Central Valley Dairy Representative Monitoring Program

For the benefit of dairy producers and water quality across our valley

Representative monitoring for nitrogen management

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Topics for today

- What is the Central Valley Dairy Representative Monitoring Program and why was it created?
- How does it work and what do we hope to accomplish?
- Special challenges and how we are addressing them?
- What has CVDRMP already done?
- What is happening next?

Opening thoughts

- Central Valley dairies face the nation's toughest environmental regulations
- That has less to do with how dairies are operated here (Central Valley dairies are typical Western-style dairies) than with the geography and realities of our valley
- Dairy farmers understand where they are operating and care a lot about water quality and air quality
- Dairy farmers have been proactive and organized, individually achieving a high rate of compliance and collectively supporting important programs:
  - ➔ *Environmental research*
  - ➔ *Outreach and education programs*
  - ➔ *Compliance assistance programs*

What is CVDRMP?

- Program function
  - ➔ Conduct water quality monitoring of first-encountered groundwater on Central Valley dairies over a period of time
  - ➔ Analyze data, report findings, study issues collaboratively, make recommendations
- Area covered
  - ➔ Central Valley counties with concentrations of dairies (Bakersfield to Stockton and Glenn/Tehama)
- People
  - ➔ 1,211 dairy families who support with fees and participation
  - ➔ Not-for-profit led by dairy farmer board
  - ➔ Consulting hydrogeologists and professionals
  - ➔ Technical expert committees

Why CVDRMP?

- 2007 regulations require monitoring ‘first-encountered groundwater’ to identify whether it is being protected
- Individual site monitoring costly, limited in effectiveness
  - ➔ ~$20,000 to $40,000 per dairy for installation of ~5 wells
  - ➔ ~$5,000 annually for sample collection, analysis, reporting
  - ➔ Large acreage compared to traditional gwq monitoring
- Representative monitoring plays to our strengths
  - ➔ Larger data set, organized and comprehensive analysis by combining multiple sites
  - ➔ Cost savings by representative evaluation of management practices instead of redundant evaluation of management practices at thousands of sites
  - ➔ Pools resources to get better and more useful results for all

How does it work?

- Coalition members pay fees and volunteer their dairies for monitoring. Not all dairies selected.
- Groundwater monitoring wells installed on representative dairies after review of soil types, groundwater depths, site characteristics
- Approximately 50 to 100 dairies and 300 to 600 well sites from Orland to Bakersfield
- Data collected monthly and reported to Water Board
  - ➔ Nitrogen compounds, salts, other constituents
- Technical committees assist:
  - ➔ Identifying representative characteristics
  - ➔ Analyzing data
  - ➔ Developing recommendations
- Comprehensive reports submitted annually, to be followed by additional recommendations/actions within 6 years

What do we hope to accomplish?

- BMPs are <u>already</u> in place (we are not waiting for monitoring results)
  - ➔ We hope to show that these are effective
  - ➔ We hope to quantify our progress in protecting/improving water quality
- Collaborative, sustainable solutions where needed
  - ➔ CVDRMP is not simply monitoring to identify issues – it will also work to address them
  - ➔ If monitoring identifies needs for additional measures, CVDRMP will work collaboratively to identify sustainable solutions

Addressing special challenges

- Not surface water monitoring or UST program
  - ➔ Connection to surface practices is slower in time, and ‘detective work’ is different
  - ➔ BMPs in place may take a while to show results
  - ➔ Technical committees will assist
- Sampling sites don’t represent a large area
  - ➔ Focus on connecting data to surface practices and extrapolation to others utilizing the practices
  - ➔ Members agree to adopt revised BMPs if needed as a condition of continued participation

What has CVDRMP accomplished?

- Organization formed (May 2010) and critical mass membership in place late 2010/early 2011).
- Regulatory approvals for ‘representative’ alternative proposal (February 2011)
- Initial group one wells installed 108 wells at 18 dairies in Stanislaus and Merced counties (October/November 2011)
- Sampling campaign on group one wells launched in January 2012, two months data now gathered

Monitoring Well Examples: Manured Forage Fields

Monitoring Well Examples: Liquid Manure Ponds

Monitoring Well Examples: Corrals

What are the next steps?

- Advisory committee formation (March 2012)
- Submit Group 2 work plan for seven additional counties (May 2012)
- Install Group 2 wells (Summer/Fall 2012)
- 2012-ongoing: Data analysis and reporting
- ~2012-ongoing: Technical committees analyze data
- ~2015-17: Technical committees/consultants prepare and report results and recommendations

Summing up

- Dairy operators have been proactive and innovative, actively organizing to provide a sustainable method for monitoring progress related to implementation of groundwater protection BMPs
- We manage what we can measure: Representative monitoring is integral to California dairy's strategy to improve nitrogen management, supporting and validating the efforts of farmers, regulators and educators to identify and validate sustainable BMPs

Thank you