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September 17, 2013

Ms. Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
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Subject: Comments to A-2209 (a) -(e) - September 24, 2013, Board Meeting."

Dear Sir/Madam:

Thank you for the opportunity to provide comment on the State Water Resources Control Board (SWRCB) Petition A-2209 (a) – (e). Comments are narrowly limited to the proposed changes found in the September 9, 2013 draft order and are referenced by the page number on which the proposed changes are found.

Page 14. Future development of Orders for third party programs and individuals would be welcome.

Page 25. Compliance determination requirements contained in the September 9, 2013, draft order are much improved over language in previous orders. Nevertheless, it bears repeating that many of the assumptions surrounding “known” management practices are not being supported by fieldwork. Projected efficacies are inflated. Projected costs are deflated.

Page 26. During the September 10, 2013, SWRCB meeting, State Board members asked RWQCB Staff if they knew of any research in respect to containment basins on the Central Coast. It should be noted that Dr. Andrew Fisher, UCSC, is currently researching the removal of nitrate in a managed aquifer recharge system in the Watsonville area. The scale of his research is much larger than most on-farm containment basins; however, there is discussion about how applicable his research is to on-farm containment structures. If there is applicability, then, these on-farm containment basins are likely providing more denitrification and nitrate removal than is currently supposed.

Page 32. There seems to be an assumption that nitrate concentrations in wells in the Salinas Valley are increasing at a similar geometric rate. Data are not corroborating this assumption. There are some wells increasing, some wells decreasing, some wells that have a steady state and others that have dramatic and inexplicable dips and spikes. Under these circumstances, a nitrate concentration within the 36-45 ppm (80-100 % of MCL) should not be sufficient to trigger followup monitoring. Perhaps, this should be revisited after the drinking well water data are collected, qualified and the contour maps are drawn? That would provide a more methodical and scientific approach to identify where followup monitoring should occur.

Page 34. Notice to the water consumer is essential for any drinking water well that exceeds the established MCL. Notice should be initiated immediately and within 24 hours. However, it bears repeating that, in many instances, notice cannot be completed within 24 hours. It is my understanding that Monterey County Department of Public Health has a 14-day notice requirement. While 14 days may be deemed unacceptable in the current political environment, surely it would be reasonable to allow more than 24 hours for notice to be given throughout the communication chain?

Page 44. The proposed reporting elements are not unreasonable. Comments made during the September 10, 2013 SWRCB draft order hearing stimulated thoughts as to data collection and reporting milestones. Central Coast Water Board Executive Officer, Ken Harris, testified that this information is what any grower should know in order to produce a crop. He was correct, except that most growers traditionally have not recorded this information that is being required. From years of experience, most growers are able to perceive minute changes in crop color and appearance that indicate crop responses to fertilizer, water and stress. This sensitivity and attention to detail is the art of farming. Unfortunately, most growers do not capture and record their art. Therefore, the recording process being required will be a new step for many growers. It doesn't mean that they are lackadaisical farmers or poor businessmen. It just means that they haven't needed capture this data in order to farm. Now, they need to develop different systems to document, substantiate decisions they have been making.

The *process* that needs to be developed in order for a grower to ultimately report the required information is as follows:

- Sampling
 - Choose the appropriate sampling techniques
 - Conduct sampling
 - Collect sampling results
- Data Management
 - Select a collection mechanism or database structure in which to house field-generated data
 - Transmit field data to a central repository
 - Organize data
 - Analyze the data for purposes of modifying and improving practices
- Reporting
 - Collate information to meet regulatory requirement
 - Report information to regulatory agency

From a field practitioner's perspective, at the time of adoption of the March 15, 2012, Central Coast Ag Order, the resources needed for each step were insufficient. While, much progress has been made in the past 18 months; there is still a need for substantial development.

For example, in regard to data management, in mid-2012, growers started making decisions about how to manage field-generated data. It was discovered that most available database structures were designed to: 1) make pesticide recommendations, do use reporting and label updates, 2) gather information for perennial crop sustainability programs, 3) help agronomists make production decisions on simple field crop or perennial crop systems, or 4) conduct financial accounting. None of the programs were appropriately designed to handle the complexities of cool season vegetable fertilizer and irrigation management systems. At best, most could gather gross information at the block level, but none were capable of gathering information down to the planting level.

Small- to medium-sized growers with less complicated production systems were confronted with the costs of purchasing commercial databases and decided to use pesticide label management

systems, excel spreadsheets, finance programs and/or other simple means of collecting information. They abandoned the concept of using data base management systems. Larger clients decided to ask database providers to continue development throughout 2012. Vendors made additional presentations in early 2013 and their substantial investments in research and development was evident. Database selections were made. Starting in second-quarter, 2013, growers began to populate databases. Initially, pesticide information was loaded because of the ease of working within an established system. Last month, nutrient work orders began to be captured and entered. The process for adding external work orders such as in-house or third-party fertilizer applications will be perfected over the winter. Hopefully, by 2014, the system and growers will be ready to capture irrigation information.

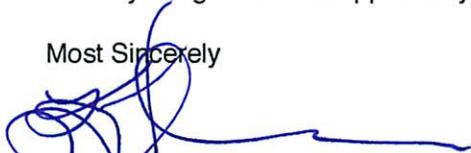
All growers have expressed interest in Crop Manage, an on-line fertilizer and irrigation management database and modeling tool developed by UCCE. However, as of spring, 2013, there were deficiencies with the system. The Crop Manage ET calculations were based on widely spaced CIMIS stations and were too imprecise to account for climatic gradients found in most coastal valleys. It is these climatic gradients that are the basis for minuscule, yet important, differences in soil and crop management. Likewise, Crop Manage does not presently incorporate irrigation water nitrate concentrations into its irrigation and fertilizer model because of uncertainty surrounding conversion factors. Hopefully, UCCE will be able to correct these factors very soon.

The point for this detailed description of the database selection process is to illustrate the complexities of data management. This is just the one stage in a long and involved process necessary to generate reportable information. Each step in the process is generating unique challenges and the need for further research and development. Sampling methods are still uncertain. Labor shortages limit in-house staff and the lack of technical consultants limit the amount of personnel available to collect and transmit data. Many growers are still trying to perfect the process for transmitting field-generated data to a central repository. Each grower is slowly developing a system that works best for his operation with the knowledge that there is much room for improvement.

With these system deficiencies in mind, it might be advisable for the State Water Board to create discrete compliance milestones for the entire data collection process rather than having growers simply report information without any quality check on the data collection process. Approaching the entire process more methodically would result in more useful, meaningful and comparable information on management practices effectiveness and water quality improvements.

Thank you again for this opportunity to provide comments.

Most Sincerely



Kay Mercer
President