



**Fertilizer Research and Education Program (FREP)
Technical Advisory Subcommittee (TASC)**
California Department of Food and Agriculture (CDFA)
2800 Gateway Oaks Drive, Room 101
Sacramento, CA 95833
(916) 900-5022

**March 10, 2017
9:00 AM**

MINUTES

TASC Members

Dr. Jerome Pier
Mr. Rex Dufour
Dr. Eric Ellison
Ms. DD Levine
Dr. Marc Los Huertos
Dr. Steve Petrie
Dr. Barzin Moradi
Mr. David McEuen
Ms. Jenny Rempel

CDFA Staff

Dr. Amadou Ba
Mr. Mark Cady
Ms. Brooke Elliott
Ms. Natalie Jacuzzi
Dr. Doug West

Interested Party

Ms. Brittany Munoz

WELCOME AND INTRODUCTIONS

Dr. Jerome Pier, Chair, called the meeting to order at 9:05 AM and welcomed the subcommittee. Dr. John Bushoven and Mr. Chuck Hornung were not able to attend the meeting. Self-introductions were made and a quorum was established.

REVIEW AND APPROVE MINUTES

Dr. Pier requested the subcommittee review the minutes of the September 16, 2016, meeting.

MOTION: Mr. David McEuen moved to approve the September 16, 2016, minutes; Mr. Rex Dufour seconded. The motion passed unanimously by present subcommittee members with a vote of 9 – 0.

DEPARTMENT, DIVISION, AND BRANCH UPDATES

Dr. Amadou Ba briefly introduced the three new TASC members: Steve Petrie, Jenny Remple, and David McEuen. Mr. McEuen is the liaison for the Fertilizer Inspection Advisory Board. The next TASC terms to expire, in September 2017, are Eric Ellison, Marc Los Huertos, Rex Dufour, and Jerome Pier.

Assembly Bill (AB) 2511 passed in September 2016, and biochar is now defined as a fertilizing material, requiring product label registration and mill assessment payment. A Budget Change Proposal (BCP) was submitted to the Department of Finance, requesting one Environmental Scientist position for the Fertilizing Materials Inspection Program (FMIP) to focus on standards for biochar product label requirements. The Senate Budget Subcommittee approved the funding during a hearing last week.

The FMIP evaluates labels and has a lab that runs approximately 6,000 assays on 1,200 fertilizer material products per year. Biochar materials will also be evaluated at the lab. Manufacturers have a choice to make biochar a conventional or organic product.

AB 1605, introduced by assembly member Caballero, concerns nitrate in drinking water and liability of growers regarding the Maximum Contaminant Level (MCL) of nitrate in drinking water. A provision of the bill protects persons and entities against liability if they take action and address the drinking water issues.

The issue of providing safe drinking water for impacted communities is in progress to move toward a bill. It involves several communities, including agriculture, environmental groups, and water purveyors. Currently, funding mechanisms for providing replacement water are being explored.

At the program level, the Feed program made a case against a licensee who distributed horse and calf feed contaminated with high levels of monensin, which can be toxic. Many horses died, as well as calves, from eating the feed. The settlement is \$726,000, and \$526,000 will go to the program, while \$200,000 will go toward compliance process improvement.

Upon the passing of California Proposition 64, the Medical Cannabis Cultivation Program became CalCannabis, and will implement and regulate cannabis. The program is creating an Environmental Impact Report on the crop and continues to hire new staff.

UPDATE ON THE STATE AND REGIONAL WATER BOARDS PROGRAMS

Mark Cady announced updates about the Regional Water Quality board meetings in the Central Coast. The most recent agricultural waiver, "3.0," was adopted at the last board meeting. The new waiver is slightly different than the previous one. The main difference is the Total Nitrogen Applied (N) reporting requirement expanded from 600 ranches to 1700, which requires more ranches to submit an N report. The next waiver will incorporate results of legal actions and petitions, and it will be adopted in less than five years.

FREP applied for a Specialty Crop Block Grant, a federal grant administered by CDFA. The program received the grant for a project to develop training and demonstration opportunities on the Central Coast on cool season vegetables. The University of

California Cooperative Extension and the Resource Conservation District (RCD) of Monterey County are collaborating with FREP on this project. The RCD will focus on irrigation training in Spanish. The grant is for \$260,000 for two and a half years.

DISCUSSION AND RECOMMENDATION OF 2017 CONCEPT PROPOSALS

Dr. Pier led discussion in reviewing and voting on the 2017 concept proposals; 35 proposals were received. TASC voted a majority “yes” for the following 11 proposals.

- Understanding Nitrate Fate and Transport below the Root-Zone under a Groundwater-Reuse Nutrient-Irrigation Management Program
Bwalya Malama, Cristina Lazcano, Christopher Appel, Gregory Schwartz
- Synchronization of irrigation volumes and N fertigation rates to optimize resource use efficiency in processing tomatoes under buried drip
Felipe H. Barrios Masias
- A System Nitrogen Balance for Container Plant Production
Lorence R. Oki, Bruno J.L. Pitton
- Training on Crop Management that Integrates Climate, Soil and Irrigation System Data to Minimize Nutrient Loss and Optimize Irrigation Efficiency
Trina Walley
- Coupling Soil-Microbial-Hydrologic Processes to Design New Nutrient Management Guidelines for Micro-Irrigated Agricultural Systems
Helen E Dahlke, Daniel Geisseler, Jorge LM Rodrigues, and William R Horwath
- Corn Nitrogen Uptake and Water Use Model for California Growers
Martin Burger, Mark Lundy
- Assisting Central Coast Vegetable and Berry Growers in Successfully Completing Total Nitrogen Applied Reports and Improving Understanding of Nitrogen Fertilization of Those Crops
Parry Klassen, Tim Borel
- Rapid Rate of Travel Evaluation of Connection between Nitrate in Root Zone and Groundwater as Affected by Crop and Soil Management
John Dickey, Ken Cassman
- Assessment of Harvested and Sequestered Nitrogen Content to Improve Nitrogen Management in Perennial Crops
John Dickey, Ken Cassman
- Developing Strategies for Overcoming Barriers to BMP Adoption
Pam Krone-Davis
- Evaluation of Nitrogen Uptake and Applied Irrigation Water in Asian Vegetables Bok Choy, On Choy, Chives, Daikon, and Lemongrass
Aparna Gazula, Ruth-Dahlquist Willard, Daniel Geisseler

TASC voted a majority “no” for the 24 following proposals.

- Nitrogen and Phosphorus Mineralization in Compost Bedded Pack Dairy Barns
Mark S. Coyne
- Immobilizing Soil Nitrogen in Agricultural Soils by Improving Aggregate Structure and Promoting Microbiological Diversity
Thomas Piatkowski, Mike Mobley, Lance Beem
- Apple Creek Vineyard Farm
Robert Hoze
- What Can Your Soil Do For You?: Targeted Farmer Outreach and Assessment of Barriers to the Adoption of Soil Carbon Restoration Practices in California Agriculture
Christina David
- Growers Network and Demonstration Sites to support Carbon Farming and Improve Input Management in San Diego County
Ann Baldrige, Sheryl Landrum
- Airborne Remote Sensing to Manage Almond Nutrient Status and Resilience to Biotic Stresses
Christian Nansen
- Sustainable fertilizer management of tomato crops through innovative integration of mycorrhiza and airborne remote sensing
Elvira de Lange, Dr. S. Franz Bender
- Fertilizer and Soil Fact Bites
Judy Culbertson, DeAnn Tenhunfeld
- What’s Growin’ On? – Agriculture and the Environment
Judy Culbertson, DeAnn Tenhunfeld
- Sprinkler Irrigation and Fertigation Management Calculator
Charles A. Sanchez, Dawit Zerihun
- Biochar and N Management in Desert Vegetable Production Systems
Charles A. Sanchez
- Evaluation of Fertilizer Nitrogen and Water Use Efficiency of Sub-Surface Drip Irrigated Corn and Sorghum Forages in California
Nicholas Clark, Steven Wright, Robert Hutmacher, Mark Lundy, Jeffery Dahlberg
- Mobile Soils Education Trailer
Trent Sommers, Andre Nantkes
- Evaluation of Conversion of Dairy Manure and Food/Greenwaste Feedstocks into Fertilizers and Carbon Negative, Nutrient Rich Biochar Co-Products, Measuring their Effectiveness in Nutrient Management, Water Conservation, and as Sources of Plant Available Nitrogen in Soil Amendments

Steve McCorkle, David Crohn

- Evaluating Management Practices for Minimizing Nitrogen Movement Below the Root Zone in Processing Tomatoes
Parry Klassen, Michael Johnson
- Assessment of N-loss Pathways and Contributions From a Unique Poultry Manure + Biochar + Humic Acid Organic Fertilizer and Grower Practice in CA Lettuce Systems
Arlene Haffa
- On Farm Fertilizer and Water Application Training and Certification
Pam Krone-Davis
- Statewide Training on Organic Amendments, Soil Health, and Nutrient Management
Sonja Brodt, Kate Scow, Robert Wilson, Jeffrey Dahlberg, Jeffrey Mitchell, Darren Haver, Jose F. DeSoto, Jairo Diaz, Oli Bachi
- Research on the Use of Customized Soil Amendments
Craig Williams, Rochelle Swanson
- Identifying and Quantifying the Rhizosphere Microbial Community of Cover Crops Associated with Reduction of Nitrate Leaching
Jorge LM Rodrigues, Martin Burger, Daniel Geisseler, Helen Dahlke, William Horwath
- Evaluation of anaerobic digestate from the High Solids Anaerobic Digestion of Green Waste and Food Waste and its Role as a Source of Soil Organic Matter and Organic Fertilizing Materials on Nutrient Management in Soil
David Crohn, Clarke Pauley
- Improving Sustainable Fertilizer Practices for Pomegranate by Leaf Nutrient Concentration Evaluation and Fertilizer Trials
Lauren Garner, Ben Faber
- Autonomous Feedback Control System for Optimizing Water & Nitrogen Use Efficiency and Minimizing Nitrate Leaching Potential
Dave Goorahoo
- Citrus Crop Nutritional Monitoring
Kenny Lam, Tenesor Pena

AGENDA ITEMS FOR FUTURE MEETINGS

The full proposals submitted to FREP will be reviewed. In addition, ideas and suggestions for the future research priorities, the process of the Request for Proposals, and funding will be on the next meeting agenda.

NEXT MEETING

The next meeting will be scheduled via a Doodle poll.

ADJOURN

MOTION: Dr. Eric Ellison moved to adjourn the meeting; Mr. Rex Dufour seconded. The motion passed unanimously by present subcommittee members with a vote of 9 – 0.

Dr. Pier adjourned the meeting at 3:38 PM.

Respectfully submitted,

Original signed by Barzin Moradi

December 28, 2016

Dr. Barzin Moradi
Senior Environmental Scientist (Supervisory)
Fertilizer Research and Education Program

Date