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May 23, 2012

Linda Adams
Chair
Board of Directors
Climate Action Reserve
523 W. Sixth Street, Suite 428
Los Angeles, CA 90014

**Re: Comments on the Board Draft of the Organic Waste
Composting Project Protocol**

Dear Ms. Adams:

The following comments are submitted on behalf of the California Compost Coalition (CCC). The CCC is very supportive of the development of the Nutrient Management Project Protocol and appreciative of the efforts of the Climate Action Reserve (CAR) staff to produce a quality protocol. The CCC offers the following comments on the Draft Nutrient Management Project Protocol (NMPP) recently placed on the CAR website.

1. Compost is listed as an eligible organic fertilizer (Page 25); however, nearly every reference to organic sources in the document is to manure, with the word compost only mentioned three times. Composted materials, both plant material and manure, behave differently and have different impacts as soil amendments than raw manure.
2. Compost, as a nitrogen source, is a slow release fertilizer, and much of the nitrogen content of compost may not be mineralized to a plant-available form. Nitrogen that is immobilized as organic nitrogen in the compost won't serve as a source of N₂O until it is mineralized, which is slow and incomplete. Therefore, the nitrogen application rate of organic fertilizer, particularly compost, isn't indicative of the amount of nitrogen available for volatilization as N₂O. The assumption that the N₂O emission rate of all organic nitrogen sources is 80% of synthetic sources seems to be an overestimation for some sources, particularly compost.
3. The use of organic materials, particularly compost, in conjunction with synthetic fertilizers can alter the pattern of nitrogen availability from the synthetic fertilizer. The increase in microbial activity resulting from the increase in soil carbon from the organic

amendments immobilizes plant-available mineral nitrogen into organic nitrogen in microbial cell mass. As a result of microbial uptake, some fraction of the mineral form of nitrogen from the synthetic fertilizer becomes a slow-release fertilizer, reducing N₂O emissions.

4. In the case of raw manure, the amount of nitrogen in the soil-applied material is strongly related to the manure management practices at the livestock facility; i.e. as-received and as-generated manure nitrogen content may be much different.
5. Comment #4 also bears on the emissions from an increase in organic material storage resulting from a decrease in organic fertilization. Volatilization from organic material storage is a function of the material handling practices.
6. Equation 5.13 assumes that the N₂O emissions from leaching, volatilization and run-off are twice as much for organic fertilizer as for synthetic. This would intuitively not seem to be the case for composted organics.
7. In the event of a yield reduction from project activities, it is assumed that the production would be made up by crop production outside the project boundary resulting in leakage. It seems as if the entire baseline emissions would be attributed to the crops grown to make up the reduction in yield. It seems likely that a farmer that responds to an increase in corn prices would dedicate acreage to corn production that had previously been used to grow less lucrative crops that would have received fertilization themselves. The method in Section 5.5.4 seems to allocate the entire baseline N₂O emissions to the “leakage acreage”, accruing them to the project, which seems to be overly conservative since the baseline condition for the “leakage acreage” would likely have been fertilized in any case.
8. The CCC looks forward to nutrient management project protocols that are applicable to the State of California.

Thank you for the opportunity to provide comments on this protocol.

Sincerely,



Neil S.R. Edgar
Executive Director