calcannabis/ocal.html.

THIS IS

california cannabis

Cannabis Appellations Program

An "appellation of origin" is a protected designation that identifies the geographical origin of a product and how that product was produced. The Cannabis Appellations Program will promote regional cannabis goods and local businesses, prevent the misrepresentation of the origin of cannabis goods, and support consumer confidence about the origin and characteristics of cannabis goods. Learn more at cdfa.ca.gov/calcannabis/appellations.html.

In addition, on September 2, 2020, CalCannabis launched the "This Is California Cannabis" education and outreach campaign, a two-year statewide effort designed to promote the state's legal cannabis cultivation industry and raise awareness of the support and guidance offered to licensed cannabis growers by CDFA's CalCannabis Cultivation Licensing Division. Learn more at cdfa.ca.gov/calcannabis/growwithCA.html



Grant funding

Taking great ideas about food and farms and rolling them out bigger, better and faster

CDFA's Office of Grants Administration is a quiet place, but don't let that fool you. Behind that door is a team of professionals who are busy making sure that grant funding from federal, state and other sources gets exactly where it's needed. Often, that means straight to a farmer or rancher who, with matching funds in-hand, puts that grant to work cutting greenhouse gas emissions, saving water, or finding new export markets for California produce/ We also administer grants dedicated to combating animal cruelty, helping seniors improve their nutrition with assistance to make purchases at farmers' markets, and a host of other great ideas that benefit both the agricultural community and consumers.



California Agricultural License Plate

Grant recipients will make education available to more than 110,000 young people and enhance educational opportunities for students and families by combining agriculture, business, and science.

37 grant proposals

10 grants awarded

\$470,413

» **California Association – Future Farmers of America (FFA):** CalAgPlate grant funding will support leadership and program development for California's statewide FFA program, which has 338 school chapters throughout the state and provides leadership instruction to more than 92,000 student members.

- » **Centennial Farm Foundation (Orange County):** This organization educates Southern California youth about agriculture and agricultural career pathways. The grant will provide resources and education to more than 1,000 young people.
- » **San Joaquin County AgVenture:** This project will teach youth about the agriculture industry and nutritional education. Approximately 16,000 third-grade students will receive valuable learning opportunities through hands-on education programs.



Specialty Crop Block Grant Program

Enhancing the competitiveness of California's unmatched variety of specialty crops

23 of our grants totaling \$7,496,909 benefit socially disadvantaged/beginning farmers and/or underserved communities.

Ten first-time recipient organizations received technical assistance to develop grants totaling \$997,590.

2019-2020 at-a-glance

505 Concept proposals

251 Grant proposals

125 grants awarded

\$46,783,398

Specialty Crop Project Examples

COVID Special Project: Food Bank Partnership

In response to COVID-19, CDFA obtained a one-time exemption from USDA to use Specialty Crop Block Grant funds to facilitate food donations of \$2,000,000 through a partnership with the California Association of Food Banks. As a result, nearly 15,000,000 pounds of specialty crops were provided to California families in need. More than 12,000,000 meals were served, approximately 10 million Californians were served at 21 food banks participated and over 250 farmers participated.

Food Program for Seniors 2020

In response to COVID-19, CDFA partnered with the California Association of Food Banks to facilitate the distribution of 20,242 produce boxes containing 506,050 pounds of fresh fruits and vegetables to low-income seniors. As a result of this partnership, more than 20,000 low-income seniors were served by seven food banks, and 27 farmers throughout the state participated. Additionally, 2020 was the first time in our program's history that we achieved 100 percent redemption of these funds.



Specialty Crop Multi-State Program

California led the nation for the second year in a row in Specialty Crop Multistate Program funding. In 2019 CDFA was awarded four grants totaling \$3,848,582 through this competitive program and partnered with organizations in eight other states to address regional and national challenges affecting the specialty crop industry.

State Trade Expansion Program (STEP)

CDFA, in a partnership with the Governor's Office of Business and Economic Development, and the Inland Empire Center for Entrepreneurship at California State University, San Bernardino, was awarded \$600,000 in funds from the Small Business Administration to help eligible small businesses increase export activity. While COVID-19 has severely limited international travel and substantially impacted export activity, STEP funds have still supported 14 California companies increase exports by \$616,317 since 2019 with a year to go in the program.

Spay/Neuter Grant Programs


Through the Pet Lover's License Plate Grant Program and Prevention of Animal Homelessness and Cruelty Fund, CDFA has made 56 awards totaling more than \$1,000,000 to provide free or low-cost spay/neuter services to tens of thousands of animals.



Real-world, on-farm innovation that benefits farmers and the environment

Throughout 2019 and 2020, CDFA worked with hundreds of farming and ranching families to implement climate-smart agriculture practices that support their land stewardship, mitigate climate-warming greenhouse gases, and promote sustainability and resiliency. CDFA's suite of climate-smart agriculture programs, administered by the Office of Environmental Farming and Innovation (OEFI), supports agricultural production and incentivize practices resulting in a net benefit for the environment through science, innovation and efficient management. In addition to administering climate-smart programs, OEFI also houses CDFA's Office of Pesticide Consultation and Analysis.

OEFI has exhibited at several conferences over the past two years, including the Black Farmer Conference, World Ag Expo, California Association of Resource Conservation Districts, California Small Farm Conference, Dairy Sustainability Summit and EcoFarm. The OEFI program teams also engaged the farming community through more than 120 technical assistance workshops, public comment workshops, listening sessions and Science Advisory Panel meetings, which tally to over 230 hours of direct engagement. In addition, four international Climate Smart Agriculture webinars took place, providing shared learning with Denmark, the Netherlands and the Western Cape of South Africa.

A photograph of a farm field under a clear blue sky. In the foreground on the left, there is a tall, silver metal sensor tower with various instruments attached. In the background, a green tractor is pulling a large, cylindrical metal tank across a dry, brown field. A line of green trees is visible in the distance.

Sensors and monitors are just two of many examples of technological advancements that OEFI programs help our farmers roll out

Climate Smart Agriculture Programs

Healthy Soils Program (HSP)

This program is two-fold: 1) providing incentives for conservation practices to improve soil health, sequester carbon and reduce GHG emissions; and 2) supporting demonstration projects that showcase healthy soil practices and share information and results with other farmers and ranchers to foster widespread implementation.

- » **\$36.73 million awarded**
- » **543 new projects funded**
- » **93,099 MTCO₂e annual GHG reductions**

OEFI produced and disseminated eight Healthy Soils Program videos, highlighted one demonstration project and seven incentive programs with farmers sharing information about their projects and the importance of healthy soil and climate resiliency

CDFA coordinates California Healthy Soils Week, held each December in conjunction with World Soil Day. This statewide celebration of healthy soils involves several state and federal agencies, Resource Conservation Districts, universities, and NGOs. Activities includes displays in the Capitol, legislative briefings, field trips, webinars, social media, and calls to action to promote healthy soil throughout California.

COVER CROPS

like this mix are
great for soil health

Alternative Manure Management Program (AMMP)

AMMP awards financial assistance to farmers to improve non-digester manure management practices that result in reduced greenhouse gas emissions.

- » **\$31.25 million in grant funds for...**
- » **50 Projects funded in 2019**
- » **73,286 MTCO₂e annual GHG reductions**

OEFI also produced and disseminated seven AMMP videos highlighting farmers talking about their projects and Climate Smart manure management practices



Climate Smart Agriculture Programs

Dairy Digester Research and Development Project (DDRDP)


CDFA's dairy digester program offers grants to help dairies install digesters that capture methane to generate energy and reduce GHG emissions.

- » **44 projects funded, including 1 demonstration project**
- » **\$69.1 million in grants**
- » **7.1 million MTCO₂e in GHG reductions over 10-year life of practice**

Calgren Dairy Fuels (CDF) was the first California dairy digester pipeline cluster upgrading dairy biogas to biomethane for utility pipeline injection. CDF currently reports 10 digesters as operational and will make the biogas available preferentially for conversion of existing fossil fuel freight transport to near-zero emission CNG engines in response to California's policy incentives. With the completion of the 19 digesters, over 3,183,576 metric tons of carbon dioxide equivalent (MTCO₂e) will be captured over 10 years from more than 125,000 cows.

With CDFA Secretary Karen Ross's participation, California Bioenergy (CalBio) cut the ribbon on its first cluster of dairy digesters in Kern County. The first four dairies are now sending biomethane to convert to biogas, and account for a collective GHG reduction of 1,097,981 MTCO₂e in 10 years. With four additional dairies contributing to the Kern Cluster – when all eight dairies are up and running – the dairy farms will be responsible for reducing 2,011,717 metric tons of carbon dioxide equivalent (MTCO₂e) over 10 years.

The Budget Act of 2017-18 (Item 8570-101-3228) required CDFA to provide ongoing updates on CDFA's DDRDP projects in January of each year through 2027. This legislative mandate is designed to evaluate the efficiency and cost-effectiveness of strategies to reduce emissions of short-lived climate pollutants including methane (a greenhouse gas) from dairy operations. Each year, CDFA submits a report to fulfill this requirement. These annual reports are available publicly on the DDRDP website under "Reports."



OEFI Senior Environmental Scientist Nilan Watmore looks over the covered lagoon at one of the 44 DDRDP project sites.



State Water Efficiency and Enhancement Program (SWEEP)

SWEEP provides funding grants that help farmers install irrigation systems that reduce greenhouse gases and save water.

- » \$18.75 million awarded in 2019 and 2020
- » \$6.4 million to awardees in Severely Disadvantaged Communities
- » \$9.4 million to Socially Disadvantaged Farmers and Ranchers
- » 230 projects
- » 23,000 acres impacted

Annually, SWEEP projects achieve:

- » 38 billion gallons of water saved
- » 81,000 MTCO₂e in GHG reductions

OEFI also produced and disseminated four SWEEP videos with farmers discussing their projects and the related water and energy savings.

Climate Smart Agriculture Programs

Technical Assistance Program (TAP)

One-on-one technical assistance can be key to the success of small or socially disadvantaged farmers and ranchers who may not have the resources or technical expertise to complete the application process and implement these improved on-farm practices.

- » 10 UC Cooperative Extension climate-smart ag educators located around the state
- » 33 organizations awarded grants totaling \$2.1 million for technical assistance to farmers and ranchers for Climate Smart Agriculture projects
- » In 2020, providers have assisted over 1,000 farmers and ranchers interested in the Healthy Soils Program and Alternative Manure Management Program
- » 347 applications submitted with technical assistance provider help
- » Assistance provided in English, Spanish, Chinese, Hmong, Portuguese



Sustainable Agriculture Specialists Martin Guerena and Jamie Fanous, both from the National Center for Appropriate Technology, with organic walnut farmers George Lester and Chris Renteria at Sequoia Farms

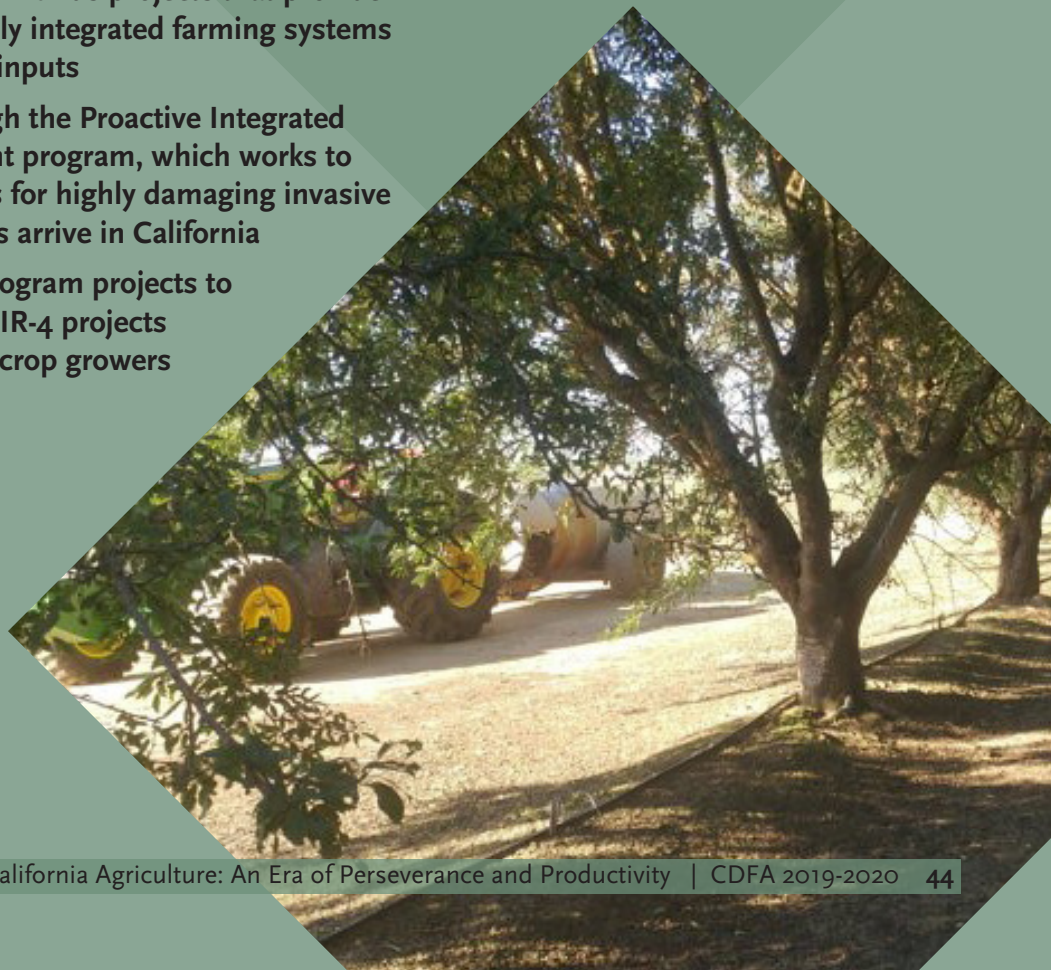
Pest Management Alternatives

CDFA's Office of Pesticide Consultation and Analysis (OPCA)

CDFA's Office of Pesticide Consultation and Analysis (OPCA) provides consultation services to the California Department of Pesticide Regulation (DPR), which is required by the Food and Agriculture Code to work with CDFA as it develops pesticide regulations. OPCA's activities focus on the potential impacts of those regulations, along with pest management alternatives that may mitigate or prevent such impacts on production agriculture. OPCA also runs two competitive grant programs and provides analytical support to CDFA and other departments as needed.

Recent OPCA Accomplishments:

- » Completed three major reports for DPR on the economic and pest management impact of the withdrawal of chlorpyrifos and two scenarios of neonicotinoid regulations. These reports are publicly available at <https://www.cdfa.ca.gov/oefi/opca/publications.html>
- » Provided seven pre-notice comment letters to DPR on proposed regulations
- » Awarded \$2 million through the Biologically Integrated Farming Systems grant program, which funds projects that provide outreach of innovative, biologically integrated farming systems that reduce chemical insecticide inputs
- » Awarded over \$1.6 million through the Proactive Integrated Pest Management Solutions grant program, which works to get lower risk management plans for highly damaging invasive insects in place before the insects arrive in California
- » Gave almost \$1 million to IR-4 program projects to address the extensive backlog of IR-4 projects requested by California specialty crop growers



Inspection Services Division

Setting our sights on continued improvement

The CDFA Inspection Services Division (ISD) includes the Inspection and Compliance branch; the Feed, Fertilizer and Livestock Drugs Regulatory Services branch; the Center for Analytical Chemistry branch; and the Office of Farm to Fork.

Achievements over the past two years have included important staff development measures as well as our ongoing work in support of California agriculture's contributions to the food supply, environmentally sound practices, and an equitable marketplace.

California Good Ag Neighbors: The Produce-Livestock Interface Workshop

Farmers, ranchers, academia, and state and federal regulators met in June 2019 to share and learn about the most innovative tools, information and research available to prevent foodborne illness, while continuing to work together to promote and provide diverse and resilient California agriculture. Shown is the first of two workshops hosted by CDFA's Produce Safety Program in coordination with the UC Davis Western Institute for Food Safety and Security (WIFSS).



Inspection Services Division Direct Marketing highlights

CDFA's Direct Marketing office reported that in 2019, there were an average of 671 Certified Farmers' Markets in California, generating \$1.42 million in annual revenue.

In 2019, Direct Marketing issued 2,634 Certified Producer Certificates.

In 2019, this office issued 759 Certified Farmers' Market Notices of Noncompliance, 413 to certified producers and 346 to market operators.



Certified Farmers' Market Advisory Committee meeting in San Luis Obispo on Feb. 26.

Intern/Mentor Program brings fresh viewpoints to our workforce

2019 summer interns were Andrea Levinson, who interned at ISD's Center for Analytical Chemistry (CAC) branch, and Brent Oge, who interned with the FFLDRS Fertilizer Research Education Program (FREP). The program matches interns with rank-and-file staff as mentors. Staff apply to be mentors to gain leadership experience. The selected mentors help with application review, interviewing candidates and coordinating with division and branch leadership to determine intern projects.

Intern Andrea Levinson, left, works in the CAC lab with mentor Deborah Cordova.



Interns Brent Oge and Andrea Levinson join mentor Nicole Crouch for a tour of CDFA's border inspection station in Truckee.



Summer interns Andrea Levinson, left, and Brent Oge visit a pear processing facility while learning about Shipping Point Inspection.

Inspection Services Division



California's State Organic Program (SOP) strives to educate consumers and the agriculture industry of the importance of maintaining the integrity of organic labels. Educational opportunities include the annual EcoFarm Conference in Asilomar, World Ag Expo in Tulare, Latino Farmers Conference, Small Farm Conference, Black Farmers Conference and other events and trade shows throughout the year.

- » In fiscal year 2019, SOP conducted 1,700 inspections, investigated 125 complaints and collected 362 samples for pesticide testing.
- » In fiscal year 2020, SOP conducted 1,385 inspections, investigated 131 complaints and collected 341 samples for pesticide testing.



**USDA
Organic Dairy
and Pasture
Compliance
Training
2020**

This event in Fresno delved into the evaluation of organic dairies. SOP later conducted onsite inspections of two certified organic dairies in Humboldt County, as part of SOP's increased pasture surveillance initiative to ensure the integrity of organic dairy products in California.

**Western
Organic Dairy
Producers Alliance
Conference
November
2019**

**SOP Supervising Special
Investigator Danny Lee and
SOP Management Services
Technician Andrea Cano.**



**Black
Farmers
Conference
February 2020**

**Produce Safety Program Environmental Scientist
DeLarian Dyson (middle) and SOP Special Investigator
Mayze Fowler-Riggs answer questions at the Black
Farmers Conference on February 29, 2020.**

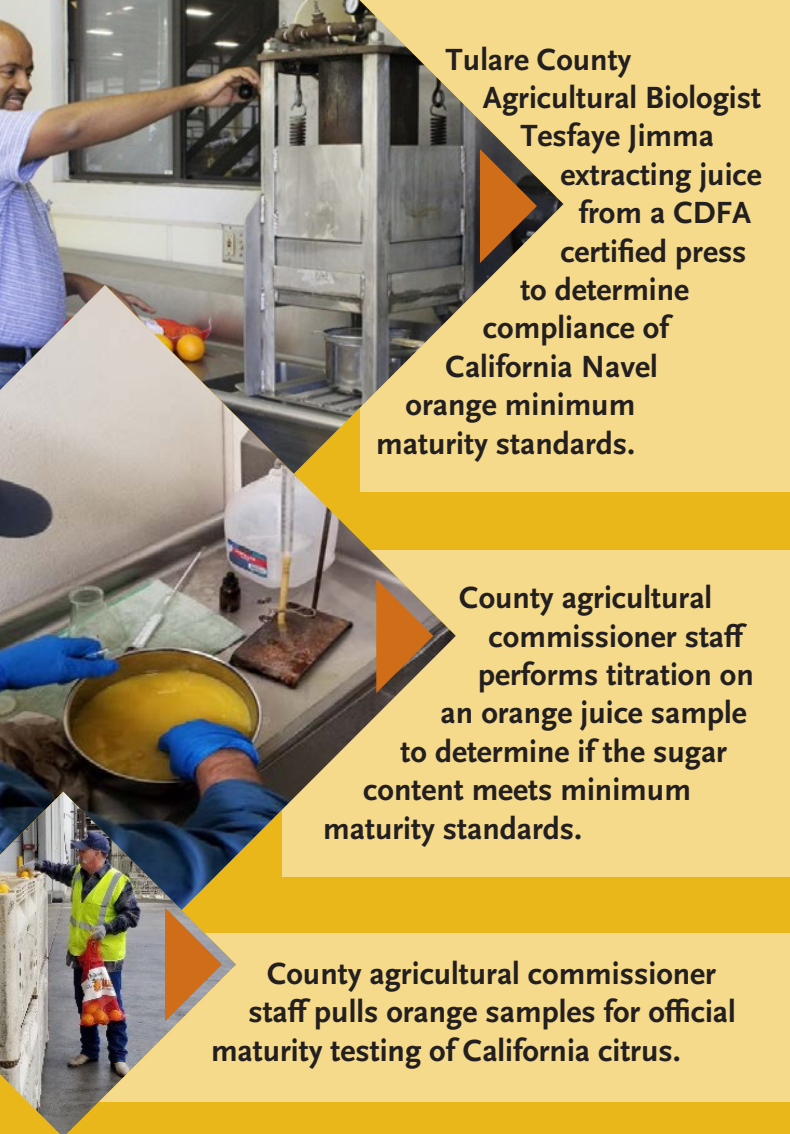


**Latino
Farmers
Conference
November
2019**

**ISD representatives (from left) SOP Special Investi-
gator Leslie Fernandez, SOP Management Services
Technician Andrea Cano, ISD Assistant Director Carla
Bocanegra-Sanchez, PSP Environmental Scientist-
Inspector Rodrigo Chipres and PSP Environmental
Scientist-Inspector Julian Potier.**

**World
Ag Expo
2019**





**Tulare County
Agricultural Biologist
Tesfaye Jimma**
extracting juice
from a CDFA
certified press
to determine
compliance of
California Navel
orange minimum
maturity standards.

**County agricultural
commissioner staff**
performs titration on
an orange juice sample
to determine if the sugar
content meets minimum
maturity standards.

**County agricultural commissioner
staff pulls orange samples for official
maturity testing of California citrus.**

Inspection Services Division **"California Citrus"** means something. *We protect that.*

The industry-funded California Citrus Program is responsible for protecting the industry and the public from substandard products. We ensure that the established minimum maturity and quality standards for California oranges are met.

- » In fiscal year 2020, during the Navel orange season, staff inspected 4,439 lots / 3.34 million containers of Navel oranges, and performed 2,705 maturity tests, resulting in the issuance of 5 Notices of Noncompliance.
- » Each year, agricultural commissioners' staff in cooperation with CDFA perform maturity inspections at the beginning of Navel orange harvest under the Citrus Program. In late 2019, more than 50 county staff representing 8 counties attended CDFA's annual one-day training classes covering orange maturity requirements.

Standardization: California commodity quality

Standardization laws establish minimum standards for maturity, quality, size, standard container and pack, and container markings. County agricultural commissioners and their staff enforce standards at the local level. Inspections take place in fields and at packinghouses, wholesale markets, retail distribution centers, retail outlets, and highway inspection stations.

- » In fiscal year 2020, Standardization inspected 114,568 lots / 15.56 million containers of produce through a cooperative agreement with 17 counties in California, resulting in the rejection of 166,655 containers and the issuance of 940 Notices of Noncompliance and 150 administrative civil penalties.
- » In spring 2020, Standardization staff transitioned from in-person commodity trainings to web-based due to COVID-19, holding four training webinars for county personnel, outlining state requirements and inspection procedures for cherries, apricots, cantaloupes, honeydew, watermelon, other melons and table grapes.



Avocado Inspection Program



In fiscal year 2020, CDFA's Avocado Inspection Program certified 249.25 million pounds of avocados.

We performed 11,565 size/count tests, 68 maturity tests on domestic avocados and 86 maturity tests on foreign avocados.



◆ (Left) Inspector Manuel Cordova performs avocado inspections at an avocado packing facility in Santa Paula.

(Right) Avocado Inspector Jose Diaz enters data from the results of avocado dry matter testing.

Shipping Point Inspection

In fiscal year 2020, CDFA's Shipping Point Inspection (SPI) staff:

- » Inspected 114,280 lots / 2.55 billion pounds of almonds, in a season that set a new California record for almond production
- » Inspected 61,022 lots / 606.92 million pounds of table grapes
- » Inspected 103.44 million pounds of kiwifruit
- » Inspected 170.84 million pounds of onions
- » Inspected 226.48 million pounds of tomatoes
- » In total, Shipping Point Inspection inspected approximately 200,000 lots, representing more than 5 billion pounds of produce
- » SPI provided U.S. Department of Agriculture (USDA) Good Handling Practices and Good Agricultural Practices audits for growers and handlers participating in USDA's Farmers to Families Food Box Program and Commodity Procurement Program. The program was authorized under the Families First Coronavirus Act and has provided more than 100 million boxes of meat and fresh produce. The Procurement Program purchases millions of pounds of fresh produce for distribution to food banks, schools and communities in need.

World
Ag Expo
2020





cdfa PRODUCE SAFETY PROGRAM

The goal of the Produce Safety Program (PSP) is to ensure that California produce farmers understand how to comply with the requirements of the Produce Safety Rule under the federal Food Safety Modernization Act (FSMA).

- » In fiscal year 2019, PSP inspected 20 farms, assisted U.S. Food and Drug Administration (FDA) investigators on 5 farms for outbreak investigations, performed 41 On-Farm Readiness Review (OFRR) trainings, and mailed 12,000 farmer letter/questionnaires.
- » In fiscal year 2020, PSP inspected 214 farms, assisted FDA investigators on 11 farms for investigations, performed 6 OFRRs and mailed 16,122 education farmer letter/questionnaires.
- » Attended and presented at several conferences, including the World-Ag Expo, Eco-Farm Conference and the Black Farmers Conference.

Feed, Fertilizer and Livestock Drugs Regulatory Services (FFLDRS) Branch

Fertilizing Materials Inspection Program

In 2019, CDFA's Fertilizing Materials Inspection Program (FMIP) reviewed and registered 11,219 fertilizer labels to promote the distribution of effective and safe fertilizing materials. FMIP staff obtained 1,359 fertilizing material samples for laboratory analysis, representing 457 manufacturers serving California. Of these, 487 were organic, representing 200 manufacturers.

FMIP performed 165 Organic Input Material inspections in California and border states, and 44 in other states and internationally.

Fertilizer field staff sampled manure-based compost from 25 firms in fall 2019 and spring 2020 for foodborne pathogens (E.coli O157:H7 and Salmonella). No pathogens were detected in any of the 50 samples.

Through the first 10 months of 2020, FMIP obtained 579 fertilizing material samples for lab analysis, along with 44 Organic Input Material inspections in California and border states, and 8 from throughout the rest of the US and internationally.



In 2019, Senior Environmental Scientist Nick Young started a one-year term as president of the Association of American Plant Food Control Officials (AAPFCO). Nick is just the third President from California in AAPFCO's 74-year history and the first in 20 years.



FMIP Annual Workshop 2019

2019 FMIP Annual Workshop

The 2019 Fertilizing Materials Inspection Program (FMIP) annual workshop was held in Sacramento November 13-14. Over the course of two days, registration and field staff gave presentations on Conventional Licensing & Registration; Data Review & Inspections; OIM Registration; and Mill Assessments & Tonnage Reports. The workshop had its highest attendance ever with approximately 100 attendees.

FREP: research and outreach that broadly benefit California agriculture

In 2019, FREP awarded \$1.5 million in grant funding to 7 research projects beginning in January 2020 focusing on irrigation and nitrogen management of various commodities in multiple California regions. FREP staff also held 18 training events in nitrogen management for 465 growers and 52 Certified Crop Advisors.

A collaboration between FREP and the University of California Cooperative Extension (UCCE) Monterey and Monterey Resource Conservation District extended outreach and education for growers and irrigators on the Central Coast under the award of a Specialty Crop Block Grant.

With funding that began in 2016, FREP's partners on the Central Coast have now held more than 50 outreach events in the last three years. Over the course of this project, cooperators presented educational materials to more than 1,000 growers and farm workers in the Central Coast region.



Through this grant, FREP staff also published the Nitrate Quick Test guide (<https://blogs.cdfa.ca.gov/FREP/index.php/nitrate-quick-test/>), which assists growers and field workers with measuring available soil-nitrogen using the in-field nitrate quick test.

FREP Senior Environmental Scientist Natalie Jacuzzi describes FREP partnerships with Resource Conservation Districts at the 2019 California Association of Resource Conservation Districts Conference.

FREP events in 2019/2020 reflect global changes in large gatherings

The 28th annual Fertilizer Research and Education Program (FREP) and Western Plant Health Association (WPHA) Nutrient Management Conference was held Oct. 28-29, 2020.

The conference is a collaboration between FREP and WPHA that brings together industry professionals and academic researchers to learn about and share the latest research and innovative fertilizer and irrigation management practices.

This is the first year this conference was held online, due to limitations brought about in response to the COVID-19 pandemic. Introductory remarks were provided by CDFA Secretary Karen Ross followed by 11 technical presentations and question-and-answer sessions over two days. The presentations included information on soil and crop nutrient management, irrigation and salinity management, efficient practices in almonds, sampling techniques and analyses, and managed aquifer recharge.

More than 200 attendees and presenters enjoyed a seamless online experience.

The 2019 installment of this longstanding event, held October 28-30, 2019, took place in person, in Fresno. The event included a pre-conference farm tour that took attendees to two field operations in Fresno: Fowler Packing's table grape vineyards and a diversified Asian greens operation.

The conference itself included a variety of engaging presentations on nutrient and irrigation management; a panel discussion; a poster session; and two irrigation and nitrogen management planning workshops. More than 50 attendees participated in the farm tour and 265 individuals attended the conference.

In 2019, more than 50 attendees joined the pre-conference farm tour to a diversified, Asian greens operation and Fowler Packaging's table grape vineyards (below).





FREP's competitive grants help farmers improve nitrogen management and soil health

For FREP's 2019 competitive grant cycle, the program received 43 proposals. After review by FREP's Technical Advisory Subcommittee, 16 of those submissions advanced to the full proposal phase. After final review, the following seven projects by universities and agricultural organizations were awarded more than \$1.5 million in grant funds:

- » Developing a Nitrogen Mineralization Model for Organically Managed Vegetable Farms on the Central Coast
- » Next Generation Nitrogen Management Training for Certified Crop Advisors
- » Irrigation and Nitrogen Management, Monitoring and Assessment to Improve Nut Production While Minimizing Nitrate Leaching to Groundwater
- » Achieving Efficient Nitrogen Fertilizer Management in California Wheat
- » Develop Nutrient Budget and Nutrient Demand Model for Nitrogen Management in Cherry
- » Promoting the Adoption of CropManage to Optimize Nitrogen and Irrigation Use through Low-Cost Data Loggers and Cellular Modems for Spanish-Speaking Growers in Santa Cruz and Monterey Counties
- » Immobilization of Nitrate in Winter-Fallow Vegetable Beds to Reduce Nitrate Leaching

For the 2020 competitive grant cycle, FREP received 35 concept proposals. The Fertilizer Inspection Advisory Board Technical Advisory Subcommittee selected 17 to advance to the full proposal stage.

FREP awarded more than \$2 million in grant funds to universities and agricultural organizations. These funds will provide support for the following 11 projects:


- » Assessment of Nitrogen Content of the Harvested Portion of Specialty Crops to Estimate Crop Nitrogen Removal and Improve Nitrogen Management in Crops
- » Assessment of Harvested and Sequestered Nitrogen Content to Improve Nitrogen Management in Crops, Phase 2
- » Certification and Distance Learning for Fertigation
- » Outreach and Revenue Generation for Sustaining CropManage Irrigation and Nutrient Management Decision Support Tool
- » Nitrogen Response of Industrial Hemp Cultivars Grown for CBD, Essential Oils
- » University of California Nursery and Floriculture Alliance Fertilizers and Plant Nutrition Workshops for Greenhouse and Nursery Growers
- » Development of Site-Specific Nitrogen Fertilization Recommendations for Annual Crops
- » Enhancing Nitrogen and Water-Use Efficiency in California Carrot Production through Management Tools and Practices
- » Techniques to Minimize Nitrate Loss from the Root Zone During Managed Aquifer Recharge (MAR)
- » "Crop Nutrient Minute" Video Series
- » Ventura County Nitrogen Management Training Program

Livestock Feed Safety

Commercial Feed Regulatory Program

During the beginning of the COVID-19 pandemic, the CFRP concentrated initial efforts on virtual outreach to licensees, development of enhanced safety procedures for inspections and sampling during COVID-19, and online enforcement for feed and livestock drug sales. Virtual outreach and education allowed CFRP program staff to contact feed licensees to offer department outreach regarding COVID-19 and discuss with firms any issues they might be facing. This allowed staff to communicate any industry issues to CDFA's Department Operation Center (DOC). Once the program had developed enhanced safety procedures for inspections and sampling during COVID-19, the staff was able to begin sampling and inspections. On-site procedures for these activities include notifying the firm prior to inspection, ensuring that we are following the firm's safety procedures in addition to our own, and wearing appropriate personal protective equipment.

CFRP signed a cooperative agreement with FDA for maintenance of the Animal Food Regulatory Program Standards (AFRPS), with funding for the development and integration of preventive controls procedures. The program was awarded \$525,000 per year for the next five years. This project builds on the work done under the previous AFRPS cooperative agreement, which ended on August 31, 2020. The goal of the newly awarded agreement is to maintain and enhance California's fully implemented AFRPS while building CFRP's ability to perform regulatory work and promote compliance with the Preventive Controls for Animal Food (PCAF) rule. Through active participation in the AFRPS, CFRP has strengthened its already robust inspection and enforcement programs, industry education and training programs, and feed emergency response programs, while also implementing program assessment and accountability measures. This cooperative agreement will enable CFRP to further develop and sustain the best practices implemented under



California Department of Food and Agriculture
Feed, Fertilizer, and Livestock Drugs Regulatory Services Branch

QUARTERLY FEED UPDATE

Issue 1 | Winter 2020

In This Issue

VFD Report Release

Feed Program Enforcement

FSMA Inspections - FDA Contract Year 1 Summary

Hemp and Hemp-derived Ingredients and Cannabis-derived Ingredients

VFD Report Release

The Antimicrobial Use and Stewardship (AUS) program has developed a report to summarize Veterinary Feed Directive (VFD) information collected from 2017, 2018 and 2019 Quarter 1 (Q1). The release of the VFD Summary Report presents an annual illustration of VFD feed manufacturing and distribution in California. This VFD summary has been developed to provide a transparent and thorough explanation of the AUS program's involvement to ensure compliance with state and federal VFD order mandates.

A brief overview of this report is as follows:

- Food and Drug Administration (FDA) and California law that mandates the use of VFDs and components of a VFD
- Process of VFD collection, data confidentiality, compliance and aggregated information visuals
- Plans for the AUS program and future VFD collection/compliance
- In conjunction with the Commercial Feed Regulatory Program (CFRP), AUS is collecting VFD information on a quarterly basis from both manufacturers and distributors listed on the US Food and Drug Administration's VFD intent list. The information collected is held confidential in accordance with Food and Agricultural Code Section 14407. The AUS program will continue to produce a VFD Summary Report annually.

A few important notes regarding this VFD Summary Report:

- This report includes information received by the program that has been aggregated to prevent the identification of an individual farm or business.
- Due to the nature of a VFD order, they are not indicators of use trends.
- A comparison of finished feed reported in 2018 to VFD feed reported in 2018, shows that VFD feed made up 0.0910% of all finished feed reported.

The full version of the VFD Summary Report can be found at https://www.cdfa.ca.gov/is/ffldrs/pdfs/AUS_VFD_Summary_Report_2017-19.pdf



Summary Report
Veterinary Feed Directives
2017 - 2019 Q1

Calendar

January 1, 2020
New Year's Day

January 21, 2020
Martin Luther King Jr. Day

January 31, 2020
2019 Quarter 4 Tonnage Tax Due

February 18, 2020
Presidents' Day

Page 1 of 4

The Commercial Feed Regulatory Program debuted the Quarterly Feed Update newsletter for winter 2020. Each issue of the newsletter will include program updates and articles on current feed industry issues. The newsletter is posted to the feed program's website and emailed to commercial feed licensees, board members and interested parties.

the AFRPS while simultaneously working to build capacity to conduct comprehensive inspections for compliance with the PCAF rule.

CFRP finalized a contract with FDA for Food Safety Modernization Act (FSMA) inspections for 2020/2021 totaling approximately \$238,000. Program staff will perform a total of 48 inspections during this contract year and will verify compliance with federal requirements pertaining to current good manufacturing practices, preventive controls for animal food, and bovine spongiform encephalopathy (BSE).

New crops, new pesticides, new tests

Following the passage of the federal Farm Bill and the resulting legalization of industrial hemp, the Food Safety Laboratory at the Center for Analytical Chemistry (CAC) was tasked with developing a method for analyzing tetrahydrocannabinol (THC) content in hemp. Scientists at the CAC developed a robust analytical method utilizing Liquid Chromatograph with Tandem Mass Spectrometry (LC-MS/MS) optimized for the detection and quantification of total THC (which is the sum of delta 9-THC and its acid).

The method was accredited by the ISO-17025 A2LA organization in August 2020. The CAC Food Safety (FS) team successfully received ISO Accreditation for testing for total tetrahydrocannabinol (THC), cannabinoids and heavy metals in industrial hemp; genetically modified organism (GMO) qualitative

testing for select sequences on any commodities; and quantitative testing for select events in soybeans and corn.

Additionally, ISO accreditation was given to the CDFA Multi Residue Hemp and Cannabis analytical method. This method detects and quantitates more than 500 pesticides including all pesticides on the California Bureau of Cannabis Control list and most pesticides on the California Restricted Materials.

The Pesticide Residue Laboratory is continuing its work toward testing for genetically modified organisms (GMOs). In 2015 the California Organic Products Advisory Committee (COPAC) asked the SOP to begin gathering information on the potential presence of genetically modified organisms (GMOs) in organic products. The National Organic Program prohibits the use of GMOs in organic production and handling. Food Safety program continues to expand the scope of the method to test for more genetically modified samples and commodities.

The CAC Food Safety team has successfully added 40 pesticides to its screen list. With these new additions, the lab can now screen, detect and quantify (down to part-per-billion level) 515 pesticide active ingredients.

With a substantial screen list and built-in stringent quality control measures, the FS program leads the most extensive and effective food residue monitoring program in the nation.

CAC scientist Ryanne Mason preparing instrument for testing fruits and vegetables





Center for Analytical Chemistry

In fiscal year 2020, CDFA's Center for Analytical Chemistry (CAC) ran 22,723 laboratory analyses on 11,118 samples, resulting in more than 2.2 million data points. We developed 20 new scientific methods while satisfying the regulatory and monitoring needs of 33 public agencies.

Because so many of our CAC scientists are highly trained in the use of technical equipment and precise procedures, it's important to make sure these personnel stay abreast of the constant improvements and additions in the scientific realm relative to their expertise and equipment.

To keep on the cutting edge, CAC offered 49 such staff development opportunities for staff members. These opportunities are provided as part of our coaching program, and consist of a Succession Planning and Mentoring program, instrument and technology trainings by vendors, hands-on advanced technology training, as well as other technical and soft skill training sessions.

**CAC
scientist
Kash Ghazianzad
readies instruments for
testing feed and fertilizer samples.
Many health and safety procedures
and special accommodations have been put
in place for CAC scientists to be able to continue
essential operations as well as protect the health
and safety of staff during the COVID-19 pandemic.**

*Scientists are at the heart
of CDFA's mandate to
protect agriculture,
the environment,
& consumers*

2020

**@
CAC**

**11,118
laboratory
samples**

**22,723
laboratory
analyses**

**2.2
million
data
points**



At CDFA, outreach is a scientific element

Communicating with our partners and the public about how science helps protect California's food supply

We like to think of CDFA's Center for Analytical Chemistry as "The Little

Engine that Could." It's a tight-knit group of highly expert scientists and staff, and their knowledge about food safety and related specialties is just too valuable not to share. A few examples of how they spread their love of science:

- » Presenting an overview of CDFA and CAC programs to the California Department of Pesticide Regulation (DPR) Enforcement Branch while participating in DPR's Continuous Improvement and Training (CIAT) in Southern California. The CIAT educated DPR inspectors, who are county liaisons, on laboratory procedures and methods. The session also strengthened CAC's partnership with DPR and the counties.

- » Inviting young women to work in the sciences: CAC staff participated in the Sacramento State

Expanding Your Horizons Conference in November 2019. The yearly event encourages and empowers middle school girls to pursue education and careers in the fields of science, technology, engineering and mathematics.

Outreach also included the CAC and Division of Measurement Standards (DMS) labs teaming up to visit the faculty and students of chemistry and other related fields at CSUS in November 2019. CAC and DMS staff discussed opportunities for working together on topics of mutual interest, including:

- » Collaboration on method development
- » Recruitment opportunities in the state labs
- » Sacramento State (CSUS) chemistry curriculum and competencies needed for chemistry graduates to be successful in state labs



In 2019, Approximately 20 staffers and managers planned, prepared and participated in the 31st Annual California Assn. of Professional Scientists (CAPS) State Scientist Day on the west steps of the State Capitol. They set up educational demonstrations and hands-on experiments to teach and engage a diverse group of school students on scientific principles used in protecting and promoting California's food production systems and supply. A full day of activity at the CAC booth during State Scientist Day began with a morning interview by Lori Wallace from Good Day Sacramento.

Milestone: Quality Assurance Unit achieves ISO accreditation

The Center for Analytical Chemistry reached a milestone with a transition to technology-based accreditation for laboratory competency as prescribed under ISO 17025:2017 guidelines. It's a bunch of big words, but the gist is that the guidelines cover a broad spectrum of analytes (the stuff we want to find and analyze) and a wide variety of matrices (the stuff that stuff is stuck to) such as produce grains, cannabis, hemp, and fertilizing materials.

The accreditation status was granted after evaluating the laboratory's technical competence, analytical prowess, quality management program, extensive analytical scope, commitment to continuous improvement, and in-depth experience. CAC will ensure the accredited technology utilized in monitoring and regulatory programs meet and exceed the rigors of accreditation.

The Quality Assurance Program provides independent quality assurance and quality control (QA/QC) to all laboratory sections within the Center for Analytical Chemistry to ensure the highest international standards for quality are maintained. The Quality Assurance Program serves as the primary liaison with the auditors for the International Standards Organization to ensure the CAC maintains their ISO-17025 rating.

QA oversees the CAC quality program by providing "check samples" to ensure the competency and integrity of laboratory staff, equipment and methods. Assisting laboratory staff in developing Standard Operating Procedures (SOPs), equipment specifications and method validation and data review. In addition the Quality Assurance Program serves as the independent QA/QC for the USDA Pesticide Data Programs (PDP) which includes providing proficiency samples, routine QA/QC, SOP and Data Review for CDFA's PDP laboratory as well as Performance Evaluation Samples for USDA's PDP Nationwide Program.

Technical upgrades, renovation at the Anaheim lab facility

After years of planning, the CAC received the approval to start the much-needed renovation work at the Anaheim laboratory facility shared between the CDFA Division of Measurement Standards and the CAC Food Safety Laboratory. The renovation took approximately six months to complete. The renovation was necessary because the facility had critical infrastructure deficiencies with dilapidated heating, ventilation and air conditioning (HVAC) systems; and lack of office space for scientists to work. In addition, new analytical equipment requires proper lab space and greater electrical power capacity to operate, which the previous facility could not deliver.

**Li Lin preparing
samples in the
new prep lab.**



**The old Anaheim
lab area (above) is
shown in comparison
to Shaoping Mao
(right) setting up
instruments in the
new GCMS lab.**





Advances in water quality, safety **CDFA's Environmental Safety Laboratory**

CDFA's Environmental Safety Laboratory provides testing for local, state and federal agencies that work to protect farm workers, the environment and California's citizens from exposure to agrochemicals.

Scientists in our Center for Analytical Chemistry's **Environmental Analysis Laboratory** developed and validated two methods for use in monitoring low levels of pesticides in surface water and groundwater within California. Monitoring for pesticides in agricultural and urban areas helps us assess the potential impacts in aquatic environments. The wide variety of commodities being grown in California, as well as in home and commercial landscaping, use a large range of pesticides. Our analytical methods must be capable of determining the pesticide concentrations at the lowest benchmark aquatic toxicity levels set by the US Environmental Protection Agency.

Scientists developed a method for the analysis of glyphosate and the metabolites AMPA and Glufosinate in ground and surface water using an ion chromatograph coupled to a triple quadrupole mass spectrometer. The analysis of glyphosate and other polar compounds presents a difficult analytical challenge in analytical laboratories because their polarity does not allow the direct analysis by high pressure liquid chromatography (HPLC), post-column derivatization, and fluorescence detection.

CDFA presents a simple, reliable and fast technique that separate these polar ionic pesticides using anion-exchange columns coupled to a triple stage

quadrupole mass. Samples are directly injected, and no sample preparation is required. Moreover, this method enables to achieve a reporting limit of 50 parts per trillion for glyphosate and both metabolites which is over six times lower than other published methods. Presence of glyphosate and the metabolites AMPA and Glufosinate in water has become a controversial issue in recent years.

The EA scientists developed a method for identifying and quantifying Imidacloprid, S-Metolachlor and two S-Metolachlor metabolites in agricultural soils for use in managing aquifer recharge events.

This work developed multiple instrumentation and extraction methods to put as many pesticides as possible on a single analysis for the California Department of Pesticide Regulations (DPR) to monitor for pesticides that are detected in the state's groundwater or have the potential to contaminate groundwater based on their chemical properties at part per trillion levels (think of a single drop of water in a lake). CAC scientists created a method of analysis for 21 pesticides with two extraction techniques and two instrumentation platforms (LC/MS/MS and GC/MS/MS). CAC also developed a screen of 44 pesticides that uses a LS/MS/MS instrument to acquire data for both positive and negative ions, which can be accomplished in a single analysis.

In order to provide more comprehensive samples results incorporating the USEPA benchmark levels of pesticides in ground water the EA scientists evaluated and validated a method for analyzing triazine herbicides with reporting limits that range from 10 to 50 parts per trillion.

CDFA scientists published in academic journal after developing improved method to test for mycotoxin in feed

Center for Analytical Chemistry scientists Bahar Nakhjavan, Nighat Sami Ahmed and Maryam Khosravifard were published in the Multidisciplinary Digital Publishing Institute (MDPI) academic journal Toxins special issue, Rapid Detection of Mycotoxin Contamination. Their article, “Development of an Improved Method of Sample Extraction and Quantitation of Multi-Mycotoxin in Feed by LC-MS/MS,” details their research of evaluating the three most popular sample preparation techniques for determination of mycotoxins, then selecting the best method and optimizing it.

Mycotoxins are the most common contaminants in agricultural crops, produced by several species of mold and fungi. During growth, maturity, harvest, storage and processing of food and animal feed products, the fungus produces mycotoxins and other secondary metabolites. Mycotoxin-contaminated food and feed threaten human and animal health even at very low concentration.



(L-R) Bahar Nakhjavan, Nighat Sami Ahmed and Maryam Khosravifard



toxins



Article

Development of an Improved Method of Sample Extraction and Quantitation of Multi-Mycotoxin in Feed by LC-MS/MS

Bahar Nakhjavan *, Nighat Sami Ahmed and Maryam Khosravifard

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Abstract: A multi-mycotoxin chromatographic method was developed and validated for the simultaneous quantitation of aflatoxins (AFB1, AFB2, AFG1 and AFG2), ochratoxin A (OTA), zearalenone (ZON), deoxynivalenol (DON), nivalenol (NIV), diacetoxyscirpenol (DAS), fumonisins (FB1, FB2 and FB3), T-2 toxin (T-2) and HT-2 toxin (HT-2) in feed. The three most popular sample preparation techniques for determination of mycotoxins have been evaluated, and the method with highest recoveries was selected and optimized. This modified QuEChERS (quick, easy, cheap, effective, rugged and safe) approach was based on the extraction with acetonitrile, salting-out and cleanup with lipid removal. A reconstitution process in methanol/water was used to improve the MS responses and then the extracts were analyzed by LC-MS/MS. In this method, the recovery range is 70–100% for DON, DAS, FB1, FB2, FB3, HT-2, T-2, OTA, ZON, AFG1, AFG2, AFB1 and AFB2 and 55% for NIV in the spike range of 2–80 µg/kg. Method robustness was determined with acceptable z-scores in proficiency tests and validation experiments.

Keywords: mycotoxins; feed; modified QuEChERS; LC-MS/MS

Key Contribution: This study describes an improved analytical method for quantitation of common mycotoxins with acceptable recoveries in different feed products.

1. Introduction

Mycotoxins are the most common contaminants in agricultural crops produced by several species of mold and fungi. During growth, maturity, harvest, storage and processing of food and animal feed products, the fungus produces mycotoxins and other secondary metabolites [1].

Lab upgrades equal faster, more accurate results

The CAC Regulatory Analysis (RA) program has been busy transforming its section into a modern, state-of-the-art facility. This effort will provide more efficient service to the Feed, Fertilizer and Livestock Drugs Regulatory Services (FFLDRS) team. The first two phases of this project are completed, with final completion set for 2021. The RA lab renovation is transforming its laboratory standards to replace outdated, slow "wet" chemistry methods with methodologies and instruments that are faster, can process more samples at a time, provide more accurate results and, in most cases, lower detection limits.

The Laboratory transformation implements nine different technologies in its operations to produce a wider variety of assays and analytical services that are more relevant for regulatory purposes, with lower reporting levels and shorter turnaround times.

Key Upgrades & Improvements

- » The RA program implemented new methodology that uses ICP-OES instrumentation for analysis of available phosphorus and soluble potassium. This method uses two-thirds less solvent, so it's more environmentally friendly and allows us to analyze both organic and inorganic samples at the same time. It also has lowered our detection limit, allowing for reporting lower levels of these elements to be more responsive to the agricultural industry.
- » The RA team finalized its method for analyzing soluble silicon in fertilizer samples using the ICP-OES instrument. The method has been validated and the procedure has been placed on CAC's program website.

Lab Bench Upgrades



Grinding Room Upgrades



New Instruments



- » The RA program finalized a new method for analyzing cations and anions such as sulfate, thiosulfates nitrates, and chlorides using Ion Chromatography instrumentation which allows us to perform the analyses much faster.
- » RA has installed a new micro-Kjeldahl instrument which fits in a fume hood. It replaces an outdated, larger digester. The new instrument analyzes forms of nitrogen and is much safer and more efficient than the old digester.



CDFA's Farm to School Program

*"Students, meet agriculture.
Agriculture, meet students."*

CDFA's Farm to School Program has performed outreach to more than 200 Farm to School practitioners to develop strategic programs for the California Farm to School Network.

The past two years included the kickoff of a series of farm tour field trips for students throughout the state. Made possible by Specialty Crop Block Grant funding, these farm tours aim to increase students' knowledge of and appreciation for California-grown produce through direct interaction with local farmers. Four tours were held in February at farms on the North Coast and elsewhere in Northern California.

California First Partner Jennifer Siebel Newsom (center), CDFA Secretary Karen Ross (third from right) and CDFA Farm to School Program Lead Nick Anicich (right) tour the school garden at Julien Elementary School in Turlock in October 2019 as part of a tour of farm to school programs.

In October and November 2019, California First Partner Jennifer Siebel Newsom joined Secretary Ross and Office of Farm to Fork staff to tour farm to school sites in Turlock Unified School District and locations throughout Yolo County.

Tour highlights included breakfast at the Turlock Unified Student Farm and a student-run food distribution program at Waggoner Elementary School in Winters. The tours provided a foundational understanding of the farm to school movement and the work of the CA Farm to School Network to provide fresh, local food for students of all ages.

First, let's listen. Farm to School Statewide Listening Tour



CDFA Farm to School Program Lead Nick Anicich attends a Farm to School Leadership meeting in San Diego in 2019 as part of his statewide listening tour.

Successes in our Farm to School Program include program manager Nick Anicich meeting with more than 140 network partners since December 2018 during a statewide listening tour. The tour's purpose was to learn what program efforts would best benefit practitioners, as well as prioritize the types of activities that should be at the 2020 CDFA-F2F

Farm to School Conference. Based on feedback, CDFA-F2F Farm to School is focusing more on increasing school district investments in farm to school, creating school district collaboratives to coordinate education in classrooms and cafeterias, and aiding professional development opportunities for school foodservices staff.

Next Up: Farm to School Grant Program

CDFA's Office of Farm to Fork is also working on the establishment of a Farm to School Grant Program, which will help support California farmers and expand healthy food access in schools by providing grants to schools to establish programs that coordinate local and California-grown food procurement and utilization in school meals. It will also support food and agriculture education in classrooms and cafeterias through experiential learning opportunities in school gardens, on farms and through other culinary agricultural pathways.

This funding will also support the Farm to School Working Group to advance farm to school implementation and explore how to create a more resilient and climate-smart food supply in California.

In late 2020, the Farm to School program began the hiring process for a Farm to School Network Lead, a Farm to School Marketplace Lead, and a Farm to School Staff Services Analyst position. In addition, the Office of Farm to Fork team began developing a request for proposals for the California Farm to School Incubator Grant program.

Healthy Stores Refrigeration Grant Program

Getting produce refrigeration equipment into smaller stores in California's low-income, low-access communities

You've probably heard the term "food desert." In a nutshell, it's a place where healthy, nutritious food is particularly hard to come by. Even though California grows far more food than any other state, we are still home to many communities that qualify for this label.

That's where our Healthy Stores program comes in: the goal is to get refrigeration display/sale equipment into stores in these communities.

The Healthy Stores Refrigeration Grant Program funds energy-efficient refrigeration units in corner stores and small businesses in low-income or low-access areas throughout the state to stock California-grown fresh produce, nuts and minimally processed foods for sale. In this way, CDFA is improving access to healthy foods in the small retail sector for underserved communities, while promoting California-grown agriculture.

Consumers need this nutritious food, and food stores want to sell it – if they can get help with the expense and installation of refrigeration equipment.

CDFA has awarded

\$4,454,259
to

57 grantees
so far, funding
refrigeration units
in approximately

215
corner stores
and

13
refrigerated
trucks

located in more than
36 counties

Left: Healthy Stores Refrigeration Grant Program Lead Elisa Gollub attends a February 2020 "grand reveal" of a refrigeration unit at Rivera Mart in Del Paso Heights, while mart owner Joseph Zaki holds a certificate presented by the Public Health Institute's Center for Wellness and Nutrition that facilitated the grant and unit installation.

(Right) A customer shops from Rivera Mart's new refrigeration unit.



2019 - 2020 Highlights for California Fairgrounds

Deferred Maintenance/Infrastructure:

- » CDFA's Fairs & Expositions Branch developed a Deferred Maintenance/infrastructure project list that identified the most urgent deferred maintenance needs of fairgrounds throughout California. Between 2019 and 2020 a total of \$7.5 million was provided to fairs in the Network for deferred maintenance projects (\$4.5 million from Proposition 68-SB 5 funds and \$3 million from General Fund).
- » CDFA's Fairs & Expositions Branch partnered with the California Farm Bureau to acquire and distribute 280 livestock panels to be used during emergency/evacuation events statewide. During recent emergencies the panels have been used multiple times by fairs throughout the state.
- » In 2019, we relaunched the hand-washing/signage consumer protection programs, with 672 signs posted at fairgrounds statewide to maintain sanitation for future fairs, livestock exhibits and other events with animals.
- » CDFA staff also developed guidance to allow fairs to safely, and in compliance with local ordinances, conduct junior livestock sales at fairgrounds that were closed due to the COVID-19 pandemic.

Marketing Branch

California ranchers drive implementation of the California Cattle Council

In 2019, at the request of the cattle industry, CDFA's Marketing Branch implemented the California Cattle Council, one of California's 51 industry-funded agricultural marketing programs. The Council represents the state's 19,000 conventional and organic cattle producers. The Council will help develop best management practices to improve the sustainability and efficiency of California's beef industry; assist with regulatory compliance; and develop consumer education programs.



Marketing Branch & Pierce's Disease Control Program

Referendum confirms winegrape growers' support of long-term program

In 2020, the Marketing Branch conducted an industry referendum among approximately 6,000 winegrape producers to determine whether the Pierce's Disease Control Program should be continued for another five years, through March 1, 2026. Voting producers approved the continuation with 78 percent in favor.

The PDCP supports research and other activities directed at Pierce's Disease and its vectors, as well as other designated pests and diseases of winegrapes.



Marketing Branch

California Milk Advisory Board accelerates industry innovation

In 2019 the California Milk Advisory Board (CMAB) held its first-ever dairy product innovation contest, called the **Real California Milk Accelerator Competition**. The overall goal of this contest is to promote innovation of new products that will use California milk as the primary ingredient. The winner of the contest was a proposal to produce milk-based nutritional shakes. Another contest was successfully conducted in 2020.

In 2020, in response to the COVID-19 pandemic, the California Milk Advisory Board and the California Milk Processor Board partnered with California food banks to provide one million servings of milk and much needed refrigeration units to area food bank locations.



Pierce's Disease

Vigilance remains key as 2020 marks a resurgence of glassy-winged sharpshooter populations in San Joaquin Valley Area-wide Management Programs

The Pierce's Disease Control Program administers area-wide management programs that coordinate glassy-winged sharpshooter (GWSS) management efforts in large, agriculturally diverse grape and citrus production areas where GWSS is present. Citrus is a favored overwintering host for GWSS, and area-wide treatments aim to decrease these populations while in citrus to prevent movement into nearby vineyards. In 2020, the program saw trap counts in Kern and Tulare Counties nearly triple over 2019 levels, signaling that the threat of GWSS and Pierce's disease is still very real for California grape growers. This significant increase was assisted by warm, dry weather and an increase in organic citrus acreage, which can present challenging conditions for controlling GWSS. In September 2020, the Pierce's Disease and Glassy-winged Sharpshooter Board allocated \$600,000 to the area-wide treatment efforts in Kern and Tulare Counties, along with a matching allocation from the Consolidated Central

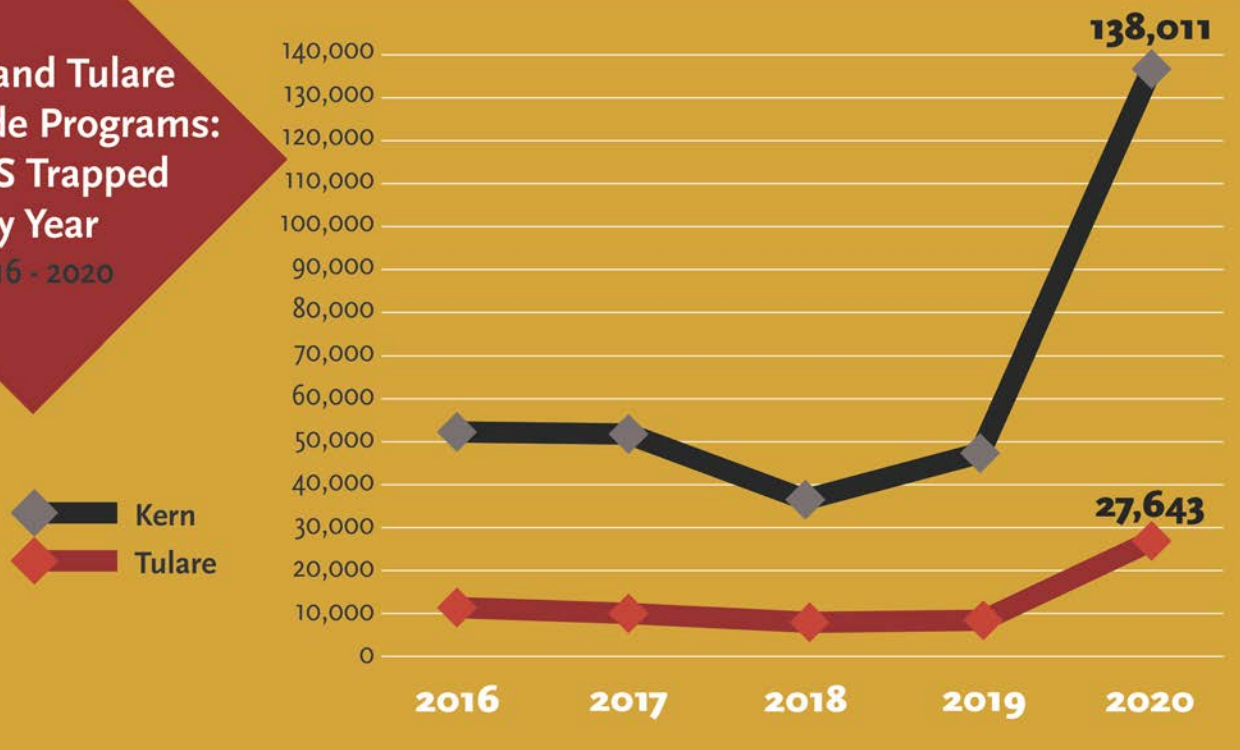


2020 saw the return of full yellow panel traps in the Kern and Tulare areas.

Valley Table Grape Pest & Disease Control District. Treatment coordinators prioritize citrus groves adjacent to vineyards and leading-edge populations when authorizing treatments.

In December 2019, UC Davis announced the release of five new grape varieties, developed by Dr. Andrew Walker. These five new varieties, three red and two white, have demonstrated high resistance to Pierce's disease. Traditionally bred, these patent-pending grape varieties provide high-quality fruit and wine. Dr. Walker conducted this research project over a span of almost 20 years, funded by the Pierce's Disease and Glassy-winged Sharpshooter Board.

Kern and Tulare Area-wide Programs: GWSS Trapped by Year 2016 - 2020



CDFA's newest division works to protect California citrus

In 2018, California experienced its sharpest increase of Huanglongbing (HLB) detections since the first detection in 2012, showcasing the imminent threat that this deadly citrus tree disease spread by the Asian citrus psyllid (ACP) is posing to the state's iconic crop, its landscape, and its economy.

Recognizing the negative impact of this fatal plant disease, the state approved funding recommended by the Citrus Pest and Disease Prevention Committee (CPDPC) to establish the Citrus Pest and Disease Prevention Division (CPDPD) in July of 2019. Since the creation of the CPDPD – funded by California citrus growers and administered by CDFA – approximately 168 positions have been filled to create a dedicated statewide workforce, consisting of management, field staff and analytical scientists located across 11 field offices throughout California. The expert personnel and resources allow CPDPD to act quickly and ensure the team remains focused on combatting citrus pests and diseases.

The division's activities are guided by the CPDPC, which was created to advise the CDFA Secretary and the industry about efforts to combat serious pests and diseases that threaten the state's citrus crop. The committee spearheaded and developed a strategic plan in 2019 that prioritizes the division's activities and resources. Those priorities are:

1. **Detecting and eradicating HLB-positive trees**
2. **Controlling movement of the psyllid around the state; enforcing regulations**
3. **Suppressing Asian citrus psyllid populations**
4. **Improving data technology, analysis and sharing**
5. **Conducting outreach and collaboration**

Thanks to these efforts, growers now have a strong toolbox of science-supported strategies and tactics to help them protect their orchards from HLB. The CPDPC endorsed a response plan for growers to voluntarily employ in California. The recommendations – based on a grower's proximity to an HLB detection – represent the most effective tools known

to the citrus industry.

These tools were distributed to growers throughout the state in 2019. These practices are meant to supplement regulatory responses. In addition to tried-and-true grove management practices, the division has partnered with researchers across the globe to evaluate innovative tactics, including the release of beneficial parasitic wasps to reduce psyllid populations and exploring the use of ACP- and HLB-detecting canines to help survey trees for further testing.

Educating industry members on how they can prevent HLB from entering their groves is only one piece of the puzzle for CPDPD. As of October 2020, 2,110 citrus trees had been confirmed with HLB in residential areas in Los Angeles, Orange, Riverside and San Bernardino counties. The corresponding HLB quarantine area covers 1,416 square miles.

Now more than ever, it is critical for California residents to understand the urgency and importance of protecting their citrus trees from HLB. To ensure the program's messaging maintains relevance and is effective in driving desired behaviors among homeowners, the program conducted research with homeowners who have a citrus tree in the HLB quarantine area in order to learn more about their motivations to protect their citrus trees and cooperate with CPDPD activities.

Protecting California's citrus industry is a collaborative effort. Working in tandem with industry partners, homeowners and stakeholders around the state, CPDPD will continue working for years to come in order to ensure California's citrus crop will continue to thrive.

New pest on the radar: Spotted lanternfly

The spotted lanternfly (SLF) is a plant pest of major concern for specialty crop farmers, in particular grape growers. The arrival of SLF in Pennsylvania in 2014, likely via transport of egg masses on imported stone products, sparked intense control efforts as the insect spread to at least nine other states in the following five years. Over that time span, no vineyards in its path went unscathed. Over the past two years, California has seen a dramatic uptick in air cargo detections, and recently Oregon received an adult SLF in ceramic pottery from an infested state. To address the threat of SLF to California's multi-billion-dollar agricultural economy, CDFA implemented numerous steps in a multi-phase approach to tighten the pest prevention net across the state.

Over the course of 2020, the state primary entomologist performed a rigorous and quantitative review of SLF to complete a comprehensive pest rating proposal for the species. A statewide survey to detect SLF was performed, which included known host commodities, railyards, ports, stone importers, and other high-risk areas. Several pest advisories were developed and sent to our county partners as well as state field offices. Border Station personnel were trained to recognize SLF in all its life stages and to exert due diligence in inspecting conveyances originating in infested states.

A new state exterior quarantine is based on a cooperative effort with the National Plant Board and aligns with other existing state quarantines, ensuring high levels of compliance without creating an undue burden on our state partners. This new quarantine should be in effect by late 2020.

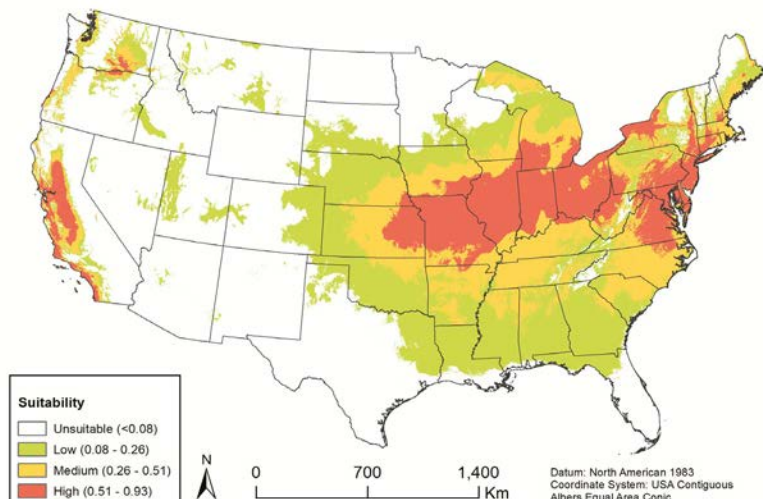
CDFA has also proactively funded research on bio-control efforts against SLF utilizing minute parasitic wasps that specifically seek out SLF. Biological control is a strategy to use natural enemies against a pest species, and is a valuable component to the Integrated Pest Management practices that CDFA



deploys. Additionally, CDFA is partnering with the University of California – Davis, Pennsylvania State University, and Master Gardeners to develop a master gardener sentinel program with a specialized training module and statistical metrics to determine the efficacy of citizen scientists to perform detection efforts on invasive plant pests.

Finally, CDFA has been engaged with stakeholder groups, private industry, commodity boards and other entities in outreach efforts to promote the importance of this pest, enhance the detection capabilities of this species, and encourage a collaborative forum for ongoing discussion of how prevent entry of SLF into the state, and if it does arrive how it will be strategically handled.

Potential Distribution of Spotted Lanternfly in the U.S.



Invasive shot hole borers: Investing in science is the key to readiness and response

The California Legislature allocated a total of \$10,000,000 over two fiscal years to address the invasive shot hole borers (ISHB) and Fusarium Die Back. The funds are being used on seven research projects including; biological control agents, integrated pest management, epidemiology, endophytes, trap optimization, and economic impacts. Additionally, the funds are being used for statewide trapping to determine the extent of the spread of the pests; to employ a statewide trapping/survey coordinator and statewide outreach/ education coordinator; and to remove highly infested amplifier trees in the infested area. These efforts will help ensure a sustainable and resilient urban and natural tree canopy.

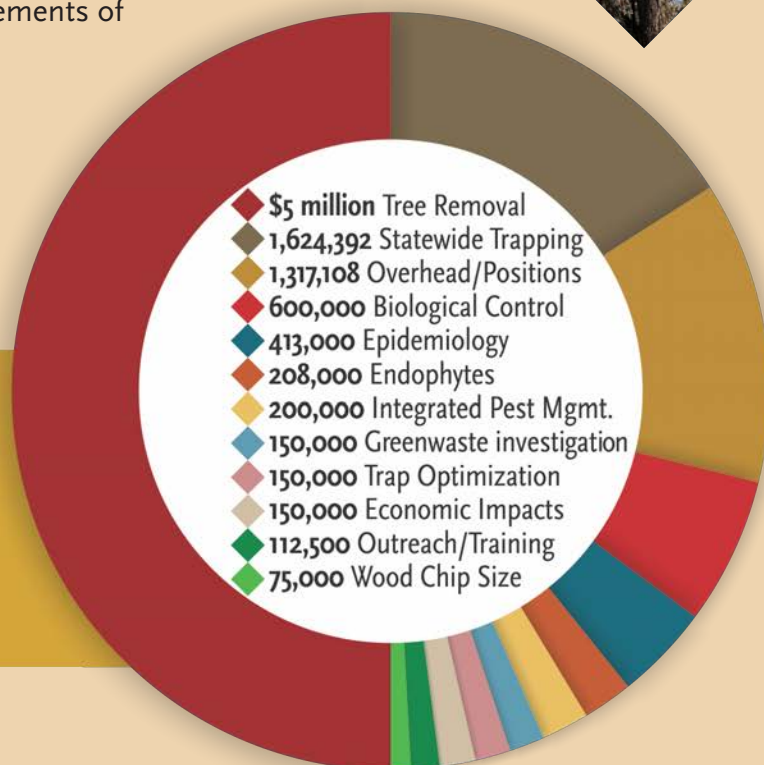
Unfortunately, a new and similar invasive species complex that threatens our unique biodiversity here in California, the Mediterranean Oak Borer (MOB) and associated fungal pathogens, has recently been detected in Lake, Napa, Sacramento and Sonoma counties, causing mortality and limb die-back in native oaks. Fortunately, we have the ISHB strategic initiative to help guide our response activities since the two pest complexes are very similar. We are implementing trapping and outreach efforts and utilizing many elements of the ISHB strategic initiative.

Damage
from the
Mediterranean
Oak Borer

Funding Distribution for Invasive Shot Hole Borers

Total:
\$10 million

Fiscal Years 2019-2020
and 2020-2021



Japanese beetle infestations: zeroing in on the source

The Japanese beetle is an extremely destructive pest of more than 300 plant species, which would have dramatic impacts on agriculturally dependent communities, native plant biodiversity, and the environment. The Japanese beetle has established and sustained populations in the eastern United States for over 100 years; however, several western states, including California, remain free from sustained populations of this invasive plant pest.

Pest pressure from JB began to intensify in 2016 as evidenced by a sharp increase in the number of JB detected in cargo inspections of aircraft. This trend appeared to be correlated with increasing demands in interstate commerce as online shopping/shipping platforms began to surge in sales and associated delivery requirements. In response to the alarming increases in live and total beetle finds, peaking in 2018, CDFA implemented a multi-phase approach to reach out to stakeholders and partners to garner their support and assistance in helping to maintain California free from JB.



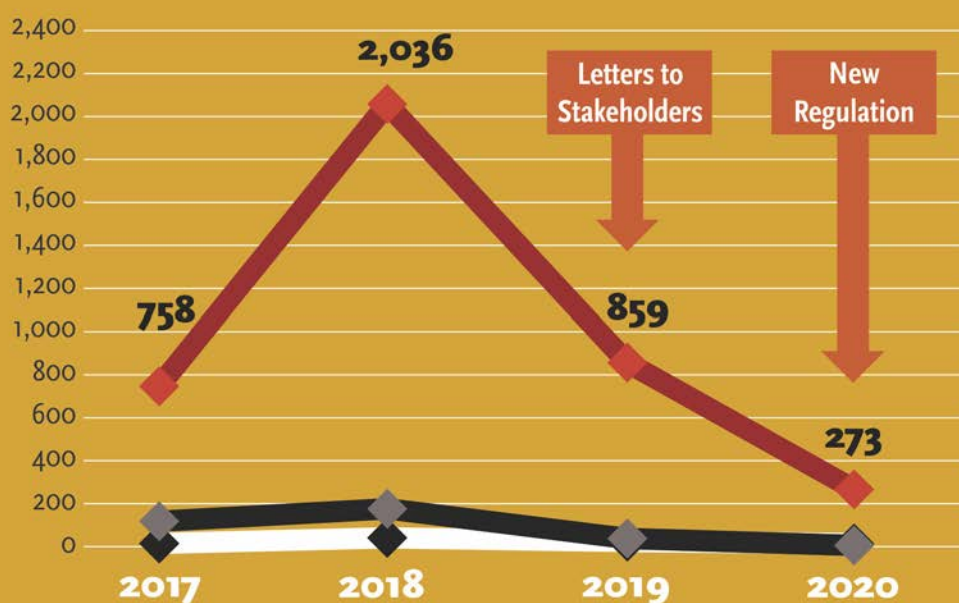
This strategy began with outreach letters to air carriers, the USDA, and other states to inform them of the rising pest pressure, the importance of California's agriculture and the environment, and to encourage more cooperation and compliance with the Federal quarantine for JB.

In 2019, CDFA also began amending its exterior state quarantine for JB to adjust to the changing interstate commerce models and hold air cargo shippers responsible for transporting live JB into the state. These changes were finalized early in 2020 prior to the JB air cargo inspection season. **Through the directed outreach effort in 2019 and dynamic regulatory changes in 2020, CDFA was able to pivot at a critical time to curb the growing threat from JB to the state's agricultural heritage and natural ecosystems.**

Japanese Beetle Detections on Aircraft 2017 - 2020

Beetles:

- Dead
- Live
- Moribund



Progress for hemp producers

CDFA's Industrial Hemp Program opened registration for industrial hemp cultivation on April 30, 2019, a little over two years after Division 24 of the California Food and Agricultural Code became operative due to a provision in the Adult Use of Marijuana Act (Proposition 64, November 2016). Within the first year of registration, a total of 782 hemp producers were registered in California to cultivate industrial hemp.

Since registration began, the Program has been working diligently to develop a full-fledged program despite ongoing changes in federal and state laws and regulations. The program adopted several regulations through both emergency and regular rule-making to help hemp farmers comply with cultivation requirements including registration, approved cultivars, sampling, laboratory testing for THC, and destruction. In addition, the program proposed regulations to conform to the requirements for a state regulatory plan outlined in the U.S. Domestic Hemp Production Program.

The Agriculture Improvement Act of 2018 (2018 Farm Bill) authorized the United States Department of Agriculture (USDA) to develop national regulations pertaining to industrial hemp cultivation. USDA established the U.S. Domestic Hemp Production Program through an interim final rule to outline the requirements for state regulatory plans. CDFA was able to submit California's state regulatory plan for hemp production to USDA for review and approval on September 17, 2020.

In addition to these milestones, the program has provided continuous support and training to the county agricultural commissioners on regulatory enforcement, assisted and provided support to partner agencies (including CDFA CalCannabis, CDFA Organic Program, CDFW, and CHP), and answered over 2,500 public inquiries regarding hemp cultivation.



The California Department
of Food & Agriculture

2019-2020

*An Era of
Productivity
& Perseverance*