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

Hilton San Diego Airport/Harbor Island
1960 Harbor Island Drive
San Diego, CA 92101
September 19, 2012

Minutes

TASC MEMBERS
Jack Wackerman, Chair
Tom Gerecke, Vice-Chair
Eric H. Ellison
Marja Koivunen
Robert Mikkelsen
Doug West

CDFA STAFF
Asif Maan
Erika Lewis
Edward J. Hard

WELCOME AND INTRODUCTIONS

The meeting was called to order at 8:30 a.m. Mr. Jack Wackerman, Chairperson, welcomed the subcommittee. Self-introductions were made and a quorum was established. Dr. Michael Cahn, Dr. Dennis Chessman, Dr. Holly Little, Mr. David McEuen, and Dr. Jerome Pier were unable to attend. Newly appointed TASC member Dr. Marja Koivunen introduced herself to the group. Dr. Koivunen is an experienced agrochemical research scientist with a background in both academia and industry. She is currently the Senior Project Manager at Eurofins Agroscience Services.

REVIEW AND APPROVE MINUTES

Mr. Wackerman requested the committee to review the minutes of the June 12, 2012 meeting in Sacramento.

MOTION: Mr. Tom Gerecke moved to approve the minutes as submitted. Dr. Doug West seconded. The motion passed unanimously.

REVIEW OF 2012 FULL PROJECT PROPOSALS

Mr. Wackerman led discussion in reviewing the proposals received in response to the 2012 Special Request for Proposals (SRFP). Applicants were asked to submit proposals focusing on research utilizing the “pump and fertilize” method in concert with nitrogen budget worksheets to show proof-of-concept.

FREP received six full project proposals. The TASC discussed each project proposal in detail, taking into consideration the comments received from each proposal's independent peer review panel. Of the six submitted projects, the TASC determined that two proposed projects adequately addressed the "pump and fertilize" concept. The following two proposals were recommended to the Fertilizer Inspection Advisory Board for approval:

1. **Determining the Fertilizer Value of Ambient Nitrogen in Irrigation Water**
   Michael Cahn, Richard Smith, and Tim Hartz

2. **Optimizing the Use of Groundwater Nitrogen for Nut Crops**
   David Smart, Patrick Brown, Thomas Harter, and Jan Hopmans

DISCUSSION OF AB 2174

Dr. Asif Maan gave a presentation to the TASC about AB 2174 and how it will impact FREP. AB 2174 amends the California Food and Agricultural Code Section 14611(b) as follows:

> *(b) In addition to the assessment provided in subdivision (a), the secretary may impose an assessment in an amount not to exceed one mill ($0.001) per dollar of sales for all sales of fertilizing materials, to provide funding for research and education regarding the use and handling of fertilizing material, including, but not limited to, support for University of California Cooperative Extension, the California resource conservation districts, other California institutions of postsecondary education, or other qualified entities to develop programs in the following areas:*
> *(1) Technical education for users of fertilizer materials in the development and implementation of nutrient management projects that result in more agronomically sound uses of fertilizer materials and minimize the environmental impacts of fertilizer use, including, but not limited to, nitrates in groundwater and emissions of greenhouse gases resulting from fertilizer use.*
> *(2) Research to improve nutrient management practices resulting in more agronomically sound uses of fertilizer materials and to minimize the environmental impacts of fertilizer use, including, but not limited to, nitrates in groundwater and emissions of greenhouse gases resulting from fertilizer use.*
> *(3) Education to increase awareness of more agronomically sound use of fertilizer products to reduce the environmental impacts resulting from the overuse or inefficient use of fertilizing materials.*

Dr. Maan summarized that AB 2174 seeks to clarify the role and focus of FREP. In the past 20 years, FREP has primarily focused on area two, conducting research to improve nutrient management practices. As a result of AB 2174, FREP must begin focusing on areas one and three as well by providing technical education for users of fertilizer materials and education/outreach to increase awareness of the agronomically sound

use of fertilizer products. Dr. Maan explained that area one refers to the creation of tools for growers, while area three refers to outreach and promoting awareness of issues related to fertilizer use. CDFA is in the process of developing a nitrogen management training and certification program for Certified Crop Advisors that will address area one.

Mr. Gerecke asked whether AB 2174 limits FREP to solely funding research projects from California universities or resource conservation districts. Dr. Maan explained that FREP will continue to fund research conducted by "other qualified entities," which includes qualified contract researchers and organizations such as the California Certified Crop Advisor Program.

Dr. Maan explained that AB 2174 expands the scope of FREP to include the emission of greenhouse gases resulting from fertilizer use in addition to nitrates in groundwater. Dr. Rob Mikkelsen asked whether this will prohibit FREP from funding vital agronomic research that may not directly deal with greenhouse gases or nitrate. Mr. Edward Hard clarified that the law states "including but not limited to," which allows for the possibility of funding research on other nutrients in addition to greenhouse gases and groundwater nitrate.

DISCUSSION OF 2013 RESEARCH PRIORITIES

Dr. West then led a discussion of proposed research priorities for 2013. As a group, the TASC agreed upon the following research priorities for the 2013 Request for Concept Proposals:

- **Demonstrating Agronomically Sound Uses of Fertilizing Materials at the Field Scale:** Demonstrate results from basic experimental research trials (prior FREP research, etc.) with organic and conventional fertilizers at the field scale.
- **Managing Agricultural Nitrogen:** Research the agronomically sound use of nitrogen fertilizing materials, including:
    - Minimizing nitrate movement below the root zone
    - Minimizing nitrous oxide emissions related to fertilizer use
    - Evaluating strategies to increase crop N use efficiency
- **Developing Best Management Practices (BMPs):** Development of nutrient BMPs and educational materials for agriculture and urban landscapes.
- **Education and Outreach:** Development of educational materials to increase awareness of agronomically sound use of fertilizing materials. Extension efforts to implement best management practices.

These research priorities will be released in December 2012 as part of the 2013 Request for Concept Proposals.

DISCUSSION OF STATISTICAL GUIDELINES FOR PROJECT REPORTS

Mr. Gerecke led discussion about the issue of achieving consistent data reporting from FREP researchers. Currently, there are no guidelines about what types of data must be reported to FREP by funded researchers. Mr. Gerecke suggested that FREP researchers should be required to report certain statistical parameters, for example standard error of the mean, coefficient of variation, p-value, etc.

Mr. Wackerman suggested Mr. Gerecke chair a subcommittee to further discuss developing statistical guidelines and revising reporting requirements; subcommittee volunteers include Dr. Eric Ellison, Dr. Jerome Pier, Dr. Doug West and Dr. Marja Koivunen. A tentative meeting was proposed for Monday, October 15th at 10 a.m.

DISCUSSION OF TASC STEWARD RESPONSIBILITIES

Mr. Edward Hard led a discussion of the TASC Steward responsibilities. Mr. Hard clarified that to eliminate confusion, Dr. West will be the point of contact between primary investigators and their TASC Stewards. Dr. West explained that he will be reviewing project reports to ensure they are meeting milestones and adhering to the stated scope of work; he will seek advice on specific subjects from TASC Stewards as needed.

REVIEW APPLICATIONS FOR TASC VACANCIES

Ms. Erika Lewis introduced the discussion of the single upcoming TASC vacancy. Mr. Wackerman's term was expiring and he indicated his interest in serving another term. In addition to Mr. Wackerman, two other individuals applied to serve on the TASC. The TASC members reviewed the resumes for all three applicants.

Dr. Mikkelsen inquired about the required makeup of the TASC, specifically whether Mr. Wackerman is fulfilling one of the roles outlined in the bylaws. Ms. Lewis read the bylaws to the TASC. Discussion ensued and the TASC agreed that Mr. Wackerman's experience in the fertilizer industry brings an important perspective to the TASC. Mr. Gerecke stated for the record that he believes there is currently an abundance of qualified technical experts (PhDs) already serving on the TASC; he personally would like to see the TASC maintain a breadth of membership, encompassing industry members and CCAs as specified in the bylaws. The other TASC members agreed with Mr. Gerecke's statement.

MOTION: Dr. Rob Mikkelsen moved that Mr. Jack Wackerman be recommended to the Fertilizer Inspection Advisory Board for appointment to another three year term on the TASC. Dr. Eric Ellison seconded. The motion passed unanimously.

NEXT MEETING

Ms. Lewis will set up a Doodle poll in November to assess availability for the spring TASC meeting.

MOTION: Dr. Doug West moved to adjourn the meeting. Mr. Tom Gerecke seconded the motion. The motion passed unanimously and the meeting was adjourned at 1:30 p.m.

Respectfully submitted,

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Erika Lewis, Research Analyst Date
Division of Inspection Services