



California Department of Food and Agriculture (CDFA)
Fertilizer Research and Education Program (FREP)
Fertilizer Inspection Advisory Board (FIAB)
Technical Advisory Subcommittee (TASC)

Center for Analytical Chemistry
3292 Meadowview Road, Sacramento, CA 95832

California Polytechnic State University
Building 180-415, 1 Grand Avenue,
San Luis Obispo, CA 93402

HYBRID TELECONFERENCE MEETING

February 18, 2025
9:00 AM

MINUTES

MEMBERS PRESENT

Dan Cook
Daniel Rodrigues
Dave McEuen
Dr. Charlotte Decock
Dr. Mike Almasri
Dr. Tom Bottoms
Ehsan Toosi
Franklin Gaudi
Chris Shogren

MEMBERS ABSENT

Dr. Jairo Diaz
Dr. Sebastian Saa

CDFA STAFF

Dr. Emad Jahanzad
Jenna Leal
Jennifer Harmon
Joseph Donohue*
Karen Adler
Mark Cady*
Maria Tenorio Alfred
Nicole Nunes*

*Participated remotely

WELCOME AND INTRODUCTIONS

Dr. Tom Bottoms, Chair, called the meeting to order at 9:09 AM. Introductions were made, and a quorum was established.

REVIEW AND APPROVE MINUTES

Dr. Bottoms requested TASC review the minutes of the October 30, 2024, meeting.

MOTION: Dan Rodrigues moved to approve the October 30, 2024, meeting minutes as submitted; Dr. Mike Almasri seconded; the motion passed unanimously with a vote of 9-0.

DEPARTMENT, DIVISION, AND BRANCH UPDATES

Jenna Leal updated TASC on the freezing and unfreezing of federal grant funding. This would have impacted our Conservation Innovation Grant (CIG) and Specialty Crop Block Grant (SCBG) and other branch programs, including the Commercial Feed Inspection Program. Leal discussed legislative bills, including Assembly Bill (AB) 337, Senate Bill (SB) 88, AB 70, and AB 41, which the branch will be watching. Budget cuts were also discussed; FREP will not be heavily impacted by the mandatory 8% cut throughout the Department.

Branch updates also included staff from the Fertilizing Materials Inspection Program (FMIP) continuing to work toward understanding bio-stimulants and beneficial substances with staff members Nick Young and Kris Gulliver attending the Association of American Plant Food Control Officials (AAPFCO) conference this week.

A regulation package also concerning bio-stimulants and beneficial substances is expected to be released in the next few weeks for public comment. This package also lays out FMIP's new registration cadence and schedule for fertilizer registrations. Another regulation package concerning approved feed ingredients is also expected to be released for public comment soon. Leal discussed available funding for the 2026 research grant cycle.

PROGRAM UPDATES

Mark Cady discussed the FREP staff's attendance at conferences, meetings and webinars increasing the outreach for the grant program, resulting in the large number of pre-proposal submissions this year. Staff members Dr. Emad Jahanzad and Karen Adler will be attending the Western Nutrient Management Conference in March in Reno, Nevada.

Cady and Dr. Jahanzad are consulting with the Department's Executive Office to discuss implications of the State Water Resources Control Board Waste Discharge Requirements General Order for dairies. In addition, Karen Adler has been tracking with the progress of an expert panel reviewing evidence for NOx emissions from California agricultural lands for the California Air Resources Board (CARB). A final report will be released in April of this year.

Grower training in Ventura County has been putting on trainings in Spanish, an ongoing project funded by FREP.

Nitrogen Irrigation Initiative (NII)

Mark Cady provided updates regarding NII project activities including regular management and coordination meetings, the annual training and planning meeting in Parlier in January, ongoing on-farm consultations, field days and workshops and continuing education for grower self-certifications.

Cady announced that Nicole Nunes will be retiring at the end of March, and he will be retiring at the end of May.

2025 REGULAR PRE-PROPOSALS

Dr. Bottoms led the discussion in reviewing and voting on the 59 pre-proposal submissions for 2025. He began by giving a brief introduction of the grant process for new member Shogren. Pre-proposals with 'yes' votes will be encouraged to submit full proposals.

TASC voted yes on the following pre-proposals:

- Developing tools and information to enhance water-nitrogen use efficiency and sustainability of avocado production systems- *Montazar, A., Faber, B., Cahn, M.*
- Advancing irrigation and nitrogen management of cantaloupe in southern California using field experiments and remote sensing – *Verdi, A., Geisseler, D., Diaz, J., Scudiero, E.*
- Nitrogen fate in nursery production systems – *Shogren, C., Spinelli, G., Pitton, B.*
- A Nitrogen Balance Approach to Confirm Best Management Practices for Central Coast Nursery Crop Species– *Buchanan, M., Johnson, M., Klassen, P., Jallo, C.*
- Quantifying the Value of Automation – *Hillyer, C., Bailey, B.*
- Nutrient Management: A Collaborative Approach between Agriculture and Regulatory Programs in the San Diego Region – *Mellano, V., Spinelli, G., et al.*
- Development of Date Palm N fertilization rates and nutrient demand curves – 2025 – *Wright, G.*
- Development of diagnostic tools to support site-specific N management decisions in organic cropping systems – *Zerbe, P., Decock, C., Grieshop, M., et al.*
- Reducing Orchard Nitrate Leaching to Groundwater with HFLC and AgMAR: Ground-Truthing and Guiding the ILRP Assessment Tool – *Harter, T., Kisekka, I., Dahlke, H., Brown, P., et al.*

TASC voted No on the following pre-proposals:

- Conversion from almond orchard to annual crop production: improving nutrient cycling and soil health with woodchips and manure application – *Xu, S., Lazicki, P., Geisseler, D., Light, S., Leinfelder-Miles, M.*
- Fully Biodegradable and Compostable Biomaterial Pouches as a Slow and Controlled Release Fertilizer Carrier (SCRFC)– *Tajparast, M., Wilson, G., Nelson, J., Black, A.*
- Protecting Soil and Water Quality with Compost Applications on Small Latine-operated farms on the California Central Coast– *Chavez, J., Lipschutz, R., Bell, K., Decock, C.*
- Irrigation Management and Water Conservation platform – optimize nutrient application with a good Irrigation management practice/procedure – *Maradani, S., Tanikella, A., Symmonds, G., Taglia, T., Alcala, A.*

- Investigating Mycelial & Bacterial Contributions to Commercial Crop Nutrition and well-being.– *Crevozhay, R., Crawford, N.*
- Evaluating nitrogen and water dynamics for optimizing fertilizer management on almond orchards transitioning into regenerative practices.– *Rosenberg, S., Mohamed, A., Bali, K., Chiartas, J., Kisekka I., et. Al.*
- Innovative 3-tiered technologies to enhance nitrogen use efficiency in controlled environment crop production in California – *Savi, P., Almeida, F., Carciofi, B., Nansen, C.*
- SLEWS Academy: Growing the SLEWS (Student, and Landowner, Education, and Watershed Stewardship) Program in California – *Britt, S., Dumas, A., McIntyres, I.*
- Transforming Soil Health in a Legacy Avocado Grove with DNA Analysis and Advanced Microbial Solution – *Maskell, S., Sauder, B., Covell, S.*
- Nitrogen additive that enhances nitrogen assimilation in plants by attracting cations, such as ammonium, and holding available in the root zone for more efficient use. – *Hartmeier, K., Lemons, JW., Burrows, J., Zwingman, M.*
- Enhancing Sustainability of Soilless Strawberry Cultivation by Optimizing Water and Nutrient Use– *Cammarisano, L., Ahamed, M.*
- Farm Trials for Biochar and Mixed Biochar and Compost Application Roles In Soil Nutrient Management– *Lum, P., Gallardo, H., Das, S., Perez, V.*
- Increasing Capacity in Nutrient Management, Irrigation Efficiency, and Farm Viability for Hmong and Latino Farmers– *Nares, D., Trujillo, A., et al.*
- FARM-URBAN: Facilitating Access to Resources and Monitoring for Urban Farm Nutrient and Irrigation Training– *Gao, S., Kaur, S.*
- Safe and Effective Fertigation Strategies: Bilingual Training for Napa Valley Winegrape Growers – *Hegarty, E., Mosely, C.*
- Evaluating the effectiveness of chickens for fertilizing soil, managing pests, and mitigating weeds, on an organic agave farm – *Walsh, A.*
- Evaluating the Impact of Enhanced Efficiency Fertilizers on Yield Improvement and Nitrate Leaching Reduction in Processing Tomatoes– *Kisekka, I., Peddinti, S., Lazicki, P.*
- Pajaro Valley Crop Water and Nutrient Monitor – *Lozano, S., Hermstad, D., Josephson, C.*
- ROOTS: Revitalizing Orchards with Organic Treatments for Sustainability – *Ho, N., Li, B., mcclelland, C., Grady, M., Hanzawa, Y.*
- Purephos: Advancing “Climate Smart” Farming with the use of Organic, Water-Soluble Phosphorus Fertilizer– *Sabine, M.*
- High-resolution soil mapping and in-season rapid soil testing to enable effective and scalable 4R management. – *Scudiero, E., Mauk, P., Montazar, A., Verdi, A., Cahn, M.*
- Evaluating Carbon-Based Products for Enhancing Nutrient Efficiency, Soil Health, and Crop Yield.– *Zyl, S., Ghanem, R.*

- Enhancing Central California Farm Productivity through Field Projects and Trainings for Effective and Sustainable Nutrient and Irrigation Management– *Xie, Y., Bansal, S., Sun, Q., Liu, L.*
- Empowering California Farmers Through Cross-Generational Knowledge Transfer for Sustainable Nutrient and Irrigation Practices – *Bigala, D.*
- Rapid, eco-friendly and cost-effective assessment of nutrient content in major California tree fruit and nut crops via portable X-ray fluorescence spectrometry – *Amaral, D., Lima, F., et al.*
- Nitrogen mineralization dynamics in biofiltration vermicompost amended Soils: understanding crop N uptake, and N losses through N₂O emissions.– *Lazcano, C., Geisseler, D., Malal, H., Herrera, A.*
- Evaluation of Dr. Elaine Ingham’s Soil Food Web Approach and Microscopy Application (smapp) for Prescribing Treatments to Improve Nutrient Management– *Noble, D., Lenches-Hinkel, C., Portugal, C., Sykes, B.*
- Scaling adoption of research-based fertilization practices in southern California sub-tropical orchard production.– *Matava, M., Mellano, V., Lovatt, C.*
- Advanced Pumping Efficiency Program with Emphasis on Education and Outreach for Efficient Water Use and Fertilizer Applications for Groundwater Protection– *Gunlund, A., Perez, K., Hendricksen, L.*
- Yolo County RCD Fertilizer and Irrigation Education for Staff and Farm Demonstration Project– *Higgins, C.*
- Soil health and soil fertility certification program for technical assistance providers to improve organic nutrient management in California agroecosystems– *Bischak, E., Smet, E., Scheurich, N.*
- Developing Economically Viable Soil Conservation Strategies to Mitigate Runoff, Soil Erosion and Nutrient Loss – *Zakeri, H., Brasier, K.*
- A novel approach to optimize nitrogen fertilizer use in vegetable production through integration of state-of-the-art soil and plant sensor technologies – *Sanchez, P., Sanchez, C., Gomes, R., Heun, J.*
- How fermented agricultural residuals function as an organic biofertilizer by improving plant and soil microbiome interactions – *Saltikov, C., Rocereto, M., Yildiz, F., Lopez, M.*
- Reducing nitrogen reliance in California rice production through the use of grid-based variable rate phosphorus and potassium application – *Schohr, R., Womack, S., et al.*
- Effects from the use of biostimulants and soil microbial inoculants on nutrient mineralization and release, soil health and growth of a subsequent planting of almond trees following whole orchard recycling (WOR) – *Verrinder, T., Flores, O., Dougherty, T.*
- A Root’s Eye View into Understanding Nitrogen Mineralization Dynamics of Composts -Optimizing Agricultural Use Under SB1383 – *Waterhouse, H., Smith-Helman, B., Sangree, E.*
- Identifying “Best Management Practices” to optimize nitrogen efficiency in drill-seeded rice in California – *Pippitt, J., Campos, A., Winings, J.*

- Sustainable Nutrient and Water Management on Diversified Small Farms – *Kraus, E.*
- Composting Systems for Soil Health Education and Outreach Project – *Hassoun, A., Khatiwoda, R., Joseph, A.*
- Developing Slow-Release Fertilizer Products from Tree Nuts Biochar and Dairy Manure Nutrient for Tomato Cultivation – *El Mashad, H., Zhang, R., Chiou, B., McCaffrey, Z.*
- Living for Today: Specialty Crop Growers – *De La Rosa, L., De La Rosa, A.*
- Maintaining nutrient content in animal and poultry manure compost using biochar from hazardous fuel reduction programs – *O'Meara, M., Poncia, A., Morrison, C.*
- Smart Irrigation with iot system for Precise and efficient Fertigation practices – *Daccache, A., Saccaria, A., Montazar, A., Safai, M.*
- REAP Climate Center Fertilizer Education Program Pre-Proposal: "Regenerative Roots" program – *DeLong, J., Silva, L.*
- Evaluation of microalgae and arbuscular mycorrhizal fungi biofertilizer influence on soil properties, plant available nutrients, pistachio salinity tolerance, and productivity – *Culumber, M., Hale, L., Benga, S., Marino, G., Coelho, J.*
- Field trial evaluation of carbonic acid efficacy for soil pH control and enhanced tree nutrient uptake – *Culumber, M., Bansal, S.*
- Characterizing nitrogen mineralization from multiple manure by-products to inform nutrient management, expand utilization, and improve decision support and environmental models – *Klein, M., Geisseler, D., Clark, N., et al.*
- Effects of Whole Orchard Recycling on Nutrient Availability in Established Pear Orchards – *Blackmer, C.*
- Determining if soil microbiome composition can predict indigenous nitrogen supply from California rice fields – *Rehman, T.*

Letters will be sent to the Principal Investigators (PI) with the TASC's decision and comments in March 2025. Full proposals will be due by April 14, 2025, where the TASC will determine which proposals to recommend to the FIAB for funding.

PUBLIC COMMENTS

No public comments.

AGENDA ITEMS FOR FUTURE MEETINGS

None at this time

NEXT MEETING

Will be in May; a doodle poll will be sent out.

ADJOURN

MOTION: David McEuen moved to adjourn the meeting; Dr. Mike Almasri seconded the motion. The meeting was adjourned at 4:05 PM.

Respectfully submitted,

ORIGINAL SIGNED BY MARK CADY

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

Date: 2/18/2025