

University of California

Nitrogen Management Training

for Grower Nitrogen Management Plan Self-certification

A training program developed in cooperation with:

California Department of Food and Agriculture -- Fertilizer Research and Education Program
and
University of California



University of California
Agriculture and Natural Resources

University of California

Nitrogen Management Training

for Grower Nitrogen Management Plan Self-certification

Original presentation materials developed by:

University Of California, Davis

Patrick Brown
Daniel Geisseler
Allan Fulton
Tim Hartz
Stuart Pettygrove
Terry Prichard
Larry Schwankl
Carol Frate
Marsha Campbell Mathews

Gabriele Ludwig, Almond Board of CA
Asif Maan, CASS
Rob Mikkelsen, IPNI
Jerome Pier, Crop Production Services
Sebastian Saa, Universidad Católica de Chile



University of California
Agriculture and Natural Resources

Irrigated Lands Regulatory Program (ILRP)

- Managed by Regional Water Quality Control Board
- Applies to all growers who irrigate commercial crops
- Board uses Waste Discharge Requirements (WDR) to specify what growers and coalitions must implement to protect groundwater and surface water.

Eliminating nitrates from drinking water is expensive and cannot be done with charcoal filters. Only by ion exchange, reverse osmosis or electrolysis, can nitrate be removed from water.

Accounting for all the sources of nitrogen in the system - including mineralization, residual nitrogen and nitrogen in irrigation water – leads to more efficient use of nitrogen and fertilizer products. This saves the grower money and improves conditions in affected communities.

Note: The dairy order to control nitrate groundwater pollution by confined animal feeding operations is also a part of the ILRP, but is not a part of this course.

Regulations: Waste Discharge Requirements

- Growers with irrigated lands must either join regional coalitions or meet WDR requirements individually.

- Coalition Tasks in the Central Valley:
 - Groundwater quality assessments and plans
 - Monitoring long term groundwater quality trends
 - Assess which BMPs protect groundwater quality
 - Surface water quality monitoring
 - Compilation of data submitted by growers and reports to Regional Water Board

Note: Tasks carried out by the coalitions will be funded by the per acre assessment fees collected. The coalitions will also manage the certified nutrient management plans. After they compile data, average performances will be reported regionally.

For a grower, preparing to meet WDR requirements individually is riskier and more burdensome than joining a regional coalition.

Regulations: Waste Discharge Requirements

- Growers are responsible for:
 - Annual Farm Management Plans
 - Review whole operation for possible impacts on ground and surface water
 - Annual Nitrogen Management Plans
 - Will require plan certification in 2016 if in high *vulnerability areas*
 - *Certification is by Certified Crop Advisor or certified grower*
 - Sediment and Erosion Management Plans where needed
 - Submitting data to Coalition or Water Board

For 2015 plan must be kept on site

For 2016 plan must be certified

Non vulnerable zones must fill out NMP but no certification required

Certifying Nitrogen Management Plans

Required if field located in a high vulnerability groundwater area

Coalition will identify which parcels are in high vulnerability areas (based on groundwater assessment report (GAR))

- **Certified Crop Adviser with Nitrogen Training**

Any crop and any field

- **Grower Self-Certification**

Owned or managed fields

Nitrogen Management Plan Certification Training

- Sponsored by **CDFA FREP** Grant
- Project administered by Coalition for Urban Rural Environmental Stewardship (**CURES**)
- CCA presentations at grower meetings funded by FREP grant
- Coalition facilitates meeting

Nitrogen Management Plan Certification Training

- Regulatory Oversight of Grower Trainings
 - Water Board has approved this NMP training approach
 - Expect scrutiny to gauge effectiveness of the program
 - **CDFA** and the **coalitions** will audit presentations at grower trainings to ensure professionalism by CCAs

Nitrogen Management Plan Certification Training

- Provide information for:
 - Efficient use of nitrogen fertilizers
 - Minimize environmental impacts
 - Meet Regulatory compliance requirements
 - Nitrogen Management Plan

NITROGEN MANAGEMENT PLAN WORKSHEET				
NMP Management Unit _____				
1. Crop Year (Harvested):		4. APN(s):	5. Field(s) ID	Acres
2. Member ID#				
3. Name:				
CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS		15. Recommended/Planned N
6. Crop		17. Nitrogen Fertilizers		
7. Production Unit		18. Dry/Liquid N (lbs/ac)		
8. Projected Yield (Units/Acre)		19. Foliar N (lbs/ac)		
9. N Recommended (lbs/ac)		20. Organic Material N		
10. Acres		21. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals		22. Total Available N Applied (bs per acre)		
11. Actual Yield (Units/Acre)		23. Nitrogen Credits (est)		
12. Total N Applied (lbs/ac)		24. Available N carryover in soil; (annualized lbs/ac re)		
13. ** N Removed (lbs N/ac)		25. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		26. Total N Credits (lbs per acre)		
		27. Total N Applied & Available		
PLAN CERTIFICATION				
28. CERTIFIED BY:		29. CERTIFICATION METHOD		
		30. Low Vulnerability Area, No Certification Needed		
		31. Self-Certified, approved training program attended		
DATE:		32. Self-Certified, UC or NRCS site recommendation		
		33. Nitrogen Management Plan Specialist		

Full instruction for this worksheet are provided by the local water quality coalition

This is a condensed (reduced APN's) version for a better fit.