DRAFT Agenda Item 2

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

CDFA, Inspection Services Division
2800 Gateway Oaks Drive, Room 101
Sacramento, CA 95833

January 14, 2016
MINUTES

MEMBERS	CDFA	INTERESTED PARTIES
Andrew Godfrey	Amadou Ba	Mindy Derohan
Brad Baltzer, Chair	Barzin Moradi	Rebekah Menezes
David McEuen	Dale Woods	Renee Pinel
Doug Graham	Doug West	Steve Beckley
Gary Silveria	Elaine Wong	Tad Bell
Jake Evans	Lisa Montanez	
Melissa McQueen	Luz Roa	
Ron Naven	Mark Cady	
Steve Spangler	Maria Tenorio	
	Minal Patel	
	Natalie Jacuzzi	
	Nirmal Saini	
	Param Singh	
	Shari Lo Grossman	

INTRODUCTIONS AND ANNOUNCEMENTS

Mr. Brad Baltzer, Chair, called the FIAB meeting to order at 9:00 a.m. He welcomed Mr. Ron Naven as a new board member. Self-introductions were made and a quorum was established.

Mr. Naven introduced himself to the board. He stated he works for Yara North America, and represents Northern California. He has been in the fertilizer industry for 31 years.

APPROVE SEPTEMBER 17, 2015 MEETING MINUTES

Mr. Baltzer requested the board review the minutes from the September 17, 2015 FIAB meeting.

MOTION: Ms. Melissa McQueen moved to approve the minutes as submitted; Mr. Ron Naven seconded. The motion passed unanimously by all board members present with a vote of 9 - 0.

DEPARTMENT, DIVISION, AND BRANCH UPDATES

Dr. Amadou Ba introduced Ms. Minal Patel as the branch Office Assistant, and informed the board she will be taking minutes until the previous incumbents position is filled on a permanent basis. He further introduced Ms. Lisa Montanez and Dr. Shari Lo Grossman as new Environmental Scientists for the Fertilizer Program. Mr. Param Singh is on a limited term assignment as a Supervisor Special Investigator I, as Mr. Nick Young was promoted to Supervisor Special Investigator II for the Fertilizer Program. For the administrative staff, Ms. Adrienne Belvedere was hired as an Agricultural Aide. Mr. Rick Jensen was unable to attend today's board meeting because he is in Monterey for an outreach meeting regarding the Food Safety Modernization Act's (FSMA) produce and feed rules.

The Governor's Budget has been released and CDFA is scheduled to receive $485 million. The Feed and Livestock Drugs Inspection Program submitted a budget change proposal for the use of antibiotic drugs; it was approved by the Department of Finance for $1.3 million. The new Medical Cannabis Program will be under the Division of Inspection Services, and will be a joint effort between multiple departments including: CDFA, Department of Pesticide Regulation, and State Water Resources Control Board (SWRCB); it will be overseen by the Department of Consumer Affairs. The Fertilizer Research and Education Program (FREP) is conducting outreach activities and grower trainings.

PROGRAM UPDATES AND FUND CONDITIONS

Dr. Dale Woods reviewed the fund conditions from July 1, 2015 through October 31, 2015. The beginning balance for the Fertilizer Program was $5,314,402; revenue was $3,236,484; expenditures were $1,449,435; encumbrances were $506,929; the adjusted ending balance was $6,594,522. The majority of the revenue was from the mill assessment fee. The Organic Input Material (OIM) Program is seeming to be more self-sufficient due to better tracking of program activities.

Mr. Jake Evans asked if the cost of out-of-state inspections is included in the fund condition. Dr. Woods stated out-of-state and out-of-country OIM inspections are being paid by the parent program, the Fertilizer Program. This is because the law stipulates the mill assessment fee will cover inspections; the cost is included in the budget projections.

The beginning balance for the OIM Program was -$332,486; revenue was $363,561; expenditures were $169,175; encumbrances were $47,312; the adjusted ending balance was -$185,412.

There are two transfers pending which will decrease the Fertilizer Program's balance by $741,107. The OIM Program will receive $181,851; FREP will receive $599,256.

Dr. Woods stated FREP's beginning balance was $2,990,212; revenue was $1,272,136; expenditures were $825,831; encumbrances through fiscal year (FY) 15/16 were $2,096,307; the adjusted ending balance was $1,340,210.

MILL ASSESSMENT AND FERTILIZER PRICING DISCUSSION

Dr. Woods reviewed the monthly mill assessment trends. The rate increased from $0.002 to $0.003 on October 1, 2014. For FY 14/15, mill revenue was $6,695,916. For FY 15/16, through October, mill revenue was $3,672,177. The Program believes it will continue to have a sufficient revenue flow, and there is no need to increase the mill assessment rate at this time. He noted the mill assessment rate is currently at the maximum rate allowed by law. If an increase was needed, it would require a law change.

Discussion ensued regarding fertilizer pricing, and the board agreed to continue to monitoring mill assessment trends closely.

INSPECTION AND COMPLIANCE UPDATES

Mr. Singh provided the board with inspection and compliance updates stating 214 OIM inspections (approximately 96 percent) were completed in California, Oregon, Nevada, and Arizona by the end of November 2015. Ecocert had conducted 43 out-of-state inspections through November. The total locations that require an inspection in California, Oregon, Nevada, and Arizona is 224.

The total fertilizer samples for 2015 was approximately 1,080. There were 549 conventional samples; 416 OIM samples; and 115 investigative samples.

Mr. Singh stated the violation rate for conventional fertilizer was 20 percent and 19 percent for OIM. Data is not fully complete for 2015; it is still being compiled.

The Program is on track to have all inspections completed for California and bordering states by the end of the 2016 calendar year. The number of locations requiring

inspections continues to increase; currently, there are 248 total locations - 20 percent more than in 2014.

Mr. Singh went over total civil penalties collected in 2015; $121,167.34 has been collected to-date. There are seven cases still pending and one in default. Pending penalties are $87,675.57, and penalties in default are $5,929.99.

Dr. Woods informed the board the agenda item Proposed Regulations was for update purposes only. The regulation packet that was discussed at the prior meeting is currently being routed through the program for approval.

REGISTRATION UPDATES

Ms. Luz Roa informed the board Dr. Woods and Ms. Jenny Lester-Moffit recently attended the National Organic Standards Board (NOSB) meeting in Vermont. The OIM program has been International Organization for Standardization (ISO) certified by the United States Department of Agriculture, Agricultural Marketing Services (USDA-AMS) since January 29, 2015; the program will soon be subject to a follow-up audit. Ms. Roa stated the 2015 Fertilizer Workshop in Sacramento, California had over 100 attendees, and received positive feedback from industry. The 2016 Fertilizer Workshop will be held in Southern California.

Ms. Roa provided the board with registration application updates, highlighting at the end of December 2015, there were 8,006 approved conventional registrations and 1,544 approved OIM registrations. By year end, 9,550 labels were approved and were up for renewal in January 2016. The current OIM approved product list with 1,544 approved products is available on the CDFA website. An updated list will be posted around March/April 2016.

FREP UPDATES

Dr. Barzin Moradi informed the board FREP's strategic planning is still in progress. General goals for the next 5 – 10 years are fostering improvements in the agronomic and environmental performance of fertilizing materials, including:

- Positioning FREP as the primary source of information on nutrient management
- Bringing research into practice
- Identifying and addressing knowledge gaps

Dr. Moradi further stated FREP determined the major objective of the Central Coast Initiative is to reach out to the agricultural and community experts, commodity groups, local agencies, shippers, packers, consultants, and environmental groups, etc. FREP will continue to focus on outreach, education, and research. The main research priority areas include improving input management, understanding soil-plant processes, and loss pathways.

Dr. West stated there is currently $3,340,237 encumbered through FY 17/18 for ongoing FREP research projects.

LABORATORY UPDATES

Ms. Elaine Wong reported that from January 1, 2015 through October 31, 2015, 1,069 samples were received. At year end, there were approximately 1,200 samples. Of the 1,200 samples, 1,016 were routine; 10 were priority; 18 were partial rush; and 25 were rush. The average assays per sample was 4.82; total assays requested were 5,149; of those, 5,001 were routine and 148 were rush. The majority of the turn-around times were under 14 days.

Ms. Wong informed the board the lab has purchased some new equipment, and more cross training is occurring between the lab staff.

AGENDA ITEMS FOR FUTURE MEETINGS

Mr. Baltzer asked the board for agenda items for the next meeting, aside from mill assessment trends.

Mr. Spangler asked the board be provided with more information on the Central Coast Public Records Act (PRA) request, regarding the cease and decease order in the central coast. He stated this should include where they get the standards for this and which body of water it encompasses; who and where the fertilizer tests go to, and critical impacts; including how this impacts CDFA's Fertilizer program and if this issue may lead to a lawsuit.

Discussion ensued regarding the Central Coast PRA. Dr. Ba stated the program will look into it.

Mr. Andrew Godfrey asked for a summary of fertilizer early registration renewals, including firms, labels (OIM and conventional), and pending product reviews since the last renewal cycle took 7 – 8 months for the program to register products.

NEXT MEETING

The next FIAB meeting will be at 9:00 a.m., Wednesday, May 11, 2016, in Fresno, California.

MOTION: Ms. Melissa McQueen moved to adjourn the meeting; Mr. Gary Silveria seconded. The motion passed unanimously by all board members present with a 9 - 0 vote.

Mr. Baltzer adjourned the meeting at 11:13 a.m.

Respectfully submitted by:

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

1/14/2016
Date

Agenda Item 4

Program Updates/Fund Conditions

Dale Woods, Environmental Program Manager I

Fertilizer & OIM Programs

FERTLIZER INSPECTION ADVISORY BOARD

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

FUND CONDITION REPORT
As of March 31, 2016

	FY 2015/16		
	COMMERCIAL FERTILIZER	OIM	COMBINED TOTAL
Beginning Balance as of 7/1/2015:			
CDFA Account	$ 1,238,710	$ (332,486)	$ 906,224
Bank of America Account	$ 4,075,692	-	$ 4,075,692
Total Funds	**$ 5,314,402**	**$ (332,486)**	**$ 4,981,916**
Revenue*	$ 5,370,955	$ 1,459,638	$ 6,830,593
Expenditures and Encumbrances			
Expenditures**	$ 3,434,296	$ 517,864	$ 3,952,160
Encumbrances	$ 569,756	$ 30,652	$ 600,408
Ending Balance as of 3/31/16:			
CDFA Account	$ 1,580,365	$ 609,288	$ 2,189,653
Bank of America Account	$ 5,670,696	-	$ 5,670,696
Total Funds	$ 7,251,061	$ 609,288	$ 7,860,349
Adjusted Balance* **	**$ 6,681,305**	**$ 578,636**	**$ 7,259,941**

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

** Expenditure total per CDFA Financial Services Budget Report March 31, 2016. Amount does not reflect outstanding lag expenditures.

*** Adjusted balance accounts for all program encumbrances through March 31, 2016.

FREP

FERTILIZER INSPECTION ADVISORY BOARD

FINANCIAL SUMMARY
Fertilizer Research and Education Program

FUND CONDITION REPORT
As of March 31, 2016

			FY 2015/16
Beginning Balance as of 07/01/15:			
CDFA Account			$ 2,082,611
Bank of America Account			$ 907,601
Total Funds			**$ 2,990,212**
Revenue *			$ 1,879,278
Expenditures and Encumbrances			
Expenditures**			$ 1,903,548
YTD Research Contract Encumbrances			
FY 13/14	$	222,215	
FY 14/15	$	220,531	
FY 15/16	$	967,964	
FY 16/17	$	1,002,395	
FY 17/18	$	549,009	
FY 18/19	$	91,927	
			$ 1,410,710
Ending Balance as of 3/31/2016			
CDFA Account			$ 2,177,447
Bank of America Account			$ 788,495
Total Funds			$ 2,965,942
Adjusted Balance* **			**$ 1,555,232**

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

Mill Assessment Trends

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

Mill Assessment Trends

	2012/13	2013/14	2014/15	2015/16
	1.5 mill	2 mill	2 mill*/ 3 mill**	3 mill
July	$ 499,593	$ 571,280	$ 1,416,290	$ 2,310,808
August	$ 619,587	$ 1,091,065	$ 541,175	$ 1,260,241
September	$ 511	$ 16,276	$ 11,159	$ 175,100
October	$ 349,885	$ 510,158	$ 889,464	$ 751,077
November	$ 301,512	$ 533,733	$ 234,832	$ 941,636
December	$ 3,310	$ 620,250	$ 36,795	$ 123,351
January	$ 350,963	$ 601,502	$ 584,271	$ 613,056
February	$ 248,840	$ 375,509	$ 862,155	$ 887,738
March	$ 6,622	$ 14,158	$ 24,547	$ 72,343
April	$ 948,512	$ 932,019	$ 1,391,088	
May	$ 537,329	$ 301,170	$ 568,729	
June	$ 20,477	$ 45,695	$ 149,268	
	$ 3,923,142	**$ 5,612,815**	**$ 6,709,773**	**$ 7,135,350**

* July - December 2014 mill at .002
** January - June 2015 mill at .003

FERTLIZER INSPECTION ADVISORY BOARD

FINANCIAL SUMMARY

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&
Organic Input Materials Program

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FERTILIZER INSPECTION ADVISORY BOARD

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** Expenditure total per CDFA Financial Services Budget Report March 31, 2016. Amount does not reflect outstanding lag expenditures.

*** Adjusted balance accounts for all program encumbrances through June 30, 2016

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

Mill Assessment Trends

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	1.5 mill	2 mill	2 mill*/ 3 mill**	3 mill
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* July - December 2014 mill at .002

** January - June 2015 mill at .003

Agenda Item 5

Inspection & Compliance Updates

Nick Young, Supervising Special Investigator II

Sampling Summary 2015

Official Samples	**1,085**
• Conventional Samples	629
• OIM Samples	456
• Additional Investigative Samples	158

Sampling Summary 2015

- Overall Violation Rate 18%
- Conventional Violation Rate 18%
- OIM Violation Rate 19%

Sampling Summary 2015

Highest Violation Rates

- Total Nitrogen 12%
- Humic Acid 25%
- Gypsum Equivalent 24%
- Calcium Carbonate 20%

Sampling Summary 2015

- **520 Firms Sampled**

Most firms sampled in 10+ years

Sampling Summary 2015

Registration Violations	**192**
Unlicensed Location Violations	**73**
Label Violations	**141**

Sampling Summary 2015

340 Heavy Metals Analyses

1 Violation

Organic Input Material Inspections

Through March 2016

53 OIM Inspections completed by CDFA

- ✓ **California**
- ✓ **Oregon**
- ✓ **Nevada**
- ✓ **Arizona**

- Total Inspections Required **283**
- OIM Inspections Complete **19%**

Organic Input Material Inspections

OIM Inspections completed by Ecocert for the first year contract

- ✓ U.S. **81**
- ✓ Mexico and Canada **10**

2016 Administrative Penalty Update

Paid or Payment Plan

Info since January FIAB Meeting

$26,957.11 ***Conventional***
$23,911.38 ***OIM***
$12,060.41 ***Conventional & OIM***
$9,798.00 ***OIM***
$1,613.46 ***Conventional***
$1,500.31 ***Conventional***

New Notice of Proposed Action (NOPAs)

Info. since January FIAB Meeting

$5,898.48 **OIM**

- *Misbranding/Registration*

$14,375.24 **Conventional**

- *Misbranding/Registration*

2016 Complaints

- **Formal Complaints Investigated 60**
  1 investigation ongoing
- **Complaints Regarding Organic 49**

Complaint Database

a.ca.gov/is/ffldrs/fertilizer.html

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

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Laws & Regs

CDFA Home > Inspection Services > FFLDRS > Fertilizer Materials Inspection Program

FERTILIZING MATERIALS INSPECTION PROGRAM

The Fertilizing Materials Inspection Program is an industry-funded program that ensures consumers receive fertilizing materials that are safe and effective and meet the quality and quantity guaranteed by the manufacturer. Inspectors and investigators located throughout the state conduct routine sampling and inspections; respond to consumer complaints; and enforce the laws and regulations that govern the manufacturing and distribution of fertilizing materials. Registration staff carefully review product labels for misleading claims and compliance with existing labeling requirements. (Fertilizing Materials Licensing, Registration & Labeling Guide) The Organic Input Material program registers and inspects fertilizing materials used in organic crop and food production.

As part of the Fertilizing Materials Inspection Program, the Fertilizer Research and Education Program (FREP) facilitates research to advance the environmentally safe and agronomically sound use and handling of fertilizer materials. The program is funded through the collection of a license fees, mill tax and registration fees.

FERTILIZER MATERIALS INFORMATION

GENERAL INFO

- Our Mission
- Laws & Regulations
- Search Staff Directory
- FFLDRS Database
- Organic Input Material (AB 856) Legislative Report
- File a Complaint

Fertilizing Materials

Complaint Form

apps5.cdfa.ca.gov/fmc/

Home | Admin

Fertilizing Material Complaint Form

Please use this form to communicate complaints about fertilizing materials. A CDFA investigator will promptly evaluate and investigate each complaint. Complaints without sufficient details may not have enough information for an investigation.

Date

06/26/2015

Your Name/Title | Your Company

Your Contact Information

(The CDFA investigator may contact you if they have additional questions.)

Phone Number | Email Address

Address | City | Zip Code

If you wish to remain anonymous, please do not include your contact information above. Please keep in mind that omitting this information may limit an investigation as we may not be able to clarify details or ask additional questions.

COMPLAINT INFORMATION:

Is this concerning an Organic Input Material*?

☐ Check if "Yes"

(Fertilizing material intended for organic food and organic crop production.)

Fertilizer Registration Updates

Luz Roa, Senior Environmental Scientist (Supervisory)

Registration Applications

- Conventional
  - Approved
  - Pending review

Aug	Dec	Apr
7,754	8,006	4,835
84	146	911 Renewals 472 New

- OIM
  - Approved
  - Pending review

Aug	Dec	Apr
1,447	1,544	693
41	68	419 Renewals 135 New

- Total Approved Labels
  - 2014 - 2015 period: 9,608

Registration Renewals

- Updated Labels (~50%)
  - OIM & Conventional labels
  - GHS requirements
    - Additional label changes
- OIM Renewals
  - Formula changes
  - Missing OIM documentation
  - Early submissions
    - Approved (76%)
    - Delays – no payment, missing invoices/lab results, new ingredients

Chelates – N Guarantee

- Notice to Industry – August 21, 1995
- FIAB Meeting Discussions
  - April 21, 1994
  - October 14, 2014

Agreement #	Project Leader(s)	Institution	Project Title	Grant Start Date	Grant End Date	12/13	13/14	14/15	15/16	16/17	17/18	18/19	Grant/Contract Balance	Grant/Contract Fund Amount	Comments
On-going Projects															
10-0013-SA	Cahn	U.C.C.E	*Irrigation and Nitrogen Management Web-based Software for Lettuce Production*	1/11/2011	6/30/2016	0.00	0.00	604.43	47,128.00	-			**47,732.43**	**255,122.00**	
11-0453-SA	Sanchez	Unv. Arizona	*Exploring the Potential for Using Transgenic Crops for Improved Fertilizer Use Efficiency*	1/1/2012	7/31/2015	0.00	0.00	24,178.00	-	-			**24,178.00**	**149,178.00**	Final Report Due
12-0362-SA	Smith & Cahn	UCCE	*Evaluation of N Uptake and Water Use of Leafy Greens Grown in High-Density 80-inch Bed Plantings and Demonstration of Best Management Practices*	1/1/2013	6/30/2016	0.00	0.00	0.00	28,634.00	-			**28,634.00**	**153,634.00**	
12-0385-SA	Putnam & Pettygrove	UC Davis	*Characterizing N Fertilizer Requirements of Crops Following Alfalfa*	1/1/2013	1/31/2016	0.00	0.00	25,799.49	24,983.00	-			**50,782.49**	**149,983.00**	
12-0386-SA	Sanchez, Andrade & Nolte	Unv. Arizona	*Development of Economically Variable Rate P Application Protocols for Desert Vegetable Production Systems*	1/1/2013	1/31/2017	0.00	0.00	0.00	15,632.00	-			**15,632.00**	**140,632.00**	
12-0391-SA	Pinel	WPHA	*Developing Fertilizer Best Management Guides from FREP Research*	1/1/2013	1/31/2017	0.00	16,400.00	16,400.00	8,200.00	-			**41,000.00**	**49,200.00**	
12-0392-SA	Pinel	WPHA	*Improving Nitrogen Fertilizer Management in California*	1/1/2013	1/31/2017	0.00	50,000.00	50,000.00	12,500.00	-			**112,500.00**	**137,500.00**	
12-0454-SA	Smart, Hopmans, Brown &	UC Davis	*Optimizing the Use of Groundwater Nitrogen for Nut Crops*	1/1/2013	12/31/2016	0.00	0.00	0.00	51,424.87	-			**51,424.87**	**472,730.00**	
12-0455-SA	Cahn, Smith & Hartz	UCCE	*Determining the Fertilizer Value of Ambient Nitrogen in Irrigation Water*	1/1/2013	12/31/2016	0.00	0.00	0.00	43,205.50	-			**43,205.50**	**280,536.00**	
13-0145	Stark	CAPCA	*Provide Ntirogen Management Training Program for CDFA*	11/1/2013	6/30/2016	-	1,399.68	12,375.00	-	-			**13,774.68**	**24,750.00**	
13-0241-SA	Parker, Brown, Hartz et al.	UC ANR	*Nitrogen Management Training for Certified Crop Advisors*	8/1/2013	6/30/2016	-	154,415.06	63,456.00	30,917.00	-			**248,788.06**	**359,616.00**	
13-0267-SA	Hutmacher Orloff Wright	UC ANR	*Developing Nitrogen Management Strategies to Optimize Grain Yield and Protein Content While Minimizing Leaching Losses in California Wheat*	1/1/2014	12/31/2016	-	0.00	0.00	27,143.21	41,750.00			**68,893.21**	**225,000.00**	
13-0268-SA	Smith Cahn Hartz	UC ANR	*Improving N Use Efficiency of Cool Season Vegetable Production Systems with Broccoli Rotations*	1/1/2014	12/31/2016	-	0.00	0.00	25,487.50	14,052.00			**39,539.50**	**175,658.00**	
14-0452-SA	O'Geen Hopmans	UC ANR	*A Data Driven Nitrate Leaching Hazard Index and BMP Assessment Tool*	1/1/2015	12/31/2017			0.00	37,494.70	74,816.69	37,367.00		**149,678.39**	**224,511.05**	
14-0481-SA	Culbertson DeRohan	CA Foundation for Ag in the Classroom	*Plant Nutrients in the Classroom*	1/1/2015	12/31/2017			27,718.47	52,376.87	43,152.33	18,493.95		**141,741.62**	**141,741.62**	
14-0508-SA	Sanchez Smith	Unv. of Arizona UC ANR	*Field Evaluation and Demonstration of Controlled Release N Fertilizers in the Western United States*	1/1/2015	12/31/2017			0.00	37,480.39	74,993.62	37,513.24		**149,987.25**	**224,966.45**	
14-0555-SA (11-0470)	Putnam Stark	UC ANR CAPCA	*CA CCA FREP Educational/Outreach Program*	1/1/2015	12/31/2017			0.00	46,643.50	42,205.00	19,976.50		**108,825.00**	**134,999.00**	

15-0231-SA (11-0485)	Geisseler Horwath	UC ANR	*Online Fertilization Guidelines for Agricultural Crops in California*	7/1/2015	6/30/2017				37,110.37	74,782.60			**111,892.97**	**149,003.34**
15-0356-SA	Haffa Post Horwath	California State Monterey Bay	*Quantifying N2O Emissions under Different On-farm Irrigation and Nutrient Management BMPs that Reduce Groundwater Nitrate Loading and Applied Water*	7/1/2015	6/30/2018				89,335.11	81,808.00	93,815.00		**264,958.11**	**270,000.00**
15-0360-SA	Klassen Fulton	CURES	*Evaluation of the Multiple Benefits of Nitrogen Management Practices in Walnuts*	7/1/2015	6/30/2018				99,604.02	81,362.30	34,250.40		**215,216.72**	**224,994.00**
15-0392-SA	Klassen Prichard	CURES	*Train the Trainer: A Nitrogen Management Training Program for Growers*	7/1/2015	6/30/2018				17,343.77	40,455.00	27,901.00		**85,699.77**	**139,568.00**
15-0393-SA	Burt	Cal Poly SLO	*New Fertigation Book*	7/1/2015	6/30/2017				62,253.26	122,815.00			**185,068.26**	**224,477.00**
15-0410-SA	Geisseler	UC ANR	*Developing a decision support tool for processing tomato irrigation and fertilization in the Central Valley based on CropManage*	7/1/2015	6/30/2018				37,444.32	74,907.98	74,920.06		**187,272.36**	**224,716.00**
15-0454-SA (11-0301)	Harter	UC ANR	*N Fertilizer Loading to Groundwater*	7/1/2015	6/30/2016				13,231.00				**13,231.00**	**13,231.00**
15-0492-SA	Brown	UC Davis	*Prediction of Summer Leaf Nitrogen Concentration from Early Season Samples to Better Manage Nitrogen Inputs at the Right Time in Walnuts, Prunes, and Pears*	1/1/2016	12/31/2018				41,698.76	78,325.89	72,535.66	35,908.54	**228,468.85**	**228,469.00**
15-0522-SA	Smith Cahn	UC ANR	*Evaluation and demonstration of nitrogen and phosphorus management in organic leafy green vegetable production on the Central Coast*	1/1/2016	12/31/2018				43,410.15	82,596.95	57,911.25	18,724.45	**202,642.80**	**202,642.80**
15-0523-SA	Kandelous Brown	UC Davis	*Improving nitrate and salinity management strategies for almond grown under micro-irrigation*	1/1/2016	12/31/2018				37,282.67	74,314.15	74,325.01	37,293.53	**223,215.36**	**223,215.00**
Available Funds						**$1,000,000**	**$1,457,139**	**$1,500,000**	**$2,300,000**	**$2,000,000**	**$2,000,000**	**$2,000,000**		
Total Contract Amount						**$1,108,548**	**$1,422,198**	**$1,216,842**	**$1,501,937**	**$1,082,914**	**$624,585**	**$91,927**		
Invoices Paid						**$1,108,548**	**$1,199,983**	**$996,311**	**$533,973**	**$80,576**	**$75,576**	**$0**		
YTD Encumbered Funds						**$0**	**$222,215**	**$220,531**	**$967,964**	**$1,002,338**	**$549,009**	**$91,927**	**$3,053,983**	

Agenda Item 7b

2016 FREP Updates

Barzin Moradi, Senior Environmental Scientist (Supervisory)

2016 Regular RFP Priority Areas

1. IMPROVING INPUT MANAGEMENT:
   - Developing Integrated Decision Support Tools
   - Education and Outreach (*Technical Education*)
   - Promoting Adoption of Best Management Practices (BMPs) or Developing New BMPs
   - Addressing barriers to Adoption of Management Practices
2. UNDERSTANDING SOIL-PLANT PROCESSES:
   - Filling Knowledge Gaps for Nitrogen Management in Specific Crops
   - The Role of Soil Organic Mater and Organic Fertilizing Materials on Nutrient Management
3. LOSS PATHWAYS:
   - Understanding and Quantification of Nitrate Movement in Deep Soil in Relation to Management Practices
   - Development of Easy-to-Use Technologies for Field-Scale Management of Water and Nitrate Leaching
   - Nitrous Oxide

Concept Proposals for the 2016 Regular RFP Advanced for Full Proposal

Author	Title	Project Duration
Geisseler	Development of a tool to estimate site-specific soil N mineralization for improved fertilizer N use efficiency	Three years
Geisseler & Horwath	Nitrogen availability and fertilizer value of organic amendments	Three years
Sanchez & Agiuar	Demonstration of Efficient Nitrogen Management Practices for Mixed Leafy Baby Vegetables in the Desert	?
Hall & Sanchez	Field evaluation of N2O emissions from alternative fertilizer management practices in California/southwestern US vegetable production systems	Three years
Anderson & DeRohan	Nutrient Management Seminars to Enhance Fertilizer, Soil, and Plant Health Knowledge Expectations	Three years
Brown et.al.	Development of nutrient budget and early season nutrient prediction model for Citrus	Two years
Jin & Brown	Block-level Yield Prediction for Seasonal N Fertilization Strategies in California's Almond Orchards.	Three years

Concept Proposals for the 2016 Regular RFP Advanced for Full Proposal

Author	Title	Project Duration
Parikh et. al.	Evaluation of Biochar for On-Farm Soil Management in California	Three Years
Brown	Can nitrification inhibitors increase N use efficiency in almond production?	Two Years
Cahn, Fulton & Brown	Online Decision Support Tools for Irrigation and Nitrogen Management of Central Valley Crops	Three Years
Horwath	Evaluation of composts and digestates of food and manure in long-term nutrient planning	Three Years
Walley et. al.	Training for Irrigators on Integrated Management of Irrigation Systems based on Climate, Soil and Plant Data	Three Years
Rolshausen et. al.	Validating Leaf Nutrient Critical Values for Citrus	Three Years

Concept Proposals did not advance

Project Title	PIs
Development and Implementation of an Outreach and Education Program for Agricultural Operators in the San Jacinto Watershed	Pat Boldt
Implementation of Efficient Water and Nitrogen Management Practices in Processing Tomato with High Frequency Subsurface Drip Irrigation	Claude Phene et. al.
Irrigation and Nitrogen Use Optimization Program for Central Coast Specialty Crops: Facilitating grower adoption of CropManage by linking existing tools, technology and technical assistance	Chris Coburn
Enhancing Nitrogen Reduction Below the Root Zone – Laboratory and Pilot-Scale Study of Nitrate Transport in Agricultural Soils	Bwalya Malama
Development of Timed-Release Organic Fertilizers to Improve Nitrogen Management in Organic Strawberry Production	Joseph Blankinship and Joshua Schimel
Cloud Computing Services to Optimize Water and Nitrogen Fertilizer Use Efficiency at Orchard level using Remote Sensing	Joaquim Bellvert Rios et. al.
Integrated Regional Irrigation and Fertilizer Management for Groundwater Protection	William Green and Kaomine Vang

Concept Proposals did not advance

Project Title	PIs
Reducing Orchard Leakiness through Controlled Very High Frequency Low-N Fertigation using Micro-Irrigation Systems	David Smart et. al.
"How Does Your Garden Grow?"	Judy Culbertson and DeAnn Tenhunfeld
San Joaquin Sustainable Farming Project (SJSFP) Fertilizer Education Outreach Project for almond and cotton growers	Marcia Gibbs
Determination of the appropriate rates and the effect of cow urine on soil properties and cauliflower yield at Harar, Ethiopia	Birhanu Messele
Development of a dynamic crop model for a better understanding of water and nitrogen management of almond orchards in California	Phillipe Stoop and Theodore DeJong
Combining DeNitrification-DeComposition (DNDC) modeling with grower decision support tools to mitigate N2O emissions in dairy forage and cool season vegetable production systems	Martin Burger
An online tool for optimization of irrigation and fertigation management	Maziar Kandelous et. al.
Effect of soil profile and irrigation practice on tree root systems	Maziar Kandelous and Patrick Brown

Concept Proposals did not advance

Project Title	PIs
Impact of organic matter amendments on nutrient availability in conventional almond production	Patrick Brown
Effects of tannins-added dairy liquid manure on greenhouse gas emissions, nitrogen cycle, fertilization of corn, and microbial community of manure-amended soil	Pramrod Pandey et. al.
Solution Center for Nutrient Management: outreach on organic amendments for sustainable crop production	Sonja Brodt et. al.
Sustainable Agriculture Through Water and Nutrient Management and Soil Health	Tony Walters and Lorrie Steeley
Vermicompost Education and Outreach	Trent Sommers and Andre Nantkes
Testing and Refining the IrriQuest Decision-Support Tool for Derivation of Agricultural Water Use Fractions in California	Lee Johnson
A Web-Based Platform to Manage Leaching Fraction	Shawn Ashkan and David Zoldoske
Optimizing integrated manure and mineral N fertilizer inputs for corn forage systems	Amelie Gaudin

Concept Proposals did not advance

Project Title	PIs
Nitrogen Management Education for Socially-Disadvantaged Organic Farmers in the Salinas Valley	Nathan Harkleroad
Translating Low-Cost, Site-Specific Measurements to Best Nitrogen (N) Management Practices in California Wheat	Mark Lundy et. al.
Education and Outreach on Biochar:Water, Fertility, and Environmental Impacts	Milt McGiffen
Adjusting the Use of Controlled Release Fertilizer to Optimize Nitrogen Management in Conventional Strawberry Production	Chris Coburn
Quantifying the agronomic and ecosystem services benefits of walnut shell biochar as a soil amendment in small farm carrot production.	Garrett Liles
Reducing N Inputs up to 30% in Bearing Almonds	Greg Baker et. al.
Providing Education to California Agriculture Growers on how to Improve and Sustain Soil Health	Greg Baker et. al.
Microbial Inoculants can Enhance Root Growth and Nitrogen Uptake of Tomato	Hossein Zakeri et. al.

Nitrogen Management Training for Growers in Central Valley

Grower Self-Certification

- **Curriculum development**: Condensed form of CCA training, FREP funded project with UC Davis in collaboration with FREP staff, completed September 2015
- **Train-the-trainer module**: FREP funded project with Coalition for Urban/Rural Environmental Stewardship (CURES), some 28 CCAs were recruited and trained in October 2015.
- **Grower training sessions**: Started in November 2015, in various locations across multiple coalitions areas, 30 sessions completed, ~3 scheduled through May 2016

Category	Stat
Exams graded (through 4/1/16)	1878
Grower training meetings held to date	30
Future training meetings scheduled	3
Scheduled CCA trainers	21
Total eligible CCA trainers	28
Total pass rate	82%
Average exam score	79%

Nitrogen application data in Central Coast region: Regional Water Board's report

Highlights from the report:

- Two-year data collection suggests growers in tier 2 and 3 are applying nitrogen significantly more than recommended values by university researchers for multiple crops
- If nitrogen in irrigation water (groundwater) included in the calculations, the difference between nitrogen applied and recommended becomes even more significant.
- The N application is reduced for the second year, compared to the first year.

State Water Board's proposed order for East San Joaquin region in response to petitions

Proposed changes to the order:

- Submitting field level information to the regional water board in addition to the aggregated data by the grower coalitions
- Increased tracking and reporting of nitrogen and irrigation water
- Monitoring drinking water wells
- Removal of the groundwater vulnerability designations
- The changes are precedential for the entire state

Food Safety Modernization Act (FSMA) Updates

Preventive Controls

Amadou Ba, Ph.D.
Environmental Program Manager II
California Department of Food and Agriculture

Internal Program staff training

- June 2016

  Train the Trainer Training

- August/September 2016

  FDA Inspection Training

SAFE Program

- 2016-2017 **Qualified Individual Training** Workshops
- In an effort to promote firm compliance with the newly mandated FSMA regulations, SAFE will host Qualified Individual Workshops quarterly beginning September 2016. These workshops will be 2-2.5 days and will result in certifying Qualified Individuals for firms. Dates of workshops are below:

Dates Subject to change

- September 2016
- January 2017
- April 2017
- August 2017
- November 2017

FSMA Inspection Readiness

	INDUSTRY EDUCATION & OUTREACH	FIRM GMP INSPECTIONS	FIRM P.C. COMPLIANCE INSPECTION
2016			
Very Small Firms	x		
Small Firms	x		
Large Firms	x	x	
2017			
Very Small Firms	x		
Small Firms	x	x	
Large Firms	x	x	x
2018			
Very Small Firms	x	x	
Small Firms	x	x	x
Large Firms		x	x
2019			
Very Small Firms	x	x	x
Small Firms		x	x
Large Firms		x	x

Preventive Controls Requirements

- Preventive control requirements mandate that animal food facilities identify and evaluate ***"known and reasonably foreseeable 'hazards'"*** associated with the facility and its animal food and implement one or more ***"preventive controls"*** and components to manage such controls (monitoring, verification, corrections and corrective actions, records, and recall plans) for ***"hazards requiring a preventive control"***

- A **written food safety plan** must be developed

§ 507.31 Food safety plan

(a) You must prepare, or have prepared, and implement a written food safety plan

(b) One or more **preventive controls qualified individuals** must prepare, or oversee the preparation of, the food safety plan

(c) The written food safety plan must include:

(1) The written hazard analysis)

(2) The written preventive controls as required

(3) The written supply-chain program as required

(4) The written recall plan as required

(5) The written procedures for monitoring the implementation of the preventive controls as required

(6) The written corrective action procedures as required

(7) The written verification procedures as required

(d) The food safety plan required ... is a record that is subject to the requirements of subpart F (records)

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§ 507.33 Hazard analysis

(b) The hazard identification must consider:

(1) Known or reasonably foreseeable hazards that include:

(i) **Biological hazards**, including microbiological hazards

(ii) **Chemical hazards**, including **radiological hazards**, substances such as pesticide and drug residues, natural toxins, decomposition, unapproved food or color additives, and nutrient deficiencies or toxicities

(iii) **Physical hazards** (such as stones, glass, and metal fragments)

(2) Known or reasonably foreseeable hazards that may be present … for any of the following reasons:

(i)The hazard occurs **naturally**

(ii)The hazard may be **unintentionally introduced**

(iii) The hazard may be **intentionally introduced** for purposes of economic gain

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Potential Impacts to Ingredients Manufacturers

- **Phosphate** based ingredients have to meet heavy metals standards for feed
- ***Urea*** is not adulterated with nitrate nitrogen or any contaminants.
- Ingredients sold to commercial feed manufacturers are feed and must be labeled as feed grade not industrial grade.

Supplier control and verification

- Relationships with ingredient suppliers is key. Individual plants should have a written set of procedures within their food safety plan that outlines receiving procedures, reject criteria, initial, and ongoing supplier audits.

- Ingredients used in the manufacture of feed must be approved for use by a regulatory agency. Suppliers should be ready to provide a certificate of analysis, and detailed documentation that outlines the preventive steps they have in place to ensure that no biological, chemical, or physical hazards can effect the efficacy of the ingredient being purchased.

Public Meetings on Implementation of FSMA Prevention-Oriented Import Safety Programs

Dates & Locations

- **Tuesday, June 7, 2016** (8:30 a.m. – 3:00 p.m.)
  The Hilton Costa Mesa
  3050 Bristol Street
  Costa Mesa, CA 92626
- **Wednesday, June 15, 2016** (8:30 a.m. – 3:00 p.m.)
  Renaissance Meadowlands Hotel
  801 Rutherford Avenue
  Rutherford, NJ 07070
- **Tuesday, June 21, 2016** (8:30 a.m. – 3:00 p.m.)
  Double Tree Suites by Hilton Hotel Detroit – Downtown Fort Shelby
  525 W Lafayette Boulevard
  Detroit, MI 48226

Center for Analytical Chemistry
Fertilizer Laboratory
Final Report - 2015

Fertilizer Samples

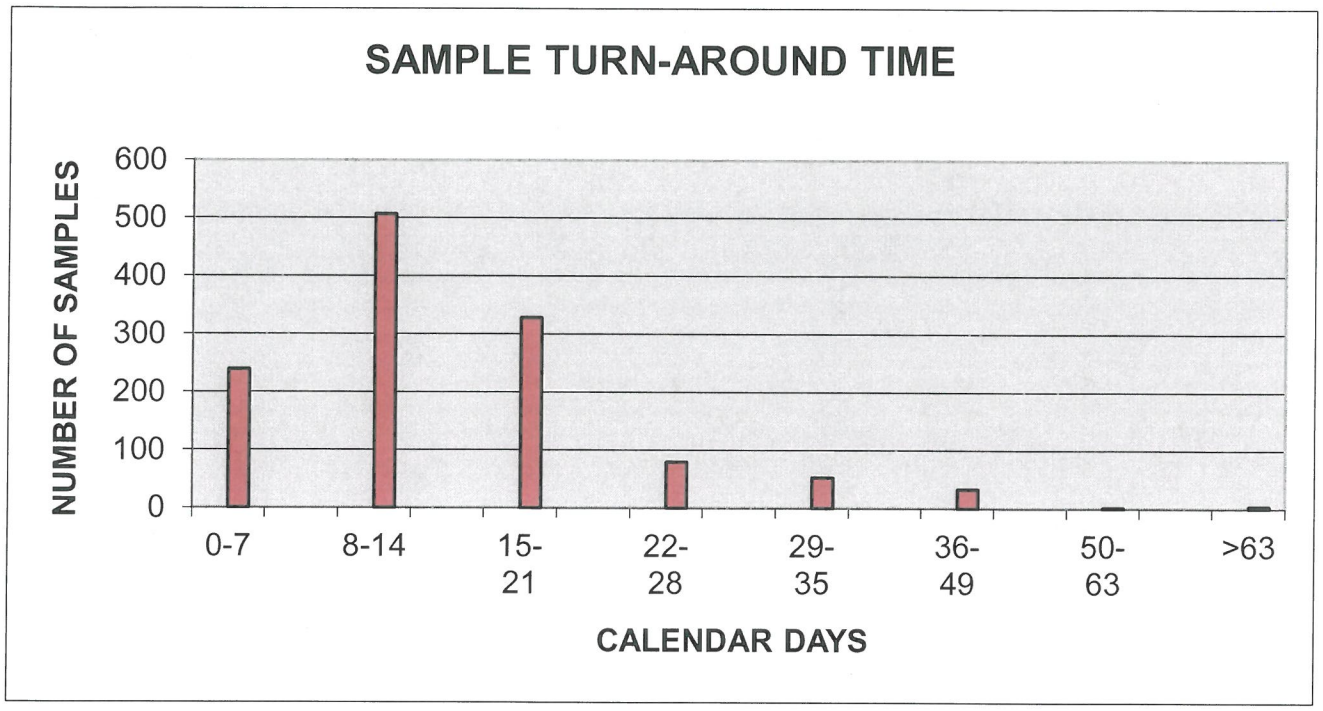
Total Number of Samples Received	1,246
Routine Samples	1,180
Priority Samples	10
Partial Rush Samples	23
Rush Samples	33
Total Number of Samples Completed	1,246
Total Number of Assays Requested	6,046
Routine Assays	5,857
Rush Assays	189
Average Number of Assays Requested per Sample	4.85

Turn-Around Time for Fertilizer Samples
January - December 2015

Summary

Total Samples Received - 1,251

Total Samples Completed - 1,246



Calender Days	# of Samples	% of Total	Cumulative Total
0-7	239	19.2%	
8-14	507	40.7%	59.9%
15-21	328	26.3%	86.2%
22-28	80	6.4%	92.6%
29-35	53	4.3%	96.9%
36-49	33	2.6%	99.5%
50-63	2	0.2%	99.7%
>63	4	0.3%	100.0%
Total	1,246	100.0%	

FERTILIZER SAMPLES
JANUARY - DECEMBER 2015

Agenda Item 9c

No.	Fertilizer	Method	Routine		Rush		Totals
	N, P2O5, K2O		Assay 1	Assay 2	Assay 1	Assay 2	
1	Nitrogen - Total	Combustion	850	140	53	11	1054
2	Phosphorus - Available	Wet Chemistry	656	100	29	14	799
3	Potassium - Soluble	AA	757	75	26	7	865
4	Ammoniacal Nitrogen	Kjeldahl	62	6	2	1	71
5	Nitrate Nitrogen	Wet Chemistry	47	4	1	0	52
6	Phosphorus - Total	Wet Chemistry	6	2	0	0	8
7	Urea	Wet Chemistry	89	2	5	0	96
8	Water Insouble Nitrogen	Kjeldahl	90	0	6	0	96
	Miscellaneous						
9	Aminopyralid	LC/MS	2	0	0	0	2
10	CCE	Wet Chemistry	18	1	0	0	19
11	Density	Wet Chemistry	1	0	4	0	5
12	Free Water	Oven	62	0	0	0	62
13	Gypsum Equivalent	Calculation	63	10	0	0	73
14	Humic Acid	Wet Chemistry	164	83	7	1	255
15	Microscopy	Microscope	3	0	0	0	3
16	Moisture	Oven	48	0	2	0	50
17	Pesticide Screen	GC/MS and LC/MS	0	0	0	0	0
18	pH	pH Meter	81	1	20	0	102
19	Salinity	Wet Chemistry	7	0	0	0	7
20	Vitamin B1	LC	4	0	0	0	4
	Minerals						
21	Arsenic	AA	360	3	9	0	372
22	Cadmium	AA	360	2	9	0	371
23	Lead	AA	360	2	9	0	371
24	Boron	ICP	111	39	0	0	150
25	Calcium	ICP	334	16	0	0	350
26	Chloride	Wet Chemistry	30	2	0	0	32
27	Cobalt	ICP	20	14	0	0	34
28	Copper	ICP	94	14	0	0	108
29	Iron	ICP	213	18	0	0	231
30	Magnesium	ICP	167	9	1	1	178
31	Manganese	ICP	144	15	0	0	159
32	Molybdenum	ICP	83	29	6	6	124
33	Nickel	ICP	0	0	0	0	0
34	Selenium	ICP	0	0	0	0	0
35	Sodium	ICP	16	0	0	0	16
36	Zinc	ICP	179	15	0	0	194
	Plant Growth Regulators						
37	6-Benzylaminopurine	LC/MS	3	0	0	0	3
38	Chlormequat Chloride	LC/MS	3	0	0	0	3
39	Daminozide	LC/MS	3	0	0	0	3
40	Ethephon	LC/MS	3	0	0	0	3
41	Forchlorfenuron	LC/MS	3	0	0	0	3
42	Mepiquat Chloride	LC/MS	3	0	0	0	3
43	Paclobutrazol	LC/MS	3	0	0	0	3
44	Prohexadione	LC/MS	3	0	0	0	3
45	Uniconazole	LC/MS	3	0	0	0	3
	Sulfur						
46	Sulfur - Elemental	Wet Chemistry	4	1	0	0	5
47	Sulfur - Sulfate	Wet Chemistry	87	10	0	0	97
48	Sulfur - Total	Wet Chemistry	258	45	0	0	303
	Fertilizer		Routine		Rush		Total
	Assays		Assay 1	Assay 2	Assay 1	Assay 2	
	Total		5857	658	189	41	6745