



**Fertilizer Research and Education Program (FREP)
Technical Advisory Subcommittee (TASC)**
California Department of Food and Agriculture (CDFA)
145 Tozier Street, Ste. 101, Madera, CA 93638

HYBRID TELECONFERENCE MEETING

**January 31, 2023
9:00 AM**

MINUTES

MEMBERS PRESENT

Dr. Charlotte Decock
Dr. Ben Faber
Dr. Jan Hopmans
Dr. Mike Almasri
Dr. Rob Mikkelsen
Dr. Tom Bottoms
Edgar Macias
Dave McEuan

MEMBERS ABSENT

Dr. Jairo Diaz
Daniel Rodrigues
Dr. Sebastian Saa

CDFA STAFF

Dr. Amadou Ba
Dr. Emad Jahanzad
Dr. Martin Burger
Jennifer Harmon
Mark Cady
Nicole Nunes
Karen Adler

WELCOME AND INTRODUCTIONS

Dr. Tom Bottoms, Chair, called the meeting to order at 9:08 AM. Introductions were made and a quorum was established.

ELECTION OF VICE CHAIR

Dr. Bottoms requested the subcommittee discuss and elect a Vice Chair. Dr. Mike Almasri volunteered to serve as Vice Chair.

MOTION: Dr. Ben Faber moved to recommend Mike Almasri as Vice Chair; Dr. Jan Hopmans seconded. The motion passed unanimously with vote of 7-0.

REVIEW AND APPROVE MINUTES

Dr. Bottoms requested the subcommittee review the minutes of the August 23, 2022, meeting.

MOTION: Dr. Hopmans moved to approve the August 23, 2022 meeting minutes as submitted; Dr. Rob Mikkelsen seconded. The motion passed unanimously with a vote of 7-0.

DEPARTMENT, DIVISION, AND BRANCH UPDATES

Dr. Amadou Ba provided updates for the Division and Branch. Dr. Ba reminded staff and TASC members that the annual Form 700 is due. Dr. Ba also discussed the impact of recent floods on California agriculture. It appears that the flooding has not made an impact on fertilizer production or sales at this point.

The downward trend of Avian Influenza (AI) was discussed as far as it not affecting commercial poultry production in California, only backyard breeders.

State budget shortfalls will affect many general fund programs. Dr. Ba assured the TASC that industry funded programs like FREP will not be impacted. Dr. Bottoms asked Amadou how much funding will be available for FREP projects this year. Dr. Ba indicated that FREP can fund as many as seven proposals this cycle.

PROGRAM UPDATES

Mark Cady began updates by describing the work FREP staff is doing around strategic planning. Cady also discussed grower training being fully online with an updated platform. There have not been any requests for in-person training sessions yet this year. Cady described the progress and challenges with the Nitrogen and Irrigation Initiative (NII). Cady also spoke about upcoming conferences that FREP staff will be attending.

2023 REGULAR PRE-PROPOSALS

Dr. Bottoms led the discussion in reviewing and voting on the 27 2023 pre-proposal submissions. Pre-proposals with yes votes will be encouraged to submit full proposals. TASC voted yes on the following pre-proposals:

- Monitoring soil bulk electrical conductivity to detect and manage leaching- *Shawn Ashkan, et al.*
- No-till planting of rice into existing soil moisture to conserve irrigation water and ensure the sustainability of rice systems-*Bruce Linqvist*
- Estimating mineralization and nitrogen utilization from banded compost applications in drip irrigated sweet potatoes-*Daniel Geisseler, et al.*
- Facilitating grower adoption of cover crop nitrogen scavenging to minimize residual nitrogen discharge and comply with the irrigated lands water quality protection program (Ag Order 4.0) on the central coast of CA-*Sacha Lozano, et al.*
- Using Surfactants to Improve Water and Nitrogen Use Efficiency of Subsurface Drip Irrigated Processing Tomatoes-*Isaya Kisekka, et al.*
- Optimizing nitrogen fertilizer management on almond subject to sustained deficit irrigation and Ag-MAR in the San Joaquin Valley-*Abdelmoneim Mohamed, et al.*
- The economic and food security contributions of fertilizers in California-*Amrith Gunasekara, et al.*
- Evaluation of frass as a soil amendment and fertilizer for vegetable production in California-*Marco Gebiola, et al.*

- Improving nitrogen and potassium management in almond orchards with hulls and shells as a soil amendment and offground harvest-*Sat Darshan Khalsa, et al.*
- Optimizing K Fertilization Management in Almond and Pistachio Orchards-*Yufang Jin, et al.*
- Integrating smart tillage, cover cropping and variable-rate technologies into climate-adaptive soil management strategies to improve Nitrogen use efficiency of vegetable production in the Lower Colorado Basin-*Pedro Andrade-Sanchez, et al.*
- Evaluating Strategies for Increased Adoption of Nutrient and Irrigation Management for Central Coast Vegetable Production-*Valerie Perez*
- Nitrogen movement out of root-zones in Central Valley irrigated lands: a multi-scale management, monitoring, modeling, and outreach project-*Isaya Kisekka, et al.*

TASC voted No on the following pre-proposals:

- Monitoring Plant Fertilization and Dehydration Status through Plant Base Sensors in Tomato- *Adi Avni*
- Pathways for Success for Agricultural College Students in the California Desert Region-*Yu Meng, et al.*
- Farm- and Regional-Scale Hydrologic-Economic Modeling of Salinity Mitigation for Sustainable Agriculture and Water Management in the San Joaquin Valley-*Lubo Liu, et al.*
- Optimizing N Use Efficiency by Increased Adoption of Efficient Irrigation and N Fertilization Practices Targeted to Small Growers in Santa Clara County, CA-*Michael Johnson, et al.*
- Study Influence of Fulvic and Humic Substances and Biological Products on Nitrogen Use Efficiency in Almond-*Saiful Muhammad*
- Valorizing Dairy Manure Using Black Soldier Fly Larvae to Restore and Protect California's Soil and Water- *Gabriel Rubin*
- Application of a Bioreactive Soil Amendment to Stimulate Rapid and Efficient Denitrification and Reduction of Nitrate Load During Managed Recharge-*A. T. Fisher*
- Reduce Nitrogen Inputs by Half with Botanical Extracts Stimulating Reactive Oxygen Species While Maintaining Crop Productivity and Nutritional Quality-*Gifford Gillette, et al.*
- Expanding Decision Support Tool Adoption to Guide Grower Nutrient and Irrigation Management and to Improve Yield, Profit, and Water Quality Outcomes-*Ken Miller, et al.*
- Life Cycle analysis in the production of vermicompost and its impact on soil health and orchard crop growth-*Cristina Lazcano, et al.*
- Evaluation of Variable Rate Fertilizer Viability for Lettuce Production-*Jeffrey Orrey, et al.*
- Impacts of Fertilizer Frequency on Soil Microbial Composition-*Patrick Brown*

- Use of Nitrogen-Improved Compost/Biochar Mixture from Chicken Manure to Enhance Soil at Dairy and Poultry Farms-*Raymond Baltar*
- Regenerative Agriculture and Dairies in California – Testing the Theory of Organic Matter Water Holding Capacity and Carbon Sequestration-*Chris Howard-Alexandre, et al.*

Letters will be sent to the authors with the TASC's decision and comments in February. Full proposals will be due by April 14, 2023, where the subcommittee will determine which proposals to recommend for funding.

PUBLIC COMMENTS

No public comments.

AGENDA ITEMS FOR FUTURE MEETINGS

No items at this time.

NEXT MEETING

The next meeting will be on May 19, 2023, in San Luis Obispo.

ADJOURN

MOTION: Dr. Rob Mikkelsen moved to adjourn the meeting; Dr. Ben Faber seconded the motion. The meeting was adjourned at 2:55 PM.

Respectfully submitted,

ORIGINAL SIGNED BY MARK CADY

Mark Cady
Senior Environmental Scientist (Supervisory)
Fertilizer Research and Education Program

Date: 02/16/2023