

Central Valley Regional Water Quality Control Board

19 January 2016

Agricultural Water Quality Coalitions
[See Attached List]

CROP NITROGEN KNOWLEDGE GAP STUDY PLAN AND GUIDANCE DOCUMENTS

The Board thanks you for the submittal of the “Crop Nitrogen Knowledge Gap Study Plan and Guidance Documents” (Study Plan), which we received on 18 December 2015. You submitted the Study Plan in response to a directive that the Executive Officer issued on 19 February 2015, which required that you provide a Crop Nitrogen Knowledge Gap Study Plan describing the current understanding of crop nitrogen uptake and removal, recommended methods for calculating nitrogen removal that will be provided to Member growers, and how any identified knowledge gaps associated with crop nitrogen uptake and removal will be addressed. At a minimum, the Crop Nitrogen Knowledge Gap Study Plan was to have identified:

1. The current state of knowledge regarding crop nitrogen uptake/removal for Central Valley crops;
2. The methodology(ies) that are currently available to estimate crop nitrogen removal;
3. How the Coalitions will disseminate study plan results (assessment of current understanding and knowledge gaps) to growers;
4. A proposed workplan and milestone schedule for addressing any identified knowledge gaps and the rationale for any proposed prioritization;
5. The relationship and associated timelines between the study plan, the Management Practices Evaluation Program (MPEP), and the California Department of Food and Agriculture’s Fertilizer Research and Education Program (CDFA FREP).

While the Study plan provides a great deal of valuable information to the Board regarding the manner in which the coalitions will work with the growers in the Central Valley to evaluate crop nitrogen uptake/removal, Board staff has reviewed the Study Plan and has identified the following concerns and informational needs that must be addressed before final approval:

- In accordance with Items 1 and 2 of the above requirements, the Study Plan discusses various existing sources of information for determining nitrogen removal rates, as well as a proposed methodology for estimating crop nitrogen removal on a crop-by-crop basis. The Study Plan proposes a step-wise process for developing the nitrogen removed calculators, with the initial step using only information from the CDFA FREP website.

However, the Study Plan indicates that CDFA FREP information for 11 of 17 crops is not “sufficiently reliable” to develop calculators. Since the process proposed by the Study Plan places heavy reliance on CDFA FREP information, and since the Study Plan deems this

information unreliable, no nitrogen removal information would be provided for the majority of crops in the initial round of reporting. This obviously presents a very significant data gap. In order to accept this conclusion, the Board requires that you revise the Study Plan to better explain why the CDFA FREP information is unreliable and to justify why it is not possible to utilize other data sets to calculate nitrogen removed (e.g. UC Davis, NRCS). Because reporting of nitrogen removed for some Coalitions is scheduled to begin this year (Spring/Summer 2016), this information must be provided by **19 February 2016** so that additional review and consideration may be given to whether additional crop calculators may be used for the first round of reporting.

- Also in accordance with Items 1 and 2 of the above requirements, the Board requests that you revise the Study Plan to include a discussion of the assumptions made in proposing the nitrogen removed calculators, and the confidence associated with the nitrogen removed values that will be generated by the calculators.
- In accordance with Item 3, the Study Plan needs to be revised to describe the communication methods that will be utilized to provide information from the Study Plan to growers. The Study Plan includes nitrogen removed calculators as well as general guidance information for filling out the Nitrogen Management Plan. The Study Plan's information dissemination discussion is acceptable for general guidance; however, more specificity is needed regarding how the information will be disseminated to growers. The Study Plan must identify the specific communication methods that will be used to provide the grower's nitrogen removed information to each grower in a timely manner. Furthermore, there is a sentence in the Study Plan that must be revised to prevent confusion. In the second paragraph of page 1, there is a sentence with the following phrase, "on that template, growers will report the ratio of applied nitrogen (A) to yield (Y) as the indicator of N removed from the field." The nitrogen applied to yield ratio must not be used as an indicator of nitrogen removed in the template; nitrogen removed will be provided to the grower by the coalition. This sentence must be revised to ensure there is no confusion that the coalitions will be calculating nitrogen removed and providing that value to each grower.
- In accordance with Items 4 and 5, the Study Plan must be revised to identify a work plan and milestone schedule for addressing knowledge gaps and the rationale for this prioritization. The relationship and associated timelines for the Study Plan, MPEP, and CDFA FREP must also be identified. The Study Plan needs to define the steps that will follow approval of the Study Plan. The revised Study Plan must also include the prioritization rationale for developing or revising nitrogen removed calculators.

A revised Study Plan must be submitted by **19 February 2016** that addresses the needs identified above.

If you have questions regarding these requirements, please contact Sue McConnell at (916) 464-4798.

Original signed by Patrick Pulupa for

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Central Valley Regional Water Quality Control Board

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