Dairy Operations

- Dairy General Order (Order No. R5-2007-0035)
- Three phases of operations:
  - Production area
  - Storage
  - Land application
Purpose and Expected Outcome

- Apply nutrients efficiently
- Maximize plant uptake
- Minimize percolation and runoff
- Protection of water quality
Nutrient Management Planning

- Land Application Area
- Sampling and Analysis
- Nutrient Budget
- Reporting
Land Application Area

- Map
- Fields
- Storage and conveyance
- Acreage and crops grown
- Sampling locations
- Third-party agreements
Sampling and Analysis

- Wastewater
- Manure
- Soil
- Plant tissue
- Irrigation water
- Groundwater
Nutrient Budget

- Crop need on a field scale
- Planned rate and timing of application
- Nitrogen Balance
  - 1.4 total N vs. N removed by crop
  - 1.65 if needed and no pollution
- Certified Nutrient Management Specialist
Reporting

- Field inspections
- Nutrient monitoring
- Groundwater
- Nutrient Management Plan
Reporting Tools

- Merced County reporting tool
Measures of Success

- Effective implementation of nutrient management
- Understanding impacts to water quality
- Water quality meets objectives or is improving
Benefits and Challenges

Benefits:
- Protection of water quality
- Efficient use of resources

Challenges:
- Complicated
- Requires commitment
- Differing opinions
- Tracking compliance at 1,300+ dairies
Questions?