



# CDQAP Quality Assurance Update - May 2021

## Nutrient Management in Drought

By Deanne Meyer, Ph.D., Livestock Waste Management Specialist, UC Davis, Department of Animal Science, UC ANR

Here we are again, DRY. Let's dust off key nutrient management tips during drought. Work with your certified crop adviser (CCA) to be sure the Nutrient Budgets are up-to-date for your current cropping pattern. When Regional Water Quality Control Board staff are out doing inspections, they will focus on budgets and manure applications to fields where crops are growing.

Nutrient Budgets identify for each crop, in each field:

- How much Nitrogen (N) to apply;
- When to apply;
- The source of N (manure, fertilizer, irrigation water);
- The maximum period of time anticipated between application events (storage needs);
- The method of manure and process wastewater application;
- Estimated crop yield; and
- A review of soil and crop tissue analyses every 5 years by an agronomist if phosphorus and/or potassium applications exceed crop removals.



**Modify manure applications.** Evaluate your Nutrient Budgets to identify if you should modify manure applications. Modify manure applications as needed based on estimated change in crop N uptake/removal, nitrate concentration in groundwater and fallow land.

**If you are manure rich and planted acreage poor,** sample and manifest as much solid manure off-site as possible. Distribute liquid manure according to your nutrient budget. Carefully evaluate where you will get your greatest yields (especially if you have some poorer performing fields) and apply liquid manure and irrigation water accordingly.

**Modify Your Nutrient Budget (Get a CCA Signature)** if you change which crops you grow (including fallowing land), have a change in yield expectations, or change your source of irrigation water. Remember, Nutrient Budgets are a living document. If your budget was signed in 2010, it may not represent your current cropping practices. Current Budgets make inspections run smoother. Inspectors are looking very closely at Nutrient Budgets when they inspect dairies. What crop should be in the ground? When was it planted? What is the expected date for harvest? How much nitrogen has been applied? Previous violation notices to dairy operators who applied manure without a growing crop have included the need to remove the manure from the field and potential fines.

Almost all Central Valley dairies are also in the representative groundwater monitoring program. To remain in the program, nutrient application must be consistent with Budgets.

On a separate note, sample forages for nitrate from all fields where yields were markedly reduced. Discuss these results with your dairy nutritionist.

## Reminders for When Change Occurs

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Change happens. It is important to notify the Regional Water Quality Control Board when the owner or operator of a facility changes. This way, there is a clear separation between any previous actions the Water Board may have with a facility and the current owner or operator. For dairies in the Central Valley, a [form](#) is available. For dairies in Region 1 (North Coast), contact Cherie Blatt (707)576-2755. For dairies in Region 2 (San Francisco Bay), contact Laurie Taul (510) 622-2508.



It is also important to note changes in manure/field application status. Every field needs to be accounted for somewhere. All irrigated fields in the Central Valley need to be included in either the dairy's Annual Report or an Irrigated Lands Reporting Program (ILRP). Report nutrient and water applications to cropping fields on dairies in the Central Valley in the Annual Report. Two reporting options exist when manure is not applied to a given field in a calendar year. Keep the field in your Annual Report so you have a consistent record of field activities. Alternatively, document nutrient and irrigation activities in an ILRP. Document nutrient and irrigation activities in the dairy's Annual Report or the ILRP.

## CDQAP's Drought Corner

The [California Institute for Water Resources](#) integrates UC's research, extension, and education programs to provide solutions to water resource challenges. Among its many [Drought Tip](#) resources is the print overview, [Managing Irrigated Corn During Drought](#) and the video on [Drought Alfalfa](#).