Irrigated Lands Regulatory Program (ILRP)

Kern County Coalitions' Joint Grower Education Meeting

Member Meeting

Coalition Leads, Velvet Gaston & Ryan Dodd

Kern River Watershed Coalition Authority

December 20, 2016 – Bakersfield

January 3, 2017 – Wasco

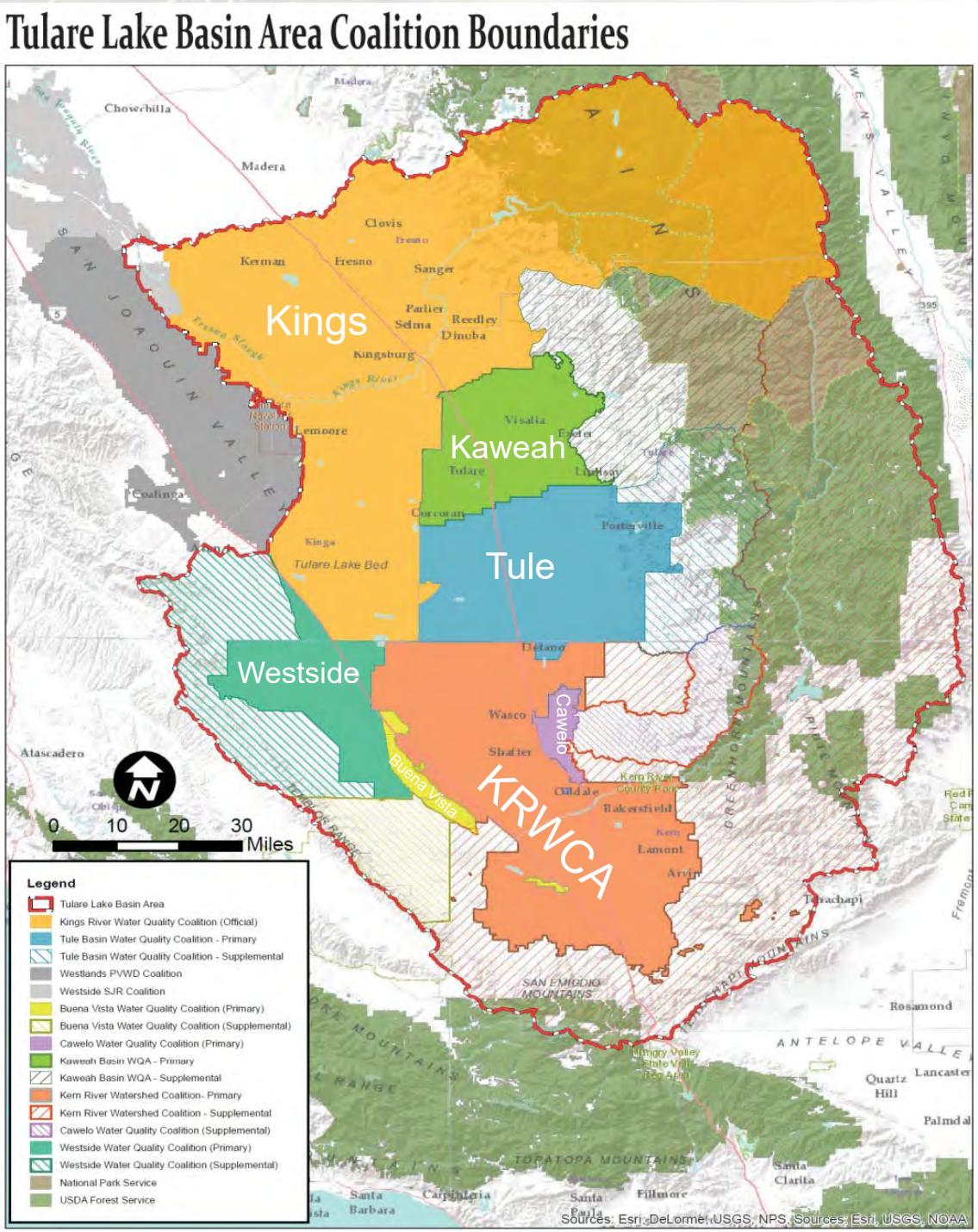
January 5, 2017 – Buttonwillow

January 10, 2017 – Bakersfield

Kern ILRP Coalitions

- **Buena Vista Coalition (BVC)**
- **Cawelo Water District Coalition (CWDC)**
- **Kern River Watershed Coalition Authority (KRWCA)**
- **Westside Water Quality Coalition (WWQC)**

Tulare Lake Basin Coalition Boundary Map



BVC

Tim Ashlock
Buena Vista Water Storage District
P. O. Box 756
Buttonwillow, CA 93206

Tel: (661) 206-1101
Fax: (661) 764-5053
E-mail: tim@bvh2o.com
Website: www.bvh2o.com

CWDC

David Hampton, ILRP/Coalition Coordinator
Cawelo Water District Coalition

17207 Industrial Farm Road
Bakersfield, CA 93308

Tel: (661) 393-6072
Fax: (661) 393-6073
E-mail: dhampton@cawelowd.org
Website: www.cawelowd.org

KRWCA

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Kern River Watershed Coalition Authority
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Bakersfield, CA 93302

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Fax: (661) 616-6550
E-mail: admin@krwca.org
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Kern River Watershed Coalition Authority

WWQC

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Westside Water Quality Coalition
21908 7th Standard Rd
McKittrick, CA 93251

Tel: (661) 762-7316
Fax: (661) 762-7223
E-mail: ghammett@belridgewsd.com
Website: www.wwqc.org

Meeting Attendance Required

- Did you sign in for all of your memberships, with each of the Coalitions?
- Annual attendance at an ILRP coalition-sponsored meeting is required as a condition of membership if any of your parcels are in:
  - A designated high vulnerability area (HVA); or,
  - Are governed by a Surface Water Quality Management Plan (SQMP) or Groundwater Quality Management Plan (GQMP).

Meeting Attendance Required

Members shall:

- Register at each meeting attended for each Membership #; (Use Postcard as Ticket to Meeting)
- Review outreach materials to become informed of any water quality problems to be addressed and the management practices that are available to address those issues; and,
- Provide each Coalition with Annual Certification of the above.

Member Reports Due

- **Farm Evaluation Survey (2016 crop)**
  - Due to coalition by March 1, 2017 for members with parcels designated in an HVA.
- **Nitrogen Management Plan (2017 crop)**
  - Required to be complete by all members by March 1, 2017.
  - Certification is required for ALL farms with parcels designated in an HVA.
  - Remains on-farm: is **NOT** submitted to the coalition.
- **Nitrogen Management Plan Summary Report (2016 crop)**
  - Members with large farm parcels designated within an HVA are required to complete by March 1, 2017.
  - NMP Summary Report **IS** submitted to coalition.

Due Dates for Required Reports

Report	Vulnerability	Farm Size	Due Date	Renewal Frequency
Farm Evaluation Survey	High	All	**March 1, 2017**	Annually
	Low	Large (≥ 60 ac)	March 1, 2021	Five Years
		Small (< 60 ac)	March 1, 2018	Five Years
Sediment and Erosion Control Plans	Locations identified in Sediment Discharge and Erosion Assessment Report (SDEAR) or Farm Evaluation	Large (≥ 60 ac)	April 4, 2016	As conditions change
		Small (< 60 ac)	October 7, 2016	As conditions change
Nitrogen Management Plan Worksheet	High	Large (≥ 60 ac)	**March 1, 2017 (certified)**	Annually
		Small (< 60 ac)	**March 1, 2017 (certified)**	Annually
	Low	All	**March 1, 2017**	Annually
Nitrogen Management Plan Summary Report	High	Large Farm	**March 1, 2017**	Annually
		Small Farm	March 1, 2018	Annually
	Low	Does not apply		

March 1, 2017 Deadline

Please Note: there will be **NO EXTENSIONS** to the March 1, 2017 reporting deadline. Coalitions are under a tight timeline to compile, summarize and QA/QC the results before submission to the Regional Board.

Farm Evaluation Survey

Velvet Gaston

Provost & Pritchard Consulting Group

Assistant Civil Engineer

Consultant to KRWCA

Farm Evaluation Survey

- A survey of practices within the coalition area;
- Will be used in Management Practices Evaluation Program (**MPEP**) and other reporting;
- Will create a record of practices being used over time:
  - Crops grown,
  - Irrigation practices,
  - Nitrogen management practices,
  - Wellhead protection practices,
  - Sediment and erosion control practices.
- Data will be aggregated for summary and records will be provided on a township basis.

Farm Evaluation Survey

Five-Part Template:

- Parts A and B cover all lands in the membership (whole farm) and is completed once per report;
- Part C is field/crop specific practice information:
  - Respond for each unique combination of crop/ management practices represented on a field or group of fields;
- Part D is a grower-produced map to be kept on-farm, available for inspection, do **NOT** submit to the Coalition;
- Part E is sediment and erosion control practice information:
  - Respond for each unique combination of practices represented on a field or group of fields.

Farm Evaluation Survey

Part A: General Farm Practices.

Respond for whole farm, check all that apply.

- Pesticide application practices: Select safeguards to water quality
- Nutrient management plan preparation: Who assists you?
- Does your farm have the potential to discharge sediment to off-farm surface water?
  - Does not include on-farm recirculation infrastructure.
  - **Will trigger Sediment and Erosion Control Plan (SECP).**

Part B: Irrigation & Abandoned Well Information.

Respond for whole farm, check all that apply.

- Irrigation Wells: Select wellhead protection practices
- Abandoned Wells: Year abandoned, method of destruction
- Monitoring Wells: Year converted

Farm Evaluation Survey

Part C & E: Field Specific Evaluations.

Survey of crops and management practices.

- ***Report for all parcels in membership.***
- *Must complete for each field or management unit: group of fields with same combination of crop/ management practices.*

Part C: Irrigation & Nutrient Management *(Select all that apply)*

- Irrigation methods: Primary, secondary
- Irrigation efficiency practices
- Nitrogen management practices used to minimize leaching past the root zone

Part E: Sediment & Erosion Control (*Select all that apply)*

- Irrigation Practices for Managing Sediment & Erosion
- Cultural Practices for Managing Sediment & Erosion

Farm Evaluation Survey

<u>Part D</u>: Farm Map. *(Kept on-farm and used for CVRWQCB inspection purposes)*

- Parcel layout;
- Crops grown;
- Irrigation infrastructure,
  - Active wells,
  - Abandoned wells,
  - Ditches,
  - Pipelines;
- Monitoring wells;
- Potential surface water discharge points.

2016 Farm Evaluation Survey

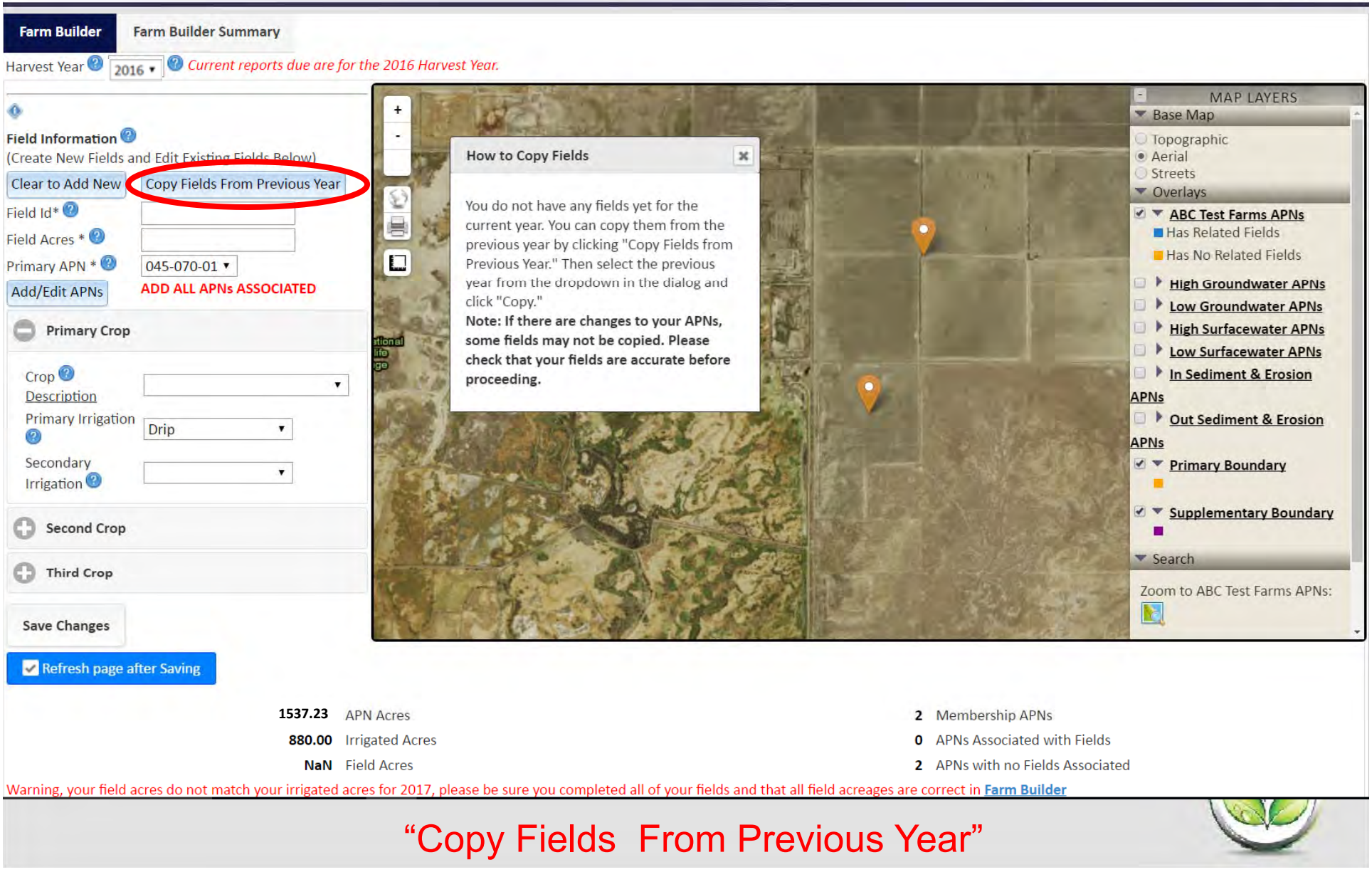
- High Vulnerability Area (due annually);
- Report crops and practices for the previous calendar year, 2016 (crop/harvest year);
- Forms may be audited by CVRWQCB inspection. Keep a copy of Farm Evaluation on-farm;
- Submit by **March 1, 2017**:
  - Westside: Return a copy to coalition (except Part D) for tabulation and reporting.
  - Buena Vista, Cawelo and KRWCA: Submit online via link to "ILRP Farm" on each Coalitions' website. Login and password are required for each membership and each Coalition.

Farm Evaluation Online Submittal

*Online input (**ILRP Farm**) is different than paper form.*

- Create your Farm in Farm Builder:
  - Define fields associated with all APNs enrolled from January 1,
  - Define cropping and irrigation practice for fields;
- Complete your Farm Evaluation for all sections and all fields created;
- Tools to speed up data entry:
  - "Duplicate": Copy C&E field evaluation answers from field to field,
  - "Copy From Previous Year": Copy fields & evaluation answers from year to year, etc.;
- Quality Assurance/Quality Control (QA/QC) checks:
  - **Every APN enrolled from Jan. 1 must be assigned to at least one field,**
  - **Field acres much match ALL irrigated acres enrolled from Jan. 1-Dec. 30,**
  - **Part A, B and every field evaluation must be completed.**

Farm Evaluation Online Submittal



"Copy Fields From Previous Year"

Farm Evaluation Online Submittal

Secondary Irrigation

Second Crop

Third Crop

Save Changes

Refresh page after Saving

1537.23 APN Acres
880.00 Irrigated Acres
835.00 Field Acres

2 Membership APNs
2 APNs Associated with Fields
0 APNs with no Fields Associated

Warning, your field acres do not match your irrigated acres for 2016, please be sure you completed all of your fields and that all field acreages are correct in Farm Builder

Membership Fields | Farm Builder Summary PDF | Farm Builder Summary Excel | Search:

Edit / Delete	Field Id	Field Acres	Crop	Primary Irrigation	Secondary Irrigation	Primary APN	Other APNs
	A	160	Citrus Oranges	Primary Drip	Secondary None	045-110-01	
	B	80	Citrus Oranges	Primary Drip	Secondary None	045-110-01	
	C	40	Citrus Oranges	Primary Drip	Secondary None	045-110-01	
	Home Ranch 1	255	Citrus Oranges	Primary Drip		045-070-01	

Irrigated Acres (enrolled from Jan 1-Dec 31) must match total Field Acres

Farm Evaluation Online Submittal

Second Crop

Third Crop

Save Changes

Refresh page after Saving

1537.23 APN Acres
880.00 Irrigated Acres
880.00 Field Acres

2 Membership APNs
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Membership Fields | Farm Builder Summary PDF | Farm Builder Summary Excel | Search:

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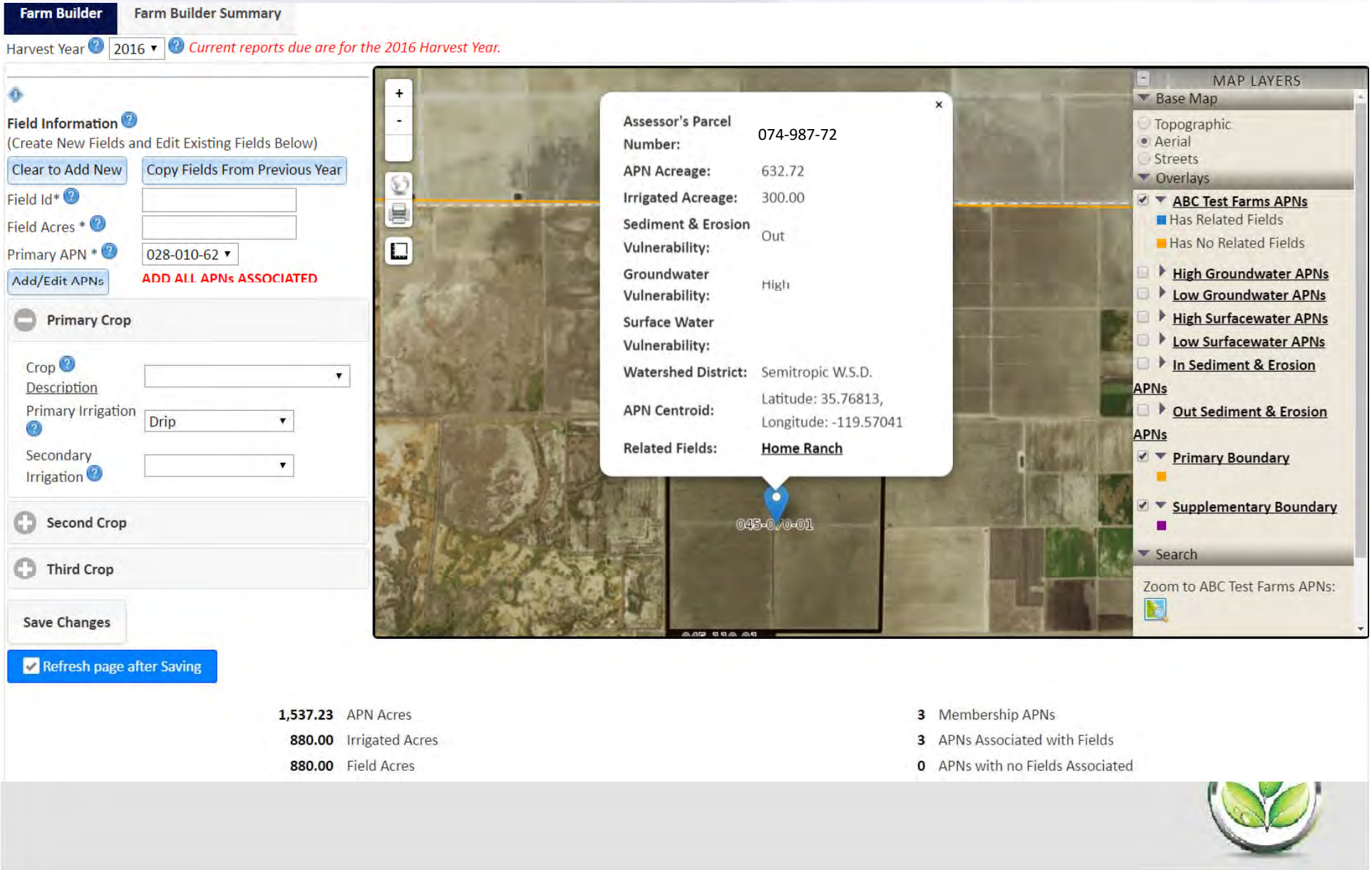
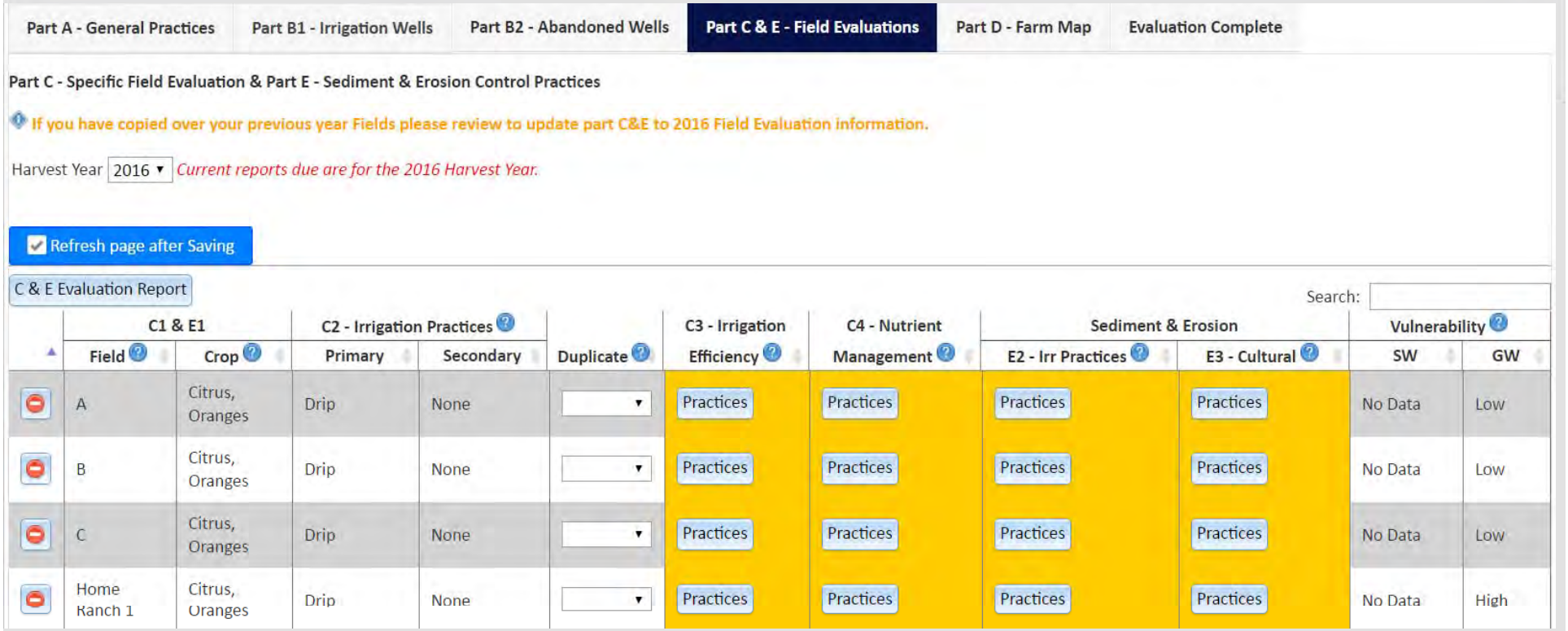
	A	160	Citrus Oranges	Primary Drip	Secondary None	045-110-01	
	B	80	Citrus Oranges	Primary Drip	Secondary None	045-110-01	
	C	40	Citrus Oranges	Primary Drip	Secondary None	045-110-01	
	Home Ranch 1	300	Citrus Oranges	Primary Drip	Secondary None	045-070-01	
	Home Ranch 2	300	Citrus Oranges	Primary Drip	Secondary None	045-070-01	

Farm Evaluation Online Submittal

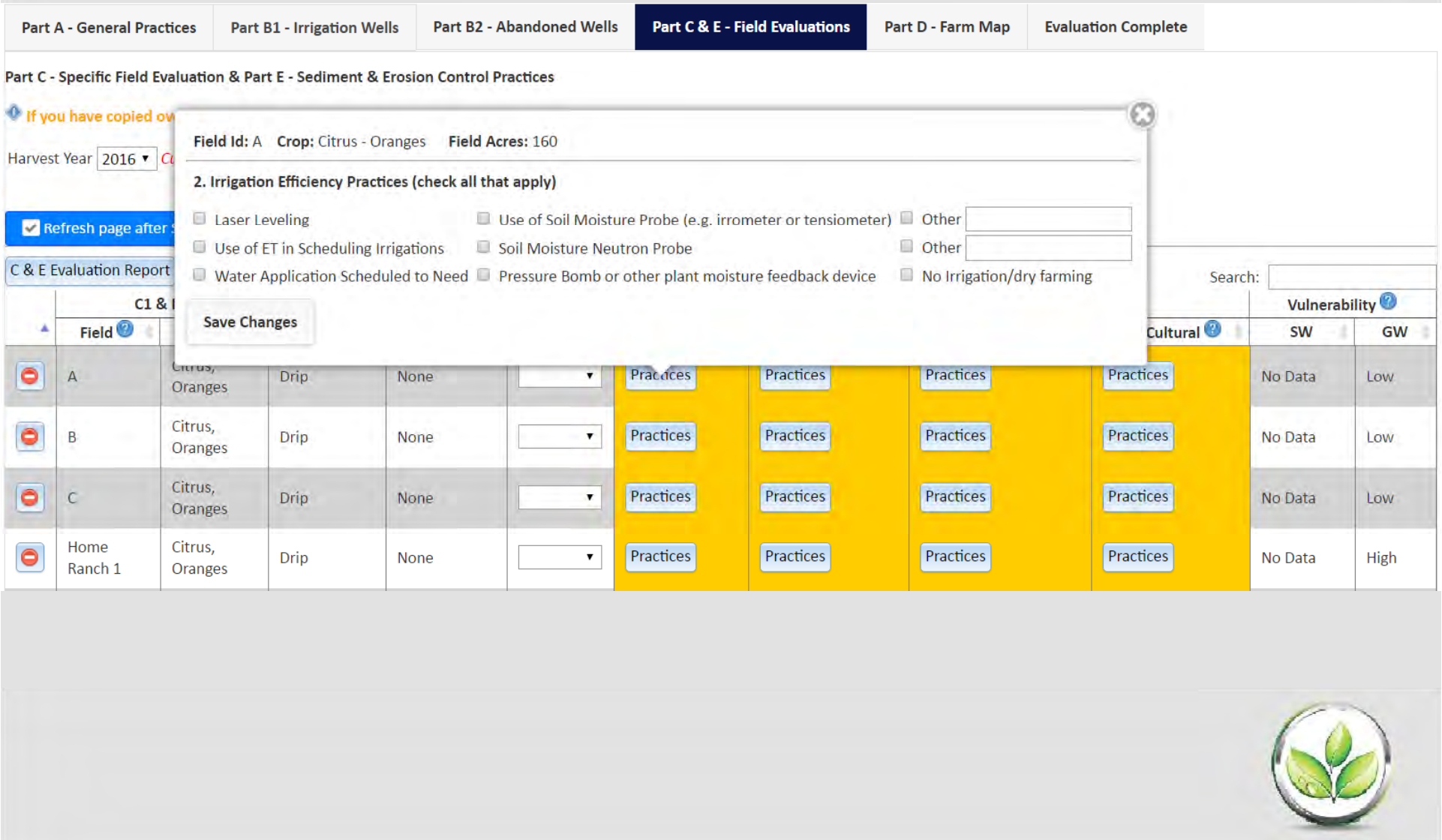


Farm Evaluation Online Submittal



You must complete part C&E for all fields created in Farm Builder. Review to update field evaluations if fields were copied.

Farm Evaluation Online Submittal



Farm Evaluation Online Submittal

Part A - General Practices | Part B1 - Irrigation Wells | Part B2 - Abandoned Wells | Part C & E - Field Evaluations | Part D - Farm Map | **Evaluation Complete**

Year 2016 ▾ *Current reports due are for the 2016 Harvest Year.*

Outreach Attendance Certification

Annual confirmation to the third-party that the Member or Designee has attended an outreach event in the previous year, and that the Member/Designee was personally informed of the content of the outreach event and was provided with copies of all outreach materials.

☑ *Yes, I confirm these statements. (check box)*

Farm Evaluation Status

- **Part A - General Farm Practices** ☑
- **Part B1 - Irrigation Well Information** ☑
- **Part B2 - Abandoned Well Information** ☑
- **Parts C & E - Specific Field Evaluation & Sediment and Erosion Control**
  - High Vulnerability Fields/Parcels ☐
  - Low Vulnerability Fields/Parcels ☐
- **Part D - Farm Map**
  - Is there an updated and current map? ☑

Farm Evaluation Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel or represented Members properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment for violations.

Name test Date 11/10/2016

Farm Evaluation Submission

You must submit the Farm Evaluation electronically to the Coalition and print the Farm Evaluation to keep on-site at your farming operation. Select the submit and print buttons below when your Farm Evaluation is complete.

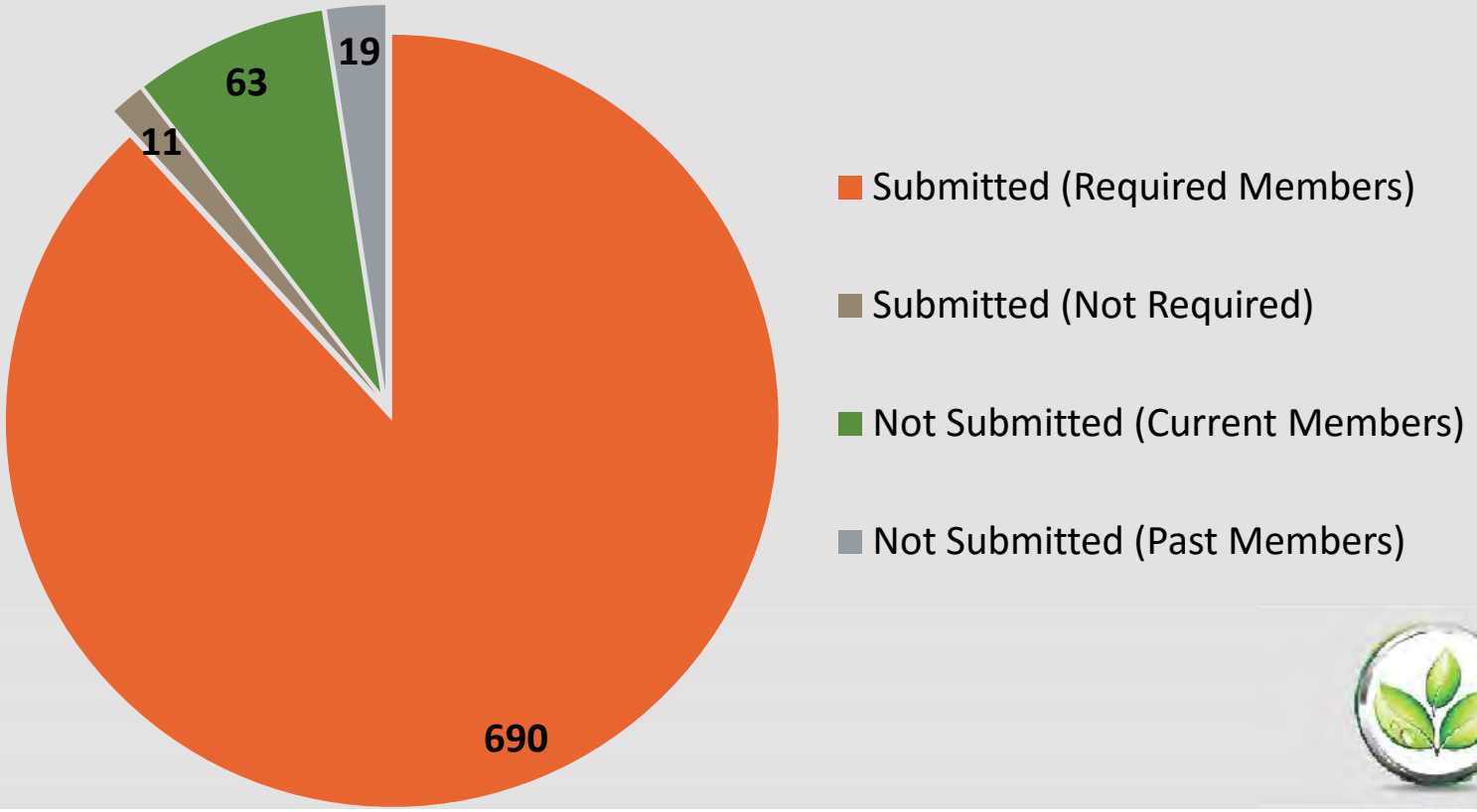
Your Farm Evaluation Is Incomplete. You must complete all sections, print your name, date, and submit your evaluation to be complete.

Submit Electronically Submit Farm Evaluation

Print Farm Evaluation Printable Report | Farm Land Area Report

2015 Farm Evaluation Surveys

- High Vulnerability and Large Low Vulnerability Farms were required to complete a 2015 Evaluation.
- KRWCA had over a 90% submission rate.



2015 Farm Evaluation Surveys

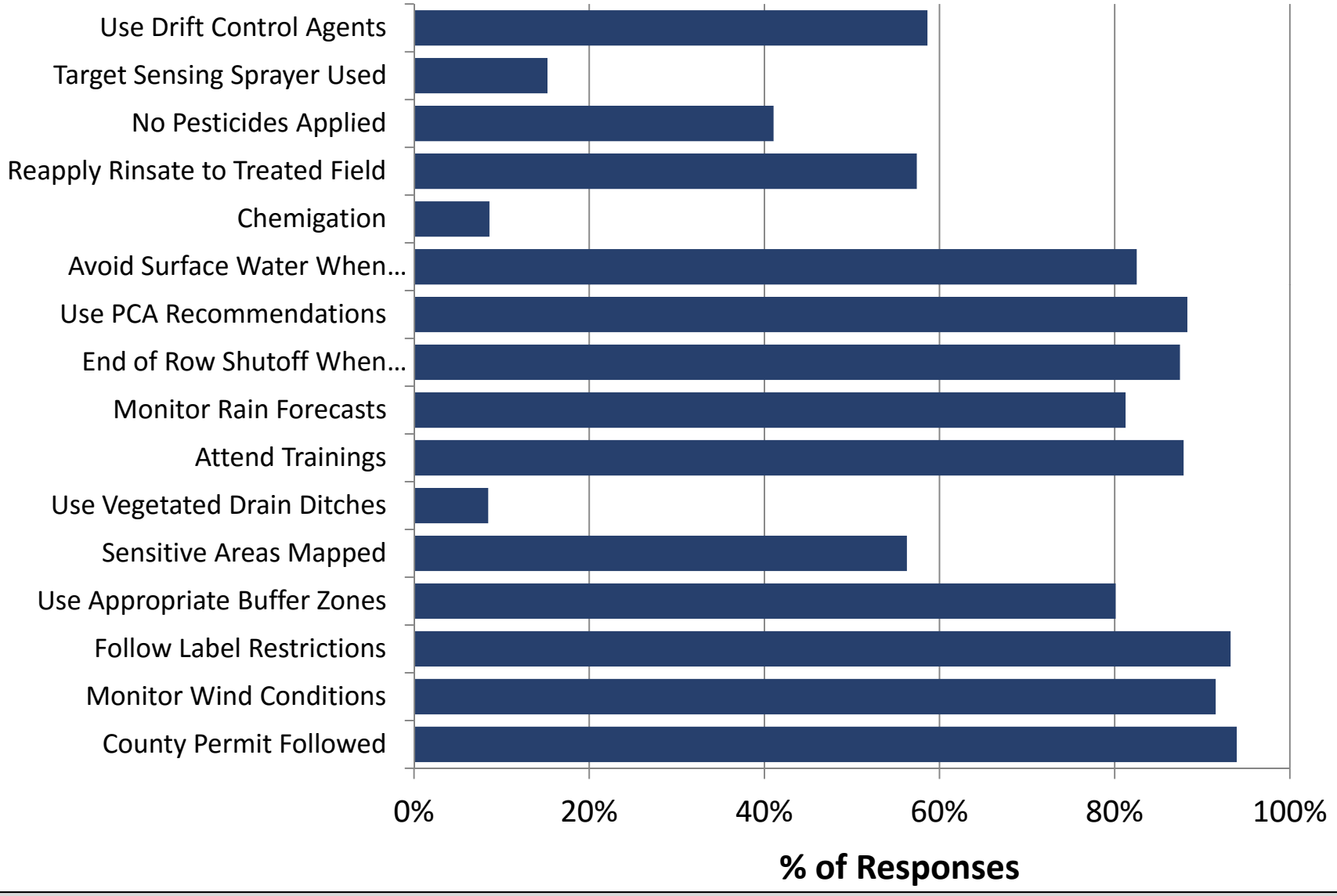
Data Quality

- Incomplete Farm Evaluations;
- Transition Fields (APNs transferred between memberships in a Crop/Harvest Year with two Farm Evaluations submitted);
- Double Cropping;
- Fallow Fields (Enrollment Year vs. Crop/Harvest Year).

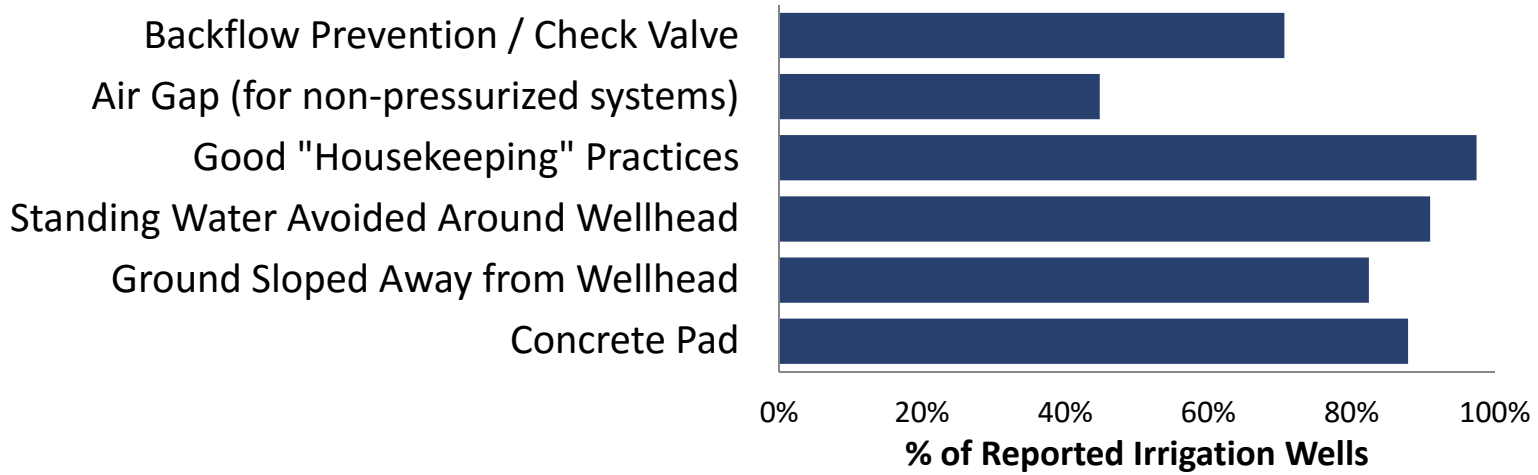
Required Field Evaluation Submission Field Acreage Coverage				
	Fields	**Field Acres**	**% of Irrigated Acres***	**Commodity Acres**
Single Cropped Fields	5,306	427,110	83%	427,110
Double/Triple Cropped Fields	482	40,183	8%	89,498
Fallow Fields	903	63,383	12%	-
Total Reported Fields	6,691	530,676	104%	516,608

*Assuming 512,129 Irrigated Acres, total enrolled irrigated acreage of parcels required to submit a farm evaluation

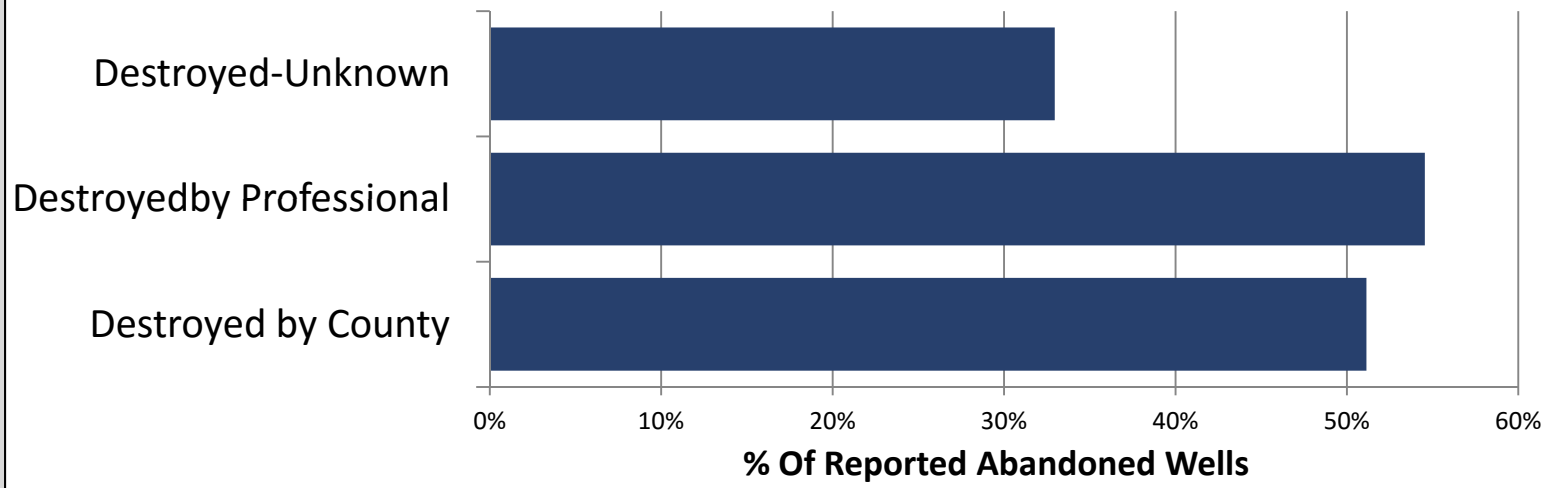
KRWCA Pesticide Application Practices



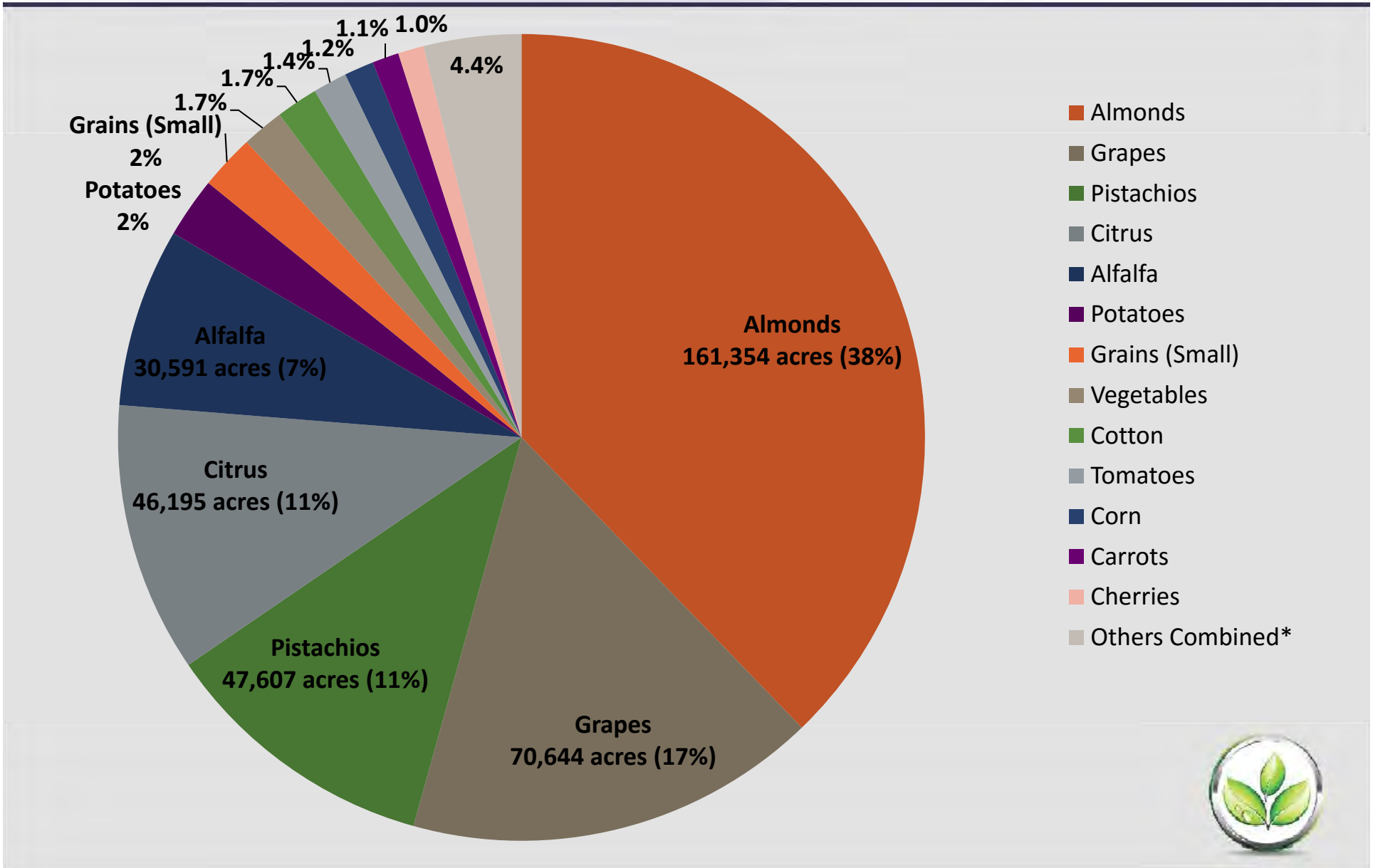
KRWCA Irrigation Well Protective Practices



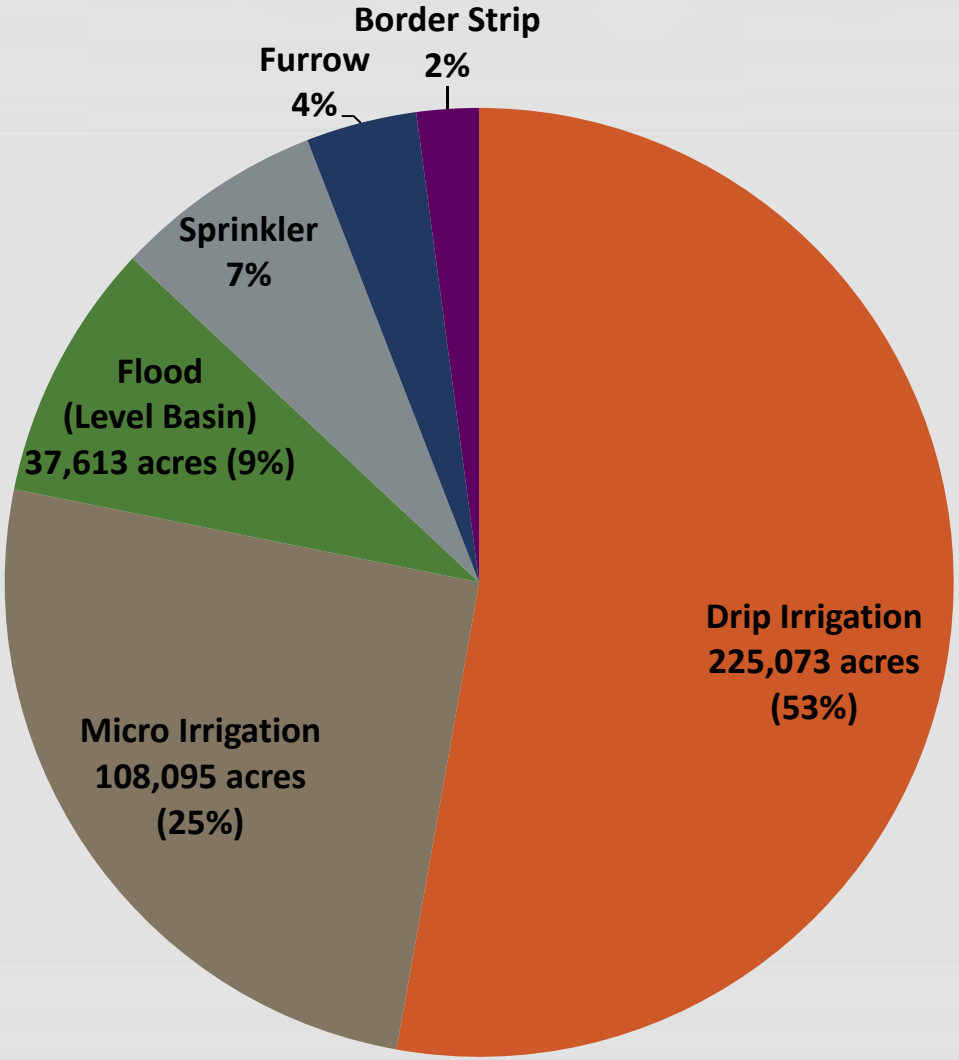
KRWCA Destruction Method of Abandoned Wells



KRWCA Single Cropping by Percent of Field Acreage



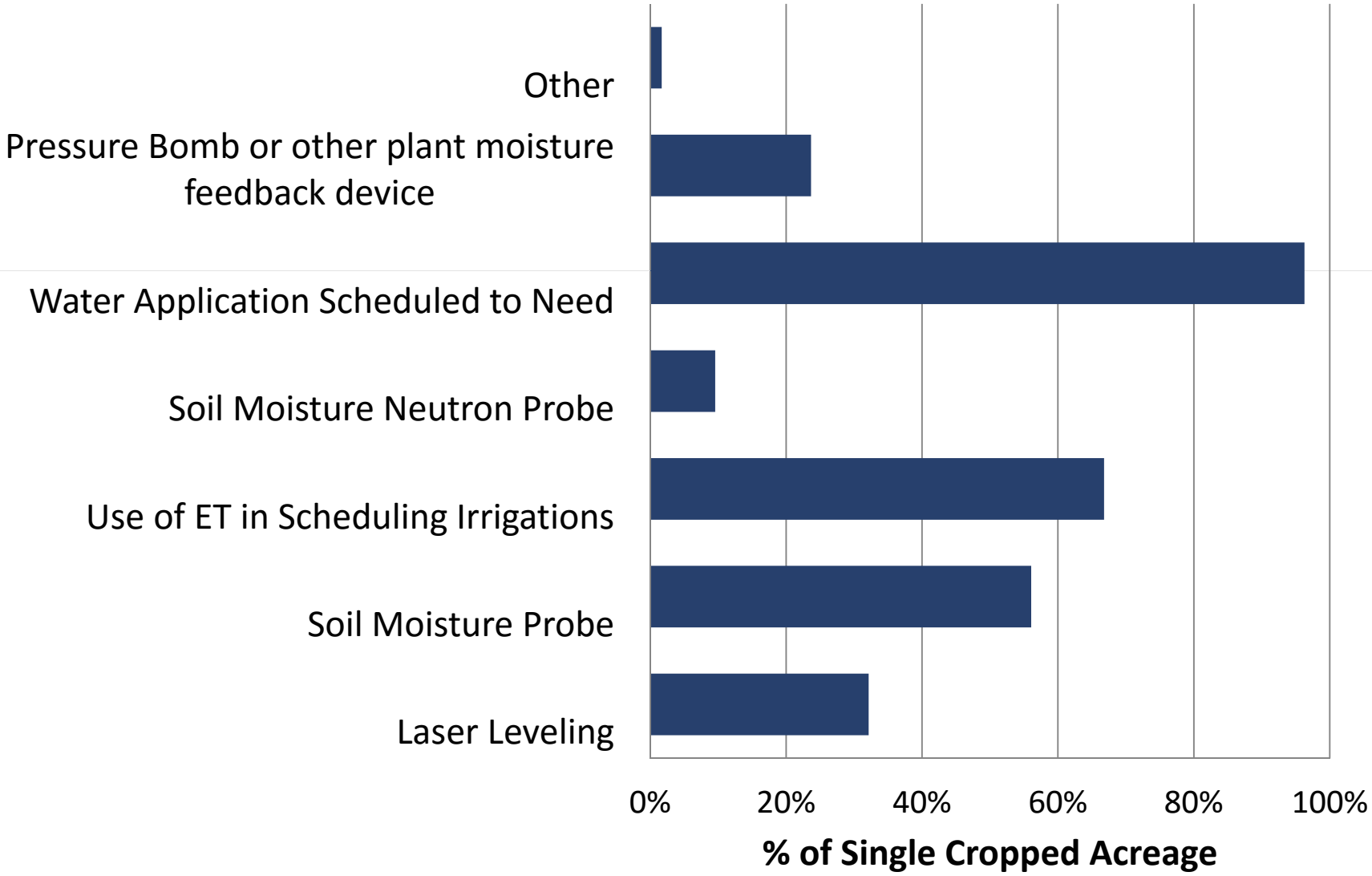
KRWCA Primary Irrigation Type



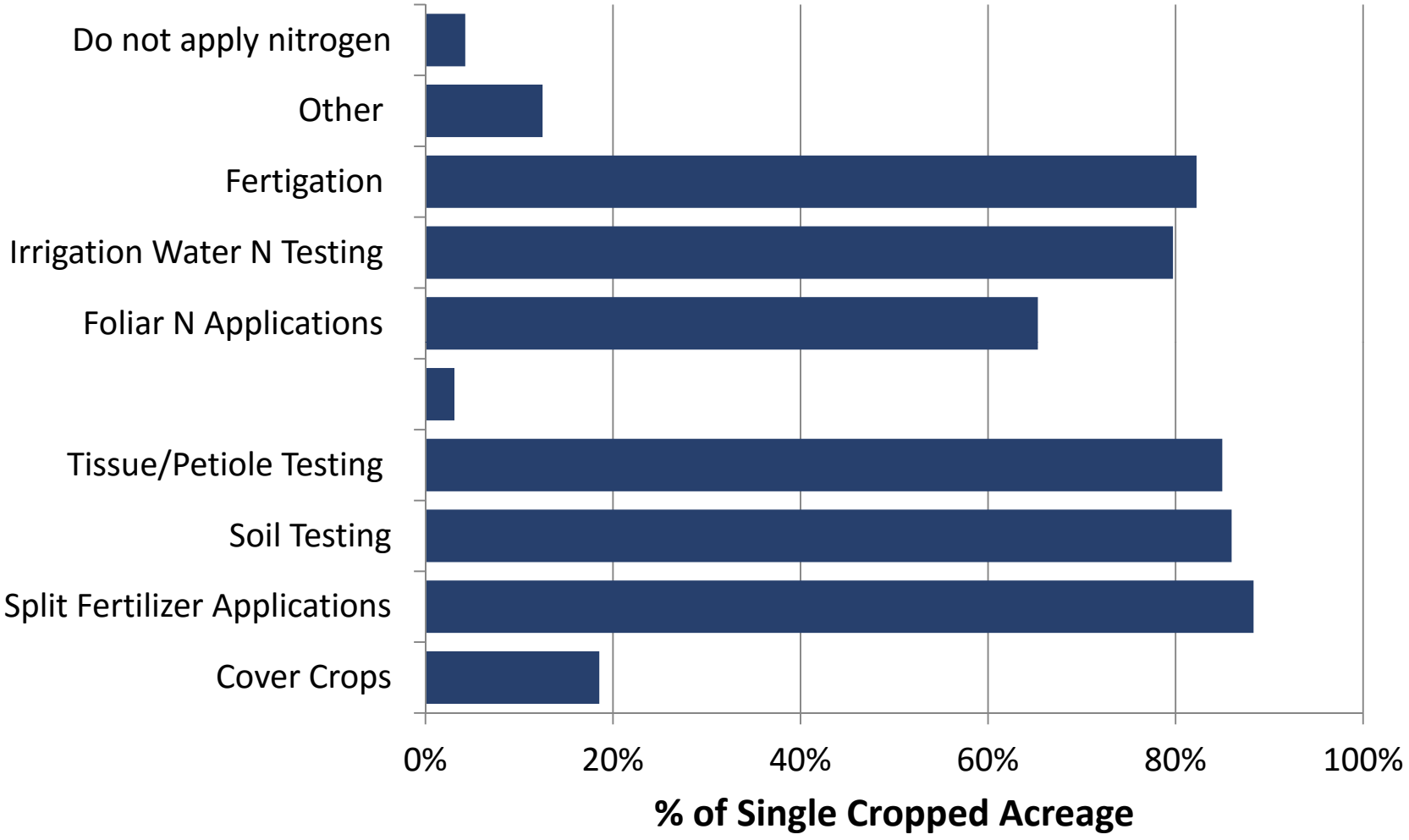
- Drip Irrigation
- Micro Irrigation
- Flood (Level Basin)
- Sprinkler
- Furrow
- Border Strip

- **15% Surface Irrigation**
- **85% Pressurized Irrigation**

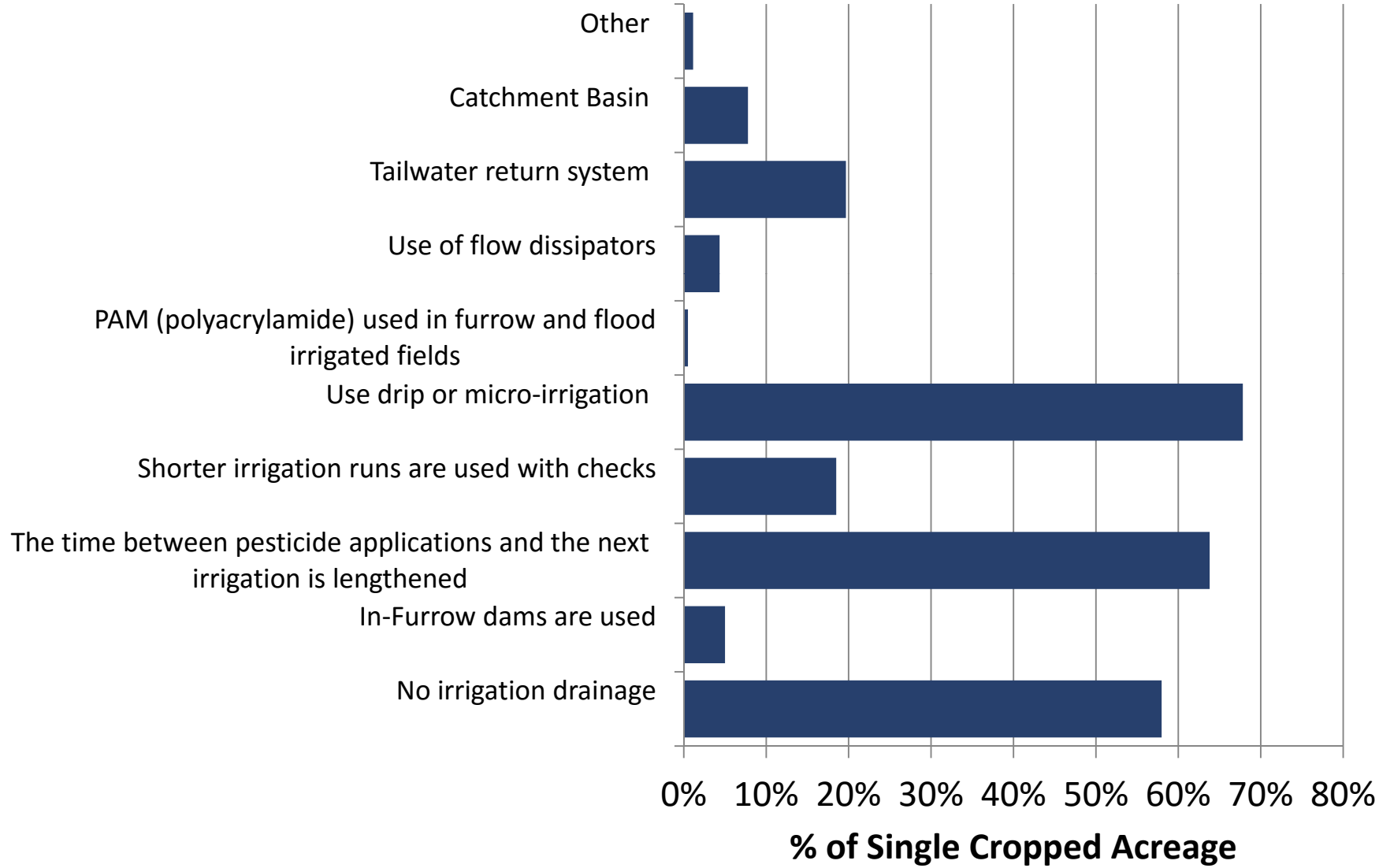
KRWCA Irrigation Efficiency Practices



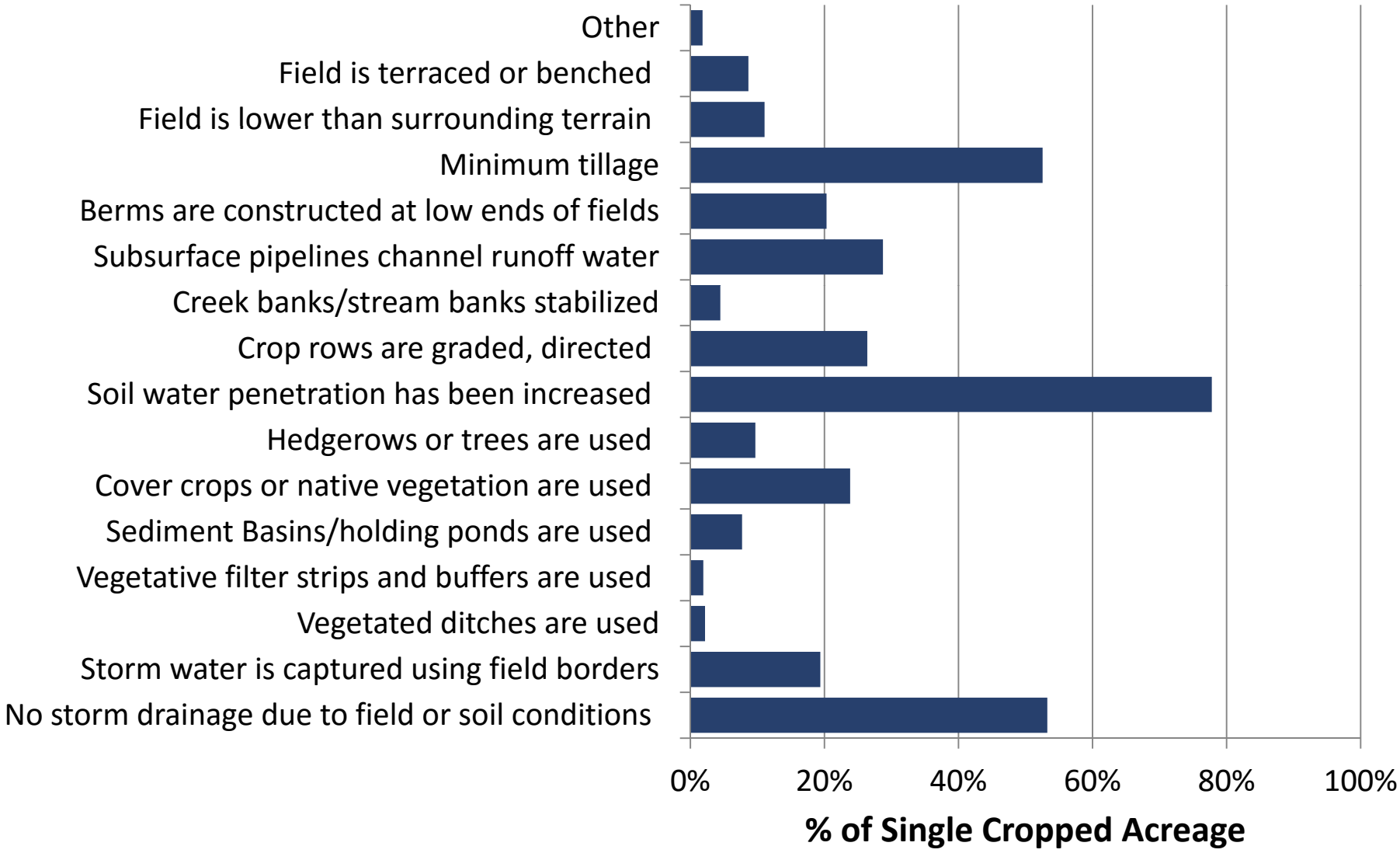
KRWCA Nitrogen Management Methods



KRWCA Managing Sediment & Erosion



KRWCA Managing Sediment & Erosion



Nitrogen Management Plan (NMP) Worksheet

D. Ryan Dodd, CPSS, CCA

Provost & Pritchard Consulting Group

Soil Scientist/Agronomist

Consultant to KRWCA

Available for support on ILRP components, such as NMPs, SECPs, and irrigation and nutrient management practices.

NMP Certification Required

- **ALL** NMPs with High Vulnerability Area (HVA) parcels require certification by:
  - Professionals listed in the WDR,
  - Grower Self-Certification (if NMP Self-Certification course completed).

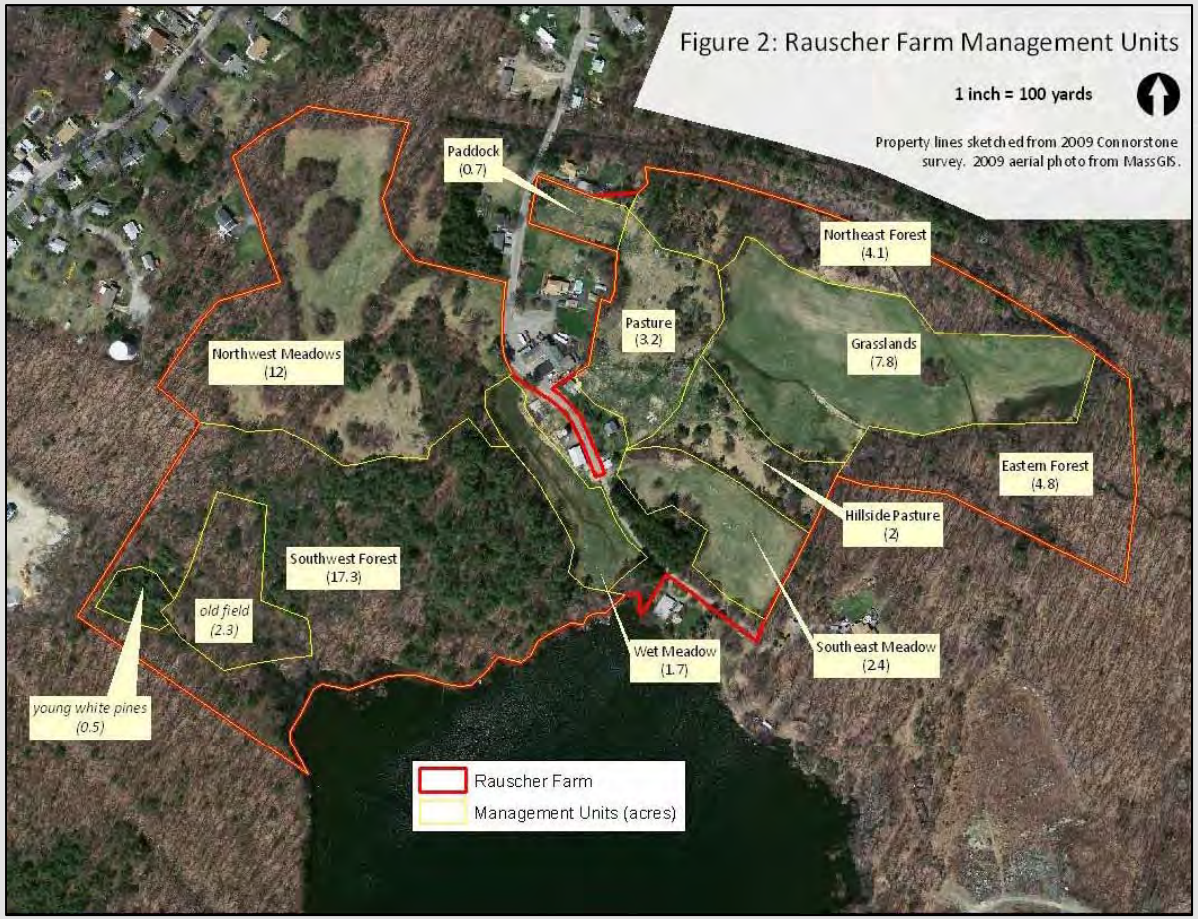
- List of Certified Crop Advisors (**CCA**s): https://www.certifiedcropadviser.org/certifications/professional-search/
  - Note that CCAs must have a California nitrogen management specialty certification.

NMP: 880 Acres of Citrus

- Multiple fields grouped into one NMP because they are managed the same ("management unit").

Management Unit

- A group of fields with the same crop and cultural practices.
- Determined by the grower.
- Fields do not have to be contiguous, just managed the same.



NITROGEN MANAGEMENT PLAN WORKSHEET

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

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop:		**15. Nitrogen Fertilizers**		
7. Production Unit:		16. Dry & Liquid N (lbs/ac)		
8. Projected Yield (Units/Acre):		17. Foliar N fertilizers (lbs/ac)		
9. N Recommended (lbs/ac):		**18. Organic Material N**		
10. Acres:		19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals				
11. Actual Yield (Units/Acre):		**20. Total Available N Applied** (lbs per acre)	0	0
12. Total N Applied (lbs/ac):	0	**21. Nitrogen Credits (est)**		
13. ** N Removed (lbs N/ac):		22. Available N carryover in soil (annualized, lbs/ac)		
A/Y Ratio (lbs N/unit/ac):	#DIV/0!	23. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		**24. Total N Credits** (lbs per acre)	0	0
		25. Total N Applied & Available	0	0

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
	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	

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

Provided by the Central Valley Water Board 23 December 2014

Step 1: Basic Information

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year, (Harvested):	2016	4. APN(s):	5. Field(s) ID:	
		060-123-12	A	160
2. Member ID#	12345	060-123-12	B	80
		060-123-12	C	40
3. Name:		074-987-65	Home Ranch	300
Joe and Jane Smith Farming		074-987-72	Home Ranch	300

1. Determine crop year (majority of harvest).
2. Citrus can be confusing. Contact coalition or CCA for assistance.
3. Enter Member ID and name.
4. Enter parcel and field info and acreage.

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year, (Harvested):	2016
2. Member ID#	12345
3. Name:	Joe and Jane Smith Farming

4. APN(s):	5. Field(s) ID:	
060-123-12	A	160
060-123-12	B	80
060-123-12	C	40
074-987-65	Home Ranch	300
074-987-72	Home Ranch	300

CROP NITROGEN MANAGEMENT PLANNING	
6. Crop:	
7. Production Unit:	
8. Projected Yield (Units/Acre):	
9. N Recommended (lbs/ac):	
10. Acres:	
Post Production Actuals	
11. Actual Yield (Units/Acre):	
12. Total N Applied (lbs/ac):	0
13. ** N Removed (lbs N/ac):	
A/Y Ratio (lbs N/unit/ac):	#DIV/0!
14. Notes:	

N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
15. Nitrogen Fertilizers		
16. Dry & Liquid N (lbs/ac)		
17. Foliar N fertilizers (lbs/ac)		
18. Organic Material N		
19. Available N in Manure/Compost (lbs/ac estimate)		
20. Total Available N Applied (lbs per acre)	0	0
21. Nitrogen Credits (est)		
22. Available N carryover in soil (annualized, lbs/ac)		
23. N in Irrigation water (annualized, lbs/ac)		
24. Total N Credits (lbs per acre)	0	0
25. Total N Applied & Available	0	0

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
	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	

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

Provided by the Central Valley Water Board 23 December 2014

Step 2: Crop N Management Planning

- Assuming mature trees;
- **Projected yield** determined by:
  1) **3-5 year average yield + 10%,**
  2) **RYE,**
  3) Maximum possible yield,
  4) County averages (book values);
- **Production Units**: Grower decision, but use tons or pounds if possible,
  - (20 tons citrus = 44 bins/ac = 1,067 cartons/ac = 727 field boxes/ac = 40,000 lbs/ac).

CROP NITROGEN MANAGEMENT PLANNING	
6. Crop:	Citrus (oranges)
7. Production Unit:	tons
8. Projected Yield (Units/Acre):	20.00
9. N Recommended (lbs/ac):	
10. Acres:	880

Average yield of 22,500 lbs/acre take from CDFA FREP Website (https://apps1.cdfa.ca.gov/FertilizerResearch/docs/Citrus.html#Nitrogen)

Step 2: N Recommendation

- Approximately 1.85 lbs N are removed per 1000 lbs of harvested fruit, but # varies
  (https://apps1.cdfa.ca.gov/FertilizerResearch/docs/N_Citrus.html)

CROP NITROGEN MANAGEMENT PLANNING	
6. Crop:	Citrus (oranges)
7. Production Unit:	tons
8. Projected Yield (Units/Acre):	20.00
9. N Recommended (lbs/ac):	106
10. Acres:	880

[1] $$\frac{20\ tons\ oranges}{ac} \times \frac{2000\ lbs\ oranges}{1\ ton\ oranges} \times \frac{1.85\ lbs\ N}{1000\ lbs\ oranges} = \frac{74\ lbs\ N}{ac}$$

[2] $$\frac{74\ lbs\ N}{ac} \div 0.7\ \text{NUE} = \frac{106\ \text{lbs N}}{\text{ac}}$$

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year, (Harvested):	2016
2. Member ID#	12345
3. Name:	Joe and Jane Smith Farming

4. APN(s):	5. Field(s) ID:	
060-123-12	A	160
060-123-12	B	80
060-123-12	C	40
074-987-65	Home Ranch	300
074-987-72	Home Ranch	300

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop:	Citrus (oranges)	**15. Nitrogen Fertilizers**		
7. Production Unit:	tons	16. Dry & Liquid N (lbs/ac)		
8. Projected Yield (Units/Acre):	20.00	17. Foliar N fertilizers (lbs/ac)		
9. N Recommended (lbs/ac):	106	**18. Organic Material N**		
10. Acres:	880	19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals				
11. Actual Yield (Units/Acre):		**20. Total Available N Applied** (lbs per acre)	0	0
12. Total N Applied (lbs/ac):	0	**21. Nitrogen Credits (est)**		
13. ** N Removed (lbs N/ac):		22. Available N carryover in soil (annualized, lbs/ac)		
A/Y Ratio (lbs N/unit/ac):	#DIV/0!	23. N in Irrigation water (annualized, lbs/ac)		
14. Notes:		**24. Total N Credits** (lbs per acre)	0	0
		25. Total N Applied & Available	0	0

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
	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	

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

Step 3: Notes Box

14. Notes:

-Mature trees. 80% of irrigation from well (4 mg/L NO3-N) and 20% from district water (1 mg/L NO3-N). ETc 30 inches, 90% irrigation efficiency. N removal rate from FREP = 1.85 lbs N per 1000 lbs fruit; 70% NUE.

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year, (Harvested):	2016
2. Member ID#	12345
3. Name:	Joe and Jane Smith Farming

4. APN(s):	5. Field(s) ID:	
060-123-12	A	160
060-123-12	B	80
060-123-12	C	40
074-987-65	Home Ranch	300
074-987-72	Home Ranch	300

CROP NITROGEN MANAGEMENT PLANNING		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop:	Citrus (oranges)	**15. Nitrogen Fertilizers**		
7. Production Unit:	tons	16. Dry & Liquid N (lbs/ac)		
8. Projected Yield (Units/Acre):	20.00	17. Foliar N fertilizers (lbs/ac)		
9. N Recommended (lbs/ac):	106	**18. Organic Material N**		
10. Acres:	880	19. Available N in Manure/Compost (lbs/ac estimate)		
Post Production Actuals		20. Total Available N Applied (lbs per acre)	0	0
11. Actual Yield (Units/Acre):		**21. Nitrogen Credits (est)**		
12. Total N Applied (lbs/ac):	0	22. Available N carryover in soil (annualized, lbs/ac)		
13. ** N Removed (lbs N/ac):		23. N in Irrigation water (annualized, lbs/ac)		
A/Y Ratio (lbs N/unit/ac):	#DIV/0!	24. Total N Credits (lbs per acre)	0	0
14. Notes:		25. Total N Applied & Available	0	0
-Mature trees. 80% of irrigation from well (4 mg/L NO3-N) and 20% from district water (1 mg/L NO3-N). ETc 30 inches, 90% irrigation efficiency. N removal rate from FREP = 1.85 lbs N per 1000 lbs fruit; 70% NUE.				

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
	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	

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

Calculating N Credits

21. Nitrogen Credits (est)		
22. Available N carryover in soil (annualized, lbs/ac)	10	
23. N in Irrigation water (annualized, lbs/ac)	26	
24. Total N Credits (lbs per acre)	36	0
25. Total N Applied & Available	106	0

- **Nitrate-N** concentration (ppm) x inches irrigation applied x **0.23**
  - **For both water sources, then add together (flow-weighted)**
- Well: (30 in/0.9) x 0.8 x 4.0 ppm x 0.23 = 25 lb/ac
- District: (30/0.9) x 0.2 x 1.0 ppm x 0.23 = 2 lb/ac
- **25 lb/ac + 2 lb/ac = approximately 26 lb/ac (with rounding)**

Calculating Fertilizer Rates

How do we determine the fertilizer rate?

- We need to apply **106** lb/ac (N recommendation).
- We are getting **36** lb/ac from the soil and water
- So 106 – 36 = **70** lb/ac of additional N needed.
- Apply **55** lb/ac to soil and **15** lb/ac via foliar spray.

N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
15. Nitrogen Fertilizers		
16. Dry & Liquid N (lbs/ac)	55	
17. Foliar N fertilizers (lbs/ac)	15	
18. Organic Material N		
19. Available N in Manure/Compost (lbs/ac estimate)	0	
20. Total Available N Applied (lbs per acre)	70	0
21. Nitrogen Credits (est)		
22. Available N carryover in soil (annualized, lbs/ac)	10	
23. N in Irrigation water (annualized, lbs/ac)	26	
24. Total N Credits (lbs per acre)	36	0
25. Total N Applied & Available	106	0

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year, (Harvested):	2016	4. APN(s):	5. Field(s) ID:	
		060-123-12	A	160
2. Member ID#	12345	060-123-12	B	80
		060-123-12	C	40
3. Name:		074-987-65	Home Ranch	300
Joe and Jane Smith Farming		074-987-72	Home Ranch	300

OP NITROGEN MANAGEMENT PLANN		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop:	Citrus (oranges)	15. Nitrogen Fertilizers		
7. Production Unit:	tons	16. Dry & Liquid N (lbs/ac)	55	68
8. Projected Yield (Units/	20.00	17. Foliar N fertilizers (lbs/ac)	15	15
9. N Recommended (lbs/	106	18. Organic Material N		
10. Acres:	880	19. Available N in Manure/Compost (lbs/ac estimate)	0	0
Post Production Actuals		20. Total Available N Applied (lbs per acre)	70	83
11. Actual Yield (Units/Acr	22.50	21. Nitrogen Credits (est)		
12. Total N Applied (lbs/	119	22. Available N carryover in soil (annualized, lbs/ac)	10	10
13. ** N Removed (lbs N/ac):		23. N in Irrigation water (annualized, lbs/ac)	26	26
A/Y Ratio (lbs N/unit/ac):	4.85	24. Total N Credits (lbs per acr	36	36
14. Notes:		25. Total N Applied & Available	106	119

-Mature trees. 80% of irrigation from well (5 mg/L NO3-N) and 20% from district water (1 mg/L NO3-N). ETc 30 inches, 90% irrigation efficiency. N removal rate from FREP = 1.85 lbs N per 1000 lbs fruit; 70% NUE.

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
Joe Smith	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	x
DATE:	32. Self-Certified, UC or NRCS site recommendation	
2/5/2016	33. Nitrogen Management Plan Specialist	

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

Provided by the Central Valley Water Board 23 December 2014

1

Box 20 = Box 16 + 17 + 19

Box 25 = Box 20 + 24

The total amount applied and available (Box 25) should match N recommended (Box 9).

NMP Certification

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
Joe Smith	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	X
DATE:	32. Self-Certified, UC or NRCS site recommendation	
2/5/2016	33. Nitrogen Management Plan Specialist	

- The NMP is a **PLAN** for the upcoming season. Therefore, it needs to be **completed in advance** of irrigation and fertilization, when possible.
- It is a plan. Actual practices and rates **can be different**, but **document** why (better yield, pest pressures, lack of water, etc.).
- Growers can only self-certify NMP if they completed class and passed exam.

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year, (Harvested):	2016
2. Member ID#	12345
3. Name:	
Joe and Jane Smith Farming	

4. APN(s):	5. Field(s) ID:	
060-123-12	A	160
060-123-12	B	80
060-123-12	C	40
074-987-65	Home Ranch	300
074-987-72	Home Ranch	300

OP NITROGEN MANAGEMENT PLANN		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop:	Citrus (oranges)	**15. Nitrogen Fertilizers**		
7. Production Unit:	tons	16. Dry & Liquid N (lbs/ac)	55	68
8. Projected Yield (Units	20.00	17. Foliar N fertilizers (lbs/ac)	15	15
9. N Recommended (lbs	106	**18. Organic Material N**		
10. Acres:	880	19. Available N in Manure/Compost (lbs/ac estimate)	0	0
Post Production Actuals				
11. Actual Yield (Units/Acr	22.50	**20. Total Available N Applied** (lbs per acre)	70	83
12. Total N Applied (lbs/	119	**21. Nitrogen Credits (est)**		
13. ** N Removed (lbs N/ac):		22. Available N carryover in soil (annualized, lbs/ac)	10	10
A/Y Ratio (lbs N/unit/ac):	4.85	23. N in Irrigation water (annualized, lbs/ac)	26	26
14. Notes:		**24. Total N Credits** (lbs per acr	36	36
-Mature trees. 80% of irrigation from well (5 mg/L NO3-N) and 20% from district water (1 mg/L NO3-N). ETc 30 inches, 90% irrigation efficiency. N removal rate from FREP = 1.85 lbs N per 1000 lbs fruit; 70% NUE.		**25. Total N Applied & Available**	106	119

PLAN CERTIFICATION

28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
Joe Smith	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	x
DATE:	32. Self-Certified, UC or NRCS site recommendation	
2/5/2016	33. Nitrogen Management Plan Specialist	

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

Provided by the Central Valley Water Board 23 December 2014

Actual N Column

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year, (Harvested):	2016	4. APN(s):	5. Field(s) ID:	
		060-123-12	A	160
2. Member ID#	12345	060-123-12	B	80
		060-123-12	C	40
3. Name:		074-987-65	Home Ranch	300
Joe and Jane Smith Farming		074-987-72	Home Ranch	300

OP NITROGEN MANAGEMENT PLANN		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop:	Citrus (oranges)	15. Nitrogen Fertilizers		
7. Production Unit:	tons	16. Dry & Liquid N (lbs/ac)	55	68
8. Projected Yield (Units/	20.00	17. Foliar N fertilizers (lbs/ac)	15	15
9. N Recommended (lbs/	106	18. Organic Material N		
10. Acres:	880	19. Available N in Manure/Compost (lbs/ac estimate)	0	0
Post Production Actuals		20. Total Available N Applied (lbs per acre)	70	83
11. Actual Yield (Units/Acr	22.50	21. Nitrogen Credits (est)		
12. Total N Applied (lbs/	119	22. Available N carryover in soil (annualized, lbs/ac)	10	10
13. ** N Removed (lbs N/ac):		23. N in Irrigation water (annualized, lbs/ac)	26	26
A/Y Ratio (lbs N/unit/ac):	4.85	24. Total N Credits (lbs per acr	36	36
14. Notes:		25. Total N Applied & Available	106	119

-Mature trees. 80% of irrigation from well (5 mg/L NO3-N) and 20% from district water (1 mg/L NO3-N). ETo 30 inches, 90% irrigation efficiency. N removal rate from FREP = 1.85 lbs N per 1000 lbs fruit; 70% NUE.

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
Joe Smith	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	x
DATE:	32. Self-Certified, UC or NRCS site recommendation	
2/5/2016	33. Nitrogen Management Plan Specialist	

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

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- Note that the **Actual Yield** was higher than **Projected Yield**.
- Therefore, actual amount of **N Applied and Available** was higher than the plan (and that's OK).
- Leave N Removed Box (Box 13) blank. Coalition will provide this info.

NMP Summary Reporting

- **New required submission as of 2017!!**
- Basic form with select info from NMP (approved 12/23/15).
- NMP Summary Report will be due to Coalition **March 1, 2017 (HVA – large farms**), ***online (ILRP Farm) submission required***.
- Most important info from form: N applied, **A/Y ratio**, moisture content, and production units. Yield NOT reported.
- **A/Y** is a **relative index** of practices. Coalitions to aggregate and report A/Y data to CVRWQCB by crop/township.
- Coalitions will study trends and outliers, and provide feedback to growers and agronomists.

NMP Summary Report

NITROGEN MANAGEMENT PLAN WORKSHEET

1. Crop Year, (Harvested):	2016	4. APN(s):	5. Field(s) ID:	
		060-123-12	A	160
2. Member ID#	12345	060-123-12	B	80
		060-123-12	C	40
3. Name:		074-987-65	Home Ranch	300
Joe and Jane Smith Farming		074-987-72	Home Ranch	300

OP NITROGEN MANAGEMENT PLANN		N APPLICATIONS/CREDITS	26. Recommended/ Planned N	27. Actual N
6. Crop:	Citrus (oranges)	15. Nitrogen Fertilizers		
7. Production Unit:	tons	16. Dry & Liquid N (lbs/ac)	55	68
8. Projected Yield (Units	20.00	17. Foliar N fertilizers (lbs/ac)	15	15
9. N Recommended (lbs	106	18. Organic Material N		
10. Acres:	880	19. Available N in Manure/Compost (lbs/ac estimate)	0	0
Post Production Actuals		20. Total Available N Applied (lbs per acre)	70	83
11. Actual Yield (Units/Acre	22.50	21. Nitrogen Credits (est)		
12. Total N Applied (lbs/	119	22. Available N carryover in soil (annualized, lbs/ac)	10	10
13. ** N Removed (lbs N/ac):		23. N in Irrigation water (annualized, lbs/ac)	26	26
A/Y Ratio (lbs N/unit/ac):	4.85	24. Total N Credits (lbs per acre)	36	36
14. Notes:		25. Total N Applied & Available	106	119

-Mature trees. 80% of irrigation from well (5 mg/L NO3-N) and 20% from district water (1 mg/L NO3-N). ETo 30 inches, 90% irrigation efficiency. N removal rate from FREP = 1.85 lbs N per 1000 lbs fruit; 70% NUE.

PLAN CERTIFICATION		
28. CERTIFIED BY:	29. CERTIFICATION METHOD	X
Joe Smith	30. Low Vulnerability Area, No Certification Needed	
	31. Self-Certified, approved training program attended	x
DATE:	32. Self-Certified, UC or NRCS site recommendation	
2/5/2016	33. Nitrogen Management Plan Specialist	

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

Provided by the Central Valley Water Board 23 December 2014

1

Numbers and info in red boxes are used to complete the **NMP Summary Report for the management**:

- Site Location Info (APNs, Field IDs)
- Crop
- Total Acres
- Total N available and applied (*NOT soil N*)
- Production Unit

NMP Summary Report

Nitrogen Management Plan Summary Report

Crop Harvested Year (1): _____ **Submittal Date:** _____

Member ID (2): _____ **Member Name (3):** _____

	Site Location Information[1]	Crop (6)	Total Acres (10)	Total Available N Applied (20+23) pounds per acre	A/Y Total Available N (20+23) / Actual Yield (11)[2]	Production Unit (7)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

[1] Site Location Information refers to information to be used to link a parcel enrolled in a coalition to the reported information; this may be the Assessor Parcel Number (APN).

[2] For No Yield, fill in NY. For Non Bearing, fill in NB.

- Site Location Information: APNs (Item 4) + Field IDs (Item 5)
- Crop (Item 6)
- Total Acres (Item 10)
- Total Available N Applied (lbs/acre): Total Available N Applied (Item 20) + N in Irrigation Water (Item 23)
- Total Available N Applied(Item 20 + Item 23) / Actual Yield (Item 11)
  - **Actual Yield = total mass/volume removed from field (gross yield)**
- Production Unit/acre (Item 7)
  - **e.g. lbs or tons and moisture content if available (on ILRP Farm).**

Nitrogen Management Plan Summary Report

Crop Harvested Year (1): 2016

Submittal Date: 02/05/17

Member ID (2): 12345

Member Name (3): Joe & Jane Smith

	Site Location Information[1]		Crop (6)	Total Acres (10)	Total Available N Applied (20+23)	A/Y Total Available N (20+23)/Actual Yield (11)[2]	Production Unit (7)
	APN (4):	Field ID (5)					
1	060-123-12; 074-987-65; 074-987-72	A, B, C, Home Ranch	Citrus (oranges)	880	109	4.85	tons
2							
3							
4							
5							
6							
7							
8							
9							
10							

[1]Site Location Information refers to information to be used to link a parcel enrolled in a coalition to the reported information; this may be the Assessor Parcel Number (APN).

[2]For No Yield, fill in NY. For Non Bearing, fill in NB.

NMP Summary Report

Nitrogen Management Plan Summary Report

Crop Harvested Year (1): 2016

Submittal Date: 02/05/17

Member ID (2): 12345

Member Name (3): Joe & Jane Smith

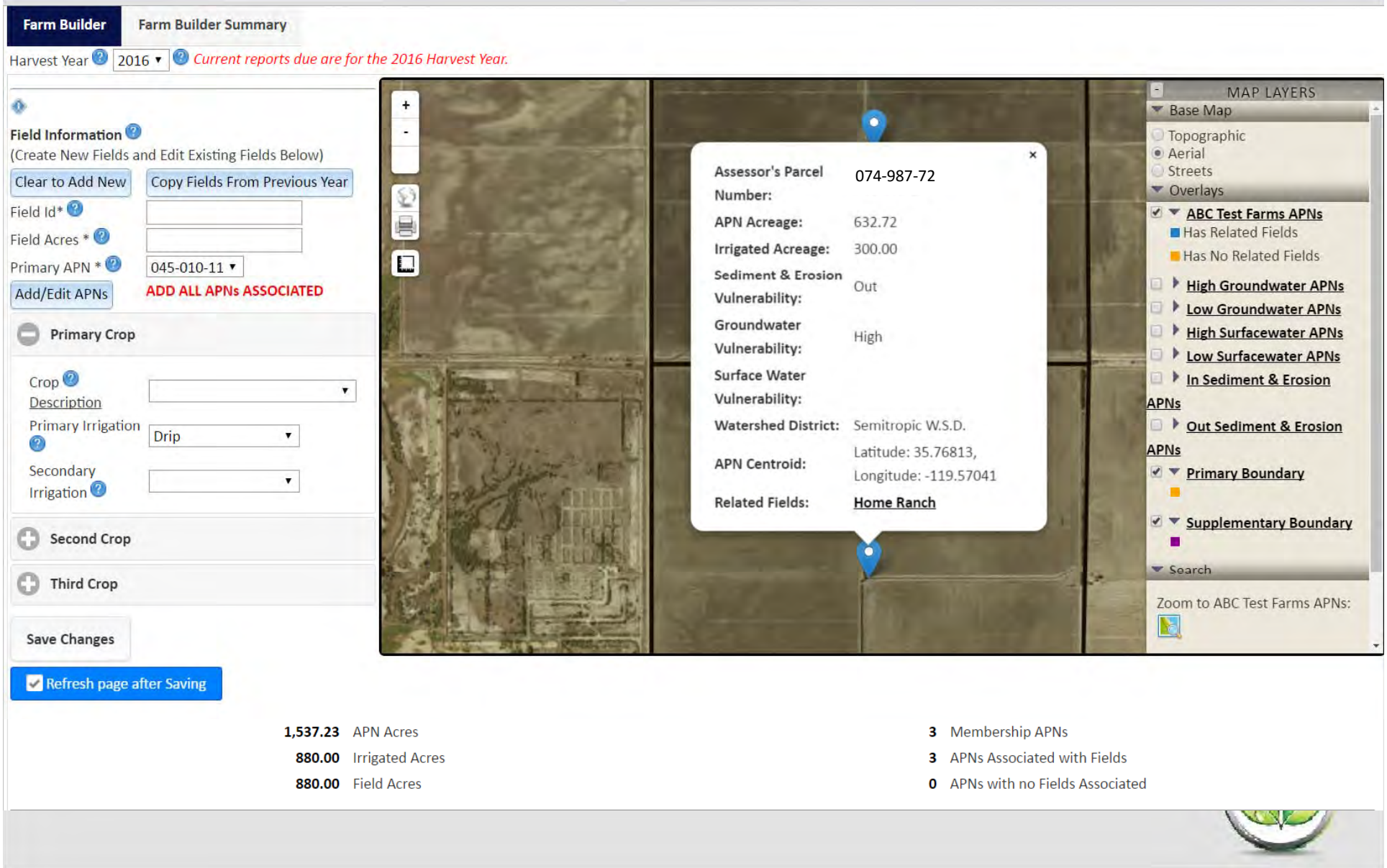
	Site Location Information[1]		Crop (6)	Total Acres (10)	Total Available N Applied (20+23)	A/Y Total Available N (20+23)/Actual Yield (11)[2]	Production Unit (7)
	APN (4):	Field ID (5)					
1	060-123-12; 074-987-65; 074-987-72	A, B, C, Home Ranch	Citrus (oranges)	880	109	4.85	tons

NMP Summary Online Submittal

*Online submission (**ILRP Farm**) slightly different than paper form. Process includes:*

- Create your Farm in **Farm Builder**:
  - **You must complete your NMP Summary Report for ALL fields which you completed a Farm Evaluation for.**
- Complete all columns required for NMP Summary Report for each field.
- Tools to speed up data entry:
  - "Duplicate": Copy NMP Summary answers from field to field within the same Management Unit.
  - No Yield/Non Bearing options.
- QA/QC checks:
  - **Every field must have NMP Summary values provided.**

NMP Summary Online Submittal



NMP Summary Online Submittal

1,537.23	APN Acres	**3**	Membership APNs
880.00	Irrigated Acres	**2**	APNs Associated with Fields
880.00	Field Acres	**1**	APNs with no Fields Associated

Membership Fields Farm Builder Summary PDF | Farm Builder Summary Excel

Search:

Edit / Delete	Field Id	Field Acres	Crop	Primary Irrigation	Secondary Irrigation	Primary APN	Other APNs
	A	160	Citrus Oranges	Primary Drip	Secondary None	060-123-12	
	B	80	Citrus Oranges	Primary Drip	Secondary None	060-123-12	
	C	40	Citrus Oranges	Primary Drip	Secondary None	060-123-12	
	Home Ranch	600	Citrus Oranges	Primary Drip	Secondary None	074-987-72	074-987-72

Showing 1 to 4 of 4 entries

You must complete your NMP Summary Report for ALL fields which you created in Farm Builder and completed a Farm Evaluation Survey for.

NMP Summary Online Submittal

Nitrogen Summary Report

Harvest Year 2016

NMP Summary Report Status

Currently there are 3 out of 4 fields completed

Submit the NMP Summary Report

You must submit the Nitrogen Summary Report electronically to the Coalition and you MUST print the Nitrogen Summary Report to keep on-site at your farming operation. Select the submit and print buttons below when your Nitrogen Summary Report is complete.

Member Name test Date 2016-11-09 *ex: dd/mm/yyyy* Date Received 2016-11-11

Your Nitrogen Summary is Incomplete. You must complete all sections, print your name, date, and submit your evaluation to be complete.

Electronic Submission Submit NMP Summary

Print NMP Summary Printable PDF Report

Excel Report Search:

Actions	Field ID	Crop	Field Acres	Duplicate	Total Avail N Applied (lbs/ac)	A/Y	Production Unit/ac	Harvest Moisture (%)	No Yield	Non Bearing
Delete Edit	A	Citrus Oranges	160		109	4.8500	tons/ac	Unknown	☐	☐
Delete Edit	B	Citrus Oranges	80		109	4.8500	tons/ac	Unknown	☐	☐
Delete Edit	C	Citrus Oranges	40		109	4.8500	tons/ac	Unknown	☐	☐
Delete Edit	Home Ranch	Citrus Oranges	600		0	0	0	0%	☐	☐

Showing 1 to 4 of 4 entries

Duplicate answers for fields in the same management unit/NMP template.

NMP Summary Online Submittal

Nitrogen Management Plan Summary Report

Kern River Watershed Coalition Authority

Crop Harvested Year (1): **2016**
Member ID (2): **10930**

Submittal Date: **2016-11-09**
Member Name (3): **ABC Test Farms**

Site Location Information[1]	Crop (6)	Total Acres (10)	Total Available N Applied (20+23) pounds per acre	A/Y Total Available N (20+23) / Actual Yield (11)[2]	Production Unit (7)	Moisture Content (%)	NY	NB	APNs
A	Citrus - Oranges	160	109	4.8500	tons	Unknown			060-123-12
B	Citrus - Oranges	80	109	4.8500	tons	Unknown			060-123-12
C	Citrus - Oranges	40	109	4.8500	tons	Unknown			060-123-12
Home Ranch	Citrus - Oranges	600	109	4.8500	tons				074-987-65, 074-987-72

ILRP FARM Printable NMP Summary; may appear slightly different from your paper Template.

Questions?

Member Reminders

- Growers are responsible for enrolling valid APNs and updating their Membership if APNs change.
- KRWCA Acceptance Letters sent in November
- KRWCA APN Update letters were sent to Members with invalid APNs enrolled, in November as well. Grower response required.
- If you have not received a letter please contact KRWCA immediately.

Spring Grower Meetings

- This spring, the Coalitions will hold a Management Practices Evaluation Program (MPEP) Technical Meeting.
- Southern San Joaquin Valley MPEP Workplan Submittal (not approved) can be found at www.krwca.org.

Happy Holidays!!