



## How to Select an Analytical Laboratory for Dairy Compliance

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In May 2007, the Central Valley Regional Water Quality Control Board (Regional Board) adopted Waste Discharge Requirements General Order R5-2007-0035 for Existing Milk Cow Dairies (the General Order). The General Order defines the minimum sampling requirements for components of the Nutrient Management Plan<sup>3</sup>. The Sampling and Analysis plan developed by the Regional Board identified analytical methods and participation in specific proficiency testing programs for solid and liquid manure, plant tissue, soil samples, and irrigation samples<sup>4</sup>. Any deviations from the established methods must go through a review process and be accepted by the Regional Board. Any additional modifications will be available on-line once accepted.

### What laboratories can I use?

Laboratory requirements vary by sample material submitted.

**Process wastewater** samples must be analyzed in laboratories accredited for wastewater analyses in the Environmental Laboratory Accreditation Program (ELAP) by the California Department of Health Services OR participating in the Manure Analysis Proficiency testing program (MAP) OR utilizing alternate test methods approved by the Executive Officer.

**Manure** samples must be analyzed in laboratories utilizing methods from AND participating in the MAP testing program OR utilizing methods and participating programs whose tests are accepted by the University of California OR utilizing alternate test methods approved by the Executive Officer.

**Plant tissue and soil** samples must be analyzed in laboratories utilizing methods from AND participating in the North American Proficiency Testing Program (NAPT) or utilizing methods and programs whose tests are accepted by the University of California OR utilizing alternate test methods approved by the Executive Officer.

**Irrigation, ground- and tailwater** samples must be analyzed in laboratories accredited for wastewater analyses in the Environmental Laboratory Accreditation Program (ELAP) by the California Department of Health Services. These laboratory analyses shall be conducted in accordance with the Title 40 Code of Federal Regulations Part 136 (*Guidelines Establishing Test Procedures for the Analysis of Pollutants*) or other test methods approved by the Executive Officer.

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<sup>3</sup>Available at : [http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/general\\_orders/r5-2007-0035.pdf](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2007-0035.pdf)

<sup>4</sup>Document available at [http://www.waterboards.ca.gov/centralvalley/water\\_issues/dairies/general\\_order\\_guidance/sampling\\_analysis/sampling\\_procedures\\_rev\\_23may08.pdf](http://www.waterboards.ca.gov/centralvalley/water_issues/dairies/general_order_guidance/sampling_analysis/sampling_procedures_rev_23may08.pdf)

## How do I find labs that meet these requirements?

The following websites list labs participating in each of the programs listed above (there are also links to these websites at the CDQAP website [www.cdqa.org](http://www.cdqa.org)):

**MAP Program** (manure and process wastewater, participating laboratories):

<http://www.mda.state.mn.us/licensing/pestfert/mapprogram.htm>

**ELAP Program** (irrigation, ground- and tailwater):

<http://ww2.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx> (scroll down to "Information, Lists, and Forms").

**NAPT Program** (plant and soil):

<http://www.naptprogram.org/pap/> (link to "view PAP labs").

NOTE: You or your consultant should check these lists at least twice a year as your lab may elect to stop participating in a program, or new labs may be added to a program. The lab you use must meet the requirements at the time you submit your samples for analyses!

## How do I choose a laboratory from those that meet these requirements?

You will weigh the answers to many questions prior to selecting your laboratory.

**Is the lab familiar with the General Order analytical requirements?** Laboratories analyze samples for many reasons. You want to be sure the lab is up-to-date on analytical methods and types of analyses needed for the Dairy General Order. Do not assume that a lab that does regulatory compliance work is knowledgeable about the General Order.

**When does the lab accept samples?** It is possible that a lab may establish a cut off time for samples during the day, or not accept samples on certain days for materials that require quick handling within the laboratory. Always check before sampling so you know: the hours of operation, hours of receiving samples, holiday schedule.

**How much does testing cost?** Test costs can vary significantly from lab to lab. While low test cost is important, verify that the lower-cost lab is also meeting your other needs, such as quality, turn-around time or service

**Does the lab have a Quality Assurance program?** Quality assurance is a set of procedures the lab follows to ensure that work performed is of high quality. These quality procedures are described in a Quality Assurance Manual which should be available for your review. The ELAP program requires a quality manual, but the lab should also have a quality assurance manual for plant, soil and manure testing.

**Does the lab supply containers?** Labs require a certain amount of each material for testing. Some labs provide containers upon request. These containers (bottles or bags) are selected to provide sufficient sample size and for convenient handling and storage.

**Does the lab perform sampling?** You might want the lab to collect your samples for you. Check to see if this service is available.

**Is the Testing Report easy to understand?** Testing reports can vary from lab to lab. Make sure the report you will be receiving is easily understood, with clear test descriptions and reporting units.

**Does the lab supply chain of custody forms?** The General Order requires that a chain-of-custody form be completed for all samples. Most labs provide a form for you to complete when collecting samples. Some labs will also provide identification labels for the sample containers. Make sure that you understand the form, the labels, and the sample submission process.

**How does the lab handle expired samples?** You may choose to request that the samples not be run if they expire. That way you don't pay for test results that have questionable value. For compliance purposes you need test results from samples that have not expired. Samples may expire for different reasons. First, samples expire if they are not stored properly (ice cooled or refrigerated samples are usually required; warm samples are usually expired). Second, samples expire if analysis does not begin in the time specified in the protocols.

**How quickly will the results be available?** Some labs might take longer than others, however, all regulatory tests must be completed within the regulatory time frame (holding time). Some labs rush testing if requested. In general, your results should be available within a few days or a few weeks depending on the material analyzed. Check with your lab to see if you can receive the information electronically, in person at the lab, or through the mail.

**Are there lab personnel available if I have questions about my results?** You will want to contact the laboratory and discuss the results if one or more of your samples have results that seem unusual. For detailed information about using the results, you should contact your certified nutrient management specialist.

**Are my samples analyzed on-site or sent to another lab for analysis?** Some labs specialize in certain tests and contract out other tests to a different lab. When this occurs it is important to know the lab ensures that all the samples are tested in the mandatory time-frame, and how they verify the quality of the second lab (how they sub-contract work should be described in their quality manual). Samples need to be analyzed within a specified amount of time from collection (the holding time). Lab to lab transportation may not be an option for some tests with short holding times.

*Information in this document was compiled by UCCE and CDQAP to assist dairy producers in understanding and complying with the General Order Waste Discharge Requirements for Existing Milk Cow Dairies (Central Valley Regional Water Board Order R5-2007-0035). Effort has been made to ensure accuracy, but these summaries are not official regulatory guidance and are not legal advice. Producers are advised that these summaries are not intended to be a substitute for producers reading the complete order and consulting their own legal counsel to ensure compliance with the waste discharge requirements. Should any information here conflict with the General Order and/or official information provided by the Regional Board, Board-provided information takes precedence.*

Technical review provided by: Central Valley Regional Water Board Confined Animal Facilities staff. Financial support was provided wholly or in part by grants received from the California Dairy Research Foundation, and from the State Water Board Grant number 05-095-550-0. The contents of this document do not necessarily reflect the views and policies of the US EPA, State Water Board, or Central Valley Regional Water Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.