



CCOF

Organic Certification

Education & Outreach

Political Advocacy

Promotion

(1/23/18) Board Meeting
A-2239(a)-(c)
Deadline: 12/22/17 by 12 noon



Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

December 20, 2017

Re: Comments to A-2239(a)-(c)

Dear Ms. Townsend and Members of the State Water Resources Control Board,

Thank you for considering the following comments from CCOF regarding the *Waste Discharge Requirements General Order No. R5-2012-0116 for Growers Within the Eastern San Joaquin River Watershed that are Members of the Third-Party Group*.

CCOF (California Certified Organic Farmers) advances organic agriculture and advocates on behalf of its members for policies in support of organic agriculture. CCOF supports the growth of organic agriculture through education, grant funding, and providing organic certification services.

CCOF is monitoring California water regulations to ensure that certified organic farmers' voices are heard during rulemaking. Please see our detailed comments attached. Thank you for considering our input. We are happy to provide additional information if needed.

Sincerely,

A handwritten signature in black ink that reads 'Jane Sooby'.

Jane Sooby
Senior Policy Specialist

Cc: Kelly Damewood, Director of Policy & Government Affairs
Cathy Calfo, Executive Director/CEO

CCOF Comment on Eastern San Joaquin River Watershed Draft General Order

Unique Aspects of Certified Organic Production Should Be Accommodated by Agricultural Orders

Certified organic farms are regulated under federal law, which requires that these farms adhere to a rigorous set of production and recordkeeping requirements.

Certified Organic Farmers Are Required by Federal Law to Prevent Water Contamination

Certified organic farmers are required under Title 7 Subtitle B Chapter I Subchapter M Part 205 §205.203 of the Code of Federal Regulations to manage fertility inputs so that they do not contribute to contamination of water by plant nutrients. This requirement is verified annually by accredited certifiers such as CCOF.

Organic Fertility Inputs Build Soil Organic Matter and Reduce Nitrate Leaching

In addition, organic farmers are not allowed to use highly soluble synthetic fertilizers. They use biological crop nutrient sources instead. While biological sources of nitrogen can leach when excess nitrogen is not absorbed by crop roots, studies show that organically managed soils are different than conventionally managed soils, primarily because biological nutrient inputs build soil organic matter while conventional fertilizers tend to deplete soil carbon (Russell et al. 2009). Soil organic matter holds moisture and nutrients in the soil and releases nutrients slowly over time (Hepperly et al. 2009), increasing the probability that nitrogen will be absorbed by crops before leaching past the root zone. Numerous studies found that long-term organic management decreases nitrate leaching from soils compared to conventional management (Snapp et al. 2010; Kramer et al. 2006; Burger and Jackson 2004; Poudel et al. 2002; McIsaac 2001).

Based on these unique characteristics, we expect that the measured A/R ratios on organic farms will differ from the ratios on conventional farms. We anticipate that the A/R ratios on organic farms will show that most of them have well-balanced nitrogen inputs and outputs. However, due to the wide range of environmental and climatic factors that can impact management practice timing, soil nutrient release, and crop yields, there will likely be wide variation in the A/R ratios found on different fields within and between organic farms.

Additionally, as detailed in the following section, accurate harvested biomass data will be very difficult to acquire and report.

Recommendation: Heed the Expert Panel's strong recommendation (Burt et al. 2014) to refrain from using A/R ratios as the basis for regulatory action until farmers, extension personnel, crop advisors, and regulators have time to understand which ratio values are appropriate for various regions, crops, and management systems.

Though Certified Organic Farmers Are Required by Federal Law to Document Input and Harvest Data, Reporting Accurate Biomass Data Will Be a Challenge for Highly Diversified Farms

Title 7 Subtitle B Chapter I Subchapter M Part 205 §205.103 of the Code of Federal Regulations requires that certified organic operations maintain production, harvesting, and handling records. These records are audited annually by accredited certifiers (such as CCOF), which review the Organic System Plan and associated documentation for every certified organic operation and conduct an onsite inspection of each operation annually.

CCOF Comment on Eastern San Joaquin River Watershed Draft General Order

Accredited certifiers implement this standard by requiring that certified organic growers maintain input application records that show all materials applied including date, rate, and location of application. Because of this, organic farmers will be well-positioned to provide data on nitrogen applications, especially if state and regional water boards are willing to be flexible in developing their data collection protocols and will accept organic farmers' input records as submitted to their accredited certifier.

Federal organic standards also require growers to "maintain records concerning the ... harvesting ... of agricultural products...". As an accredited organic certifier since federal accreditation began in 2002, CCOF has discovered that sales records, rather than biomass measurements, are the most accurate way to track harvests for purposes of verification. This is because it is typical for highly diversified vegetable farms that grow for farmers' markets to have numerous crops growing in succession on each field. With ongoing daily plantings and harvests of up to 80 crops per season, tracking actual biomass harvested is not a realistic expectation.

Accredited certifiers typically accept farmer's market load lists or CSA box records as a proxy for harvest records because requiring separate recordkeeping of actual harvest weights at each harvest is an onerous requirement for highly diversified farms that market directly to consumers. These sales records may be an incomplete reflection of the biomass harvested due to culling for quality, free distribution to family and friends, and other losses that occur between harvest and sale; however, these records are adequate to verify organic production volume for organic certification purposes. While yields reported through sales records are likely to under-estimate biomass production, realistically this may be the most accurate data available.

CCOF requests that the Water Board recognize the additional layer of regulation to which organic farmers commit and that the Water Board specifically accept the documentation that organic farmers are required to maintain for their organic certification as documentation for purposes of agricultural order data reporting.

Accepting this information for purposes of agricultural order data reporting is consistent with the Nitrogen Tracking & Reporting System Task Force's recommendation that "The reporting system should be flexible enough to accommodate farm-level data management systems that may be used by growers as long as they meet the nitrogen reporting objectives" (CDFA 2013).

Recommendations: The State Water Board should order third-party coalitions to accept input application and crop sales records that certified organic farmers provide annually to their organic certifiers as valid formats for submitting agricultural order data.

Proposed Reporting Requirements Surpass Data Reporting Suggested by the Expert Panel and Are Overly Burdensome, Especially for Diversified Farms

The proposed general order requires all commercial farms to prepare a certified Irrigation and Nitrogen Management Plan that reports the following information annually:

- irrigation management practices
- nitrogen management practices

CCOF Comment on Eastern San Joaquin River Watershed Draft General Order

- APNs and field identification numbers
- acreage of each field
- residual N in soil (from soil tests)
- crop type
- crop production units (e.g. bushels, pounds)
- crop age (for perennials)
- total acreage
- irrigation method
- crop evapotranspiration (can estimate by multiplying reference ET by crop coefficient)
- anticipated crop irrigation (calculated based on crop ET and anticipated rainfall)
- irrigation water N concentration (from water test)
- projected yield
- N recommended
- N applied in irrigation water (in pounds/acre)
- applied synthetic amendments (amounts of 3 fertilizer categories reported as pounds of N/acre)
- applied organic soil amendments (compost and manure reported as pounds of N/acre)
- total N applied
- primary and secondary crop harvest yield (secondary harvests include rice straw or orchard prunings)
- plan certification information (who has reviewed and signed off on it).

This is *in addition to* the existing surface receiving water monitoring that each operation must continue, and a requirement for every member to participate in an outreach event annually. The order also proposes to require every farm to sample all on-farm drinking water wells annually starting in 2019 unless a state law goes into effect prior to that date that establishes a drinking water monitoring program.

While we anticipate that certified organic farmers will have ready access to pertinent fertilizer and crop sales data because of the recordkeeping they maintain to comply with organic standards, this list far exceeds the information that the Expert Panel recommended be collected. In fact, the Expert Panel stated, “This effort purposefully limits data collection to basic information that can be easily obtained and all farmers need and should be knowledgeable of as part of their nitrogen management” (Burt et al. 2014).

The Expert Panel specifically did not include reporting of residual soil N levels “because it is difficult to quantify and is subject to potentially large short-term fluctuations” (Burt et al. 2014).

The Expert Panel limits its data-reporting requirements to the following:

1. Location of the reporting unit.
2. Crop (e.g., lettuce, wheat, almond).
3. Nitrogen removed by harvest or sequestered in permanent wood.

CCOF Comment on Eastern San Joaquin River Watershed Draft General Order

4. Crop acreage (acres) – The crop acreage is the total acreage on which a specific crop is grown. If three different crops are grown in succession on the same field, this field’s acreage is used to compute the nitrogen inputs for each of the three different crops. Nitrogen inputs to multiple plantings of the same crop are aggregated over the year.

5. Nitrogen applications for each crop (lbs./acre) including organic applications (e.g., manure, compost), synthetic fertilizer applications, and nitrogen in irrigation water. This requires separate estimation and documentation of these three nitrogen sources. The nitrogen application computation should include the total nitrogen applied as:

- Organic applications (manure, etc.)
- Synthetic fertilizer applications
- Irrigation water

While this is a more manageable set of reporting requirements, item #3, nitrogen removed by harvest or sequestered in permanent wood, likely will pose a reporting challenge to most farmers.

Recommendation: The State Water Board should ease the reporting burden on farmers and pare down the annual data collected to match the data points suggested by the Expert Panel. Specific items to remove include residual nitrogen in soil, crop evapotranspiration, anticipated crop irrigation, and projected yield.

Proposed Reporting Requirements Increase Grower Compliance Costs by 210% and Result in Loss of Farmland

Table 5 of Attachment A of the proposed order shows that estimated cost of monitoring/reporting/tracking is currently \$1.18/acre and will increase to \$3.66/acre under the new order. This is a 210% per acre increase. In addition, the Water Board projects that 4,100 acres of irrigated pasture and forage cropland will be removed from production due to the high cost of compliance. The California Dept. of Conservation reports that agricultural land in California is being lost at a rate of 54,000 acres/year.

Recommendation: The Water Board should do all it can to ensure that cost of complying with its regulations does not incur onerous reporting costs upon farmers or pressure farmers to stop farming.

“Precedential” Regulations May Not Be Appropriate for All Regions or Types of Operations in California

The proposed order positions itself as “precedential,” anticipating that its requirements may be adopted by all of California’s regional water quality control boards and the watersheds they regulate. While this may simplify agencies’ workloads, it will impose the same reporting burden to all farms regardless of their management type, size, crops produced, or actual threat of nitrogen leaching.

Building on the Nitrogen Tracking & Reporting System Task Force’s statement that an effective nitrogen tracking system “must recognize and accommodate regional differences” (CDFA 2013), CCOF is concerned that a one-size-fits-all agricultural order is not appropriate for the diversity of farming regions in California. As noted earlier, it is common for highly diversified farms throughout the state to

CCOF Comment on Eastern San Joaquin River Watershed Draft General Order

grow multiple small plantings of many different vegetable crops on each field throughout the year to maintain continual supply for farmers' markets. To avoid creating unmanageable reporting burdens, such farms may need simplified reporting templates.

Recommendation: The State Water Board should not consider any one agricultural order as precedential for the entire state and should continue to develop agricultural orders that are tailored to growing and soil conditions in specific regions.

Citations

Burger, M. and L.E. Jackson, "Plant and microbial nitrogen use and turnover: rapid conversion of nitrate to ammonium in soil with roots," *Plant and Soil*, 266 (2004): 289-301.

Burt, C., R. Hutmacher, T. Angermann, B. Brush, D. Munk, J. duBois, M. McKean, and L. Zelinski. 2014. [Conclusions of the Agricultural Expert Panel: Recommendations to the State Water Resources Control Board pertaining to the Irrigated Lands Regulatory Program](#). Cal Poly San Luis Obispo Irrigation Training & Research Center. Accessed 12/12/17.

CDFA. [Nitrogen Tracking and Reporting Task Force](#). Final Report. 2013. Accessed 12/12/17.

Hepperly, Paul, D. Lotter, C. Ziegler Ulsh, R. Seidel, and C. Reider. 2009. Compost, Manure and Synthetic Fertilizer Influences Crop Yields, Soil Properties, Nitrate Leaching and Crop Nutrient Content. *Compost Science & Utilization*, Vol. 17, No. 2, 117-126.

Kramer, S.B., J.P. Reganold, J.D. Glover, B.J.M. Bohannan, and H.A. Mooney, "Reduced nitrate leaching and enhanced denitrifier activity and efficiency in organically fertilized soils," *Proceedings of the National Academy of Sciences* 103 (2006): 4522-4527.

Mclsaac, G.F. "The effects of organic and conventional cropping systems on nitrate transport to tile drains." Presentation at the Tile Drainage Workshop, organized by the U.S. Geological Survey, Champaign, IL, April 2001.

Poudel, D., W. Horwath, W. Lanini, S. Temple, and A. Van Bruggen, "Comparison of soil N availability and leaching potential, crop yields and weeds in organic, low-input and conventional farming systems in northern California." *Agriculture, Ecosystems & Environment* 90 (2002): 125-137.

Russell, A. E., Cambardella, C. A., Laird, D. A., Jaynes, D. B. and Meek, D. W. (2009), Nitrogen fertilizer effects on soil carbon balances in Midwestern U.S. agricultural systems. *Ecological Applications*, 19: 1102–1113.

Snapp, S.S., L.E. Gentry, and R. Harwood, "Management intensity – not biodiversity – the driver of ecosystem services in a long-term row crop experiment." *Agriculture, Ecosystems, & the Environment*. (15 August 2010): 242-248.