DRAFT

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE (Department) FERTILIZER INSPECTION ADVISORY BOARD (FIAB) CALIFORNIA FARM BUREAU SACRAMENTO / HYBRID

September 13, 2022 9:00 AM – 12:00 PM

MINUTES

MEMBERS

CDFA STAFF

Chris Gallo David McEuen Gary Silveria Greg Cunningham Gus Olson Jake Evans Melissa McQueen Timothy Howard William Oglesby Adriana Avalos Amadou Ba Angelia Johnson Barzin Moradi Brittnie Williams Carla Sanchez Dale Rice Elizabeth Moseby Emad Jahanzad Evelyne Ndiave Justin Petty Kristopher Gulliver Leo Campos Luz Roa Maria Tenorio Alfred Mark Cady Martin Burger Maryam Khosravifard Minal Patel Nick Young Nicole Smith Sadia Naseem Stacy Aylesworth Wei Wu Yanhong Li

INTERESTED PARTIES

David Isen John Bailey John Harrison Justin Comages Khaled Bali Michele Jay-Russell Mike Menes Rachel Shellabarger Rick Geise Samuel Sandoval Solis Tad Bell

INTRODUCTIONS AND ANNOUNCEMENTS

Melissa McQueen, Chair, called the meeting to order at 9:02 AM and self-introductions were made.

ROLL CALL - ESTABLISH QUORUM

Roll was taken and a quorum was established.

APPROVE JUNE 21, 2022, MEETING MINUTES

Chair McQueen requested the board review the minutes from the June 21, 2022, FIAB meeting.

MOTION: Greg Cunningham moved to approve the minutes as presented; Gary Silveria seconded. The motion passed unanimously by all board members present with a vote of 8 to 0.

DEPARTMENT / DIVISION / BRANCH UPDATES

Dr. Amadou Ba announced that the Bagley-Keene requirement to list the locations of members participating in the meeting from a different site be available for the public to attend is not mandatory at this time. The hybrid meeting option allows for remote participation without listing a member's location on the meeting notice was extended through July 1, 2023.

Dr. Ba informed the FIAB that Secretary Karen Ross requested the FIAB submit a recommendation that includes more than one name, with rank, for future board member appointments. The Department's Legal Office is currently reviewing the Food and Agricultural Code surrounding board appointments and will provide guidance upon review. Dr. Ba reminded the FIAB the importance of filing an annual Form 700 in a timely manner.

The Department's Executive Office held a statewide public forum for input on the Farm Bill. The passing of the Inflation Reduction Act (IRA) delivers \$19.5 billion to the United States Department of Agriculture (USDA) in new conservation funding to support climate-smart agriculture. Since the IRA promotes nutrient management, the Fertilizer Research and Education Program (FREP) is working to leverage these federal funds to address issues in California. More information will be released in 2023 that may potentially lead to request for proposals.

The Department's Animal Health Division has been involved in the detection of the Highly Pathogenic Avian Influenza (HPAI) found in California commercial flock. The infected locations were quarantined. USDA has worked with the Department to address HPAI.

Dr. Ba announced potential threats of a railroad strike this week will affect not only the Feed and Fertilizer Programs, but current inflation rates may also increase and there is a potential daily loss of \$2 billion. Discussion ensured regarding the potential strike and Dr. Ba informed the FIAB that the Department has been participating in this space.

The Department's Office of Farm to Fork (F2F) received \$60 million in General Fund dollars to expand the California Farm to School Incubator Grant Program, with \$30 million allocated for fiscal year (FY) 2021/22 and \$30 million allocated for FY 2022/23. F2F received a large volume of grant applications and is in a technical review process. F2F is also in the process of implementing a new advisory board.

Dr. Ba gave Branch updates. Marilyn Boehnke, the Branch's legislative expert, retired at the end of August. Dr. Martin Burger, Fertilizing Materials Inspection Program's (FMIP) Senior Environmental Scientist (SES) (Supervisory), hired two Environmental Scientists (ES) on a limited term basis to assist with product registration.

BOARD VACANCIES

Chair McQueen announced upcoming FIAB terms expiring October 14, 2022 for two board member positions, Chris Gallo and William Oglesby; and one public member position, David McEuen. Chair McQueen requested the board make recommendations to the Secretary for the next board term cycle. Five applicants are seeking membership on the FIAB: Chris Gallo from Yara North America, David Isen from Imperial Western Products, David McEuen from JG Boswell Company, John Chapman from Bovatein, LLC, and William Oglesby from Brandt Consolidated. David Isen and David McEuen are seeking membership as a public member on the board.

Jake Evans commented on McEuen's years of experience and involvement with FREP, which brings perspective and value to the FIAB. Evans recommended that David McEuen be recommended to the Secretary for reappointed as a public member on the FIAB. Timothy Howard agreed, recommending that McEuen is the first rank to be appointed and David Isen is the second rank for the public member position on the FIAB.

• David McEuen arrived at 9:33 AM.

MOTION: Jake Evans moved to recommend David McEuen for reappointment to serve as a public member on the FIAB; Timothy Howard seconded. The motion passed with a vote of 8 to 0, with one abstention.

Vice Chair Gary Silveria recommended William Oglesby be reappointed to serve as a board member since his appointment to fill the remaining term did not allow participation on a full term of three years. Chair McQueen commented on Oglesby's value to the FIAB being a formulator, another sector represented by industry. Evans agreed stating the FIAB is well rounded and qualified to have Oglesby and Gallo serve another term as board members. Howard commented on Oglesby and Gallo being great assets stating unfamiliarity of FIAB applicant John Chapman, General Manager of Bovatein, LLC, Division of Sacramento Rendering Company.

MOTION: Timothy Howard moved to recommend William Oglesby and Chris Gallo for reappointment to serve as board members on the FIAB; Gus Olson seconded. The motion passed with a vote of 7 to 0; with two abstentions.

FOOD SAFETY CONCERNS IN RETAIL ORGANIC FERTILIZERS

Michael Menes, Ph.D., Vice President (VP) of Food Safety and Technology for TRUE Organic Products, Inc., and Justin Comages, Senior VP of Retail for TRUE Organic, presented their findings to the FIAB after conducting a Retail Landscape Survey related to consumer-packaged goods in the home and garden sector. In January 2022, TRUE

Organic purchased 413 retail scale samples, which spanned across four states (CA, AR, OR, WA), 20 different retailers, and 16 different organic fertilizer manufacturers. The goal was to look at macronutrients, micronutrients, biologicals, and pathogens. The products purchased were based on availability and location. The purchased samples were not opened, they were labeled with sample IDs and photographed to ensure they were traceable. The samples were then sent to an International Organization for Standardization (ISO) accredited lab with specific instructions to confirm via a note that the sample was sealed, whole, and unbroken. The presumptive positives were confirmed and speciated, if applicable. The results were recorded and analyzed; two different laboratories were used – Eurofins and Midwest.

There were about five or six samples that were damaged in transit. The lab notified TRUE Organic, and those products were not tested. Out of the 413 samples that were pulled, 56 were confirmed positive, which was spread out over 35 different products. Out of 16 manufacturers tested, eight of them had a positive salmonella on a shelf somewhere; that is a 13.5% positivity rate. TRUE Organic believes that 413 samples are a pretty good data set, which represents four states. Eurofins used a polymerase chain reaction (PCR) test because it is a very fast and due to the turnaround time and its sensitivity. The PCR test does have an AOAC-RI number associated with it, and they are ISO 17025 accredited lab. Midwest used a PCR-ELISA method of testing, which is a similar testing process with the Food and Drug Administration (FDA) as a follow-up before their confirmation.

There were several serotypes, including Salmonella Schwarzengrund, Salmonella Senftenberg, and Salmonella Infantis. The standard approach was to send it out for serotype. The Salmonella Senftenberg was the type that was recently involved in a peanut butter outbreak, and in 2008 there was a pet food recall due to Salmonella Schwarzengrund. There was also a pet food outbreak with Salmonella Infantis many years ago.

TRUE Organic believes these recalls are avoidable and preventable. The consumerpackaged goods space is a friendly environment that preventative controls can be put in place. About a half dozen compost products on the bags stated, "Create a compost tea out of these products." The levels become irrelevant when the consumer is being directed to put it in a 90-degree five-gallon bucket of water for a day, to create a huge microbial bloom and then spray that directly on the edible portions of a plant. The separation nature gives to keep soil borne pathogens from getting to plants, TRUE Organic is taking out of the equation when turning a lot of these into compost teas, which is a common practice in gardening. In exploring how this issue can be addressed, TRUE Organic reviewed Food and Agricultural Code Section 14682(d) which stipulates this is a threat to public safety. This is all about protecting the consumer and food safety.

TRUE Organic's ask is that what is required on the agricultural side in preventative controls also be required on the retail side. TRUE Organic requested that the FIAB approve a pilot project to further study this issue in home and garden sector products.

The pilot project would consist of the Department's Fertilizer Materials Inspection Program (FMIP) inspection staff obtain a sample size of 400-500 utilizing the program's sampling process and referring to the data provided by TRUE Organics as a resource. If necessary, the Department take regulatory action to address positive findings. TRUE Organic is seeking to provide preventative controls and requests the FIAB consider draft regulatory concepts to address regular testing, manufacturers certificates of analysis and traceability.

Nick Young stated the FMIP has not tested for home and garden products but is open to FIAB guidance. California would be the first state to conduct this type of analysis for home and garden products. Young stated that Canada is the only entity in North America performing any analysis of this category of fertilizing materials. Young mentioned three things for the FIAB to consider: 1) the threshold of National Organic Program (NOP) Standards of three Most Probable Number (MPN) per gram with limitations of products of animal origin; 2) the potential of requiring a new statute pertaining to pathogen thresholds for home and garden products. FMIP adheres to USDA NOP standards but there is no specific level of enforcement indicated by the NOP. There is law for adulteration that is threat to public safety; however, the challenge with this is that it must show it clearly affects public safety; and 3) FMIP would need to test liquid home and garden products, as well as commercial fertilizers. Home and garden product samples versus commercial fertilizers would have different sample turnaround times. The testing would require contract by an external lab.

Dr. Ba stated an independent third-party entity would complete the validation process for accuracy.

Discussion ensued, and the FIAB asked the FMIP to provide a recommendation at the next meeting as a suggested path forward for analysis to see if validation or substantiation of the findings can be identified.

MOTION: Gus Olson moved to request the FMIP draft a proposal to the FIAB which includes the costs and the regulatory need to establish a pilot program to assess the concern of salmonella detection in home and garden products.; Timothy Howard seconded. The motion passed with a vote of 8 to 0; with one abstention.

• Break was taken from 11:10 to 11:20 AM.

FUND CONDITION / MILL ASSESSMENT REVIEW / BUDGETS

Young reported FMIP's beginning fund condition balance for FY 2021/22 was \$10,978,628. Revenue was \$5,384,435. Expenditures were \$5,508,172 and encumbrances were \$464,362. The adjusted ending balance for FMIP was \$10,390,529. The Organic Input Material (OIM) Program had a beginning balance of \$3,022,078. Revenue was \$2,001,720. Expenditures were \$1,023,720 and encumbrances were \$382,689. The adjusted ending balance for OIM was \$3,617,389. The combined beginning balance for both programs was \$14,000,706. Revenue was

\$7,386,155. Expenditures of \$6,531,892 and encumbrances of \$847,051. The adjusted combined balance for both programs was \$14,007,918.

FREP's beginning balance was \$7,134,043. Revenue was \$3,342,592. Expenditures were \$2,306,386 and contractual encumbrances through June 30, 2022, were \$2,002,815. The adjusted ending balance for FREP was \$6,167,434.

Young presented the mill assessment trends, reporting the highlighted areas in orange reflect the mill reduction from 3 to 2.5 mill rate for FY 2020/21. The mill assessment fee reduction to 2.5 mill rate brought a total mill assessment revenue of \$9.0 million for FY 2021/22.

Young presented the FMIP and OIM budgets, reporting \$4.5 million of personnel services for the approved budget FY 2022/23 and \$4.9 million for proposed budget FY 2023/24. The increase in personnel services costs is due to the FIAB approval of two additional ES limited term positions to support FMIP's product registration staff, including salaries, wages and benefit costs. Young reported a reduction in operating expenses from approved budget FY 2022/23 to proposed budget FY 2023/24 from \$1.16 to \$1.12 million. Distributed costs for indirect administrative/executive are nonnegotiable costs distributed to all programs increased from \$423,572 to a proposed budget FY 2023/24 of \$525,000. Total distributed costs increased from \$2.6 to \$2.9 million. Total net program costs for approved budget FY 2022/23 were \$8.1 to a proposed budget FY 2023/24 of \$8.8 million.

MOTION: Jake Evans moved to approve the FMIP and OIM programs proposed budgets FY 2023/24; Gary Silveria seconded. The motion passed unanimously by all board members present with a vote of 9 to 0.

Young reported FREP's approved budget FY 2022/23 for personnel services was \$887,048 with a proposed budget FY 2023/24 of \$982,403. Total operating expenses remain slightly unchanged for proposed budget FY 2023/24 of \$3.0 million. Total distributed costs were \$149,312 to proposed budget FY 2023/24 of \$222,612. An overall slight increase in total net program from approved budget FY 2022/23 of \$3.9 to proposed budget FY 2023/24 of \$4.1 million.

MOTION: Gary Silveria moved to approve the FREP's proposed budgets FY 2023/24; David McEuen seconded. The motion passed unanimously by all board members present with a vote of 9 to 0.

Maryam Khosravifard, Environmental Program Manager I for the Department's Center for Analytical Chemistry (CAC) Lab, reported CAC's proposed budget FY 2023/24. The FIAB approved budget FY 2022/23 for total personnel services was \$1.02 million with a revised a budget of \$1.07 and proposed budget FY 2023/24 of \$1.13 million. The FIAB approved budget FY 2022/23 for total operating expenses was \$185,395 with a revised budget of \$194,665 and proposed budget FY 2023/24 of \$204,398. Khosravifard reported an increase in total equipment and supplies from FY 2022/23 of \$225,000 with a revised budget of \$260,000 and proposed budget FY 2023/24 of \$276,500. The overall increase in total program costs include a 5% merit salary adjustment, inflation, and adjustment of distributed costs to reflect CAC's proposed budget FY 2023/24 of \$1.89 million.

Young presented a legislative proposal regarding mill assessment rate changes. In the past the FIAB had flexibility with mill assessment changes that would allow the board to vote on the change and FMIP would implement the change accordingly. However, mill assessment changes must go through a rulemaking process. The new statutory language would allow more flexibility from the direction of the FIAB and Secretary.

MOTION: Timothy Howard moved to support the legislative proposal presented by the FMIP to add new statutory language that would allow flexibility of changing the mill assessment from the direction of the FIAB and secretary; Gus Olson seconded. The motion passed unanimously by all board members present with a vote of 9 to 0.

The Association of American Plant Food Control Officials (AAPFCO) Biostimulant Committee is further in development of the Beneficial Substances model bill. The model bill encompasses scope, including definitions, uniform labeling, registration, inspection, sampling and analysis, and unlawful acts. Lab methods are being further discussed and the Federal Bill (H.R. 7752) mentioned at the last FIAB meeting will be reintroduced in 2023.

AAPFCO's plant biostimulant definition remains "tentative" with no objections. A new definition for "Nutritional Chemicals" will likely be omitted from the model bill. The inclusion of soil amendments within the model bill. Packaged soil amendments are defined differently in California as amending soil through physical means. California's term for auxiliary soil and plant substance is equivalent to the Department's definition. The labeling requirement of "contains beneficial substances" remains "tentative" with no objections.

A Notice to Industry was released announcing the revised definition for the term Seabird Guano, "Seabird guano is the fecal excrement from marine birds. Seabird guano has an organic matter content greater than 40%, is a source of nitrogen and available phosphoric acid (P_2O_5)."

Dr. Burger gave FMIP's product registration status update as of August 18, 2022, reporting 10,323 conventional fertilizer and 3,192 OIM label registrations were received. Of the conventional fertilizer registrations, 7,949 approved, 427 provisional status, 548 pending review, 458 re-submittal status and 653 data/revisions required. Of the OIM registrations, 1,585 approved, 398 provisional status, 211 pending review, 445 re-submittal status and 553 data/revisions required. Dr. Burger will present years of data for trends of new conventional fertilizer and OIM registrations at the next FIAB meeting.

Nicole Smith, FMIP's SES (Supervisory), gave FMIP's inspections update. Interviews were conducted for the ES to backfill Smith's prior position in southern California;

however, the program did not find a candidate that best fit the position. Recruitment for the ES position was readvertised in hopes to fill the position within a couple of months. As of August 30, 2022, FMIP received 17 complaints; 13 resolved and 4 outstanding. FMIP took 750 samples, slightly less than average due to the field short-staffed one position.

Mark Cady, FREP's SES (Supervisory), presented FREP updates. Water Quality Coalition Members in the Central Valley and Ventura County can now self-certify their Irrigation and Nitrogen Management Plan worksheets through FREP's Grower Training Program. New Grower Training curriculum was released in August of 2022 to be provided at in-person workshops beginning in the fall. The new curriculum establishes a self-study training and testing platform.

FREP in collaboration with University of California Davis (UCD) and University of California Agriculture and Natural Resources (UCANR) hired three Staff Research Associate II's (SRA), one with each advisor and a Project Scientist at Kearney for the Nitrogen and Irrigation Initiative received through USDA grant. Staff will administer on-farm demonstrations and interactive trainings and workshops in nitrogen and irrigation management, collaborate with local grower coalitions to focus resources on high-priority areas, crops and growers based on nitrogen reporting data, and work with growers to gain perspective on irrigation and nutrient needs of individual operations and address those needs. FREP has the opportunity to work with Principal Investigators Doug Parker, Khaled Bali and Sam Sandoval Solis and several Corporative Extension Advisors and Specialists in the Central Coast and San Joaquin Valley. UCANR

FREP is working with UCD researchers who will assess effectiveness and impact of efforts in the San Joaquin Valley and Water Quality Coalitions to gather nitrogen use data from outreach and farm visit activities. Nitrogen and irrigation efficiencies will be compared for participating and non-participating growers.

Cady gave an update on the Nitrogen and Irrigation Initiative activities this year, reporting SRA Nitrogen Management training, Nitrogen, Irrigation and CropManage Workshop, Pistachio Irrigation Management meeting, and SRA training were held in the spring and summer. Monthly project and management meetings continue through the end of the year.

FREP's Technical Advisory Subcommittee (TASC) terms expire for Chairperson Jerome Pier, Lisa Hunt and FIAB member David McEuen. FREP reviewed the ten applicants and recommended three for TASC approval: Mike Almasri, Senior Agronomist for Simplot Grower Solutions, Charlotte Decock, Assistant Professor for the California Polytechnic State University in San Luis Obispo, and a third alternative Patrick Troy, Research Lead for Wilbur Ellis Company. Chair McQueen asked for FIAB approval of the FREP TASC applicant recommendations as presented and recommendation of a FIAB member to participate on TASC due to McEuen's TASC member term expires.

Evans commented on Almasri as a great recommendation and McEuen who has been a great liaison between the FIAB and TASC, supporting FREP's recommendations of the three TASC applicants mentioned above.

Chair McQueen commented on McEuen as an asset to the FIAB and TASC, asking the FIAB for voluntary participation on the FREP TASC.

Vice Chair Silveria asked for McEuen's opinion on the type of skill set to have as a TASC member. McEuen responded, stating a TASC member with a grower's background and experience would be beneficial because majority of the TASC are technical in research. TASC members must be prepared to participate in quarterly meetings.

MOTION: Jake Evans moved to approve the TASC applicant recommendations presented by FREP; Timothy Howard seconded. The motion passed unanimously by all board members present with a vote of 9 to 0.

Timothy Howard asked FIAB to recommend McEuen as the first selection with a second alternative.

Dr. Ba asked Vice Chair Silveria's potential interest in serving as a TASC member. Dr. Ba stated Vice Chair Silveria may serve as an interim member during which TASC meetings are held while TASC recommendations are pending secretary review and approval. Vice Chair Silveria accepted with caveat of McEuen approval status of not being reappointed to TASC.

MOTION: Gus Olson moved to approve FIAB recommendation for FIAB member David McEuen to serve on the TASC with an alternative recommendation of FIAB Vice Chair Gary Silveria; Timothy Howard seconded. The motion passed unanimously by all board members present with a vote of 9 to 0.

The Western Plant Health Association (WPHA)/FREP Nutrient Management Conference is October 26 - 27, 2022 at the Wyndham in Visalia, California. Crop nitrogen removal coefficients, nitrogen management in wheat, irrigation and nitrogen management of onions and Asian vegetables, nitrogen management for cherries and walnuts, and in organic vegetable farms are topics to be presented at the conference.

CENTER FOR ANALYTICAL CHEMISTRY (CAC) LAB UPDATE

Khosravifard reported assays completed for samples received from May through July 31, 2022. Majority of assays were completed in less than 10 days. CAC completed a total of 1,340 assays with an average seven-day turnaround time. CAC received 309 samples with a 91.5% completion: 92.6% of routine samples, 4.9% of priority samples

and 2.6% of rush samples. CAC completed 1,497 assays with a 10.5% of rerun samples and an average of 5.3 assays completed per sample.

CAC presented another performance metrics table for the number of assays completed from January to July 31, 2022. The total number of assays completed were 2,779 with an average seven-day turnaround time. CAC received 612 samples with a 97% completion: 91.8% of routine samples, 6.7% of priority samples and 1.5% of rush samples. CAC completed 3,070 assays with a 9.5% of rerun samples and an average of 5.2 assays completed per sample.

With CAC staff absences, sample turnaround times have been consistent. CAC's ISO 17025 audit was completed for the sulfur analysis by combustion. Stacy Aylesworth, CAC's SES (Supervisor), actively participated in the summer AAPFCO meeting. The newly installed bulk nitrogen tank is supplying nitrogen to both lab buildings. CAC published an article in the Magruder newsletter discussing the significance of the Magruder program benefitting CAC with performance measures, staff training and standardized methods across the industry. CAC continues its focus on staff development and leadership. Four RA staff are currently participating in the Division of Inspection Services Coaching Program led by Dr. Barzin Moradi, CAC's Branch Chief.

PUBLIC COMMENT

Renee Pinel, President/Chief Executive Officer of WPHA, announced the passing of Assembly 157 which creates a \$75-million drought grant program to provide relief for small agricultural businesses. WPHA is working with California senators and congressional members to nuance language in the Farm Bill to open funding currently unavailable for agricultural businesses impacted by severe drought. WPHA anticipates a vote by November 2022 for appropriations.

AGENDA ITEMS FOR FUTURE MEETINGS

No additional agenda items were requested for the next FIAB meeting.

NEXT MEETING

The next FIAB hybrid meeting (in-person and online) will be on Tuesday, February 7, 2023 in Fresno, California.

MOTION: Jake Evans moved to adjourn the meeting; David McEuen seconded. The motion passed unanimously by all members present with a vote of 9 to 0.

ADJOURNMENT

Meeting adjourned at 12:41 PM.

ORIGINAL SIGNED BY NICK YOUNG

Nick Young, Environmental Program Manager I Fertilizing Materials Inspection Program <u>09/13/2022</u> Date



Fund Condition / Mill Assessment

Agenda Item 5

Fund Condition as of November 30, 2022

		FY	2022/23			
Beginning Balance as of 7/1/2022:			OIM	COMBINED TOTAL		
CDFA Account	\$ 2,766,286	\$	3,873,120	\$	6,639,40	
Bank of America Account	\$ 7,520,921		-	\$	7,520,92	
Total Funds	\$ 10,287,207	\$	3,873,120	\$	14,160,32	
Revenue* Expenditures and Encumbrances	\$ 2,790,482	\$	848,051	\$	3,638,53	
Expenditures**	\$ 2,727,164	\$	422,906	\$	3,150,07	
Encumbrances	\$ 166,400	\$	641,292	\$	807,69	
Ending Balance as of 11/30/22:						
CDFA Account	\$ 54,554	\$	4,298,265	\$	4,352,81	
Bank of America Account	\$ 10,295,971		-	\$	10,295,97	
Total Funds	\$ 10,350,525	\$	4,298,265	\$	14,648,79	
Adjusted Balance***	\$ 10,184,125	\$	3,656,973	\$	13,841,09	

* Revenue includes fertilizing material licenses, fertilizer product registration, fertilizing materials mill assessments, and interest accrued.

** Expenditure total per CDFA Financial Services Budget Report November 30, 2022. Amount does not reflect outstanding lag expenditures.

*** Adjusted balance accounts for all program encumbrances through November 30, 2022.

FREP Fund Condition as of November 30, 2022 FY 2022/23 Beginning Balance as of 07/01/22: **CDFA** Account \$5,912,738 \$2,024,644 Bank of America Account \$7,937,382 Total Funds Revenue \$2,262,269 Expenditures and Encumbrances and Encumbrances Expenditures** YTD Research Contract Encumbrances FY 20/21 \$ 227,698 FY 21/22 \$ 1,190,286 FY 22/23 \$ 2,214,913 Encumbrances through June 30, 2023 FY 23/24 \$ 1,671,095 FY 23/24 \$ 1,671,095 FY 23/25 \$ 745,899 FY 25/26 \$ 30,416 Total Encumbrances \$772,925 \$ 1,671,095 \$ 745,899 \$ 30,416 \$ 3.632.897 ¢ 6,080,307 Ending Balance as of 11/30/22 CDFA Account \$5,140,042 \$4,286,684 Bank of America Account \$9,426,726 Total Funds Adjusted Balance*** \$5,793,829 * Revenue fertilizer materials mill assessments, and interest accrued in the CDFA Fund Account and Bank of America Corporate Account. ** Expenditure total per CDFA Financial Services Budget Report November 30, 2022. Amount does not reflect outstanding lag expenditures *** Adjusted balance accounts for all program encumbrances through June 30, 2023.

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		2017/18		2018/19	Г	2019/20		2020/21		2021/22		2022/23
		3 mill		3 mill		3 mill	3 m	hill*/ 2.5 mill		2.5 mill		2.5 mill
Inde	•	577,420	•	716,378		1,384,145	s	345,309	s	1 079 700	s	609,184
July August	\$ \$	2,275,200	\$ \$	2,271,772	\$ \$	1,304,145	s	2,463,502	\$ \$	1,278,709	· ·	452,232
September	ŝ	159.061	s S	257,066	ŝ	483,583	s	3,414	-	17,007	\$2	,452,252 151,104
October	ŝ	810,846	Š	803.026	Š	398,737	s	714,389	-	920,951	ŝ	209,048
November	Š	959,552	Š	352,408	š	1.377,509	Š	859,172		412,093		.535,731
December	s	177,362	s	584,571	ŝ	22,600	s	607.947	-	679,814		,,.
January	\$	543,828	\$	442,285	\$	538,052	S	311,668	\$	43,086		
February	\$	578,718	\$	941,475	\$	1,190,045	\$	673,073	\$	864,235		
March	\$	155,650	\$	177,938	\$	11,880	\$	745,526	\$	505,601		
April	\$	1,005,450	\$	615,314	\$	376,896	\$	642,111	\$	584,053		
May	\$	870,822	\$	967,546	\$	1,611,920	\$	411,398	\$	558,807		
June	\$	334,591	\$	183,944	\$	187,717	\$	854,375	\$	1,247,170		
	\$	8,448,500	\$	8,313,722	\$	9,058,430	\$	8,631,884	\$	9,049,030	\$4	,957,299



Agenda Item 5

FERTLIZER INSPECTION ADVISORY BOARD

FINANCIAL SUMMARY Commercial Fertilizing Inspection Program & Organic Input Materials Program

FUND CONDITION REPORT As of November 30, 2022

	FY 2022/23									
		OMMERCIAL ERTILIZER		ΟΙΜ	COMBINED TOTAL					
Beginning Balance as of 7/1/2022:										
CDFA Account	\$	2,766,286	\$	3,873,120	\$	6,639,406				
Bank of America Account	\$	7,520,921		-	\$	7,520,921				
Total Funds	\$	10,287,207	\$	3,873,120	\$	14,160,327				
Revenue* Expenditures and Encumbrances	\$	2,790,482	\$	848,051	\$	3,638,533				
Expenditures**	\$	2,727,164	\$	422,906	\$	3,150,070				
Encumbrances	\$	166,400	\$	641,292	\$	807,692				
Ending Balance as of 11/30/22:										
CDFA Account	\$	54,554	\$	4,298,265	\$	4,352,819				
Bank of America Account	\$	10,295,971		-	\$	10,295,971				
Total Funds	\$	10,350,525	\$	4,298,265	\$	14,648,790				
Adjusted Balance***	\$	10,184,125	\$	3,656,973	\$	13,841,098				

* Revenue includes fertilizing material licenses, fertilizer product registration, fertilizing materials mill assessments, and interest accrued.

** Expenditure total per CDFA Financial Services Budget Report November 30, 2022. Amount does not reflect outstanding lag expenditures.

*** Adjusted balance accounts for all program encumbrances through November 30, 2022.

FERTILIZER INSPECTION ADVISORY BOARD

FINANCIAL SUMMARY Fertilizer Research and Education Program

FUND CONDITION REPORT

	FY	2022/23
Beginning Balance as of 07/01/22:		
CDFA Account		\$5,912,738
Bank of America Account	_	\$2,024,644
Total Funds		\$7,937,382
Revenue *		\$2,262,269
Expenditures and Encumbrances		
Expenditures** YTD Research Contract Encumbrances FY 20/21 \$ 227,698 FY 21/22 \$ 1,190,286 FY 22/23 \$ 2,214,913		\$772,925
Encumbrances through June 30, 2023 FY 23/24 \$ 1,671,095 FY 24/25 \$ 745,899 FY 25/26 \$ 30,416	\$	3,632,897
Total Encumbrances	\$	6,080,307
Ending Balance as of 11/30/22		
CDFA Account Bank of America Account		\$5,140,042 \$4,286,684
Total Funds		\$9,426,726
Adjusted Balance***		\$5,793,829

* Revenue fertilizer materials mill assessments, and interest accrued in the CDFA Fund Account and Bank of America Corporate Account.

** Expenditure total per CDFA Financial Services Budget Report November 30, 2022. Amount does not reflect outstanding lag expenditures.

*** Adjusted balance accounts for all program encumbrances through June 30, 2023.

California Department of Food and Agriculture Fertilizing Materials Registration and Inspection Program

	2017/18	2017/18 2018/19		2018/19 2019/20			2020/21		2021/22	2022/23		
	3 mill	3 mill		nill 3 mill		3 mill*/ 2.5 mill			2.5 mill		2.5 mill	
July	\$ 577,420	\$	716,378	\$	1,384,145	\$	345,309	\$	1,278,709	\$6	609,184	
August	\$ 2,275,200	\$	2,271,772	\$	1,475,346	\$	2,463,502	\$	1,937,504	\$2,4	52,232	
September	\$ 159,061	\$	257,066	\$	483,583	\$	3,414	\$	17,007	\$ `	51,104	
October	\$ 810,846	\$	803,026	\$	398,737	\$	714,389	\$	920,951	\$ 2	209,048	
November	\$ 959,552	\$	352,408	\$	1,377,509	\$	859,172	\$	412,093	\$ 1,5	535,731	
December	\$ 177,362	\$	584,571	\$	22,600	\$	607,947	\$	679,814			
January	\$ 543,828	\$	442,285	\$	538,052	\$	311,668	\$	43,086			
February	\$ 578,718	\$	941,475	\$	1,190,045	\$	673,073	\$	864,235			
March	\$ 155,650	\$	177,938	\$	11,880	\$	745,526	\$	505,601			
April	\$ 1,005,450	\$	615,314	\$	376,896	\$	642,111	\$	584,053			
Мау	\$ 870,822	\$	967,546	\$	1,611,920	\$	411,398	\$	558,807			
June	\$ 334,591	\$	183,944	\$	187,717	\$	854,375	\$	1,247,170			
	\$ 8,448,500	\$	8,313,722	\$	9,058,430	\$	8,631,884	\$	9,049,030	\$ 4,9	57,299	

Mill Assessment Trends



cdfa Pathogen Pilot Survey Proposal

Overview

- Designed to survey organic fertilizer products for Salmonella sp.
- The only standard for pathogens in fertilizer is from the United States Department of Agriculture National Organic Program (USDA NOP)
 - 3 MPN per 4 gram sample
- This survey will help determine if there may be a potential issue with fertilizer products in the channels of trade
- The data may help determine whether additional standards need to be developed and/or whether long-term sampling and monitoring should be implemented

Codfa Pathogen Pilot Survey Proposal

Scope

- While the NOP's guidance is limited to processed animal manures, CDFA believes it is important to evaluate other organic ingredient sources that may have potential risk
- This survey will analyze fertilizer products that are labeled to contain the following ingredient material:
 - processed animal manure (poultry, bovine, bat guano, seabird guano, etc.), microbes, meals (bone, fish bone, fish, shrimp, blood, alfalfa, kelp, feather, cottonseed, etc.), carbohydrates, or biosolids

cdfa Pathogen Pilot Survey Proposal

Survey Criteria

- Approximately 400 fertilizer products labeled as containing one or more of the identified ingredient sources
- Liquid and dry products / packaged and bulk
- Specialty ("home & garden") and commercial (ag or commercial use)
- Organic Input Material (OIM) and conventional materials (products that may have organic ingredients, but are not registered as OIM)

Codfa Pathogen Pilot Survey Proposal

Survey Criteria

- Bulk sampling will follow FMIP sterile sampling guidelines
- Packaged products will be submitted in one, unbroken package
- Analyzed by University of California (UC), Davis Western Center for Food Safety Lab
 - Samples will undergo initial "present / absent" screen
 - Presumptive positive samples will have qualitative analysis performed

Colfa Pathogen Pilot Survey Proposal

Estimated Cost & Timeframe

- Approximately \$25,000 for 400 samples
- An additional 10-25% overhead cost, if UC Davis contract is required
 - (overhead cost estimated at \$2,500 \$6,250)
- Approximately \$8,000 sampling equipment / supply cost
- Grant total of approximately \$40,000
 - Represents \$100 per sample
- 12-month sampling survey, averaging 30-35 samples per month



February 7, 2023

Fertilizing Materials Inspection Program Pathogen Pilot Survey Proposal

Overview

The Fertilizing Materials Inspection Program (FMIP) has created a Pathogen Pilot Survey Proposal designed to survey organic fertilizer products in California for the potential pathogen, *Salmonella sp.* The only standard for pathogens in fertilizer pertains to processed animal manures in organic input materials (OIM) from the United States Department of Food and Agriculture's National Organic Program (USDA NOP). The USDA NOP requires that the materials "not contain more than 3 MPN Salmonella per 4 gram sample of processed manure" (NOP 5006).

This survey will assist the California Department of Food and Agriculture's (CDFA) FMIP in determining if there may be a potential issue with organic fertilizer products possessing potentially harmful pathogens. The data generated from the survey may help determine whether additional standards need to be developed and/or whether long-term sampling and monitoring should be implemented.

Scope

The CDFA's FMIP would like to determine if *Salmonella sp.* are present in various organic fertilizer products according to specific ingredient inputs. While the USDA NOP's pathogen guidance is limited to processed animal manures, the CDFA FMIP believes it is important to evaluate if other organic ingredient sources may serve as a potential risk. In this proposal, the CDFA's FMIP intends to analyze organic fertilizer products that are labeled to contain processed animal manures (i.e. poultry manure, bovine manure, bat guano, seabird guano, etc.), beneficial microbes, meals (bone meal, fish bone meal, fish meal, shrimp meal, blood meal, alfalfa meal, kelp meal, feather meal, cottonseed meal, etc.), carbohydrates, and biosolids.

Product Sampling Criteria

The CDFA's FMIP will perform sampling and lab analysis according to the following parameters:

- Sample and analyze approximately 400 organic fertilizer products that are labeled as containing one or more of the ingredient sources noted within the 'Scope' section.
 - For products that meet the criteria, sampling will occur on a random basis, while attempting to sample from as many unique product manufacturers/guarantors as possible.
- Sample both liquid and dry organic fertilizer products.



- Sample organic fertilizer products that are intended as a Specialty Fertilizer (i.e., "home and garden") and/or Commercial Fertilizer (i.e., for agricultural or commercial use), both in packaged and bulk forms.
- Samples may include both OIM products and some conventional materials (i.e., products that may have organic ingredients, but are not registered with the CDFA's FMIP as OIM).
- For sampling of bulk products, samples will be obtained following the CDFA's FMIP Sterile Sampling Guidelines. For packaged products, one unbroken package will constitute a sample.
- Samples will be delivered to the University of California Davis Western Center for Food Safety's (UCD WCFS) laboratory, 1089 Veterinary Medicine Drive, Davis, CA 95691.
 - Samples will be prepared in such a way as to preserve the integrity of sample and analyzed according to the UCD WCFS's protocols and methods.
 - Samples will undergo "present / absent" screen for *Salmonella sp.* If a sample has a presumptive positive result, a quantified analysis will occur.
- Most laboratory reports will be investigative only for non-regulatory, informational purposes. However, if an organic input material product containing processed animal manure was analyzed over 3 MPN/4g Salmonella, the product would not meet the USDA's NOP standards. As a result, follow-up with the firm will be initiated.

Estimated Cost

The UCD - WCFS estimates a cost of \$25,000 for *Salmonella sp.* analysis of 400 samples. An additional 10-25% overhead cost may be required, if a contract with UCD is required (overhead cost estimated at \$2,500 - \$6,250). The CDFA's FMIP estimates an additional cost of \$8,000 for sampling equipment supplies and cost of physical samples obtained at a retail level. The grand total for this pilot survey is estimated at a maximum of \$40,000. The cost represents \$100 per product for this survey. (The CDFA's FMIP personnel cost will be absorbed as part of general operations.)

The CDFA's FMIP will evaluate whether the cost can be included as a line-item revision within an existing Produce Safety Program contract with the UCD - WCFS. A separate contract proposal will be initiated if a line-item revision is not feasible.

Timeframe

The proposed length of this sampling survey is twelve (12) months, averaging 30-35 samples submitted for analysis each month. The CDFA's FMIP will provide regular updates at each subsequent FIAB meeting until the project is concluded and a final report is issued.

Initiation of the project could ensue as soon as the following elements are completed: Fertilizer Inspection Advisory Board approval, purchase of any remaining sterile sampling equipment/supplies by the program, approval of an additional contract with UCD WCFS (if needed).

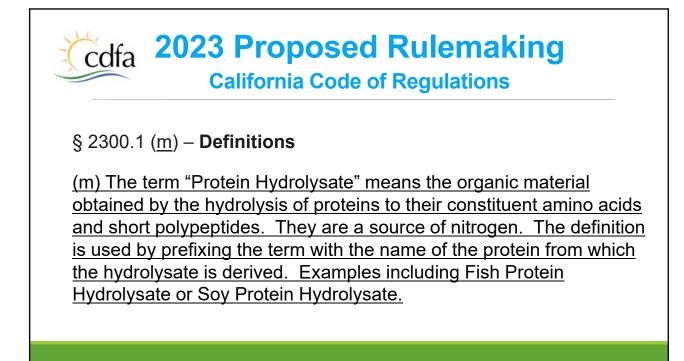


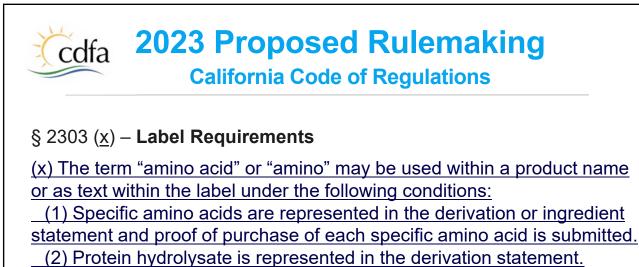
§ 2300 (c) - Fertilizing Materials - General Provisions

All guarantees shall be based on will be analyzed by a method determined by the secretary and may include an Association of Official Analytical Chemists (AOAC) laboratory method or when no AOAC method is available, a method developed for specific analyses by the Department shall be used other referenced method. Methods are published at https://www.cdfa.ca.gov/is/cac/CAC_Methods_Publications.html.

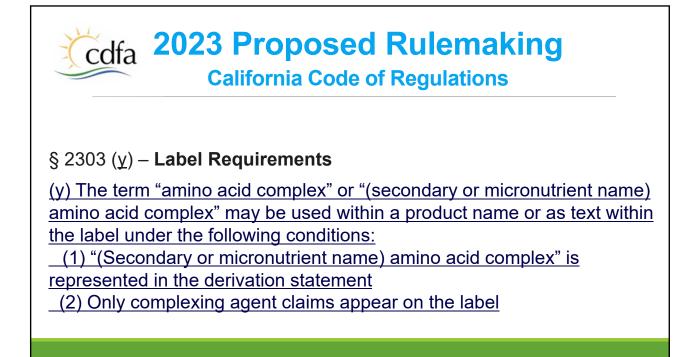




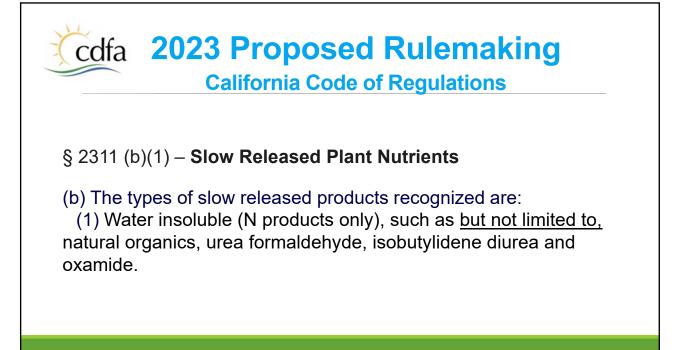




(A) Labeling claims are limited to the definition provided in § 2300.1(m).







§ 2320.1 (d) – Fertilizing Materials Product Labels Submitted for Registration For approved product label registrations, any revised fertilizing material label requires re-review and approval prior to distribution of the revised label. Per section 14601 of the Food and Agricultural Code, changes in the guaranteed analysis, derivation statement, or anything that implies a different product, requires a new registration for specialty fertilizer, packaged agricultural mineral, auxiliary soil and plant substance, organic input material, and packaged soil amendment. Graphic revisions or revisions to directions for use are exempt. Product label registration update requests require the following:





§ 2320.2 (b) – Registration Application for Organic Input Material Product Label.

(b) Product label registration for Organic Input Material shall be made <u>by</u> on an application. designated by the department, Organic Input Material, Fertilizing Materials Registration Application, 513-026 (Rev. 07/13), which is hereby incorporated by reference. Applications must be accompanied by the appropriate fee and shall include:

§ 2320.2 – Registration Application for Organic Input Material Product Label.

(1) Firm name, firm ID from CDFA database, full name of applicant, the licensed address as it appears on the label, product name, whether it is a liquid product, whether it possesses a wetting agent, and the type of Organic Input Material (agricultural mineral, auxiliary soil and plant substance, specialty fertilizer, soil amendment, or commercial fertilizer).

(1)(2) A copy of the label accompanying the material and a statement of all claims to be made for it, including the directions and precautions for use.

cdfa 2023 Proposed Rulemaking California Code of Regulations

§ 2320.2 – Registration Application for Organic Input Material Product Label.

(2)(3) The complete formula of the material including the active, inert ingredients, the name, source, and function of every substance that is added in creation of the final product. This includes primary ingredients and feedstocks, growth media, substrates, extractants, solvents, emulsifiers, precursors, reactants and stabilizers, as well as any chelating, complexing, crystallizing, granulating, hydrolyzing, flowing, or floating agents, or any other additives.

§ 2320.2 – Registration Application for Organic Input Material Product Label.

(3)(4) A complete description of the manufacturing process for the Organic Input Materials (OIM), including ingredient amounts, sequence and duration of events, temperature changes, reactions, and all steps taken to assure that OIM are not contaminated with USDA-NOP prohibited substances as well as a description of any composting, digestion, fermentation, extraction, or other processes and any methods used for removing extractants or growth media from the final product.

cdfa 2023 Proposed Rulemaking California Code of Regulations

§ 2320.2 – Registration Application for Organic Input Material Product Label.

(4)(5) The intended uses of the product.

(5)(6) The source or supplier of all ingredients

(6)(7) Alternate formulation.

(7)(8) Third party formulated ingredients.

 $(\underline{\vartheta})(\underline{9})$ An organic input material inspection report for manufacturers that produce liquid OIMs with a nitrogen guarantee labeled greater than 3%.

§ 2320.2 – Registration Application for Organic Input Material Product Label.

(10) Ingredient proof of purchase, which may include invoices or weight certificates.

(11) An agreement declaration that a firm agrees to comply with the Department's laws, regulations, and requirements for Organic Input Materials.

(12) A method and ingredient declaration stating that a firm's Organic Input Materials is not subject to or produced with excluded methods, such as using genetically modified organisms, ionizing radiation, or sewage sludge.

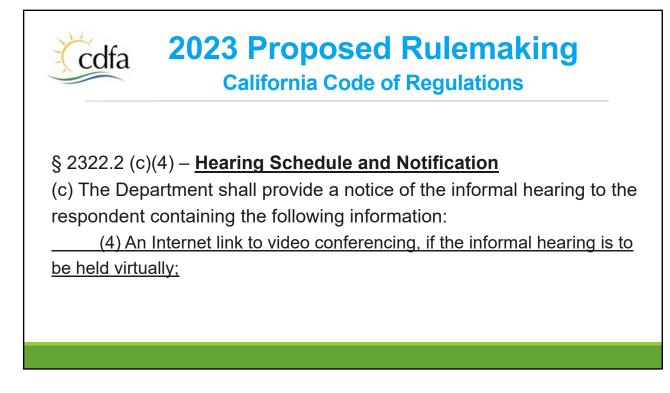


2023 Proposed Rulemaking
California Code of Regulations

§ 2322.2 (b) (1) – Hearing Schedule and Notification

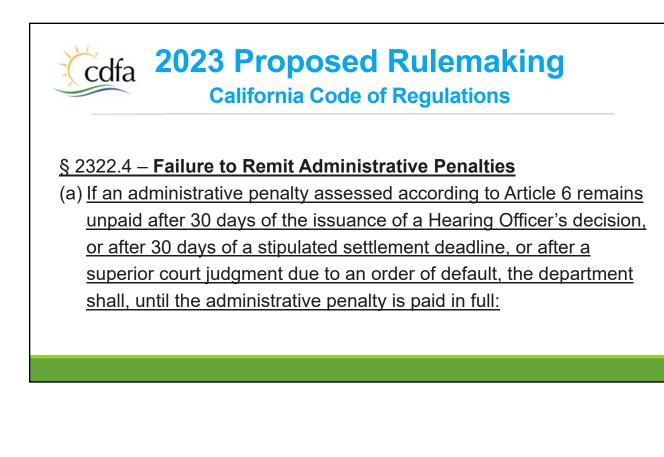
(b) Formal hearings shall be scheduled by the Department consistent with the provisions of Chapter 5 (commencing with Section 11500), Part 1, Division 3, Title 2 of the Government Code, and any applicable regulations enacted pursuant to these provisions.

(1) The Legal Office of Hearing and Appeals shall determine the location of the informal hearing or if it may be held virtually through Internet video conferencing.



\S 2322.3 (g) (1) – Hearing Procedures

(g) The Hearing Officer's decision shall be effective immediately upon first articulation under subsection (e) and shall be final and not appealable to the secretary or any other officer of the Department. (1) Any penalty shall be due in full 30 days from the date of the written decision, unless the Department and respondent agree to a written stipulated settlement payment plan prior to the 30-day payment deadline.



§ 2322.4 – Failure to Remit Administrative Penalties

(a)(1) Refuse to issue the respondent and firm of the decision or judgment any issuance or renewal of a fertilizing materials license;
(a)(2) Refuse to issue the respondent and firm of the decision or judgment any issuance or renewal of a fertilizing materials product registration;
(a)(2) Durate any least remedy to receive the administrative needs.

(a)(3) Pursue any legal remedy to recoup the administrative penalty <u>debt.</u>



Beneficial Substances & Biostimulant Update

- Beneficial Substance Model Bill will be voted on at Association of American Plant Food Control Officials Winter Annual Conference on February 13, 2023
- > Model Bill includes scope, definitions, labeling format, etc.
- Current version has unanimous support from states
- > Most likely "tentative" vote, then an "official" vote in August



Beneficial Substances & Biostimulant Update

"Beneficial Substance" means any substance or compound, other than primary, secondary, and micro plant nutrients, and excluding pesticides, that can be demonstrated by scientific research to be beneficial to one or more species of plants, soil or media.



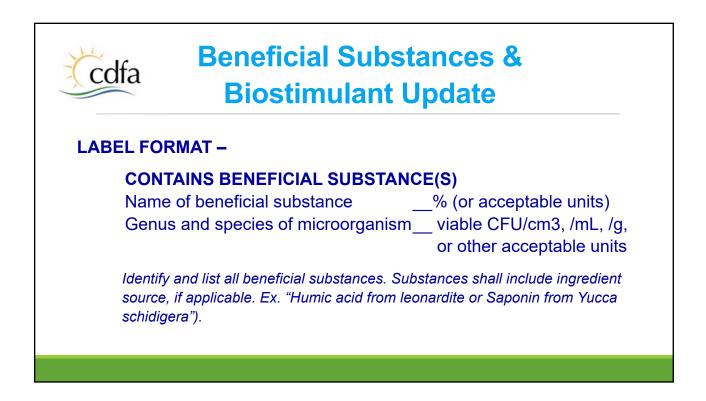
Beneficial Substances & Biostimulant Update

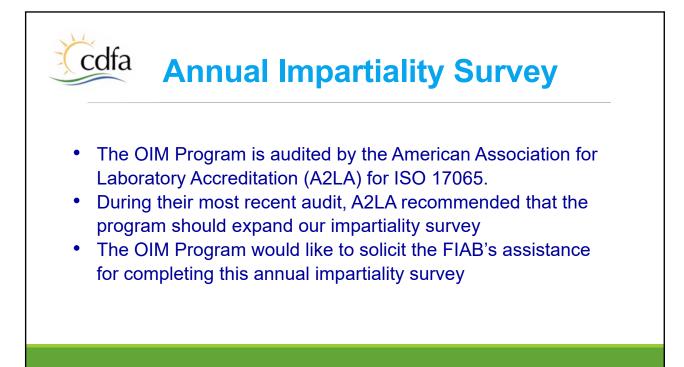
"Plant Biostimulant" means a substance(s), microorganism(s), or mixtures thereof, that, when applied to seeds, plants, the rhizosphere, soil or other growth media, act to support a plant's natural nutrition processes independently of the biostimulant's nutrient content. The plant biostimulant thereby improves nutrient availability, uptake, or use efficiency, tolerance to abiotic stress, and consequent growth, development, quality or yield.

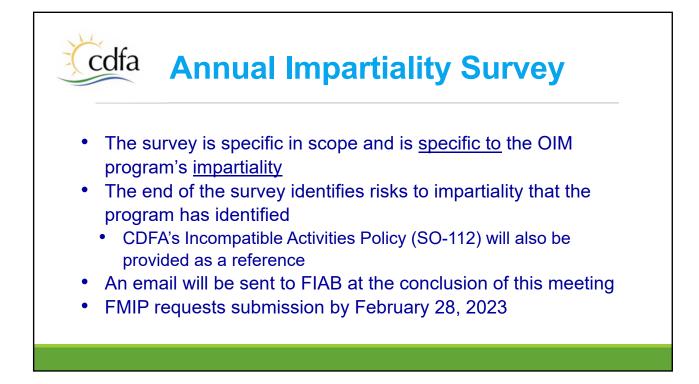


Beneficial Substances & Biostimulant Update

"**Soil Amendment**" means any substance or a mixture of substances which is intended to improve the physical, chemical, biochemical, biological or other characteristic of the soil, except fertilizers, agricultural liming materials, unmanipulated animal manures, unmanipulated vegetable manures, pesticides and other materials exempted by regulation.





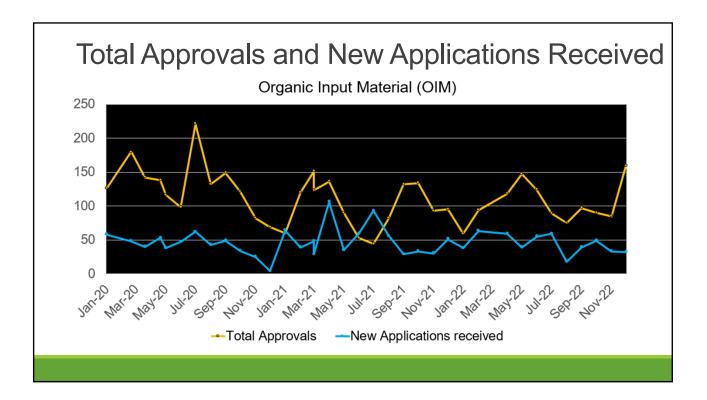


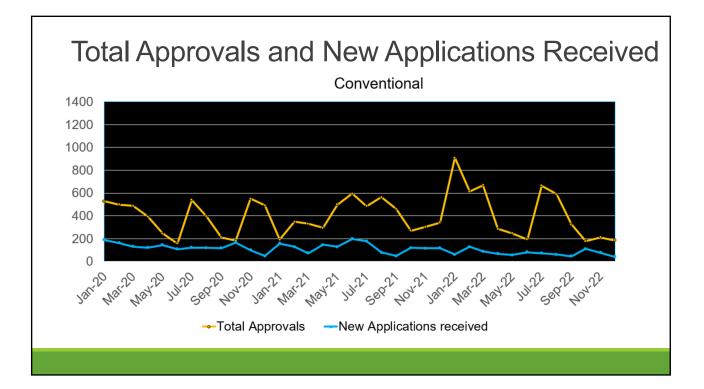
Fertilizer Registration Updates

Agenda Item 6i

Martin Burger, Ph.D. Senior Environmental Scientist (Supervisor)

Approved Registration	ns/Labels (Dec 3	31, 2022)
	Organic Input Materials (OIM)	CONVENTIONAL
Commercial Fertilizer	386	2,658
Specialty Fertilizer	538	2,684
Bulk Agricultural Minerals	156	146
Packaged Agricultural Minerals	447	1,746
Auxiliary Soil and Plant Substances	224	694
Packaged Soil Amendments	252	640
Bulk Soil Amendments	57	
TOTAL	2,060	8,568





Organic Input Materials Renewals							
Approvals	2020	2021	2022				
Total renewals	1,105	878	979				
within 30 days	59.4%	50.1%	51.2%				
within 60 days	9.1%	12.8%	9.8%				
within 90 days	4.9%	9.0%	4.9%				
within 120 days	5.5%	7.1%	4.4%				
>120 days	21.2%	21.1%	29.7%				

r

New Organic Input Materials Registrations Approved							
Approvals	2020	2021	2022				
Total New Registrations	493	324	284				
within 30 days	22.5%	12.0%	3.9%				
within 60 days	13.8%	24.7%	9.9%				
within 90 days	8.7%	13.3%	5.6%				
within 120 days	11.0%	9.9%	5.3%				
>120 days	44.0%	40.1%	75.4%				

Conventional Labels Renewals							
Approvals	2020	2021	2022				
Total renewals	2,361	3,803	4,266				
within 30 days	85.7%	85.0%	80.3%				
within 60 days	4.1%	4.2%	3.6%				
within 90 days	2.0%	3.8%	5.8%				
within 120 days	2.8%	2.7%	2.1%				
>120 days	5.5%	4.3%	8.2%				

New Conventional Labels						
Approvals	2020	2021	2022			
Total new labels	1,304	891	879			
within 30 days	33.0%	13.9%	11.8%			
within 60 days	22.9%	16.7%	11.2%			
within 90 days	23.9%	21.2%	10.0%			
within 120 days	20.2%	16.8%	10.2%			
>120 days	24.7%	31.3%	56.8%			

ORGANIC INPUT	2020	2021	2022
MATERIALS			
Updated Labels	117	126	71
Updated Formulas	133	260	67
Cancelled Applications	55	71	131
CONVENTIONAL			
Updated Labels	485	479	414
Cancelled Applications	367	328	348

Registration Staff Updates

Chi Banh was hired as an Environmental Scientist in October 2022. He has a Bachelor of Science degree in Horticulture.

Gabriela Carreras was also hired as Environmental Scientist in October 2022. She has a Bachelor of Science degree in Biochemistry.





Registration Staff Updates

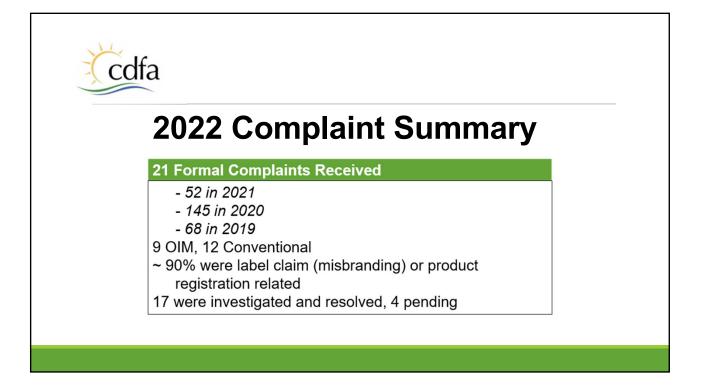
Gabriel Ortiz Barbosa was hired as an Environmental Scientist in December 2022. He holds a PhD in Plant Pathology from UC Riverside.

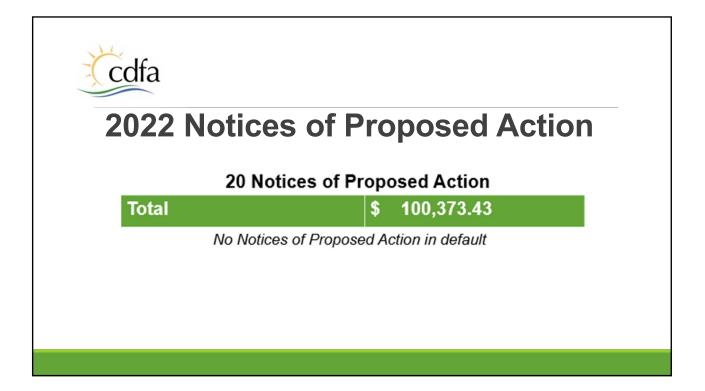


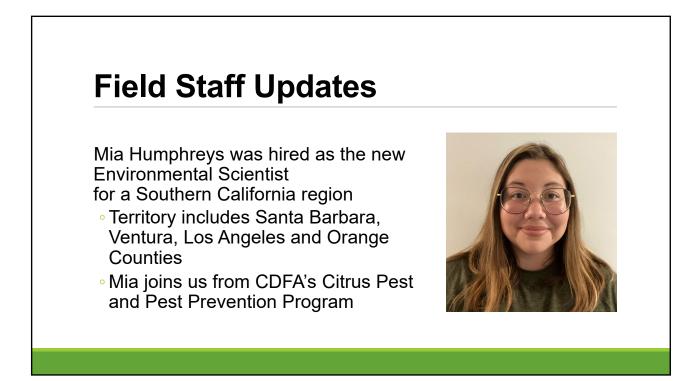
Agenda Item 6ii

Nicole Smith Senior Environmental Scientist (Supervisor)

Ccdfa		tilizer Inspection Updates Sampling Summary
	1,072	Total Samples (1,100 in 2021)
	11.1%*	Violation Rate (analytical violations)
	644	Conventional Samples
	428	Organic Input Material (OIM) Samples
	* Estimated	1

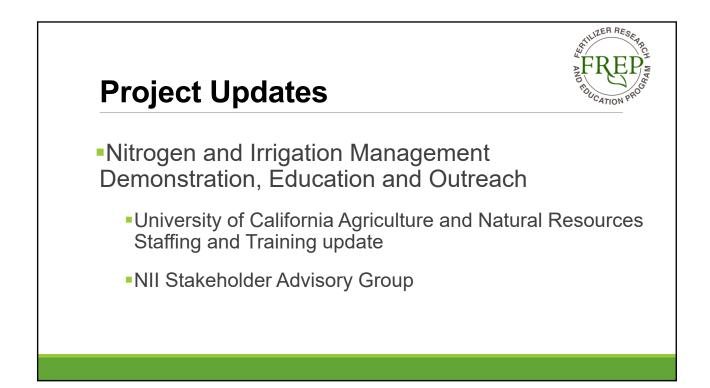


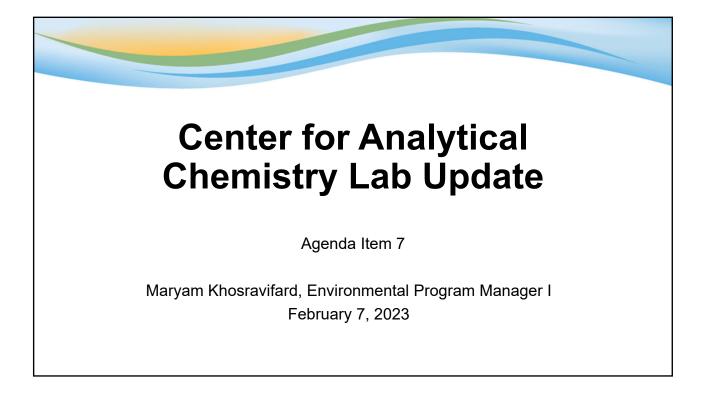






2023 Grant Process	Timeline
	- 410
Request for Proposals Released	November 3, 2022
Concept Proposals Due	December 19, 2022
Full Proposals Due	April 14, 2023
Award notification	September 2022
Project Start-up	January 1, 2023





				Avg turn	% of a	ssays con	npleted
Assay	Number of assays	Rush	Priority	around time (Bus. days)	0 - 10 days	0 - 15 days	0 - 21 days
Arsenic	106	1	1	9	72%	98%	100%
Boron	39	0	2	8	79%	100%	100%
Cadmium	106	1	1	9	70%	98%	100%
Calcium	81	0	5	9	65%	100%	100%
Calcium Carbonate	2	0	0	11	50%	100%	100%
Calcium Carbonate Equivalent	5	0	1	9	60%	100%	100%
Chlorine	20	0	3	8	60%	95%	100%
Cobalt	11	0	0	9	73%	100%	100%
Copper	30	0	2	9	70%	93%	100%
Density	21	5	6	4	100%	100%	100%
Free Water	37	0	3	7	81%	100%	100%
Gypsum Equivalent	75	0	6	11	31%	99%	100%
Humic Acid	33	1	1	8	88%	100%	100%
Iron	71	0	5	9	75%	97%	100%
Lead	106	1	1	9	72%	98%	100%
Magnesium	35	0	0	10	54%	94%	100%
Manganese	59	0	3	8	80%	95%	100%
Moisture	9	0	1	8	67%	100%	100%
Molybdenum	27	0	0	8	85%	100%	100%
Nitrogen - Ammoniacal	22	3	3	6	86%	100%	100%

Assays completed for samples received 8/01/22 - 12/31/22 continued...

	Number of assays Rush			Avg turn	% of a	ssays com	pleted
Assay		Priority	around time (Bus. days)	0 - 10 days	0 - 15 days	0 - 21 days	
Nitrogen - Nitrate	13	0	4	6	77%	100%	100%
Nitrogen - Total	269	9	30	4	96%	100%	100%
Organic Matter	5	0	0	11	40%	80%	100%
pH	11	3	0	6	100%	100%	100%
Phosphoric Acid - Available	172	3	8	7	81%	98%	100%
Phosphoric Acid - Total	2	0	0	8	50%	100%	100%
Phosphorus - Total	1	0	0	16	0%	0%	100%
Potassium - Soluble	223	5	11	7	84%	99%	100%
Potassium - Total	1	0	0	9	100%	100%	100%
Sodium	14	0	3	9	71%	93%	100%
Soluble Silicon	3	0	1	13	0%	67%	100%
Sulfur - Elemental	1	0	0	15	0%	100%	100%
Sulfur - Sulfate	40	0	4	8	80%	98%	100%
Sulfur - Total	128	2	10	8	70%	97%	100%
Urea	25	0	6	7	80%	100%	100%
Water Insoluble Nitrogen	28	0	7	7	82%	100%	100%
Water Soluble Nitrogen	27	0	7	7	74%	100%	100%
Zinc	69	0	2	9	80%	94%	100%

Assays completed 1/01/22 - 12/31/22

				Avg turn	% of assays complete		
Assay	Number of assays		Priority	around time (Bus. days)	0 - 10 days	0 - 15 days	0 - 21 days
Arsenic	256	2	4	9	67%	99%	100%
Boron	101	0	2	8	80%	99%	100%
Cadmium	256	2	4	9	66%	99%	100%
Calcium	183	0	8	8	73%	99%	100%
Calcium Carbonate	6	0	0	12	50%	67%	100%
Calcium Carbonate Equivalent	12	0	1	9	75%	100%	100%
Chlorine	69	3	12	8	77%	94%	100%
Cobalt	26	0	0	9	69%	96%	100%
Copper	75	1	3	8	77%	95%	100%
Density	43	9	13	4	100%	100%	100%
Free Water	42	0	3	7	79%	100%	100%
Gypsum Equivalent	86	0	6	11	35%	99%	100%
Humic Acid	70	1	6	8	79%	97%	100%
Iron	179	1	6	8	79%	97%	100%
Lead	256	2	4	9	67%	99%	100%
Magnesium	101	0	0	9	69%	95%	100%
Magnesium Carbonate	4	0	0	13	50%	50%	100%
Manganese	142	1	4	8	78%	96%	100%
Moisture	15	0	1	8	73%	100%	100%
Molybdenum	70	0	0	8	79%	97%	100%
Nitrogen - Ammoniacal	69	6	20	7	87%	99%	100%

Assays completed 1/01/22 to 12/31/22 continued...

				Avg turn	% of	assays com	pleted
Assay	Number of assays	Rush	Priority	around time (Bus. days)	0 - 10 days	0 - 15 days	0 - 21 days
Nitrogen - Nitrate	52	3	14	7	88%	100%	100%
Nitrogen - Total	725	16	64	4	95%	100%	100%
Organic Matter	10	0	1	10	60%	90%	100%
рН	33	5	8	4	100%	100%	100%
Phosphoric Acid - Available	452	9	33	7	86%	99%	100%
Phosphoric Acid - Total	8	0	0	9	63%	100%	100%
Phosphorus - Total	1	0	0	16	0%	0%	100%
Potassium - Soluble	562	10	36	7	86%	99%	100%
Potassium - Total	1	0	0	9	100%	100%	100%
Sodium	49	3	12	8	82%	94%	100%
Soluble Silicon	4	0	1	13	0%	75%	100%
Sulfur - Elemental	1	0	0	15	0%	100%	100%
Sulfur - Sulfate	45	0	5	9	73%	98%	100%
Sulfur - Total	287	6	20	7	82%	98%	100%
Thiamine	2	0	0	14	0%	100%	100%
Jrea	88	3	16	7	78%	98%	100%
Nater Insoluble Nitrogen	90	3	21	7	87%	99%	100%
Nater Soluble Calcium	2	0	2	10	100%	100%	100%
Water Soluble Nitrogen	88	3	21	7	83%	99%	100%
Zinc	176	1	3	8	81%	97%	100%

Sample Info	ormatio	on			
<u>Sample Informa</u> August 1, 2022 - Decem		2	<u>Sample In</u> January 1, 2022 - [<mark>2022</mark>
Total Number of S Re	amples 39 eceived	99	Total Numbe	er of Samples Received	1,011
Routine 87	.2% 34	48	Routine	90.0%	910
Priority 10	.3% 4	11	Priority	8.1%	82
Rush 2.	5% 1	0	Rush	1.9%	19
Total Number of S	amples 39	90	Total Numbe	er of Samples Completed	1,002

omple	ted Assay	/ inforn	nation		
Completed Assay Information August 1, 2022 - December 31, 2022		Completed Assay Information January 1, 2022 - December 31, 2022			
Assay Type	% of Requested Assays	# of Assays	Assay Type	% of Requested Assays	# of Assays
Routine	91.1%	1,756	Routine	90.6%	4,293
Rush	1.8%	34	Rush	1.9%	90
Priority	7.1%	137	Priority	7.5%	354
Total Number of Assays Requested		1,927	Total Number of Assays Requested		4,737
Assay Type	% of Completed Assays	# of Assays	Assay Type	% of Completed Assays	# of Assays
Re-run	12.4%	273	Re-run	11.0%	585
Total Number of Assays Completed		2,200	Total Number of Assays Completed		5,322
Average # of Assays Completed per Sample		5.6	Average # of Assays Completed per Sample		5.3

Program Updates

- Turnaround times continued to stay consistent even with staff absences and Nucleus Team staffing shortages.
- New Inductively coupled plasma mass spectrometry installed and staff participated in two-day instrument and software training provided by vendor.



- Lab supervisor attended FMIP staff meeting to give lab additional perspective on FMIP's plans for 2023 and to provide lab information.
- Four staff successfully completed Inspection Services Coaching Program with Dr. Barzin Moradi.