

**CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE (Department)  
FERTILIZER INSPECTION ADVISORY BOARD (FIAB)**

**CDFA  
2800 Gateway Oaks Drive  
Sacramento, CA 95833  
Room 101  
(916) 900-5022**

**July 10, 2018  
9:00 a.m.**

**MINUTES**

**MEMBERS**

David McEuen  
Doug Graham  
Gary Silveria  
Jake Evans  
Melissa McQueen, Chair

**MEMBERS ABSENT**

Andrew Godfrey  
Jay Irvine  
Ron Naven  
Steve Spangler, Vice Chair

**CDFA**

Amadou Ba  
Angelia Johnson  
Barzin Moradi  
Brittnie Sabalbro  
Carla Sanchez  
Dale Woods  
Dinesh Chand  
Katy Coke  
Kelsea Jones  
Kristopher Gulliver  
Kyle Schneider  
Martin Burger  
Maryam Khosravifard  
Mayze Fowler-Riggs  
Natalie Jacuzzi  
Kristopher Gulliver  
Patrick Barbree  
Richard Gilbert  
Yanhong Li

**INTERESTED PARTIES**

Greg Cunningham  
Rebekah Finn  
Renee Pinel

**INTRODUCTIONS AND ANNOUNCEMENTS**

Ms. Melissa McQueen, Chair, called the meeting to order at 9:01 a.m. Self-introductions were made and a quorum was established. Mr. Andrew Godfrey, Mr. Jay Irvine, Mr. Ron Naven, and Mr. Steve Spangler were absent.

Chair McQueen announced that board terms expire on October 14, 2018 for three current board members.

### **APPROVE MARCH 8, 2018 MEETING MINUTES**

Chair McQueen requested the board review the minutes from the March 8, 2018 FIAB meeting. Dr. Martin Burger, Senior Environmental Scientist (SES) (Supervisory), requested the statement in the first paragraph on page seven be amended to "...15 percent of the applied fertilizer nitrogen is emitted as No<sub>x</sub> ..."

**MOTION:** Mr. Gary Silveria moved to approve the minutes as amended; Mr. Doug Graham seconded. The motion passed unanimously by all board members present with a vote of 5 - 0.

### **DEPARTMENT / DIVISION / BRANCH UPDATES**

Dr. Amadou Ba, Environmental Program Manager II (EPM), announced the United States Department of Agriculture National Organic Program (USDA-NOP) appointed Dr. Jennifer Tucker as Deputy Administrator. Dr. Tucker, former Associate Deputy Administrator, has been with the USDA-NOP since 2011 replacing Mr. Miles McEvoy who retired. Dr. Clarissa Matthews was appointed as USDA-NOP's National List Manager replacing Dr. Lisa Brines. The Division will meet yearly with USDA-NOP to discuss issues relating to the State Organic Program and Organic Input Material (OIM) Program.

The Department's Executive Office has been working on transition documents for the next administration coming at end of the year.

Dr. Ba reported that the Department's Animal Health Branch (AHB) has been dealing with the Virulent Newcastle Disease (VND) that was detected in San Bernardino, Riverside, and Los Angeles counties before USDA publicly addressed the emergency outbreak. USDA is providing outreach and education to farmers markets on limiting the spread of disease; USDA issued 1,100 quarantines. Two FFLDRS Branch staff aided the AHB in their effort to limit the spread of the VND.

The Governor issued several emergency proclamations for county fires in San Diego, Santa Barbara, Siskiyou, and Lake Counties.

The Antimicrobial Use and Stewardship Program's (AUS) proposed rulemaking packet regarding the sale of medically important antimicrobial drugs and restricted livestock drugs was submitted to the Office of Administrative Law (OAL) on April 25, 2018. OAL made suggested revisions, AUS withdrew the packet and released another 15-day notice on June 14, 2018. The rulemaking packet was re-submitted to OAL on July 5, 2018 and is pending review.

The Branch hired Dr. Yanhong Li, Ms. Kathryn Coke, Mr. Richard Gilbert, and Mr. Patrick Barbree as Environmental Scientists (ES) for the Fertilizing Materials Inspection Program (FMIP) registration staff. After multiple rounds of interviews, the Fertilizer Research and Education Program (FREP) made offers to fill the SES (Specialist) position; however, the candidates declined due to salary. FREP has yet to fill the SES

and ES position vacancies. Mr. Nick Young, former Supervising Special Investigator II of FMIP, promoted to a SES (Supervisory); Ms. Angelia Johnson, former Agriculture Program Supervisor I (APS), promoted to a Staff Services Manager I (SSM); and Ms. Jenna Leal, former APS IV, promoted to EPM I. Ms. Kelsea Jones was hired as an intern for FREP and Mr. Kyle Schneider for OIM.

### **FUND CONDITION / MILL ASSESSMENT / TONNAGE REPORTING**

Ms. Johnson reported, as of April 30, 2018, the beginning fund balance of commercial fertilizer was \$8,455,352; OIM was \$743,174; the combined total was \$9,198,526. The commercial fertilizer revenue was \$4,958,346 and OIM was \$1,494,756; expenditures were \$3,600,262 for commercial fertilizer and \$943,465 for OIM; encumbrances were \$111,177 for commercial fertilizer and \$36,641 for OIM. Combined total funds for commercial fertilizer and OIM were \$11,107,901 with an adjusted balance of \$10,960,083.

Ms. Johnson reviewed the FREP fund condition and reported the beginning balance was \$3,648,076; revenue was \$2,258,408; expenditures were \$1,356,408; encumbrances through April 30, 2018 were \$1,483,476 with a total adjusted balance of \$3,066,600.

Ms. Johnson presented the mill assessment for fiscal year (FY) 2017-18. The fertilizer mill assessment has been at three mills for the year with a total of \$7,243,087 in mill assessment.

Mr. Kris Gulliver, SES (Specialist), gave an update on fertilizing materials tonnage. On May 22, 2018, a notice to fertilizing materials licensees was posted regarding changes to tonnage reporting. Mr. Gulliver is finalizing the 2017 tonnage data to be published and made available on the Department's website. Changes to the database reflect new tonnage information for January to June 2018. The new non-database user form is accessible on the website and reflects changes discussed at the last FIAB meeting such as nutrient reporting for non-farm use products.

### **PROGRAM UPDATES**

Dr. Burger gave a fertilizer registration update. As of June 7, 2018; 6,816 conventional fertilizer labels and 1,758 OIM labels were approved or provisional. Since that date, all of those provisional conventional labels have been approved. As of July 9, 2018; 7,088 conventional fertilizer labels were approved and 512 OIM labels are in provisional registration status.

Chair McQueen asked if all the provisional registrations were submitted on January 1, 2018. Dr. Dale Woods, EPM I, responded that the provisional registrations could have been submitted at any time. He noted that they can take several months to complete; one large firm took five months to complete. Chair McQueen stated that she had asked, because the provisional status is only for six months.

Mr. Jake Evans asked for the percentage of provisional registrations submitted in January compared to late submissions. Dr. Woods stated two thirds of provisional registrations were submitted from January through mid-February. The program approves registrations by the date of submission; and works diligently to approve registrations as soon as possible.

Ms. Rebekah Finn, Director of True Organic Product, asked if the two-year registration cycle firm groups get priority versus other firms not on the two-year renewal cycle. Dr. Woods stated the priority for registrations is established by the application date.

Dr. Burger stated the program implemented a tracking system to chronicle the approval time of new conventional fertilizer and OIM label applications. From January 1 to June 1,504 conventional fertilizer labels were submitted and of that total 312 were approved; 234 OIM labels were submitted and of that total 134 were approved. He highlighted that 49 percent of conventional fertilizer labels and 47 percent of OIM labels were approved within two months.

Dr. Woods presented regulation and Association of American Plant Food Control Officials (AAPFCO) updates. Since the last FIAB meeting, the Department's Legal Office made comments and minor changes to the content of the FMIP's proposed rulemaking to revise the administrative penalties violations matrix. The program was advised to list text within each of the misbranding penalties in the violation matrix and to include legal definitions for "fraud," "willful misconduct," and "gross negligence." The proposed rulemaking was submitted to OAL and published on July 6, 2018 with a 45-day comment period deadline of August 20, 2018.

Dr. Woods stated Mr. Young will attend the AAPFCO summer annual meeting in Fort Lauderdale, Florida from August 1-3, 2018. Topics to be discussed at the AAPFCO meeting will include alternative definitions, a national uniformity toward "Nonplant Food Ingredient" section, and definitions for calcium nitrate/Calcium Ammonium Nitrate (CAN). CAN is a major issue for large fertilizer firms as there are different rules on how to list CAN in other states. Yara North America is part of a work group determined to readdress and amend AAPFCO definitions. The Department was heavily involved in the work group with Yara.

Mr. Greg Cunningham, Manager of the Scotts Miracle-Gro Company, expressed his concern that the term 'CAN' would be confused with the old term 'CAN' in the marketplace, because worldwide the term 'CAN' is referred to as ammonium nitrate mixed with limestone. If Yara's definition proposal passes, the conversion of the double salt into the term would also create the acronym 'CAN'. Dr. Woods stated that the choice of acronyms will be part of the work group discussion. The Department's concern is that the acronyms have a trademark and divergent usage of 'CAN.'

Mr. Evans stated from the Department's perspective, AAPFCO definitions can be used as a reference at the program's discretion. He explained the challenge from a

manufacturer's standpoint stating that there is no clear definition of how to use terms with different requirements from the Department and AAPFCO. Dr. Woods stated the program has the authority to require firms to label certain products and can also utilize AAPFCO definitions as a resource.

Ms. Natalie Jacuzzi, SES (Specialist), gave a FREP update. She announced that the FREP conference would be held October 23-24, 2018 in Seaside, California. She reported that 50 concept proposals were received in response to the 2018 Request for Proposals (RFP). Of the those 50, the Technical Advisory Subcommittee (TASC) recommended 12 proposals for development into full proposals. TASC will meet in August to review the full proposals and select those for the program to fund January 1, 2019. Mr. David McEuen asked how much the program anticipated it would cost to fund the approved research projects. Dr. Ba responded that FREP has a yearly budget of \$3 million and the resources are available to fund all 12 proposals; however, it is ultimately the program's decision.

The program's RFP on biochar created a lot of interest with growers and industry representatives. In 2016, FREP funded two projects on biochar, "Soil Biochar Amendment to Improve Nitrogen and Water Management" by Dr. Suduan Gao, Soil Scientist, in Southern Central Valley and "The Evaluation of Biochar for On-Farm Soil Management in California" by Dr. Sanjai Parikh, Associate Professor of Soil Chemistry from the University of California, Davis (UC Davis). In discussions with Dr. Parikh, it was discovered that there are minimal outlets to convey the information on biochar which resulted in the formation of a Biochar Field Day. FREP hosted a successful Biochar Field Day at UC Davis Russell Ranch Ag Facility on June 6<sup>th</sup>, 2018. The Biochar Field Day was designed for growers, industry representatives, researchers, and government representatives interested in biochar. Over 100 attendees participated in the presentations, poster sessions, and panel discussions.

Ms. Maryam Khosravifard, EPM I, provided a lab update. She reported the lab received 624 samples, a 43 percent increase from last year, and 80 rush samples, a 13 percent increase from last year. The lab received 3,095 assays with an average number of assays per sample remaining constant relative to last year.

The sample turnaround time has improved compared to last year; 88 percent within 15-21 days. The lab's goal is to analyze 100 percent of samples within a 21-day turnaround time while modernizing technology and electrical requirements. The lab has procured an Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) machine, which should arrive soon. The lab has successfully met all of the assessment criteria to convert the mineral analysis method from wet chemistry to ICP-OES analytical technique and is now accredited.

**AGENDA ITEMS FOR FUTURE MEETINGS**

Chair McQueen asked for agenda items for the next FIAB meeting. At the last meeting, the board asked the program to speak with the NOP about the possibility of a fast-track method for the registration renewal approval process of already approved OIM products that make any change to the nitrogen, phosphorous, or potassium in their products. NOP representatives have not been available to meet and discuss the issue; discussion will take place when NOP is available. Mr. Evans stated he will meet with the program to follow up on the issue.

**NEXT MEETING**

The next FIAB meeting will be September 26, 2018 at 9:00 a.m., in Sacramento, California.

**MOTION:** Mr. Gary Silveria moved to adjourn the meeting; Mr. Doug Graham seconded. The motion passed unanimously by all board members present with a 5 - 0 vote.

Chair McQueen adjourned the meeting at 10:06 a.m.

Respectfully submitted by:

**ORIGINAL SIGNED BY DALE WOODS**

\_\_\_\_\_  
Dr. Dale Woods  
Environmental Program Manager I  
Fertilizing Materials Inspection Program

7/10/2018  
Date

Commercial Fertilizing Inspection Program & Organic Input Materials Program					
FUND CONDITION REPORT					
As of June 30, 2018					
	COMMERCIAL FERTILIZER		FY 2017/18 OIM		COMBINED TOTAL
Beginning Balance as of 7/1/2017:					
CDFA Account	\$ 1,842,655		\$ 743,174		\$ 2,585,829
Bank of America Account	\$ 6,612,697		-		\$ 6,612,697
Total Funds	\$ 8,455,352		\$ 743,174		\$ 9,198,526
Revenue*	\$ 5,532,645		\$ 1,712,351		\$ 7,244,996
Expenditures and Encumbrances					
Expenditures**	\$ 4,370,686		\$ 1,081,280		\$ 5,451,966
Encumbrances	\$ 70,129		\$ 32,037		\$ 102,166
Ending Balance as of 6/30/18:					
CDFA Account	\$ 2,347,589		\$ 1,374,245		\$ 3,721,834
Bank of America Account	\$ 7,269,722		-		\$ 7,269,722
Total Funds	\$ 9,617,311		\$ 1,374,245		\$ 10,991,556
Adjusted Balance***	\$ 9,547,182		\$ 1,342,208		\$ 10,889,390

\* Revenue includes fertilizing material licenses, fertilizer product registration, fertilizing materials mill assessments, and interest accrued.  
 \*\* Expenditure total per CDFA Financial Services Budget Report June 30, 2018. Amount does not reflect outstanding lag expenditures.  
 \*\*\* Adjusted balance accounts for all program encumbrances through June 30, 2018.

Fertilizer Research and Education Program					
FUND CONDITION REPORT					
As of June 30, 2018					
					FY 2017/18
Beginning Balance as of 7/1/2017:					
CDFA Account					\$ 2,507,110
Bank of America Account					\$ 1,140,966
Total Funds					\$ 3,648,076
Revenue *					\$ 2,684,469
Expenditures and Encumbrances					
Expenditures**					\$ 1,785,382
YTD Research Contract Encumbrances					
	FY 15/16	\$ 35,968			
	FY 16/17	\$ 190,831			
	FY 17/18	\$ 895,984			
Encumbrances through June 30, 2018					\$ 1,122,783
	FY 18/19	\$ 852,993			
	FY 19/20	\$ 433,274			
	FY 20/21	\$ 96,590			
Total Encumbrances					\$ 2,505,640
Ending Balance as of 6/30/18					
CDFA Account					\$ 3,174,968
Bank of America Account					\$ 1,372,195
Total Funds					\$ 4,547,163
Adjusted Balance***					\$ 3,424,380

\* 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 June 30, 2018. Amount does not reflect outstanding lag expenditures.  
 \*\*\* Adjusted balance accounts for all program encumbrances through June 30, 2018.





	FREP							
	ACTUAL 2015-16 EXPENSES	ACTUAL 2016-17 EXPENSES	GOVERNOR'S 2017-18 BUDGET	APPROVED 2017-18 BUDGET	ACTUAL 2017-18 EXPENSES	GOVERNOR'S 2018-19 BUDGET	APPROVED 2018-19 BUDGET	PROPOSED 2019-20 BUDGET
<b>PERSONNEL SERVICES</b>								
Salary & Wages	426,522	443,131	494,070	472,230	334,656	524,447	545,545	466,880
Benefits	217,712	219,892	244,328	212,503	162,991	308,471	271,136	227,389
<b>TOTAL PERSONNEL SERVICES</b>	<b>644,233</b>	<b>663,023</b>	<b>738,398</b>	<b>684,733</b>	<b>497,647</b>	<b>832,918</b>	<b>816,681</b>	<b>694,269</b>
<b>OPERATING EXPENSES &amp; EQUIPMENT</b>								
General Expense	7,466	10,915	15,000	12,000	9,561	15,000	12,000	12,000
Printing	17,637	8,521	28,000	18,500	18,865	38,000	15,000	20,000
Communication	849	855	1,500	1,000	1,549	1,500	1,200	2,000
Postage	1,251	1,213	2,000	1,500	3,000	3,000	2,000	3,500
Insurance	280	371	500	350	457	500	500	600
Travel In-State	11,809	13,060	20,000	20,000	18,102	25,000	25,000	25,000
Travel Out-of-State	141	648	0	500	542	0	1,000	1,000
Training	2,675	1,148	10,000	10,000	2,278	10,000	7,500	7,500
Facilities Operation	32,455	32,075	35,000	35,000	33,216	35,000	33,000	35,000
Prof Serv Internal/External	173	13,535	5,000	5,000	629	55,000	5,000	5,000
Data Processing and IT	3,168	1,221	4,000	5,000	1,521	14,000	5,000	5,000
Equipment	-7	0	0	0	0	0	0	0
Field Expenses	265	0	1,000	1,000	0	1,000	1,000	500
Vehicle Operations	1,645	1,942	2,000	2,000	1,123	4,500	2,500	2,500
Other Misc	0	0	0	1,000	11	4,000	2,500	1,500
Research Contract/Grant	1,436,339	446,490	1,796,054	1,750,500	436,606	1,796,054	1,796,054	1,875,000
Unallocated Budget Adjustment	0	0	0	0	0	0	0	0
<b>TOTAL OPERATING EXPENSES</b>	<b>1,516,147</b>	<b>531,994</b>	<b>1,920,054</b>	<b>1,863,350</b>	<b>527,460</b>	<b>2,002,554</b>	<b>1,909,254</b>	<b>1,996,100</b>
<b>DISTRIBUTED COSTS</b>								
Indirect Charges Admin/Exec	86,702	86,589	100,412	92,987	81,955	93,542	92,987	98,219
Indirect IT	28,594	28,907	29,321	41,772	25,399	28,053	41,772	29,456
Indirect Charges Division	34,700	37,715	34,889	39,098	36,534	39,204	39,098	41,164
Direct Chg-Central Admin	0	0	0	0	1,647	0	0	2,000
Direct Chg-Ithr Intradpt	25	49	0	0	515	0	0	1,000
Statewide General Administrative Cost								
Pro Rata	90,034	97,210	10,000	95,000	75,482	97,000	97,000	101,850
SB 84	0	0	0	0	0	0	13,317	14,312
<b>TOTAL DISTRIBUTED COSTS</b>	<b>240,056</b>	<b>250,471</b>	<b>174,622</b>	<b>268,857</b>	<b>221,532</b>	<b>257,799</b>	<b>284,174</b>	<b>288,001</b>
<b>TOTAL OE&amp;E</b>	<b>1,756,203</b>	<b>782,465</b>	<b>2,094,676</b>	<b>2,132,207</b>	<b>748,992</b>	<b>2,260,353</b>	<b>2,193,428</b>	<b>2,284,101</b>
<b>TOTAL PROGRAM COSTS</b>	<b>2,400,436</b>	<b>1,445,488</b>	<b>2,833,074</b>	<b>2,816,940</b>	<b>1,246,639</b>	<b>3,093,271</b>	<b>3,010,108</b>	<b>2,978,370</b>
AF-AG CODE 224C	-34,420	-41,981	-31,345	-34,420	-33,046	-31,345	-34,420	-33,046
<b>SUB-TOTAL PROGRAM</b>	<b>2,366,016</b>	<b>1,403,507</b>	<b>2,801,729</b>	<b>2,782,520</b>	<b>1,213,593</b>	<b>3,061,926</b>	<b>2,975,688</b>	<b>2,945,324</b>
ENCUMBRANCES	4,145	1,039,915	0	0	890,310	0	0	0
<b>TOTAL NET PROGRAM</b>	<b>2,370,162</b>	<b>2,443,421</b>	<b>2,801,729</b>	<b>2,782,520</b>	<b>2,103,903</b>	<b>3,061,926</b>	<b>2,975,688</b>	<b>2,945,324</b>

## FERTILIZER INSPECTION ADVISORY BOARD

### FINANCIAL SUMMARY Commercial Fertilizing Inspection Program & Organic Input Materials Program

#### FUND CONDITION REPORT As of June 30, 2018

	FY 2017/18		
	COMMERCIAL FERTILIZER	OIM	COMBINED TOTAL
<b>Beginning Balance as of 7/1/2017:</b>			
CDFA Account	\$ 1,842,655	\$ 743,174	\$ 2,585,829
Bank of America Account	\$ 6,612,697	-	\$ 6,612,697
<b>Total Funds</b>	<b>\$ 8,455,352</b>	<b>\$ 743,174</b>	<b>\$ 9,198,526</b>
<hr/>			
<b>Revenue*</b>	\$ 5,532,645	\$ 1,712,351	\$ 7,244,996
<b>Expenditures and Encumbrances</b>			
Expenditures**	\$ 4,370,686	\$ 1,081,280	\$ 5,451,966
Encumbrances	\$ 70,129	\$ 32,037	\$ 102,166
<hr/>			
<b>Ending Balance as of 6/30/18:</b>			
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Bank of America Account	\$ 7,269,722	-	\$ 7,269,722
<b>Total Funds</b>	<b>\$ 9,617,311</b>	<b>\$ 1,374,245</b>	<b>\$ 10,991,556</b>
<b>Adjusted Balance***</b>	<b>\$ 9,547,182</b>	<b>\$ 1,342,208</b>	<b>\$ 10,889,390</b>

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

\*\* Expenditure total per CDFA Financial Services Budget Report June 30, 2018. Amount does not reflect outstanding lag expenditures.

\*\*\* Adjusted balance accounts for all program encumbrances through June 30, 2018.

## FERTILIZER INSPECTION ADVISORY BOARD

### FINANCIAL SUMMARY

#### Fertilizer Research and Education Program

#### FUND CONDITION REPORT

As of June 30, 2018

		FY 2017/18
<b>Beginning Balance as of 7/1/2017:</b>		
CDFA Account	\$	2,507,110
Bank of America Account	\$	1,140,966
<b>Total Funds</b>	<b>\$</b>	<b>3,648,076</b>
<hr/>		
<b>Revenue *</b>	\$	2,684,469
<b>Expenditures and Encumbrances</b>		
Expenditures**	\$	1,785,382
YTD Research Contract Encumbrances		
FY 15/16	\$	35,968
FY 16/17	\$	190,831
FY 17/18	\$	895,984
Encumbrances through June 30, 2018	\$	1,122,783
FY 18/19	\$	852,993
FY 19/20	\$	433,274
FY 20/21	\$	96,590
Total Encumbrances	\$	2,505,640
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<b>Ending Balance as of 6/30/18</b>		
CDFA Account	\$	3,174,968
Bank of America Account	\$	1,372,195
<b>Total Funds</b>	<b>\$</b>	<b>4,547,163</b>
<b>Adjusted Balance***</b>	<b>\$</b>	<b>3,424,380</b>

\* 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 June 30, 2018. Amount does not reflect outstanding lag expenditures.

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

**Mill Assessment Trends**

	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>2015/16</b>	<b>2016/17</b>	<b>2017/18</b>
	<b>1.5 mill</b>	<b>2 mill</b>	<b>2 mill*/ 3 mill**</b>	<b>3 mill</b>	<b>3 mill</b>	<b>3 mill</b>
<b>July</b>	\$ 499,593	\$ 571,280	\$ 1,416,290	\$ 2,310,808	\$ 573,004	\$ 577,420
<b>August</b>	\$ 619,588	\$ 1,091,065	\$ 541,175	\$ 1,260,241	\$ 1,891,179	\$ 2,275,200
<b>September</b>	\$ 511	\$ 16,276	\$ 11,159	\$ 175,100	\$ 602,868	\$ 159,061
<b>October</b>	\$ 349,885	\$ 510,158	\$ 889,464	\$ 751,077	\$ 589,860	\$ 810,846
<b>November</b>	\$ 301,512	\$ 533,733	\$ 234,832	\$ 941,635	\$ 1,209,884	\$ 959,552
<b>December</b>	\$ 3,310	\$ 620,250	\$ 36,795	\$ 123,351	\$ 69,729	\$ 177,362
<b>January</b>	\$ 350,963	\$ 601,502	\$ 584,271	\$ 613,056	\$ 387,075	\$ 543,828
<b>February</b>	\$ 248,840	\$ 375,509	\$ 862,155	\$ 887,738	\$ 932,779	\$ 578,718
<b>March</b>	\$ 6,622	\$ 14,158	\$ 24,547	\$ 72,343	\$ 165,554	\$ 155,650
<b>April</b>	\$ 984,512	\$ 932,019	\$ 1,391,088	\$ 697,696	\$ 749,468	\$ 1,005,450
<b>May</b>	\$ 537,329	\$ 301,170	\$ 568,729	\$ 1,191,681	\$ 915,768	\$ 870,822
<b>June</b>	\$ 20,477	\$ 45,695	\$ 149,268	\$ 148,672	\$ 280,984	\$ 334,591
	<b>\$ 3,923,142</b>	<b>\$ 5,612,815</b>	<b>\$ 6,709,773</b>	<b>\$ 9,173,398</b>	<b>\$ 8,368,152</b>	<b>\$ 8,448,500</b>

\* July - December 2014 mill at .002

\*\* January - June 2015 mill at .003

COMMERCIAL FERTILIZER

	ACTUAL 2015-16 EXPENSES	ACTUAL 2016-17 EXPENSES	GOVERNOR'S 2017-18 BUDGET	APPROVED 2017-18 BUDGET	ACTUAL 2017-18 EXPENSES	GOVERNOR'S 2018-19 BUDGET	APPROVED 2018-19 BUDGET	PROPOSED (R) 2018-19 BUDGET	PROPOSED 2019-20 BUDGET
<b>PERSONNEL SERVICES</b>									
Salary & Wages	1,611,613	1,673,165	1,817,801	1,865,924	1,832,560	1,922,488	1,808,545	1,879,008	1,924,128
Benefits	811,473	805,571	897,632	893,991	894,853	1,135,100	869,910	917,533	939,566
<b>TOTAL PERSONNEL SERVICES</b>	<b>2,423,086</b>	<b>2,478,736</b>	<b>2,715,433</b>	<b>2,759,915</b>	<b>2,727,413</b>	<b>3,057,588</b>	<b>2,678,455</b>	<b>2,796,541</b>	<b>2,863,694</b>
<b>OPERATING EXPENSES &amp; EQUIPMENT</b>									
General Expenses	43,181	43,491	50,000	50,000	60,746	60,000	60,000	60,000	65,000
Printing	6,817	1,784	15,000	17,000	5,029	13,500	8,000	8,000	8,000
Communication	14,341	12,103	20,000	20,000	12,746	20,000	20,000	20,000	16,000
Postage	3,075	2,352	4,500	4,500	1,183	3,000	3,000	3,000	3,000
Insurance	2,492	3,665	3,000	3,000	3,161	4,000	4,000	4,000	4,000
Travel In-State	67,200	68,760	90,000	90,000	73,202	80,000	80,000	80,000	80,000
Travel Out-of-State	13,197	13,461	1,725	17,000	11,795	1,500	20,000	20,000	20,000
Training	3,127	2,681	10,000	10,000	6,185	10,000	10,000	10,000	10,000
Facilities Operations	172,470	171,309	160,053	160,000	171,923	160,053	180,000	180,000	180,000
Utilities	449	419	0	1,000	465	0	1,000	1,000	1,000
Prof Serv Internal/External	98,040	80,098	30,000	40,000	39,081	50,000	100,000	100,000	60,000
Attorney Gen Charges	0	0	0	0	0	20,000	0	0	10,000
Data Processing IT	35,021	71,785	50,000	45,000	55,292	50,000	85,000	85,000	70,000
Equipment	57,975	54,901	52,000	50,000	800	50,000	50,000	50,000	10,000
Field Expenses	4,112	7,195	7,000	7,500	7,261	12,500	7,500	7,500	8,000
Vehicle Operations	34,972	27,677	45,000	45,000	32,580	45,000	35,000	35,000	45,000
Private Lab Services	0	0	5,000	5,000	0	5,000	8,500	8,500	5,000
Other Misc	0	0	3,500	2,500	9,167	2,500	2,500	2,500	15,000
Contract/Grant	13,750	16,060	335,645	160,000	10,842	375,645	90,000	90,000	90,000
Unallocated Budget Adjustment	0	0	0	0	0	0	0	0	0
<b>TOTAL OPERATING EXPENSES</b>	<b>570,219</b>	<b>577,741</b>	<b>882,423</b>	<b>727,500</b>	<b>501,458</b>	<b>960,198</b>	<b>764,500</b>	<b>764,500</b>	<b>700,000</b>
<b>DISTRIBUTED COSTS</b>									
Chemistry Lab	796,398	815,503	978,291	835,969	578,616	1,164,384	849,083	896,919	979,488
Chemistry Labs Equipment	0	60,685	0	34,710	0	0	84,150	353,410	102,728
Audit Charges	0	0	5,000	0	0	5,000	10,000	10,000	10,000
Indirect Admin/Exec	300,692	319,380	369,262	352,777	300,625	343,387	342,842	357,957	360,556
Indirect IT	120,378	114,253	118,829	140,756	100,387	110,528	123,209	128,641	116,054
Indirect Charges Division	120,350	139,108	128,305	140,000	134,013	143,915	149,993	156,606	151,111
Direct Chg-Central Admin	0	0	0	0	6,424	0	0	6,500	6,500
Direct Chg-lthr Intradpt	0	1,949	0	0	2,311	52,940	0	2,400	2,400
Statewide General Administrative Cost									
Pro Rata	181,917	170,850	375	375	168,885	206,994	176,015	176,015	217,344
SB 84	0	0	0	0	0	0	48,884	48,884	52,539
Other Misc. Items	0	0	0	0	-2,494	0	0	0	0
<b>TOTAL DISTRIBUTED COSTS</b>	<b>1,519,734</b>	<b>1,621,728</b>	<b>1,600,062</b>	<b>1,504,587</b>	<b>1,288,767</b>	<b>2,027,148</b>	<b>1,784,177</b>	<b>2,137,333</b>	<b>1,998,721</b>
<b>TOTAL OE&amp;E</b>	<b>2,089,953</b>	<b>2,199,469</b>	<b>2,482,485</b>	<b>2,232,087</b>	<b>1,790,225</b>	<b>2,987,346</b>	<b>2,548,677</b>	<b>2,901,833</b>	<b>2,698,721</b>
<b>TOTAL PROGRAM COSTS</b>	<b>4,513,039</b>	<b>4,678,205</b>	<b>5,197,918</b>	<b>4,992,002</b>	<b>4,517,638</b>	<b>6,044,934</b>	<b>5,227,132</b>	<b>5,698,373</b>	<b>5,562,414</b>
Direct Charge Recovery	0	-36	0	0	0	0	0	0	0
AF-AG CODE 224C	-68,716	-73,782	-70,131	-73,782	-73,937	-70,131	-73,782	-73,782	-73,782
<b>SUB-TOTAL PROGRAM</b>	<b>4,444,323</b>	<b>4,604,387</b>	<b>5,127,787</b>	<b>4,918,220</b>	<b>4,443,701</b>	<b>5,974,803</b>	<b>5,153,350</b>	<b>5,624,591</b>	<b>5,488,632</b>
ENCUMBRANCES	535,043	247,682	0	0	56,813	0	0	0	0
<b>TOTAL NET PROGRAM</b>	<b>4,979,366</b>	<b>4,852,069</b>	<b>5,127,787</b>	<b>4,918,220</b>	<b>4,500,515</b>	<b>5,974,803</b>	<b>5,153,350</b>	<b>5,624,591</b>	<b>5,488,632</b>

ORGANIC INPUT MATERIALS

	ACTUAL 2015-16 EXPENSES	ACTUAL 2016-17 EXPENSES	APPROVED 2017-18 BUDGET	ACTUAL 2017-18 EXPENSES	APPROVED 2018-19 BUDGET	APPROVED (R) 2018-19 BUDGET	PROPOSED 2019-20 BUDGET
	279,888	271,564	373,310	298,821	431,676	351,673	364,071
	107,288	104,281	167,990	165,803	165,764	195,128	202,007
	387,175	375,845	541,300	464,624	597,440	546,802	566,078
	8,361	6,929	10,000	19,248	8,000	8,000	25,000
	1,211	250	1,500	1,245	1,500	1,500	1,500
	1,945	1,678	2,200	1,499	2,500	2,500	2,000
	244	208	500	438	500	500	600
	278	4	500	454	400	400	600
	5,239	7,611	6,000	13,101	10,000	10,000	15,000
	11,208	3,939	13,000	17,792	20,000	20,000	20,000
	582	532	2,500	844	2,500	2,500	2,000
	21,189	23,526	25,000	29,116	28,500	28,500	30,000
	6,766	198,099	7,500	6,722	5,000	5,000	7,000
	0	0	0	0	5,000	5,000	5,000
	7,911	15,216	8,500	11,250	13,500	13,500	13,500
	-4	0	5,000	283	3,050	3,050	1,000
	752	1,252	3,000	2,257	3,500	3,500	3,000
	436	7,073	3,500	1,818	9,000	9,000	4,000
	0	0	0	0	0	0	0
	0	0	3,000	0	2,500	2,500	2,500
	0	4,964	30,000	0	150,000	150,000	150,000
	0	0	0	0	0	0	0
	66,118	271,281	121,900	106,074	265,650	265,650	282,900
	84,876	104,716	103,322	442,823	221,301	241,900	244,872
	0	0	4,290	0	14,850	70,682	25,682
	0	0	0	0	0	0	5,000
	48,951	54,522	73,509	54,350	86,629	79,286	90,960
	21,928	23,785	41,772	24,190	37,639	34,449	39,521
	19,591	23,748	30,908	24,228	37,639	34,449	39,521
	0	0	0	1,290	0	1,300	1,300
	0	0	0	2,384	0	2,400	2,400
	18,098	1,118	0	38,865	30,894	30,894	32,439
	0	0	0	0	8,881	8,881	9,545
	0	0	0	1	0	0	0
	193,443	207,889	253,801	588,130	437,832	504,241	491,240
	259,561	479,170	375,701	694,204	703,482	769,891	774,140
	646,736	855,015	917,001	1,158,828	1,300,922	1,316,692	1,340,218
	0	-3	0	0	0	0	0
	-6,688	-6,855	-6,688	-8,115	-6,688	-6,688	-6,688
	640,048	848,157	910,313	1,150,713	1,294,234	1,310,004	1,333,530
	9,808	31,661	0	14,094	0	0	0
	649,856	879,818	910,313	1,164,807	1,294,234	1,310,004	1,333,530

TOTAL FERTILIZER

	ACTUAL 2015-16 EXPENSES	ACTUAL 2016-17 EXPENSES	APPROVED 2017-18 BUDGET	ACTUAL 2017-18 EXPENSES	GOVERNOR'S 2018-19 BUDGET	APPROVED 2018-19 BUDGET	APPROVED (R) 2018-19 BUDGET	PROPOSED 2019-20 BUDGET
	1,891,501	1,944,729	2,239,234	2,131,381	1,922,488	2,240,221	2,230,681	2,288,198
	918,761	909,852	1,061,981	1,060,655	1,135,100	1,035,674	1,112,662	1,141,573
	<b>2,810,262</b>	<b>2,854,581</b>	<b>3,301,215</b>	<b>3,192,037</b>	<b>3,057,588</b>	<b>3,275,895</b>	<b>3,343,343</b>	<b>3,429,771</b>
	51,541	50,420	60,000	79,994	60,000	68,000	68,000	90,000
	8,028	2,034	18,500	6,274	13,500	9,500	9,500	9,500
	16,286	13,781	22,200	14,245	20,000	22,500	22,500	18,000
	3,319	2,560	5,000	1,621	3,000	3,500	3,500	3,600
	2,770	3,669	3,500	3,615	4,000	4,400	4,400	4,600
	72,439	76,371	96,000	86,304	80,000	90,000	90,000	95,000
	24,405	17,400	30,000	29,587	1,500	40,000	40,000	40,000
	3,710	3,213	12,500	7,029	10,000	12,500	12,500	12,000
	193,659	194,835	185,000	201,040	160,053	208,500	208,500	210,000
	449	419	1,200	470	0	1,200	1,200	1,200
	104,806	278,197	47,500	45,803	50,000	105,000	105,000	67,000
	0	0	0	0	20,000	5,000	5,000	15,000
	42,933	87,001	53,500	66,542	50,000	98,500	98,500	83,500
	57,971	54,901	55,000	1,083	50,000	53,050	53,050	11,000
	4,864	8,447	10,500	9,518	12,500	11,000	11,000	11,000
	35,407	34,750	48,500	34,398	45,000	44,000		

Proposed Fertilizer Lab Budget

FERTILIZER 9999000482			
	ACTUAL 2017-18 EXPENSES	REVISED 2018-19 BUDGET	PROJECTED 2019-20 BUDGET
<b>PERSONNEL SERVICES</b>			
Salaries and Wages - Perm <sup>1</sup>	\$408,505	\$497,392	\$570,985
Staff Benefits	\$204,313	\$248,696	\$268,592
<b>TOTAL PERSONNEL SERVICES<sup>2</sup></b>	<b>\$612,818</b>	<b>\$746,088</b>	<b>\$839,577</b>
<b>OPERATING EXPENSES &amp; EQUIPMENT</b>			
General Expense	\$13,731	\$13,731	\$13,731
Freight/Drayage		\$0	\$0
Minor Equipment		\$0	\$0
Printing		\$0	\$0
Communications Services	\$672	\$800	\$800
Postage	\$3	\$25	\$25
Insurance	\$11	\$15	\$15
Travel/In-State	\$341	\$2,000	\$2,000
Travel/Out-of-State	\$0	\$0	\$0
Training	\$267	\$7,000	\$7,000
General Services Chgs		\$0	\$0
Facilities Operations - Rent	\$11,606	\$15,000	\$15,000
NOC Facilities Operations	\$28,892	\$30,000	\$30,000
Security	\$579	\$579	\$579
Utilities	\$36,113	\$37,000	\$37,000
Consultant/Profess Interdeptl	\$227	\$250	\$250
Consultant/Profess External	\$1,245	\$1,500	\$1,500
Janitorial Services	\$6,986	\$7,000	\$7,000
NOC Goods <sup>3</sup>	\$0	\$168,000	\$84,000
IT	\$1,430	\$1,500	\$1,500
<b>TOTAL OPERATING EXPENSES</b>	<b>\$102,102</b>	<b>\$284,400</b>	<b>\$200,400</b>
<b>EQUIPMENT AND SUPPLIES</b>			
Equipment	\$0	\$339,000	\$114,000
Ag Supplies and Services	\$42,417	\$14,410	\$14,410
<b>TOTAL EQUIPMENT AND SUPPLIES</b>	<b>\$42,417</b>	<b>\$353,410</b>	<b>\$128,410</b>
<b>DISTRIBUTED COSTS<sup>4</sup></b>			
Indirect Charges w/i Division	\$38,349	\$39,500	\$40,685
Indirect Admin/Exec	\$75,834	\$78,109	\$80,453
Indirect IT	\$24,190	\$24,915	\$25,663
Indirect Costs - Division	\$33,806	\$34,820	\$35,865
Central Admin Services	\$1,620	\$1,669	\$1,719
<b>TOTAL DISTRIBUTED COSTS</b>	<b>\$173,799</b>	<b>\$179,013</b>	<b>\$184,383</b>
<b>TOTAL OE&amp;E</b>	<b>\$318,318</b>	<b>\$816,823</b>	<b>\$513,194</b>
<b>SUBTOTAL PROGRAM COSTS</b>	<b>\$931,136</b>	<b>\$1,562,911</b>	<b>\$1,352,770</b>
Encumbrances <sup>5</sup>	\$63,083		
<b>TOTAL PROGRAM COSTS</b>	<b>\$994,219</b>	<b>\$1,562,911</b>	<b>\$1,352,770</b>

<sup>1</sup> Salary increases and filling vacancy for SES specialist - total of 6 PYs

<sup>2</sup> Includes 8% increase for salaries from 18/19 to 19/20

<sup>3</sup> 4 lab benches for new equipment in 18/19 and 2 in 19/20

<sup>4</sup> Projected 5% increase each FY

<sup>5</sup> Includes encumbrances plus \$40k for prep room work

**Fertilizer Equipment Schedule**

<b>Fertilizer Equipment Schedule</b>			2018-19		2019-20	
Ion Chromatograph (split cost with Feed 81/19) - 9999000482			0.81	104		
Micro Kjeldahl Unit - 9999000482			1	150		
Hot Block Digestion System - 9999000482			1	40		
Grinder - 9999000482			1	20		
Sample Divider - 9999000482			1	25		
Inductively Coupled Plasma Mass Spectrometry - 9999000482 (split cost with Feed 60/40)					0.6	114
<b>Total</b>			<b>4.81</b>	<b>339</b>	<b>0.6</b>	<b>114</b>

FREP

	ACTUAL 2015-16 EXPENSES	ACTUAL 2016-17 EXPENSES	GOVERNOR'S 2017-18 BUDGET	APPROVED 2017-18 BUDGET	ACTUAL 2017-18 EXPENSES	GOVERNOR'S 2018-19 BUDGET	APPROVED 2018-19 BUDGET	PROPOSED 2019-20 BUDGET
<b>PERSONNEL SERVICES</b>								
Salary & Wages	426,522	443,131	494,070	472,230	334,656	524,447	545,545	466,880
Benefits	217,712	219,892	244,328	212,503	162,991	308,471	271,136	227,389
<b>TOTAL PERSONNEL SERVICES</b>	<b>644,233</b>	<b>663,023</b>	<b>738,398</b>	<b>684,733</b>	<b>497,647</b>	<b>832,918</b>	<b>816,681</b>	<b>694,269</b>
<b>OPERATING EXPENSES &amp; EQUIPMENT</b>								
General Expense	7,466	10,915	15,000	12,000	9,561	15,000	12,000	12,000
Printing	17,637	8,521	28,000	18,500	18,865	38,000	15,000	20,000
Communication	849	855	1,500	1,000	1,549	1,500	1,200	2,000
Postage	1,251	1,213	2,000	1,500	3,000	3,000	2,000	3,500
Insurance	280	371	500	350	457	500	500	600
Travel In-State	11,809	13,060	20,000	20,000	18,102	25,000	25,000	25,000
Travel Out-of-State	141	648	0	500	542	0	1,000	1,000
Training	2,675	1,148	10,000	10,000	2,278	10,000	7,500	7,500
Facilities Operation	32,455	32,075	35,000	35,000	33,216	35,000	33,000	35,000
Prof Serv Internal/External	173	13,535	5,000	5,000	629	55,000	5,000	5,000
Data Processing and IT	3,168	1,221	4,000	5,000	1,521	14,000	5,000	5,000
Equipment	-7	0	0	0	0	0	0	0
Field Expenses	265	0	1,000	1,000	0	1,000	1,000	500
Vehicle Operations	1,645	1,942	2,000	2,000	1,123	4,500	2,500	2,500
Other Misc	0	0	0	1,000	11	4,000	2,500	1,500
Research Contract/Grant	1,436,339	446,490	1,796,054	1,750,500	436,606	1,796,054	1,796,054	1,875,000
Unallocated Budget Adjustment	0	0	0	0	0	0	0	0
<b>TOTAL OPERATING EXPENSES</b>	<b>1,516,147</b>	<b>531,994</b>	<b>1,920,054</b>	<b>1,863,350</b>	<b>527,460</b>	<b>2,002,554</b>	<b>1,909,254</b>	<b>1,996,100</b>
<b>DISTRIBUTED COSTS</b>								
Indirect Charges Admin/Exec	86,702	86,589	100,412	92,987	81,955	93,542	92,987	98,219
Indirect IT	28,594	28,907	29,321	41,772	25,399	28,053	41,772	29,456
Indirect Charges Division	34,700	37,715	34,889	39,098	36,534	39,204	39,098	41,164
Direct Chg-Central Admin	0	0	0	0	1,647	0	0	2,000
Direct Chg-Itlth Intradpt	25	49	0	0	515	0	0	1,000
Statewide General Administrative Cost								
Pro Rata	90,034	97,210	10,000	95,000	75,482	97,000	97,000	101,850
SB 84	0	0	0	0	0	0	13,317	14,312
<b>TOTAL DISTRIBUTED COSTS</b>	<b>240,056</b>	<b>250,471</b>	<b>174,622</b>	<b>268,857</b>	<b>221,532</b>	<b>257,799</b>	<b>284,174</b>	<b>288,001</b>
<b>TOTAL OE&amp;E</b>	<b>1,756,203</b>	<b>782,465</b>	<b>2,094,676</b>	<b>2,132,207</b>	<b>748,992</b>	<b>2,260,353</b>	<b>2,193,428</b>	<b>2,284,101</b>
<b>TOTAL PROGRAM COSTS</b>	<b>2,400,436</b>	<b>1,445,488</b>	<b>2,833,074</b>	<b>2,816,940</b>	<b>1,246,639</b>	<b>3,093,271</b>	<b>3,010,108</b>	<b>2,978,370</b>
AF-AG CODE 224C	-34,420	-41,981	-31,345	-34,420	-33,046	-31,345	-34,420	-33,046
<b>SUB-TOTAL PROGRAM</b>	<b>2,366,016</b>	<b>1,403,507</b>	<b>2,801,729</b>	<b>2,782,520</b>	<b>1,213,593</b>	<b>3,061,926</b>	<b>2,975,688</b>	<b>2,945,324</b>
ENCUMBRANCES	4,145	1,039,915	0	0	890,310	0	0	0
<b>TOTAL NET PROGRAM</b>	<b>2,370,162</b>	<b>2,443,421</b>	<b>2,801,729</b>	<b>2,782,520</b>	<b>2,103,903</b>	<b>3,061,926</b>	<b>2,975,688</b>	<b>2,945,324</b>



# Fertilizer Registration Updates

Martin Burger, PhD  
*Senior Environmental Scientist (Supervisor)*

## Registration Status (as of September 4, 2018)

	<u>OIM</u>	<u>Conventional</u>
<b>Approved in 2018</b>	<b>1,517</b>	<b>7,654</b>
<b>Provisional</b>	<b>188</b>	<b>0</b>
<b><i>With CDFA:</i></b>		
<b>Pending review/re-submitted</b>	<b>527</b>	<b>221</b>
<b><i>With Registrants:</i></b>		
<b>Revisions requested</b>	<b>384</b>	<b>1,222</b>

## New Applications 2018

	<u>OIM</u>	<u>Convent.</u>
Submitted Jan 1 – Aug. 31	367	1,184
On average	46/month	148/month
Approved	204	751

## New Registration Cycle Projections

	<u>OIM</u>	<u>Convent.</u>
Total Labels to be renewed	2,200	9,000
Every 6 months to be renewed	550	2,250
Staff time needed for renewal	2.9 months	2.3 months

- **More than half of total staff time to be used for processing new applications, on average (based on recent activity)**
- 46 new OIM applications/month
  - 148 new convent. applications/month

## Upcoming Event

### **Fertilizing Materials Registration Workshop**

**November 7<sup>th</sup> and 8<sup>th</sup>**

Embassy Suites Hotel

La Jolla, CA



# **INSPECTION, REGULATIONS, & ASSOCIATION OF AMERICAN PLANT FOOD CONTROL OFFICIALS (AAPFCO) UPDATE**

**NICK YOUNG  
SENIOR ENVIRONMENTAL SCIENTIST (SUPERVISOR)**



## **PROPOSED REGULATIONS UPDATE**

- **Public comments closed on August 20<sup>th</sup>**
- **Program will respond to public comments and submit revisions shortly**



## AAPFCO UPDATE

- **Bat Guano & Seabird Guano**
  - Bat guano – Has an AAPFCO Definition
    - “Mineralized bat guano” not accepted, “Hydroxyapatite” tentative
  - Seabird Guano – Does not have an AAPFCO Definition
    - “Mineralized seabird guano” is currently accepted
- **Biostimulants**



## BIOSTIMULANTS AND THE U.S. FERTILIZER INDUSTRY

ED THOMAS

*DIRECTOR, REGULATORY AFFAIRS*

AUGUST 1, 2018



## FEDERAL/STATE/INDUSTRY BIOSTIMULANT WORKING GROUP



## U.S. BIOSTIMULANT TIMELINE

- MAY 1, 2018 – BIOSTIMULANT COALITION COORDINATED INDUSTRY/ASSOCIATION MEETING WITH USDA DEPUTY ADMINISTRATOR OSAMA EL-LISSY
  - USDA STAFF INSTRUCTED TO FORM BIOSTIMULANT WORKING GROUP TO DEVELOP FRAMEWORK FOR NATIONAL REGISTRATION/CERTIFICATION PROCESS
- JUNE 21, 2018 - U.S. HOUSE PASSED FARM BILL BIOSTIMULANT LANGUAGE
  - STIPULATES BIOSTIMULANT DEFINITION
  - REQUIRES USDA BIOSTIMULANT STUDY
- JULY 18, 2018 – USDA WORKING GROUP KICK-OFF MEETING
- AUG/SEP, 2018 – USDA WORKING GROUP DEVELOPS DETAILED RECOMMENDED APPROACH FOR USDA

## **U.S. BIOSTIMULANT WORKING GROUP**

### **DEFINITION**

“A SUBSTANCE OR MICRO-ORGANISM THAT, WHEN APPLIED TO SEEDS, PLANTS, OR THE RHIZOSPHERE, STIMULATES NATURAL PROCESSES TO ENHANCE OR BENEFIT NUTRIENT UPTAKE, NUTRIENT EFFICIENCY, TOLERANCE TO ABIOTIC STRESS, CROP QUALITY, AND YIELD.”

(U.S. HOUSE FARM BILL)

## **U.S. BIOSTIMULANT WORKING GROUP**

- **DESIRED OBJECTIVE**
  - NATIONAL FRAMEWORK FOR APPROVING AND REGISTERING BIOSTIMULANTS AT USDA
- **DESIRED OUTCOMES**
  - CLEAR PROCESS FOR INDUSTRY TO REGISTER AND MARKET PRODUCTS
  - STANDARDS AND ENTITY (USDA, 3<sup>RD</sup> PARTY, ETC) TO SUBSTANTIATE CLAIMS
  - SINGLE LABEL REQUIREMENTS
  - UNIFORM FEDERAL ENFORCEMENT STANDARD
  - GLOBAL ALIGNMENT OF STANDARDS THRU ISO

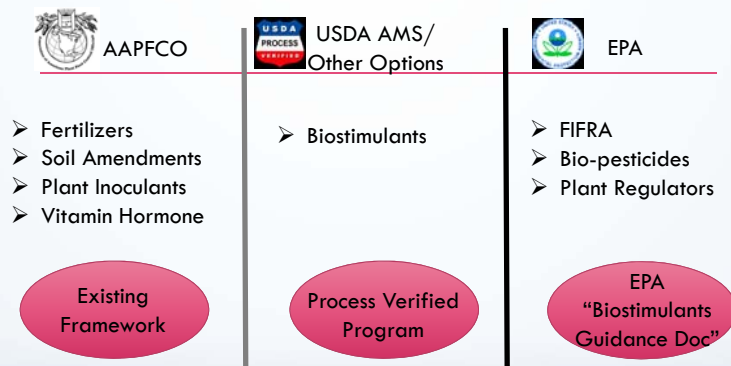
# NATIONAL ASSOCIATION OF STATE DEPARTMENTS OF AGRICULTURE'S (NASDA) STATEMENT ON BIOSTIMULANTS

## Biostimulants

NASDA supports a creating-identifying thea paths that efficiently moves products marketed as biostimulants into the United States' marketplace.

State, federal partners, and industry must continue to work together to explore and create existing paths that allow some biostimulants to be sold in the United States, create any additional regulatory structures needed to cover materials not currently included under the existing framework, harmonize state and federal regulations, and support biostimulants' market growth internationally. This process should also inform consumers about the products' efficacy and allow these technologies to grow and develop into the future.

## WORKING GROUP CONCEPT







**2018**

## **ORGANIC INPUT MATERIAL (OIM) INSPECTIONS**

- 85 OIM inspections completed as of Aug 28, 2018
- 13 mass balance inspections
- 22 out-of-state / out-of-country
- EcoCert resuming out-of-state / out-of-country inspections



## **2018 SAMPLING**

- 919 Total Samples (as of 8/20/18)
  - Averaging 115 samples per month
  - On pace for 1,379 samples
  - 145 samples/month for remainder to achieve 1,500 samples

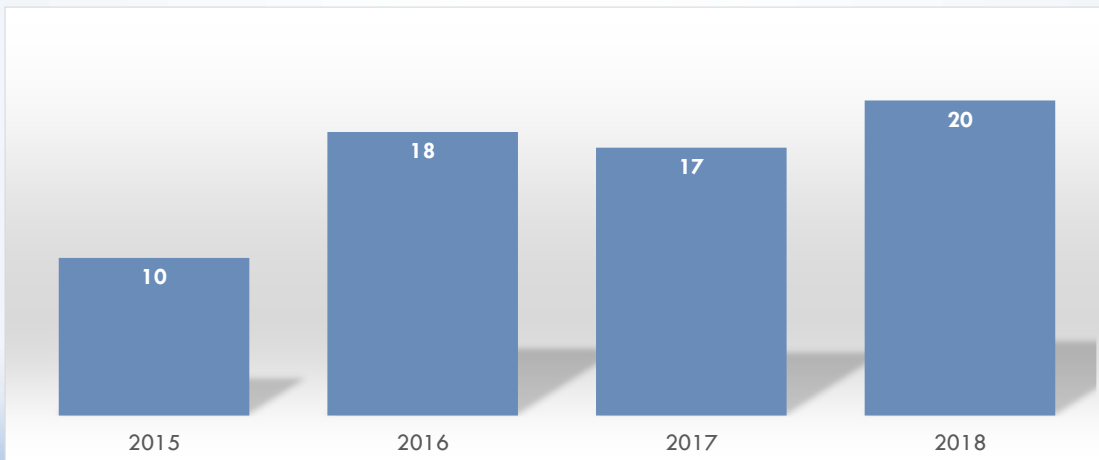


## 2018 ADMINISTRATIVE PENALTIES

20	Notice of Proposed Actions (NOPAs) submitted through 8/20/18
11	Paid (or currently under a payment plan)
2	In Default
2	Pending Reply or Hearing
5	Under the Review Process

## NUMBER OF ADMINISTRATIVE PENALTIES

(THROUGH SEPT 10, 2018)



# 2018 Fertilizer Research and Education Program (FREP) Updates



Mark Cady, *Senior Environmental Scientist (Supervisor)*  
Natalie Jacuzzi, *Senior Environmental Scientist (Specialist)*



## 2018 Research Priorities



- **Improving Fertilizer Input Management**
  - Improving and/or Promoting Adoption of Management Practices that Optimize Nutrient and/or Irrigation Water Use
  - Addressing Challenges and Barriers to Adoption of Management Practices
  - Education and Outreach (Technical Education)
- **Understanding Soil-Plant Processes**
  - Filling Knowledge Gaps for Nitrogen Management in Specific Crops
  - The Role of Soil Organic Matter and Organic Fertilizing Materials on Soil Nutrient Management
- **Understanding Loss Pathways**
  - Understanding of Nitrate Movement Below the Root Zone in Relation to Management Practices



## **Understanding Influences on Grower Decision-Making and Adoption of Improved Nitrogen Management Practices in the S. San Joaquin Valley**

**PIs:** Patrick Brown, Mark Lubell, and Sat Darshan Khalsa

**Affiliation:** University of California, Davis

**Budget:** \$189,988

**Duration:** 2 years

**RECOMMENDED**

**Yes Votes: 8**

**No Votes: 0**

**Abstain: 0**

### **Summary:**

- This project aims to identify the current use and drivers of best management practices in nitrogen management to better inform future research and outreach programs. Survey data will be collected from growers and consultants in the Southern San Joaquin Valley.



## **Assessing Drip Irrigation and Nitrogen Management of Fresh Onions Produced in California Low Desert**

**PIs:** Jairo Diaz, Roberto Soto, and Daniel Geisseler

**Affiliation:** University of California, Desert Research and Extension Center

**Budget:** \$215,731

**Duration:** 3 years

**RECOMMENDED**

**Yes Votes: 6**

**No Votes: 2**

**Abstain:**

### **Summary:**

- The goal of this project is to evaluate the effects of irrigation management and nitrogen fertilization on the yield and quality of fresh onion bulbs in arid regions with saline water. This project aims to fill a current knowledge gap on improved management practices for low desert production.



**Promoting the Adoption of Soil Nitrogen Quick Tests by Spanish-Speaking Operators on Strawberry Ranches in Santa Cruz and Monterey Counties**

**PIs:** Gerry Spinelli

**Affiliation:** Santa Cruz Resource Conservation District

**Budget:** \$121,540

**Duration:** 2 years

**Summary:**

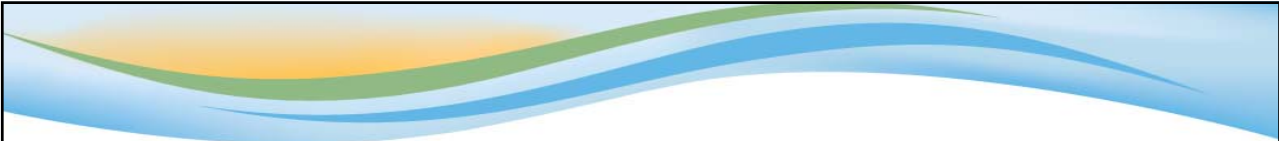
- The goal of this project is to address an adoption barrier of soil nitrogen quick tests by developing materials and workshops for Spanish speaking strawberry growers and irrigators.

**RECOMMENDED**

**Yes Votes: 6**

**No Votes: 2**

**Abstain: 0**



**Improving Nitrate and Salinity Management Strategies for Almond Grown Under Micro Irrigation (15-0523 extension)**

**PIs:** Patrick Brown

**Affiliation:** University of California, Davis

**Budget:** \$157,476

**Duration:** 2 years

**Summary:**

- The primary goal of this project is to develop best management practices that allow California almond growers with micro-irrigation, to effectively leach salts while minimizing nitrate losses below the root zone.

**RECOMMENDED**

**Yes Votes: 6**

**No Votes: 2**

**Abstain: 0**



## Efficient Water and Nitrogen Management Practices for Mixed Leafy Baby Green Vegetables in the Desert

**PIs:** Charles Sanchez

**Affiliation:** University of Arizona

**Budget:** \$224,592

**Duration:** years

**RECOMMENDED**

**Yes Votes: 8**

**No Votes: 0**

**Abstain: 0**

**Summary:**

- The objective of this study is to evaluate various nitrogen management practices for mixed baby greens in both conventional and organic systems to guide decision making practices. Researchers will look at the effects that density and season length have on our current fertilizer recommendations for these crops.



## Pima Cotton Nitrogen Management, Uptake, and Removal – Impacts of Varietal Differences, Subsurface Drip and Furrow Irrigation

**PIs:** Robert Hutmacher

**Affiliation:** University of California, West Side Research and Education Center

**Budget:** \$225,000

**Duration:** 3 years

**RECOMMENDED**

**Yes Votes: 7**

**No Votes: 1**

**Abstain: 0**

**Summary:**

- This project aims to evaluate the impacts of nitrogen application rates and irrigation methods on pima cotton yield and quality to determine if the recommendation and guidelines for upland cotton are applicable to pima cultivars.

### Proposals not recommended for funding

Project Title	Reporting PI	Funds Requested
An Integrated Framework for Assessing Effects of Irrigation and Fertigation Management on Nitrate Movement in the Deep Vadose Zone	Isaya Kisekka	\$224,999
Nitrogen Management in a Suitcase: Direct Measurement of Nitrate in Irrigation Water and Planning Assistance for Growers	Chris Rose	\$104,799
"Crop Nutrient Minute" Video Series	Parry Klassen	\$225,000

### Proposals not recommended for funding

Project Title	Reporting PI	Funds Requested
Developing a Nitrogen Mineralization Model for Organically Managed Vegetable Farms on the Central Coast	Joji Muramoto	\$224,898
Impact of Recycled Almond Hulls on Nitrogen and Potassium Dynamics in Almond Orchards	Patrick Brown	\$246,719
Improving Nitrogen and Water Use Efficiency in the Low Desert Carrot Production through Efficient Irrigation Technology and Management Tools	Ali Montazar	\$224,919

## Estimated Fiscal Year Impact

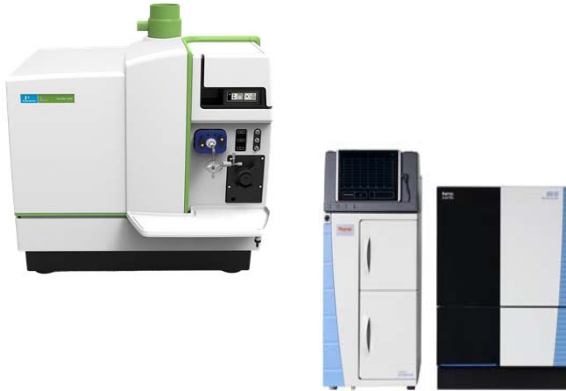
PI(s)	FY 2018/2019	FY 2019/2020	FY 2020/2021	FY 2021/2022	Total Request
Brown; Lubell; Kalsa	\$53,710.89	\$94,994.07	\$41,283.18	-	\$189,988.14
Diaz; Soto; Geisseler	\$39,259.17	\$72,183.37	\$68,606.47	\$35,682.27	\$215,731.28
Spinelli	\$27,347.09	\$60,769.91	\$33,422.81	-	\$121,539.82
Brown	\$39,363.51	\$78,738.02	\$39,374.51	-	\$157,476.03
Sanchez	\$36,257.54	\$74,347.80	\$76,038.23	\$37,947.97	\$224,591.53
Hutmacher	\$37,500.00	\$75,000.00	\$75,000.00	\$37,500.00	\$225,000.00
Recommended Project Funding	\$233,438.20	\$456,033.16	\$333,725.20	\$111,130.24	\$1,134,326.80

2018  
**FREP WPHA**  
**CONFERENCE**  
Nutrient Management:  
Challenges and Opportunities

October 22-24, 2018  
Seaside, California  
Embassy Suites



# Modernizing the Fertilizer Lab



Maryam Khosravifard, EPM I

## Budgetary Needs

- Modern equipment
- Staff Training
- Updating methods

## Required to Get Accredited for ISO 17025 2017

- Fairly new for Fertilizer lab
  - Implement accreditation requirements
  - 2 ES, 0.5 SES (Sup), 0.5 SES (Spec), 3 Tech, and 1.5 temp scientific aide to do current work, No time for this efforts
- Feed Lab – about 60% of methods already accredited
- Fertilizer Lab - only ICP method
- Also comply with new ISO 17025 by 2020
- Need to build a robust laboratory management system
  - Continuity in our daily operations

## 2 YR Cycle-Can't Meet Accreditation goals

- Accurate, Timely, and Consistent Results
- Competence
- Responsiveness to complaints
- Responsibility
- Impartiality
- Confidentiality
- Risk Based approach

## Why? Facing multiple challenges

- Current lab outdated
  - Wet Chem method
  - Aged infrastructure
  - Old technology
  - ES with limited instrumentation skills
- Do not have enough skilled staff
  - Operating at maximum capacity
  - Can't improve turn around time any further (significant improvement in the past year already)
- Expecting staff retirements
  - 4 retirements out of 6 staff within next 2 years
  - Training new staff and cross training existing staff

## 2 Year Plan

# 1<sup>st</sup> Step- Expand Resources

- Personnel
  - Define & Document competency and impartiality requirements
  - Authorities to develop methods, review and release reports
- Facilities
  - Suitable, monitored and controlled
- Equipment
  - Procedures
  - Trained Staff
  - Operating manuals
  - Preventive maintenance program
  - Routine maintenance are recorded
  - Report all malfunctions immediately and indicate an “OUT OF ORDER” when that occurs
  - Requirements for suitability verification of externally provided services and products

# 2nd Step- Develop work flow to be consistent with new ISO requirement

- Focus on expand ISO 17025 Elements
  - Impartiality
  - Confidentiality
- Work Process Requirements

# Impartiality

- Safeguard against Undue Pressure to analyst
- Establish structure
  - Separation of functions
  - Objective review process
- Mitigate pressures
  - Consistent and continuity of work
  - Versatile Analysts
  - Competent analysts
- Identify & manage risks (ongoing basis)
  - Out dated technology, manual steps contribution to errors

# Confidentiality

- Legally enforceable
  - Strict chain of custody for internal operations
  - Work flow operations
- Inform customer if public exposure of information

# Work Process Requirements

- Requirements for suitability verification of externally provided services and products
  - Refining Admin Processing
  - Streamlining Procurement and contracting efforts
- Use of validated methods – Validation as extensive as necessary
- Systematic assessment of the factors influencing the outcome
- Control and monitoring the non-conforming work
- Planned monitoring of the validity of results by the use of CRM, PT tests, Checks, intra lab comparisons

# Critical Needs to Meet 2YR Accreditation Cycle

- Concurrent Efforts
  - 1st Step- Expand Resources
  - 2nd Step- Develop Work Flow
- Any peace meal efforts triggers revalidation of system
  - More work- effects sample turn around time

## Benefits to Fertilizer Program/Industry

- Meeting the gold standard for technical credibility
- Automation and reduced human error resulting in more accurate, Timely, and Consistent data
- More rapid response to complaints and Clients
- Long-term sustainability of service with current staffing level
- No additional PYs for extensive documentation by use of advanced technologies and automation, staff x-training

## Questions?

### **Additional Information Contacts:**

❖ Maryam Khosravifard, Environmental Program Manager I;  
[Maryam.Khosravifard@cdfa.ca.gov](mailto:Maryam.Khosravifard@cdfa.ca.gov)

❖ Stan Kobata, Senior Environmental Scientist (Sup);  
[Stan.Kobata@cdfa.ca.gov](mailto:Stan.Kobata@cdfa.ca.gov)

**Center for Analytical Chemistry  
Fertilizer Laboratory  
January - August 2018**

**Fertilizer Samples**

<b>Total Number of Samples Received</b>	<b>958</b>
<b>Routine Samples</b>	<b>835</b>
<b>Priority Samples</b>	<b>0</b>
<b>Partial Rush Samples</b>	<b>22</b>
<b>Rush Samples</b>	<b>101</b>
<b>Total Number of Samples Completed</b>	<b>940</b>
<b>Total Number of Assays Requested</b>	<b>4,855</b>
<b>Routine Assays</b>	<b>4,248</b>
<b>Rush Assays</b>	<b>607</b>
<b>Average Number of Assays Requested per Sample</b>	<b>5.16</b>



**FERTILIZER SAMPLES  
RECEIVED IN JANUARY - AUGUST 2018**

No.	Fertilizer N, P2O5, K2O	Method	Routine		Rush		Totals
			Assay 1	Assay 2	Assay 1	Assay 2	
1	Nitrogen - Total	Combustion	599	98	85	58	840
2	Phosphorus - Available	Wet Chemistry	451	69	46	33	599
3	Potassium - Soluble	AA	545	81	49	6	681
4	Ammoniacal Nitrogen	Kjeldahl	29	3	16	1	49
5	Nitrate Nitrogen	Wet Chemistry	20	0	14	0	34
6	Phosphorus - Total	Wet Chemistry	8	3	0	0	11
7	Urea	Kjeldahl	42	3	14	0	59
8	Water Insoluble Nitrogen	Kjeldahl	35	0	15	0	50
<b>Miscellaneous</b>							
9	CCE	Wet Chemistry	10	5	0	0	15
10	Density	Wet Chemistry	12	1	9	7	29
11	Free Water	Oven	32	0	35	0	67
12	Gypsum Equivalent	Calculation	33	17	35	18	103
13	Humic Acid	Wet Chemistry	81	40	0	0	121
14	Microscopy	Microscope	1	0	0	0	1
15	Moisture	Oven	10	0	2	0	12
16	Organic Matter	Wet Chemistry	16	4	0	0	20
18	pH	pH Meter	23	11	27	23	84
19	Salinity	Wet Chemistry	0	0	0	0	0
20	Vitamin B1	LC	4	1	1	0	6
<b>Minerals</b>							
21	Arsenic	AA	305	0	14	0	319
22	Cadmium	AA	305	0	14	0	319
23	Lead	AA	305	0	14	0	319
24	Boron	ICP	87	12	3	1	103
25	Calcium	ICP	201	30	41	18	290
26	Chloride	Wet Chemistry	33	2	1	0	36
27	Cobalt	ICP	15	6	0	0	21
28	Copper	ICP	84	8	1	1	94
29	Iron	ICP	184	32	5	2	223
30	Magnesium	ICP	88	11	2	1	102
31	Manganese	ICP	136	11	3	2	152
32	Molybdenum	ICP	70	8	2	1	81
33	Nickel	ICP	0	0	0	0	0
34	Selenium	ICP	0	0	0	0	0
35	Sodium	ICP	8	4	1	0	13
36	Zinc	ICP	161	20	3	1	185
<b>Plant Growth Regulators</b>							
37	Abscisic Acid	LC/MS	6	0	7	0	13
38	6-Benzylaminopurine	LC/MS	6	0	7	0	13
39	Chlormequat Chloride	LC/MS	6	0	7	0	13
40	Colchicine	LC/MS	6	0	7	0	13
41	Daminozide	LC/MS	6	0	7	0	13
42	Ethephon	LC/MS	6	0	7	0	13
43	Forchlorfenuron	LC/MS	7	0	7	0	14
44	Gibberellic Acid	LC/MS	6	0	7	0	13
45	3-Indoleacetic Acid	LC/MS	6	0	7	0	13
46	Indole-3-Butyric Acid	LC/MS	6	0	7	0	13

**FERTILIZER SAMPLES  
RECEIVED IN JANUARY - AUGUST 2018**

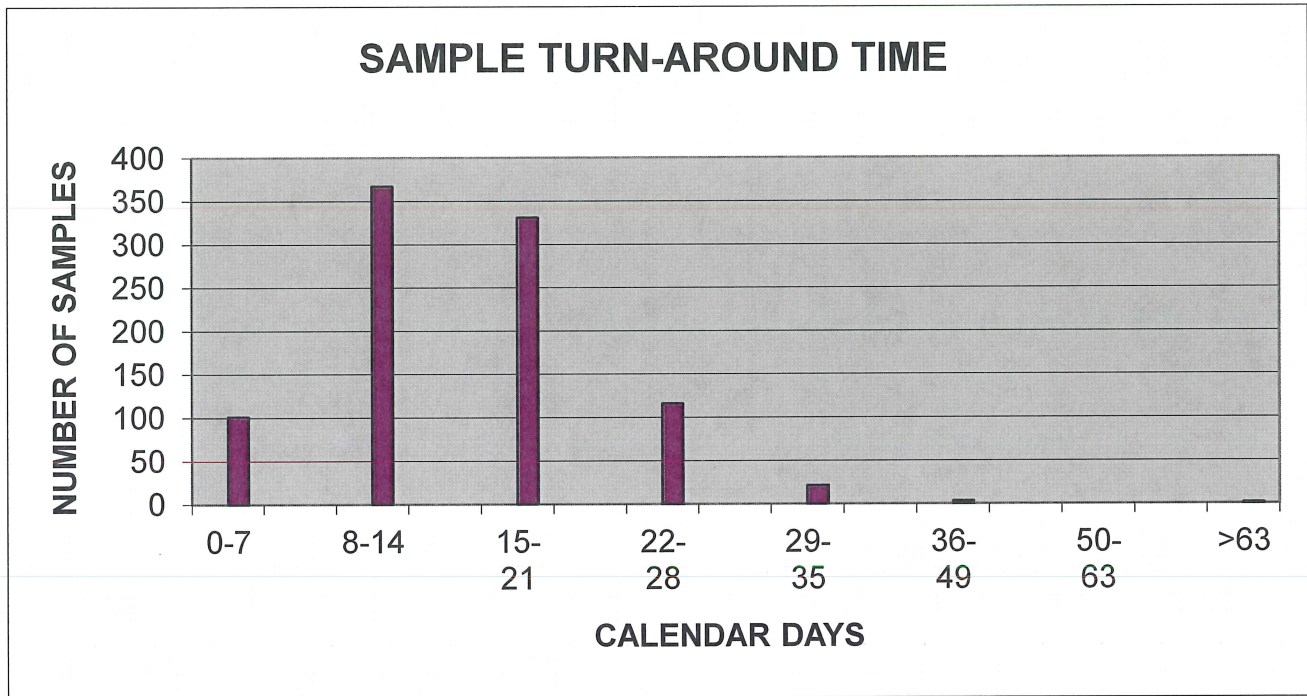
47	Kinetin	LC/MS	6	0	7	0	13
48	Mepiquat Chloride	LC/MS	6	0	7	0	13
49	1-Naphthaleneacetic Acid	LC/MS	6	0	7	0	13
50	Paclobutrazol	LC/MS	6	0	7	0	13
51	Prohexadione	LC/MS	6	0	7	0	13
52	Uniconazole	LC/MS	6	0	7	0	13
	<b>Sulfur</b>						
53	Sulfur - Elemental	Wet Chemistry	3	1	0	0	4
54	Sulfur - Sulfate	Wet Chemistry	40	9	35	16	100
55	Sulfur - Total	Wet Chemistry	175	33	8	6	222
	<b>Fertilizer</b>		<b>Routine</b>		<b>Rush</b>		<b>Total</b>
	<b>Assays</b>		<b>Assay 1</b>	<b>Assay 2</b>	<b>Assay 1</b>	<b>Assay 2</b>	
	<b>Total</b>		<b>4248</b>	<b>523</b>	<b>607</b>	<b>195</b>	<b>5573</b>

## Turn-Around Time for Fertilizer Samples Received in January - August 2018

### Summary

Total Samples Received - 958

Total Samples Completed - 940



Calendar Days	# of Samples	% of Total	Cumulative Total
0-7	101	10.8%	
8-14	367	39.1%	49.9%
15-21	331	35.2%	85.1%
22-28	116	12.3%	97.4%
29-35	21	2.2%	99.6%
36-49	3	0.3%	99.9%
50-63	0	0.0%	99.9%
<u>&gt;63</u>	<u>1</u>	<u>0.1%</u>	100.0%
<b>Total</b>	<b>940</b>	<b>100.0%</b>	

## Fertilizer Inspection Advisory Board (FIAB) and Technical Advisory Subcommittee (TASC) Vacancies



MELISSA MCQUEEN, CHAIR  
AMADOU BA, PH.D  
ENVIRONMENTAL PROGRAM MANAGER II



### FIAB TERMS EXPIRE

OCTOBER 14, 2018

1. *Jake Evans*
2. *Andrew Godfrey*
3. *Ron Naven*

## Board Applicants

APPLICANT AND LOCATION	ASSOCIATION AND TITLE	YEARS IN INDUSTRY	EDUCATION	CERTIFICATION	RELEVANT EXPERIENCE
<b>Greg Cunningham</b> <i>Dublin, OH</i>	<b>The Scotts Company-Regulatory</b> <i>Manager</i>	15 years	BS – Food, Agricultural and Biological Engineering	n/a	Experience in regulations and operations of the Fertilizer and Soil Amendment industry; knowledge of the National Organic Program; maintenance of active fertilizer/soil amendment and OIM registrations
<b>Jake Evans</b> <i>Spreckels, CA</i>	<b>True Organic Products, Inc.</b> <i>President</i>	18 years	n/a	n/a	Leading OIM manufacturer and sales company in the State; active participant in several associations and county farm bureaus
<b>Nick Kanellos</b> <i>Kingston, ON, Canada</i>	<b>EZ-GRO</b> <i>Certified Human Resources Leader</i>	20 years	HR Advanced Three Year Diploma	n/a	In depth knowledge of HR compliance; experience working with Health Canada Working Group, Canadian Food Inspection Agency, Organic Review Materials Institute, and Eco Cert
<b>Joe Kaye</b> <i>Palm Desert, CA</i>	<b>Coachella Valley Compost Facility, Burrtec Recovery &amp; Transfer, LLC</b> <i>Project Manager</i>	8 years	n/a	<ul style="list-style-type: none"> <li>USCC (2013)</li> </ul>	Experience in composting operations including composting science, worker safety, maintenance administration, compliance and sales; management of OIM product registrations; and over 12 years of solid and liquid waste experience

## Board Applicants *continued...*

APPLICANT AND LOCATION	ASSOCIATION AND TITLE	YEARS IN INDUSTRY	EDUCATION	CERTIFICATION	RELEVANT EXPERIENCE
<b>Lacey Macri</b> <i>Sacramento, CA</i>	<b>CleanGrow</b> <i>Director of Business Development</i>	8 years	BS – Communications & Psychology	n/a	Experience in business development specializing in sales, account management, and compliance for license, registration, and distribution of commercial fertilizers; product development for new plant nutrients; writes articles on plant cultivation
<b>Edward Needham*</b> <i>Visalia, CA</i>	<b>Needham Ag Services</b> <i>Owner</i>	34 years	BS – Plant Science, Agricultural Mechanics	<ul style="list-style-type: none"> <li>CPCA</li> <li>CCA</li> </ul>	Managed organic, conventional composting and land application sites; sales and service for agricultural fertilizer company; involved in state regulatory and political boards
<b>Matthew Slaughter</b> <i>Corvallis, OR</i>	<b>Earthfort LLC</b> <i>Owner, President, Lab Director</i>	15 years	AAS	<ul style="list-style-type: none"> <li>Master Soil Consultant</li> </ul>	Education and Product development, international outreach; development of all business operations, product testing and research
<b>Amir Tajer</b> <i>Santa Fe Springs, CA</i>	<b>Greenway Foundation</b> <i>Chief Executive Officer</i>	7 years	BS – Mechanical Engineering	<ul style="list-style-type: none"> <li>Qualified Applicator</li> </ul>	Managed internal operations and internal affairs to preserve financial welfare of company; researched, developed, formulated, and registered products

\*Not Licensed



## TASC TERMS EXPIRE

SEPTEMBER 17, 2018

1. *Dr. John Bushoven*
2. *DD Levine*
3. *Dr. Barzin Moradi*

## TASC Applicants

Applicant	Company	Location	Job Title	Industry Experience	Relevant Experience	Certifications/ License
Kevin Brooks	Independent	CA, Central Valley	Agronomist and Farmer	7 years	Agricultural Consultant, Crop Producer	Pest Control Adviser (PCA), Certified Crop Adviser (CCA), Qualified Applicator's License (QAL), Numerous ITRC Irrigation Certifications
Laurent Ahlblade	UCANR	CA, South Coast	Director of UCANR San Diego Office	6 years	Research and Education	n/a
Ruble Dianne Simonsen	First Mother Farms	CA, Central Valley	Founder	2 years	Crop Producer	n/a
Allasghar Montazar	UCANR	CA, Desert	Irrigation and Water Management Farm Advisor Imperial and Riverside Counties	18 years	Research and Education	n/a

## TASC Applicants *continued...*

Applicant	Company	Location	Job Title	Industry Experience	Relevant Experience	Certifications/ License
Ruijun Qin	USDA ARS	CA, Central Valley	Visiting Soil Scientist and Agronomist	20 years	Research and Education, Crop Consultant	n/a
Kristen Veum	USDA-ARS	Missouri	Research Soil Scientist	6 years	Research and Education, Government, Crop Producer	n/a
Tom Bottoms	Timothy and Vigue Farming	CA, Central Valley	Manager	10 years	Agricultural Consultant, Crop Producer, Research and Education	California Certified Crop Adviser (CCA), NM Certification
Callie McArthur	California Olive Ranch	CA, Central Valley	Agriculture Research and Development Manager	4 years	Research and Education, Crop Producer	Qualified Applicators License (QAL)
Javier Gonzalez	USDA-ARS	Indiana	Research Soil Scientist	15 years +	Research and Education, Government	n/a

## TASC Applicants *continued...*

Applicant	Company	Location	Job Title	Industry Experience	Relevant Experience	Certifications/ License
Jeffrey Iniguez	Wonderful Orchards	CA, Central Valley	Technical Support Manager, Agronomy	7 years	Research and Education, Agriculture Consultant, Crop Producer	Certified Crop Adviser (CCA), Qualified Applicators License (QAL)
Luis Solari	Nutrient Technologies	CA, Central Valley	Product Development and Technical Service Director	10 years	Research and Education, Fertilizer Sales and Manufacturing	Pest Control Adviser (PCA), Certified Crop Adviser (CCA)
Suduan Gao	USDA-ARS	CA, Central Valley	Soil Scientist	20 years	Research and Education	n/a
DD Levine	MLJ LLC	CA, Central Valley	Environmental Scientist	15 years +	Research and Education, Government, Agriculture Consultant	Certified Crop Adviser (CCA)

## Proposed for TASC Membership

1. Laurent Ahiablame
2. Tom Bottoms
3. Suduan Gao
4. DD Levine
5. Aliasghar Montazar
6. Luis Solari



## TASC Recommendation to FIAB

1. Tom Bottoms
2. Suduan Gao
3. DD Levine

