Nitrogen Summary Report Feedback Explained

Dixon/Solano RCD Water Quality Coalition

Wednesday November 29, 2017

AGENDA

9:00 – 9:15 NITROGEN SUMMARY RESULTS & COMPLIANCE
Kelly Huff, Dixon RCD

9:15 – 9:45 WHAT DO THE RESULTS MEAN?
Stephanie Tillman & Cody Fink, Land IQ

9:45 – 10:30 WHAT DON’T THE SUMMARY RESULTS TELL YOU?
Anne Burkholder, Dellavalle Labs

10:30 - 11:00 IRRIGATION & SOIL MANAGEMENT
Wendy Rash, USDA NRCS

NITROGEN MANAGEMENT PLAN WORKSHEET

NMP Management Unit: _____

		4. APN(s):	5. Field ID(s)	Acres
1. Crop Year (Harvested):				
2. Member ID#				
3. Name:				

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	15. Recommended/ Planned N	16. Actual N
6. Crop		**17. NITROGEN FERTILIZERS APPLIED**		
7. Production Unit		18. Dry/Liquid N (lbs/ac)		
8. Projected Yield		19. Foliar N (lbs/ac)		
9. N Recommended		**20. ORGANIC MATERIAL N**		
10. Acres		21. Available N in Manure/Compost (lbs/ac estimate)		
POST PRODUCTION ACTUALS		**22. Total N Applied + Available** (lbs per ac) (Box 18+19+21)		
11. Actual Yield (Units/ac)		**23. NITROGEN CREDITS (EST)**		
12. Total N Applied (lbs/ac)		24. * Available N carryover in soil; (annualized lbs/ac)		
13. ** N Removed (lbs N/ac)		25. *N in Irrigation water (annualized, lbs/ac)		
14. ***Notes:		**26. Total N Credits** (lbs per ac) (Box 24+25)		
		27. Total N Applied + Available + Credits (Box 22+26)	Transfer to Box 9	Transfer to Box 12

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	

* 24. and 25. Recommended Not Required

** 13. Your Coalition will provide the method to be used to estimate N Removed.

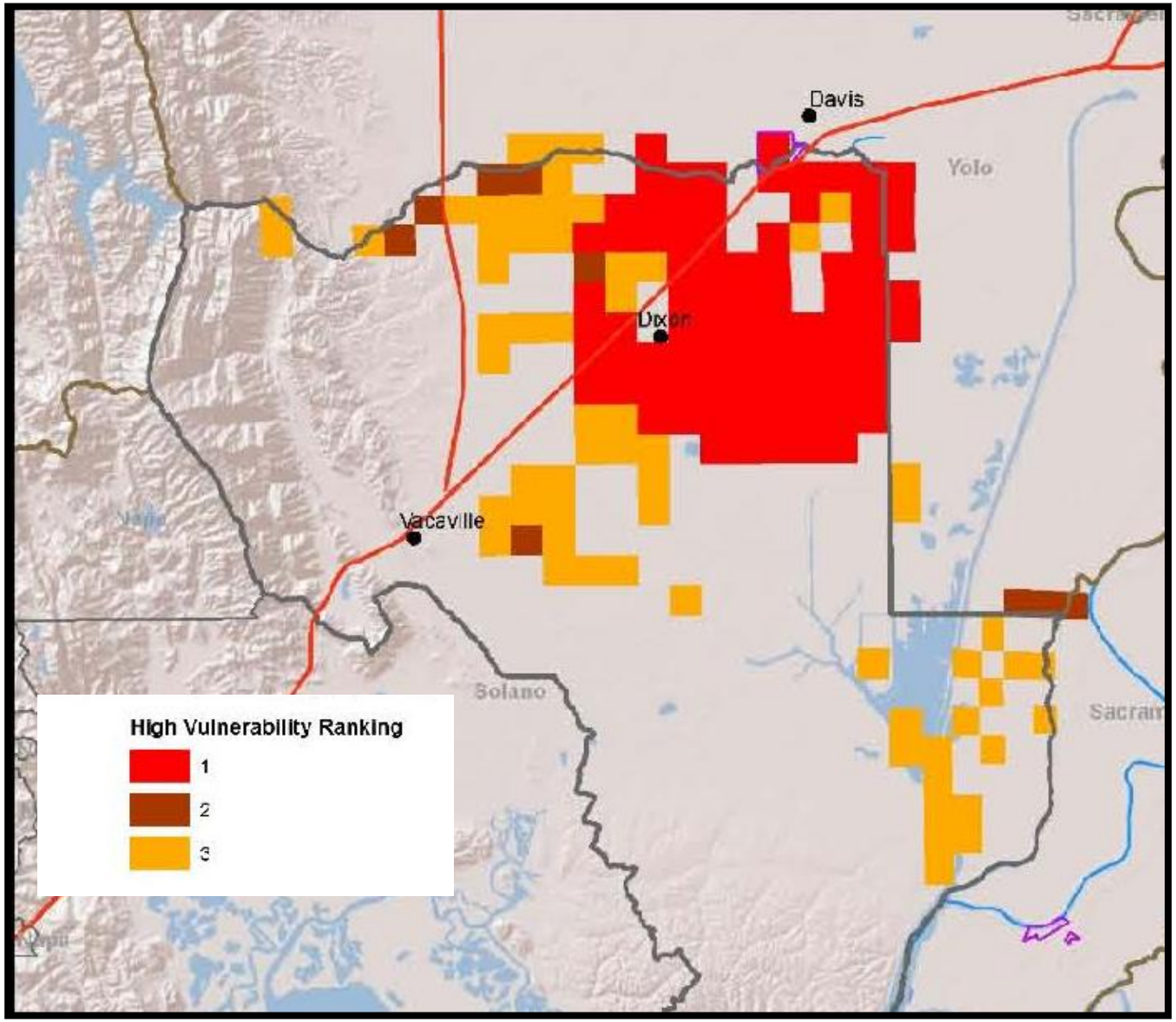
*** 14. Anything that might change what you apply.

Fill out at the beginning of year with projected N application and projected yeild.

Fill out after final N application and harvest with actuals, keep on farm

3.2016

Groundwater Quality High Vulnerability Areas



MANDATORY FARM REPORTING AS REQUIRED BY IRRIGATED LANDS REGULATORY PROGRAM (Order No. R5-2014-0300)

MUST BE POSTMARKED OR IN OFFICE BY 2/15/2018*

*LATE FEES WILL APPLY

DIXON/SOLANO RCD WATER QUALITY COALITION
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Phone (707) 678-1655 X 102 OR X 103
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NITROGEN MANAGEMENT PLAN SUMMARY REPORT for:

The parcels and fields listed below are designated as being in a "high vulnerability area" for groundwater quality and the following information from your 2017 nitrogen management plan is required to be submitted. This table includes information from your 2016 Farm Evaluation. Please update with information from your 2017 Nitrogen Management Plan Worksheet. Please choose from the enclosed "Specific Crop/ Production Unit List" to enter ** 2017 crops and production units. For orchard/vineyards please provide the planting year. If your crop is not listed, we will add it in future years. Please contact us if you would like an Excel spreadsheet version of this form or if you have questions.

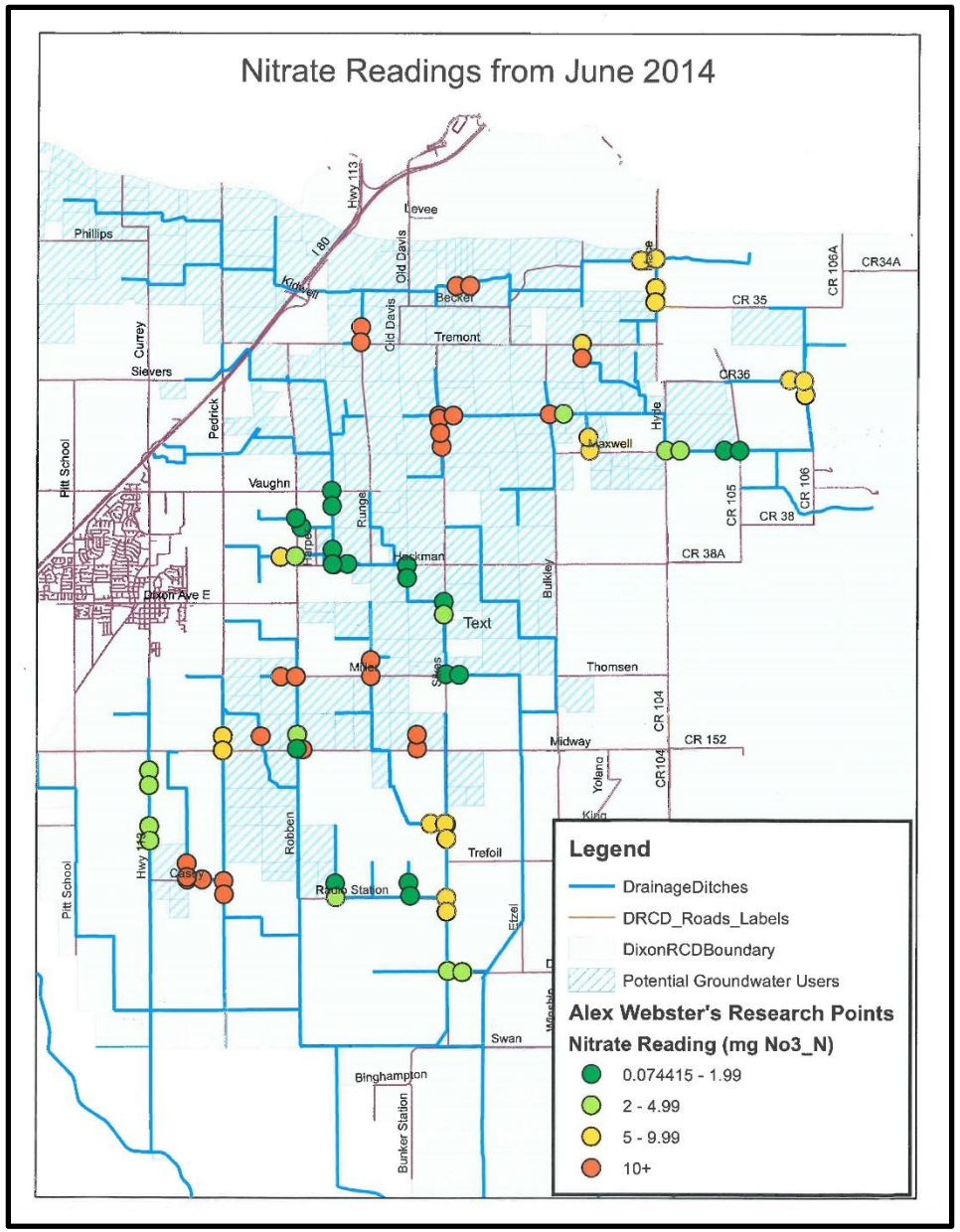
ENROLLED PARCEL	FIELD ID	IRRIGATED ACRES	2016 CROP	**2017 CROP	Orchard/ Vineyard Planting Year	NMP Box 22 (lbs/acre) TOTAL AVAILABLE	NMP Box 25 (lbs/acre) N IN WATER	NMP Box 11 (units/acre) ACTUAL YIELD (GROSS)	NMP Box 7 PRODUCTION UNIT**	NOTES
01110	E1a	60	Alfalfa							
011107	E1b	26.37	Rye Grass							
011107	E2a	64	Alfalfa							
011107	E2b	16	Alfalfa							

Tips for Completing Nitrogen Summary Reports

- Include planting year for permanent crops
- Report yield units that can be converted to pounds
- IF YOU DID NOT MEASURE N in Irrigation Water
  - ONLY ENTER “0” IF this is an estimate based on information (i.e. you are using surface water at the beginning of the Solano Irrigation District (SID) system.
  - If you are using groundwater and have not measured, PLEASE ENTER “DID NOT MEASURE” OR “N/M”

THIS YEAR WE WILL FOLLOW UP WITH THOSE WHO ARE NOT MEASURING N IN IRRIGATION WATER.

UC DAVIS – 2014 Vegetated Ditch Research



Sacramento Valley Water Quality Coalition
2016 Nitrogen Management Plan Summary Report Results

Member ID: **Member Name:**

Grower Name:

Crop: ALFALFA

These results represent information you provided on your 2016 Nitrogen Management Plan Summary Report comparing your Nitrogen *Applied* divided by your *Yield* (A/Y) to other fields of the same crop in your Township(s).

For more detailed information, please refer to the cover letter included with your 2016 Nitrogen Management Plan Summary Results.

The table below includes:

Columns 1 & 2: Your Applied pounds of Nitrogen per acre compared to the average pounds of Nitrogen Applied per acre within your parcel's Township.
Columns 3 & 4: Your A/Y per acre compared to the average A/Y per acre within your parcel's Township.
Columns 5 & 6: Your Nitrogen *Applied* divided by the Nitrogen *Removed* (A/R)[4] per acre compared to the average A/R per acre within your parcel's Township.

Member ID	Member APN	Member # of Irr. Acres	(1) Member lbs. of N Applied per Acre	(2) Township Average lbs. of N Applied per Acre	(3) Member A/Y per Acre	(4) Township Average[1] A/Y per Acre	(5) Member A/R per Acre[4]	(6) Township Average A/R per Acre	Township	# of Parcels in Township[2]
		28	41	50	0.0023	0.0025	0.0731	0.0807	08N02E	19

A/Y and A/R Status Color Key

Outlier [3] (>90% of parcels) High (>75% of parcels) Average (<75% of parcels) Not Enough Data

The A/Y and A/R status color shows how your parcels compare to others of the same crop in the same Township. If your A/Y or A/R values are greater than 90% of all parcels in the Township, that is considered to be an "outlier" value. A value is considered "high" if it is greater than 75% of all parcels in the Township and "average" if the value is less than 75% of all parcels in the Township. In some cases, there were not enough data points in the Township to calculate outliers.

If one of your management units (MUs) included parcels in more than one Township, the A/Y and A/R status for that MU could be different for each Township.

Notes:
1 Average is calculated using median value
2 A Township is typically six by six square miles, 36 Sections, or 23,040 acres. Parcels can be counted more than once in a Township if there are multiple fields of the same crop associated with that parcel.
3 Outliers have an Applied Nitrogen over Yield value that is greater than 90% of other high vulnerability parcels of the same crop in that Township.
4 A/R Value: The purpose of this value is to estimate the amount of residual Nitrogen (N) available to leach to groundwater. The A/R value (total Applied N divided by N Removed), was calculated using published N removal values from: *Nitrogen concentrations in harvested plant parts - A literature overview (Geisseler, 2016)* (https://apps1.cdfa.ca.gov/FertilizerResearch/docs/Geisseler_Report_2016_12_02.pdf). This publication documents the best available information, but values are expected to be updated and modified as new information becomes available. For many crops, the publication indicates only few if any values could be found, while for others extensive datasets were available.

A/R
Applied Nitrogen/Removed Nitrogen

- Regional Board considers A/R a metric for nitrogen use efficiency
- Multi-year A/R averages by crop will become metric for determining “outliers”
- Expert Panel concluded that A/R ratio is an appropriate alternative to measuring nitrate leaching to groundwater at the field level.

Notes from Dixon/Solano 2016 Nitrogen Use Comparisons

- Most common reason for “outlier” status was yield
- Not everyone is measuring N in irrigation water
- Unique crops – limited quantity of data
- Orchards – Age of trees was not differentiated

Notes from Dixon/Solano 2016 Nitrogen Use Comparisons

- Alfalfa – Many are not applying N at all
- Pasture – Use UC calculator & keep record of mass balance calculation (generally shows that pasture is a sink for N)
- Sunflower – fair amount of variation in N applied & yield
- Wheat – a lot of variation throughout Sacramento Valley

Nitrogen Management Plan Self-Certification Requirements

- Attend 4 hour training & pass 30 minute test to become self certified
- Self-Certification is good for 3 years with 3 hours of continuing education during that 3 year period or one hour per year.
- Continuing Education Unit program began recently, so individuals who became self-certified in 2016 lost a year.
- Recommend one hour per year minimum from this point on.
- Please forward us information on events that may qualify

https://www.curesworks.org/cecourses/

For a Prize……

Be Thinking About:

- Events you will attend that may cover nitrogen use efficiency for continuing education credit.
- Topics/format of events you would like Dixon/Solano coalition to offer.
- Something that you do, related to nitrogen/irrigation management that you are willing to share.
- Alternative to the field level paperwork.