Sacramento Valley Water Quality Coalition

Nitrogen Management Plan Summary Report Analysis
2018 Crop Year

Prepared for
Central Valley Regional Water Quality Control Board

Prepared by

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ACRONYMS

A/R   Ratio of Nitrogen Applied to Nitrogen Removed

A/Y   Ratio of Nitrogen Applied to Yield

A-R   Nitrogen Applied Minus Nitrogen Removed

AUM   Animal Unit Month

CV   Coefficient of Variation

GAR   Groundwater Quality Assessment Report

HVA   High Vulnerability Area

K_{sat}   Saturated Hydraulic Conductivity

LTILRP   Long Term Irrigated Lands Regulatory Program

MRP   Monitoring and Reporting Program

MU   Management Unit

N   Nitrogen

NCWA   Northern California Water Association

NMP   Nitrogen Management Plan

NR   Not Reported

PLSS   Public Land Survey System

R   Nitrogen Removed

RWQCB   Regional Water Quality Control Board

SSURGO   Soil Survey Geographic Database

SVWQC   Sacramento Valley Water Quality Coalition

T-R   Township and Range

UCCE   University of California Cooperative Extension

WDRs   Waste Discharge Requirements

EXECUTIVE SUMMARY

Subwatersheds within the Sacramento Valley Water Quality Coalition (SVWQC) (Coalition) collected Nitrogen Management Plan Summary Reports (NMP Summary Reports) for the 2018 crop year that were sent out to SVWQC members within high vulnerability areas (HVAs). The individual Subwatersheds assembled member data and submitted aggregated data for further analysis. The returned forms were reviewed and checked for errors and omissions, and members were contacted to correct any noticeable errors. While data quality was generally improved in 2018 compared to 2017 due to online reporting, and a significant effort was made to correct all errors, some errors may have gone undetected. Complete NMP data was received for 11,083 fields, associated with 2,898 members, and 520,158 acres. NMP data that was not reported or missing required parameters consisted of 1,230 fields, associated with 410 members and approximately 41,918 acres. Out of the 410 outstanding reports, approximately 150 of them are hard copies either mailed or dropped off after the Coalition's internal submission deadline that have yet to be input into the Coalition's NMP database.

Nitrogen (N) consumption ratio summary statistics were calculated by crop for each township and for the whole Coalition. Summary statistics included minimum and maximum values, percentiles (10th, 25th, 50th, 75th, 90th), and high outliers (greater than 90th percentile) calculated for the following parameters: ratio of applied nitrogen to yield (A/Y); ratio of applied N to N removed (A/R); and the difference between applied N and N removed (A-R). Only high outliers (those greater than 90th percentile) are of concern because they represent potential over-application of N. Results indicated several townships had a small number of records that limited the relevance of the statistical analysis and/or actual applicability of the outlier determination. Some A/Y values were outliers in an individual township but near average when compared to the overall Coalition. For the smaller acreage crops, the Coalition-wide comparison provides a more useful assessment of outlier status than the township level analysis.

The crop age statistical analysis results were inconclusive. The results were limited by the small number of members who reported planting age and the reported planting ages that appeared inaccurate (e.g. a recent planting year was reported, indicating a non-bearing crop, but the reported yield was not zero). Walnuts and almonds were the only crops with a large amount of observations in each year, although most of the observations did not have a planting year. The other perennial crops had smaller numbers of observations in each age class, making it difficult to discern any trends.

Additional statistical analysis of the effect of soil type on outlier status was also completed. The soil statistical analysis was limited by sample size and showed little significant effect of this factor on the frequency of outliers across the Coalition.

Results will be provided in individualized feedback reports to each member in winter 2019 as part of the Coalition's education and outreach program. The feedback reports provide members with information on the status of A/Y and A/R values for each of their parcels relative to the Coalition and the township in which they reside.

1 INTRODUCTION

The Central Valley Regional Water Quality Control Board (RWQCB) developed the Long Term Irrigated Lands Regulatory Program (LTILRP) to address surface water quality and to add new groundwater quality monitoring and reporting requirements for agricultural irrigated land. The new requirements were adopted as Waste Discharge Requirements (WDRs) and an associated Monitoring and Reporting Program (MRP). The Sacramento River Watershed WDRs for members of the Sacramento Valley Water Quality Coalition (SVWQC) were adopted March 12, 2014. The requirements for reporting and monitoring specified in the WDRs are dependent in part on whether an operation is within a high or low vulnerability area, based on threat to groundwater quality from nitrates.

High vulnerability areas (HVAs) for the Sacramento River Watershed were identified in the June 2014 Groundwater Quality Assessment Report (GAR) (CH2M Hill, 2014) and in subsequent revisions to the GAR in January 2016 (CH2M Hill, 2016) and November 2016. Under the WDRs, growers in HVAs are required to prepare and implement a Nitrogen Management Plan (NMP) and an NMP Summary Report annually. SVWQC is required to summarize member nitrogen (N) data to fulfill the WDRs for the Coalition's Annual Monitoring Report. This summary requires the following: "*At a minimum, the statistical summary of nitrogen consumption ratios by crop or other equivalent reporting units and the estimated crop nitrogen needs for the different crop types and soil conditions will describe the range, percentiles (10th, 25th, 50th, 75th, 90th), and any outliers.*"

This report satisfies Report Component No. 19 – Summary of Reported Nitrogen Data of Attachment B of General Order No. R5-2014-0030-R1. Report Component 19 directs that, *"The third-party shall aggregate information from Members' NMP Summary Reports to characterize the input, uptake, and loss of nitrogen fertilizer applications by specific crops in the Sacramento River Watershed."* Parameters used to assess N consumption are the ratio of N applied to yield (A/Y), N applied to N removed (A/R), and the difference between N applied and N removed (A-R). For each of these parameters, the minimum and maximum values, percentiles (10th, 25th, 50th, 75th, 90th), and number of outliers are summarized by crop for each township and for the whole Coalition. Outliers are defined as any member N consumption ratios greater than the 90th percentile of other values. In addition, a statistical analysis of the effects of soil type on N consumption ratios is presented.

The Coalition will also report back to each member, separate from this report, A/Y and A/R estimates for each of the member's parcels compared to other members with the same crop in their township and in the Coalition. An example of this report is provided in Appendix C.

1.1 BACKGROUND

The area covered by the SVWQC's WDRs encompasses all of the Sacramento River Watershed; however, the data in this report only covers the Valley floor portion of the SVWQC with HVAs designated in the November 2016 revision of the GAR. The SVWQC is operated as a partnership between 13 local subwatershed groups coordinated by the Northern California Water Association (NCWA) (Figure 1). The subwatershed organizations provide leadership for grower outreach and education about the importance of implementing practices protective of surface and groundwater quality, while NCWA, the third-party recognized by the RWQCB, manages development and implementation of surface water monitoring, annual reporting, and other Coalition deliverables, such as this report. Irrigated agriculture of the SVWQC extends over 1.3 million acres, roughly 8% of the Sacramento River Watershed (excluding

rice, which is covered under a separate RWQCB order). The remaining approximately 92 percent of the Sacramento River Watershed consists of open space, riparian vegetation, and urban development.

Figure 1. Subwatersheds within SVWQC

Only 7 of the 13 SVWQC local subwatershed groups contain HVAs as identified in the November 2016 revision of the GAR, which was used for NMP reporting for the 2018 crop year (Figure 2). These 7 subwatershed groups include the following: Dixon/Solano; Yolo; Sacramento-Amador; Colusa-Glenn; Butte-Yuba-Sutter; Shasta-Tehama; and Placer-Nevada-South Sutter-North Sacramento. The GAR evaluated land use in conjunction with soils and agronomy information and reviewed potential hydrogeologic vulnerabilities to identify practices or physical characteristics that pose a greater risk to groundwater quality impact than other areas. Further analysis then paired these results with groundwater quality data to refine the vulnerability conclusions. The vulnerability analysis was performed at the section level (1-mile square) for each Public Land Survey System (PLSS) section.
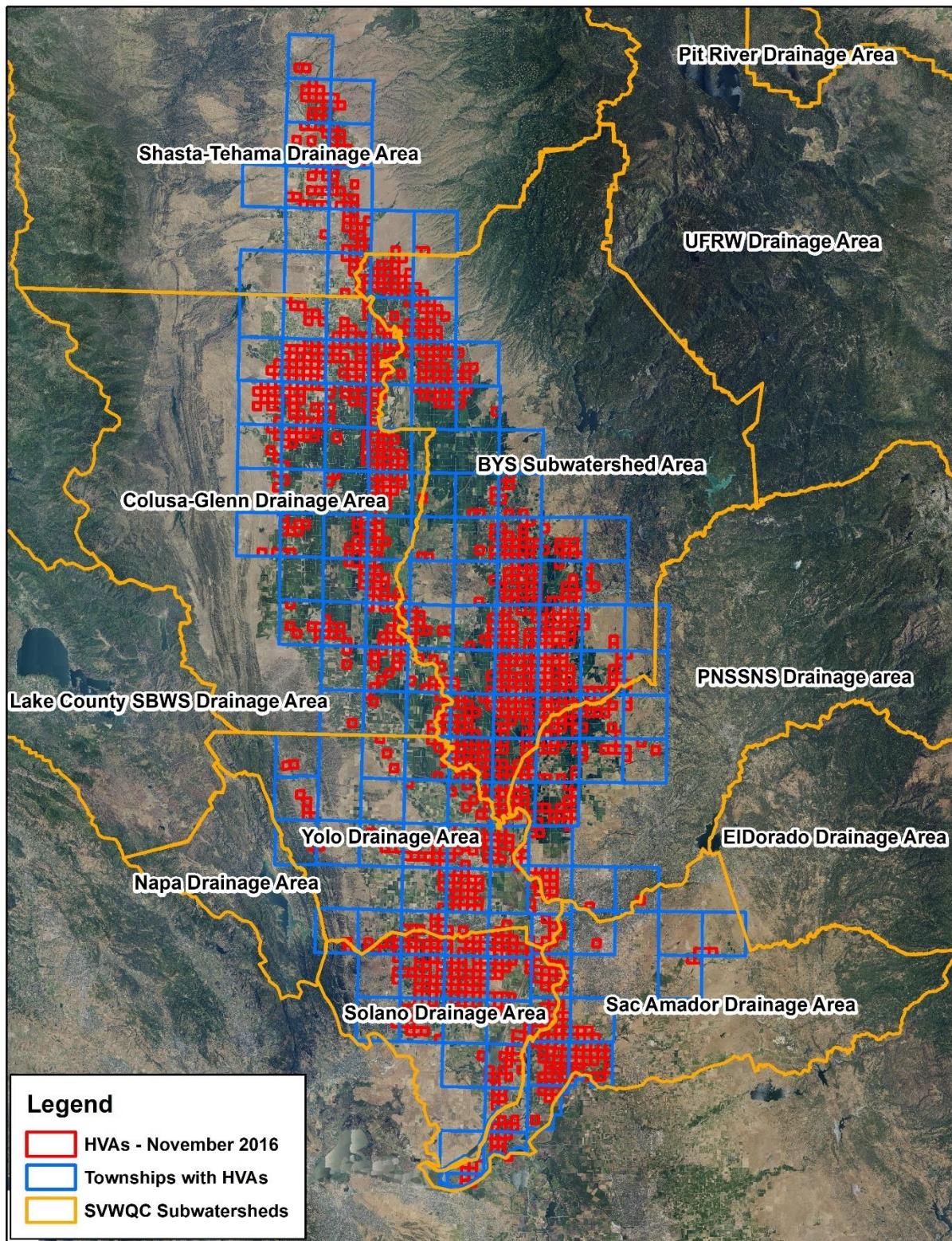
Figure 2. SVWQC HVAs from November 2016 Revision to GAR

1.2 PURPOSE

The purpose of this report is to summarize SVWQC member N data to fulfill the following WDRs for the Coalition's Annual Monitoring Report (Table 1):

Table 1. Summary of Order Requirements for Member Reported Nitrogen Data

	Order Requirements – Page 82, 147 - 153 of WDRs
1	Aggregated information from members' Nitrogen Management Plan (NMP) Summary Reports;
2	An assessment of NMP Summary Report information for, at a minimum, comparisons of farms with the same crops, similar soil conditions, and similar practices (e.g. irrigation management);
3	range, percentiles (10th, 25th, 75th, 90th) and any outliers for similar soil conditions and similar crops in each township
4	A tabular or graphical presentation of the data approved by the Executive Officer (e.g. box and whisker plot);
5	A quality assessment of the collected information (e.g. missing data, potentially incorrect/inaccurate reporting), and a description of corrective actions to be taken;
6	An AR data table aggregated by township and crop with total acreage, fertilizer N, compost N, irrigation water N, total N, N removed, A/R and A-R

2 DATA COLLECTION, QUALITY AND ANALYSIS

Member NMP Summary Report data was collected by the seven (7) HVA-containing subwatersheds within the Coalition, then compiled and analyzed as described below.

2.1 SUMMARY OF MEMBER DATA COLLECTION

On the NMP Summary Reports, members report the total amount of N applied (A) and yield (Y) in lbs per acre, which is used to calculate the A/Y ratio. Most members are now using an online reporting system, so yield is reported by the member and A/Y is calculated by the Coalition. When possible, yield is converted by the Coalition to the amount of N removed at harvest (R) using published values of N sequestration in crop tissue (Geisseler, 2016). The Coalition uses the amount of N removed to determine A/R and A-R.

Most of the 2018 NMP data was reported at the field level, with those fields being assigned to one APN. Some of the hand-collected data was reported by Management Unit (MU) which represents any fields that are managed for N in a similar way. If a MU contained multiple APNs, each APN was analyzed separately since they may occur in different townships and are often different fields.

Members submitted NMP Summary Reports to the subwatershed in which their fields are located, which was then exported to a spreadsheet if collected online, or entered into a standardized MS Excel template if collected by hand. The completion statistics for the 2018 NMP Summary Reports are summarized in Table 2. Complete NMP data was received for 11,083 fields, associated with 2,898 members, and 520,158 acres. NMP data that was not reported or missing required parameters consisted

of 1,230 fields, associated with 410 members and approximately 41,918 acres. Out of the 410 outstanding reports, approximately 150 of them are hard copies either mailed or dropped off after the Coalition's internal submission deadline that have yet to be input into the Coalition's NMP database.

Some members could be counted in both the complete and incomplete categories if they only completed a portion of their fields. Several attempts were made by subwatershed staff to contact members with outstanding reports. The lack of a 100% return rate was anticipated given that several subwatershed groups used new online reporting systems which members were unfamiliar with.

Table 2. Status of NMP Summary Reports Received

Completion Status	Count of Members[a]	No. of Records[b]	Acres[d]
Not Submitted or Missing Required Parameters[c]	410	1,230	41,918
Complete	2,898	11,083	520,158

Notes:
[a] Members can be counted in both the complete and incomplete member count if they had complete and incomplete fields
[b] Each record is separate field with one APN, with the exception of 38 records that were reported as a MU with multiple APNs. Each multi-APN MU is counted only once for acreage and number of records, but for statistical analysis is split up with each APN being analyzed separately.
[c] Required parameters are crop, N applied, yield and yield unit if N applied > 0
[d] The acreage for incomplete records is based on prior year's data and may not represent the actual cropped acreage for 2018.

The crop acreages from the NMP Summary Reports included in the statistical analysis are shown in Figure 3 and Table 3. The largest acreage crop reported was walnuts, followed by almonds and processing tomatoes.
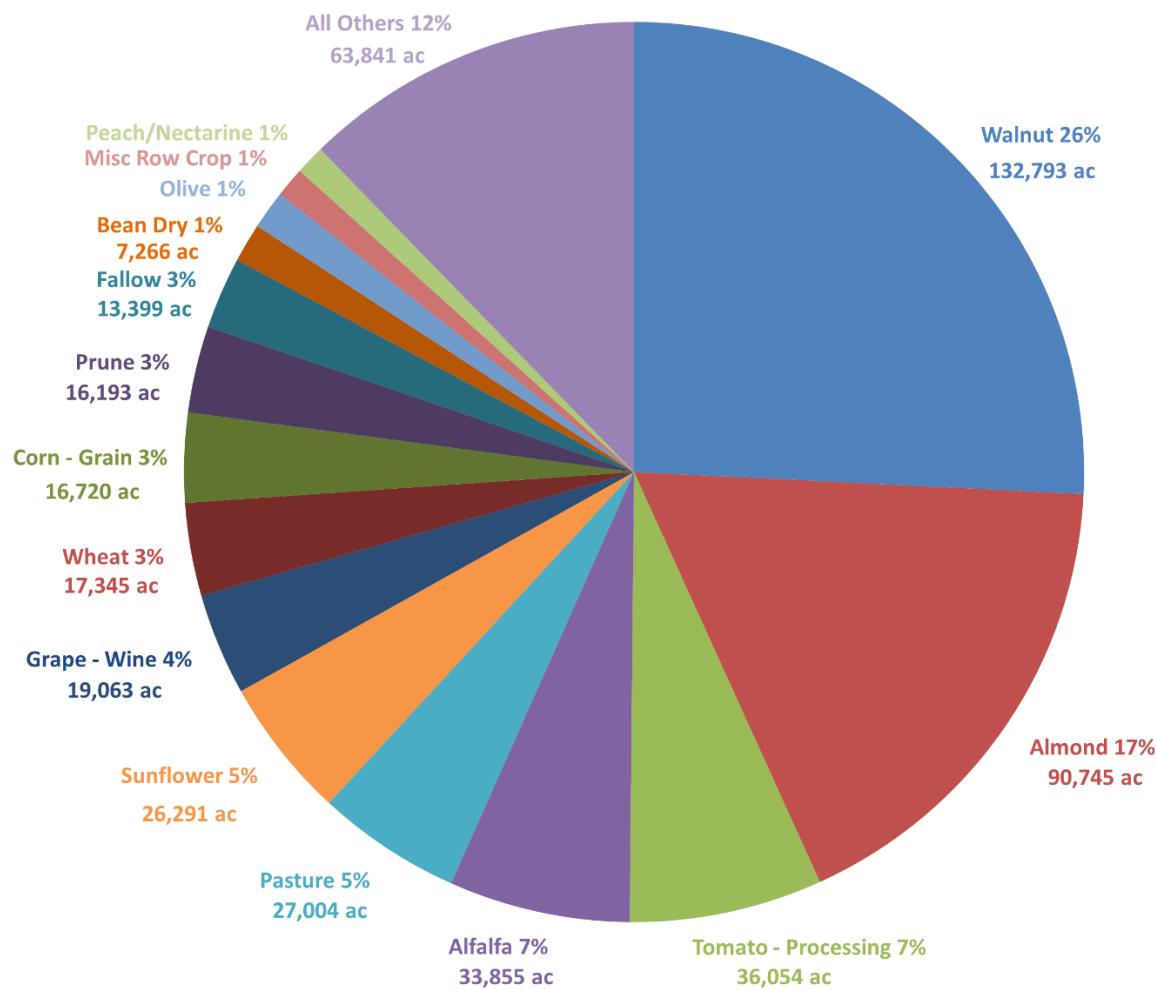
Figure 3. Acreage of Crops Reported in the NMP Summary Reports

Table 3. Summary of Crops Reported on SVWQC NMP Summary Reports

Crop	Complete Reports	
	Acres	Count
Alfalfa	33,855	572
Almond	90,745	1795
Apple	228	13
Apricot/Aprium	10	5
Aquaculture	0	0
Asparagus	107	6
Barley	1,411	38
Barley - Fodder/Silage	106	3
Bean - Green	280	2
Bean Dry	7,266	167

Crop	Complete Reports	
	Acres	Count
Berry	1	2
Cabbage	12	1
Canola	3	1
Carrot	289	3
Cherry	772	26
Chestnut	10	3
Christmas Trees	53	2
Cilantro	35	3
Citrus	238	21
Corn - Fodder/Silage	3,509	59
Corn - Grain	16,720	239
Corn - NR	557	10
Corn - Popcorn	141	1
Corn - Sweet	164	7
Cotton	2,320	37
Cover Crop	249	4
Cucumber	1,211	30
Dichondra	197	3
Fallow	13,399	371
Fig	31	2
Filbert	1	1
Flower/Ornamental	6	2
Grain Hay	1,420	34
Grape - Other	59	6
Grape - Rootstock	281	10
Grape - Wine	19,063	306
Greenhouse	4	2
Hay/Forage	3,641	85
Herb/Spice	28	3
Hops	12	2
Kale	4	1
Kiwi	293	22
Lavender	1	1
Leeks	8	1
Melon	349	7
Millet	158	2
Misc Fruit Tree	3,534	119
Misc Nut Tree	8	7
Misc Row Crop	5,585	63
Misc Truck Crop	212	12
Misc Vegetable	386	21

Crop	Complete Reports	
	Acres	Count
Non-Irrigated Crop	212	7
Nursery	161	16
Oat	463	13
Okra	104	3
Olive	7,233	162
Onion	36	4
Other	1,611	19
Pasture	27,004	451
Pea	343	7
Peach/Nectarine	5,500	202
Pear	4,178	87
Pecan	1,446	47
Pepper	946	28
Persimmon	230	17
Pistachio	4,747	85
Plum/Pluot	1,609	45
Pomegranate	35	5
Potato	15	1
Prune	16,193	454
Pumpkin	201	17
Rangeland	51	2
Research	195	34
Rice	1,677	70
Rice - Wild	371	2
Ryegrass	860	25
Safflower	5,008	82
Seed Crop	1,250	55
Sorghum/Milo	1,229	16
Squash	229	13
Strawberry	3	1
Sudan Grass	2,020	46
Sunflower	26,291	548
Tomato - Fresh Market	3	1
Tomato - NR	348	11
Tomato - Processing	36,054	684
Triticale	977	22
Turf	403	6
Turnip	12	2
Vine Seed	5,468	134
Walnut	132,793	3132
Watermelon	241	10

Crop	Complete Reports	
	Acres	Count
Wetland	4,826	42
Wheat	17,345	342

Notes:
NR - specific crop type not reported. A/R and A-R could not be calculated for this category.

2.2 SUMMARY OF MEMBER DATA QUALITY EVALUATION

Subwatershed staff initially checked all returned forms for completeness. The NMP summary reports had to include, at minimum, the following information in order to be analyzed:

- APN
- Crop
- N applied
- Yield and yield unit if N applied > 0

The NMP summary reports were reviewed to check for completeness or any errors in the reported data. Any NMP data flagged during the review process was sent to the applicable subwatershed group for follow-up with the member. Common errors identified during the review process included:

1. Member reported APN did not have a matching APN in the corresponding county GIS parcel database. These discrepancies typically occurred because of a transcription error or in some cases because the parcel had been redrawn but had not been updated within the County GIS shapefile.

2. Amount of N fertilizer applied per acre was greater than 500 lbs/acre, which is typically the maximum reasonable value for the crops grown within the Coalition. This could have been the result of a transcription error, reporting total fertilizer applied versus the percent of N in the fertilizer, or total N applied for the field or MU instead of per acre.

3. Production unit was not correct (e.g. tons was listed when the actual unit was lbs) or was provided on a volume basis rather than mass basis (e.g. number of trees, cut flowers, square feet of turf, etc.). Corrections from volume to mass basis were made where possible based on typical values for the crop type (Table 4) (e.g. if the yield unit was listed as cartons of oranges and no carton weight was provided, a typical carton weight of 40 lbs was used).

4. Yield was much higher than the typical range of values for the given crop, as show in Appendix D. This was typically the result of either transcription error, failure to convert yield units to pounds (lbs), or using total yield instead of yield per acre. Yield could also have been reported on a different basis than the typical standard for the crop. For example, prune yields are typically reported on a dry basis but some members may have reported on a wet basis. Nut crops can also be reported as gross weight, in-shell weight, or kernel/meat weight. The Coalition requested that members indicate the yield basis on their NMP Summary Reports, but some members did not fill this out or entered an incorrect basis. All reported yields were converted, where possible, to the typical standard reporting basis for the crops listed in Table 5.

Table 4. Estimated Yield Unit Weights for Conversion from Volumetric Units

Crop	Volumetric Yield Unit Provided by Member	Estimated Yield Unit Weight
Kiwifruit	trays/acre	7 lbs/tray
Christmas Trees	number of trees/acre	50 lbs/tree
Pasture	animal unit month (AUM)/acre	1,000 lbs/AUM

Table 5. Yield Basis Conversion Factors

Crop	Standard Basis	Reported Basis	Conversion Factor from Reported to Standard Basis
Almond	kernel	gross	0.27
Almond	kernel	in-shell	0.59
Walnut	in-shell	gross	0.82
Walnut	in-shell	kernel	2
Pistachio	in-shell (CPC)	gross	0.82
Pecan	in-shell	kernel	2
Prune	dried fruit	fresh fruit	0.33

Any records with the above errors were flagged and subwatershed staff attempted to contact the member and make corrections.

2.3 DATA EXCLUSIONS

After outreach was completed, the following exclusions were made prior to statistical analysis:

1. Exempt crops (rice, non-irrigated crops, fallow, pasture with no N applied, wetlands, or aquaculture)

2. Any incomplete records without an APN, crop, N applied, or yield/yield unit if N applied > 0

3. N applied greater than 500 lbs/acre

4. Yield values beyond the reasonable range for the reported crop, shown in Appendix D

5. Parcels occurring completely outside of an HVA, based on the county GIS datasets, (not required for the NMP Summary Report)

In order to evaluate whether a parcel was outside of an HVA and to identify the corresponding township for that parcel, each APN was joined to the county GIS dataset and associated with the PLSS Township and Range (T-R) (36 square miles) that the centroid (geometric center) of the parcel polygon fell within. Some APNs could not be matched with the county dataset and therefore the T-R for these parcels is listed as "Unknown". This could be due to an error in the reported APN or a correct APN that was recently redrawn and had not yet been updated in the county's GIS parcel layer.

3   N REMOVED CALCULATION DATA SOURCES AND PROCEDURES

To calculate **R**, the amount of N removed in the harvested portion of each crop, the Coalition relied on estimates 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 report includes information on N removal values for each crop as shown in Table 6, and includes complete references for studies providing N removal data, as well as the following information:

- A coefficient of variation (CV) is provided which indicates the variability among the published values for a specific crop.
- The number of published values both within and outside of California is also shown. In some cases, there are several studies that provide N removal values; in other cases, there are only one or two studies. Similarly, for some crops N removal values are reported from various parts of the Central Valley, while for other crops, values may be for other states.
- The time period when the values were published are presented in the detailed discussion of each crop.

While the information in Geisseler (2016) provides several factors to evaluate the relevance of N removal values, it does not give an overall confidence rating or reflect all the information and criteria that needs to be considered to determine how well the N removal values represent crop varieties grown within the Coalition. Therefore, the N removal values in Geisseler (2016) are used in this analysis because they are the best available sources of data, but they should not be considered definitive, and they should be expected to change and improve over time. No conversions from A/Y to A/R or A-R were attempted for crops without a N removed coefficient.

Even if the N removed coefficient used to calculate R is considered a good estimate, differences in the basis on which yield is reported (i.e. fresh vs. dry weight, in-shell vs shelled weight) can affect R values. In addition, for perennial crops, N accumulation in perennial tissue is not included in the R value, and for crops where marketable yield is reported and cull or trash is removed in a processing facility, the calculated amount of N removed underestimates the actual amount (Geisseler, 2016).

Table 6. N Removed (R) Conversion Factors

Crop	# of Observations		CV (%)	N Removed Conversion Factor (lbs N/ lbs yield)
	California	Total		
Field Crops				
Alfalfa - Hay	49	49	12.5	0.031150
Alfalfa – Silage	6	6	17.5	0.012000
Barley – Grain	4	61	14.6	0.016800
Barley – Straw	0	970	31.3	0.007700
Beans, Dry - Blackeye	1	164	10.4	0.036500
Beans, Dry - Garbanzo	2	108	11.3	0.033600
Beans, Dry - Lima	2	75	5.4	0.036150

Crop	# of Observations		CV (%)	N Removed Conversion Factor (lbs N/ lbs yield)
	California	Total		
Corn – Grain	0	1,775	20.8	0.012000
Corn – Silage	71	71	10.5	0.003780
Cotton	27	80	29.5	0.021850
Fescue, Tall - Hay	260	260	16.2	0.025400
Oat – Grain	0	134	9.6	0.018850
Oat – Straw	2	526	34.7	0.007400
Oat – Hay	49	49	18.2	0.010850
Orchard Grass - Hay	60	60	20	0.027250
Ryegrass, Perennial - Hay	60	60	16.8	0.027450
Safflower	12	149	20	0.028400
Sorghum – Grain	0	256	29.7	0.016500
Sorghum - Silage	260	260	21	0.003670
Sunflower	0	208	14.3	0.027050
Triticale - Grain	51	51	13	0.020200
Triticale - Straw	0	102	38.3	0.005750
Triticale - Silage	19	19	13.7	0.004515
Wheat, Common - Grain	113	113	10.3	0.021500
Wheat - Straw	3	494	33	0.006900
Wheat - Silage	39	39	18.6	0.005250
Wheat, Durum - Grain	41	41	3.7	0.021050
Vegetables				
Asparagus	2	19	14	0.002925
Beans, Green (Snap Beans)	1	122	25.7	0.002890
Broccoli	15	46	20.4	0.005600
Carrots	1	167	22.4	0.001645
Corn, Sweet	0	50	13.1	0.003585
Cucumbers	1	10	17.4	0.001080
Garlic	1	12	19.5	0.007550
Lettuce, Iceberg	45	68	16.7	0.001315
Lettuce, Romaine	14	26	13.7	0.001810

| Crop | # of Observations | | CV (%) | N Removed Conversion Factor (lbs N/ lbs yield) |
	California	Total		
Melons, Cantaloupe	1	31	15.5	0.002435
Melons, Honeydew	1	12	22.1	0.001475
Melons, Watermelons	1	6	23.9	0.000695
Onions	13	45	19.7	0.001970
Pepper, Bell	6	40	7.9	0.001655
Potatoes	5	64	13.6	0.003120
Pumpkin	1	13	10.1	0.003680
Squash	11	74	22.4	0.001835
Sweet Potatoes	11	23	16.8	0.002370
Tomatoes, Fresh market	1	34	16.5	0.001305
Tomatoes, Processing	24	24	11.1	0.001365
Tree and Vine Crops				
Almonds	31	31	4.1	0.068000
Apples	1	132	35.1	0.000540
Apricots	1	22	114	0.002780
Cherries	1	24	19.8	0.002210
Figs	1	19	18.1	0.001270
Grapefruit	26	27	7.8	0.001480
Grapes - Raisins	16	19	5.8	0.005050
Grapes - Table	16	19	5.8	0.001130
Grapes - Wine	8	38	13	0.001800
Lemons	21	22	10	0.001290
Nectarines	31	41	27.1	0.001820
Olives	6	29	22.8	0.003140
Oranges	26	82	10.9	0.001480
Peaches	5	25	20.7	0.001130
Pears	1	64	17.9	0.000645
Pistachios	11	11	3.5	0.028050
Plums	1	11	11.2	0.001415
Pomegranate	0	7	15	0.007600

Crop	# of Observations		CV (%)	N Removed Conversion Factor (lbs N/ lbs yield)
	California	Total		
Prunes	18	18	16.3	0.005600
Tangerines	1	2	29.2	0.001270
Walnuts	18	18	11.2	0.015950

Notes:

1. Conversion factors are calculated from N concentrations expressed in lbs/ton at a moisture content common for the respective crop at harvest.
2. The calculated value for N removed is only accurate on a multi-year basis but may not be accurate for a specific year.
3. For perennial crops, N accumulation in perennial tissue is not included in the value.
4. For most crops where marketable yield is reported and cull or trash is removed in a processing facility, the calculated amount of N removed underestimates the actual amount, the difference being the N in cull or trash.

4 DOCUMENTATION OF STATISTICAL PROCEDURES AND TOOLS

Approach

Statistical analysis was performed with Python, an open-source, high-level performing coding language. The analysis was performed on individual fields consisting of one APN, with the exception of 38 records that were reported as a MU with multiple APNs. For the multi-APN MUs, each APN was analyzed separately since they may occur in different townships and often represent separate fields.

Summary statistics and outlier status for crops with large sample sizes were calculated for each T-R and for the whole Coalition. For crops with small sample sizes, statistics were generated only for the whole Coalition, since individual T-R statistics were not meaningful.

Crop Grouping

The Coalition grouped some similar crops together for the statistical analysis, with the resulting statistical crop groupings shown in Table 3. Crops that are harvested in different ways (e.g. grain corn vs. silage corn) or different varieties (e.g. processing vs. fresh market tomatoes) were separated for the analysis. Some members did not indicate the specific crop type for these crops on their report. The Coalition attempted to determine this via follow-up with the member or by comparison of the reported yield to typical values. If the specific crop type could not be determined, it was followed by "-NR" indicating it was not reported.

Planting year for perennial crops was also requested by the Coalition for statistical analysis since N recommendations for perennial crops often vary by age. For crops where sufficient data on age was reported, additional statistical analysis by age group was performed. Crop age groups followed by "-NR" indicate records where the age was not reported. The crop age statistical analysis was completed using all of the records in the Coalition for the given crop.

Summary Statistics

The summary statistics calculated were minimum and maximum A/Y, A/R, and A-R and the 10th, 25th, 50th, 75th, and 90th percentiles for these parameters. The percentiles represent the value below which a given percentage of the observations fall. For example, the 90th percentile is the value below which 90%

of the observations fall. Percentiles could not be calculated if there were two or less observations, or if all the observations had the same value. Any observations above the 90th percentile were considered high outliers. Also, any observations with zero yield do not have values for A/Y and A/R since division by zero is undefined. The zero yield records are shown in the scatterplots of A vs. Y which are discussed below.

The summary statistics in tabular format and box and whisker plots for each crop are provided in Appendix A. The statistics are provided for each T-R, for the whole Coalition, and by crop age, if applicable. In the box and whisker plots, the boxes draw the 25th, 50th, and 75th percentiles for A/Y for the given T-R or age group, and the whiskers show the range of data occurring no more than 1.5 times the length of the box away from the box (Figure 4). Outliers above the 90th percentile and below the 10th percentile for each T-R or age group are shown as red dots above and below the boxplot, respectively. Only the outliers above the 90th percentile are counted in the tables. The Coalition-wide 90th percentile value is shown as a red horizontal dashed line across the boxplot chart. The outliers in an individual township may not be an outlier at the Coalition level. The y-axis showing A/Y for some of the boxplots was cut-off below the highest values in order to prevent skewing of the rest of the data. If this occurred, the numbers of records omitted are indicated in a note below the boxplot.

Tabular summary statistics are provided below the boxplots for A/Y, A/R, and A-R for each T-R, the whole Coalition, and by age group, where applicable. For crops with small sample sizes, the township level statistics were not meaningful, so statistical analysis was only completed at the Coalition level. These crops have only tabular results which are shown in the Other Crops section at the end of Appendix A.

Scatterplots of A vs Y are also provided for each crop in Appendix A. Each dot in the scatter plot is a record (field or MU-APN) and outliers (A/Y greater than 90%) are highlighted in red. Some x-axes for yield were cut off below the highest values in order to increase the visibility of the remainder of the data. The numbers of records omitted is indicated below the scatterplot. Fertilizer N recommendations from University of California Cooperative Extension (UCCE), provided in Appendix B, are shown as blue horizonal dashed lines on the scatterplots, where available. These recommendations vary based on crop age, specific crop type, yield goal, and other site-specific information and thus may not be applicable to specific fields or to the Coalition region. Values were typically reported as a range, and only the maximum value in the range is shown on the scatterplots. Some of the values are not recommendations but estimates of the amount of fertilizer used in a typical operation as indicated in Appendix B.
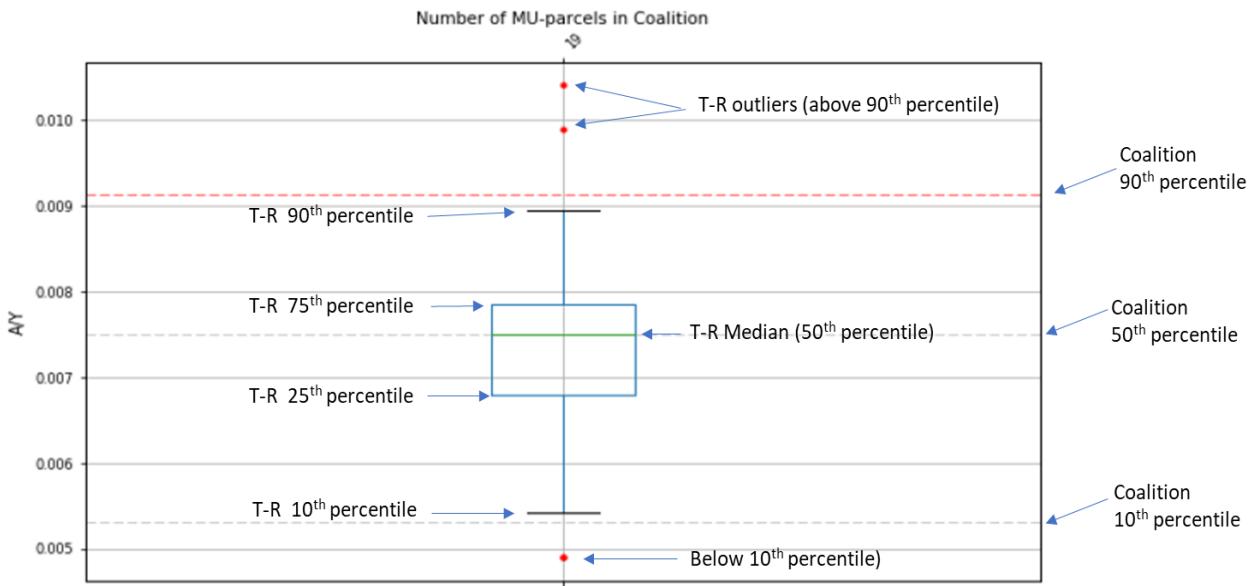
Figure 4. Example of Box and Whisker Plot

Township-Level Aggregated AR Data Table

The township-level AR data table, required by Section V - part D of the WDRs MRP, is provided in Appendix E. This table has the following information listed for each crop in each township: total acreage, total fertilizer N applied, total organic N applied, total irrigation water N applied, total N applied from all sources, total N removed, A/R and A-R. In addition, the percentiles, minimum and maximum values, and number of outliers are shown for A/Y, A/R, and A-R.

Soil Type Analysis

The WDRs require *"an assessment of NMP Summary Report information for, at a minimum, comparisons of farms with the same crops, similar soil conditions, and similar practices (e.g. irrigation management)."* Soil type was selected to further evaluate outlier status at the Coalition-wide level for each crop. Irrigation method, which was analyzed in previous years using farm evaluation survey data, was not analyzed for the 2018 crop year since farm evaluation data was not collected.

4.1 SOIL TYPE EVALUATION

Soil type was evaluated based on the predominant USDA-NRCS soil drainage class for the largest map unit within each parcel. Soil drainage class refers to the frequency and duration of wet periods under conditions similar to those under which the soil developed. Anthropogenic alteration of the water regime, either through drainage or irrigation, is not a consideration unless the alterations have significantly changed the morphology of the soil. The drainage classes were aggregated into the following four major classes:

1. Well Drained

    o Excessively Drained

    o Somewhat Excessively Drained

    o Well Drained

2. Moderately Well Drained

3. Somewhat Poorly Drained

4. Poorly Drained

   o   Poorly Drained

   o   Very Poorly Drained

Soil drainage class is often reflective of saturated hydraulic conductivity (K_{sat}) with poorly drained soils often exhibiting low K_{sat} values. One advantage of drainage class compared to K_{sat} is it estimates overall water movement throughout the soil profile which can be influenced by soil restrictive layers that may not be reflected in a soil's K_{sat} value.

Soil data was obtained from the USDA Soil Survey Geographic Database (SSURGO) (https://websoilsurvey.nrcs.usda.gov/). In the SSURGO database, each soil map unit polygon comprises one or more unmapped components identified in related tables. Each component makes up an estimated percentage of the map unit. The component making up the highest estimated percentage was selected to represent the drainage class assigned to each map unit polygon. In cases where multiple maximum components existed, the poorest drainage class out of the maximum components was selected. The drainage class was then associated with each MU-parcel using the drainage class that comprised the largest area within the APN.

The influence of soil drainage class on outlier status (outlier or non-outlier) for each crop was assessed using a Chi-square Test of Independence run through the SciPy statistical package in Python (https://docs.scipy.org/doc/scipy-0.15.1/reference/generated/scipy.stats.chi2_contingency.html). The Chi-square Test of Independence evaluates the hypothesis that the outlier status for a given crop and soil drainage class are independent of one another. To test this, a matrix counting the number of outliers and non-outliers associated with each drainage class for each crop was prepared, and the differences in the frequency of outliers among the soil types for each crop were evaluated. The p-value determined from the Chi-square statistic was evaluated against a significance level of 0.05. If the p-value was less than the significance level (0.05), there was a statistical relationship between outliers and drainage class. This analysis was not performed on crops with limited representation in the Coalition because the sample size was not large enough to obtain a valid result. Even for crops with better representation, the total number of observations within each drainage class could vary greatly (e.g. well drained soils predominate across the valley floor), reducing the reliability of the test.

5   RESULTS

Boxplots of the yield and N applied for the largest acreage crops within the Coalition are shown in Figures 5 and 6. The yield varied by several orders of magnitude between some crops and within the same crop class. N applied ranged between 0 – 500 lbs/acre across all crops and varied considerably within each crop group.

The summary statistics grouped by crop are provided in Appendix A. Crops with limited representation do not have a boxplot and are shown in the Other Crops category at the end of the summary statistics. Crops without published N removal coefficients do not have A/R or A-R statistics, and crops with zero yield do not have values for A/Y or A/R. There were several townships with small sample sizes where outlier determination was less reliable. For the crops with large sample sizes, there generally appeared to be a wide range in A/Y values, some of which were orders of magnitude apart.

The summary statistics by crop age for perennial crops showed generally small differences in mean A/Y ratios over time. Walnuts and almonds were the only crops to have a large number of observations for

each year, although these observations were not evenly distributed and most members did not report planting year. There were also several members who reported yield for young trees less than 3 years old, which are expected to be non-bearing; thus, the planting year for these records was likely incorrect. Walnuts do show a slight decreasing trend in median A/Y values over time, but due to the large difference in number of observations between age groups, the lack of planting year response by most members, and the suspect yield values in non-bearing age groups, it is difficult to say whether there are any significant differences between age groups.
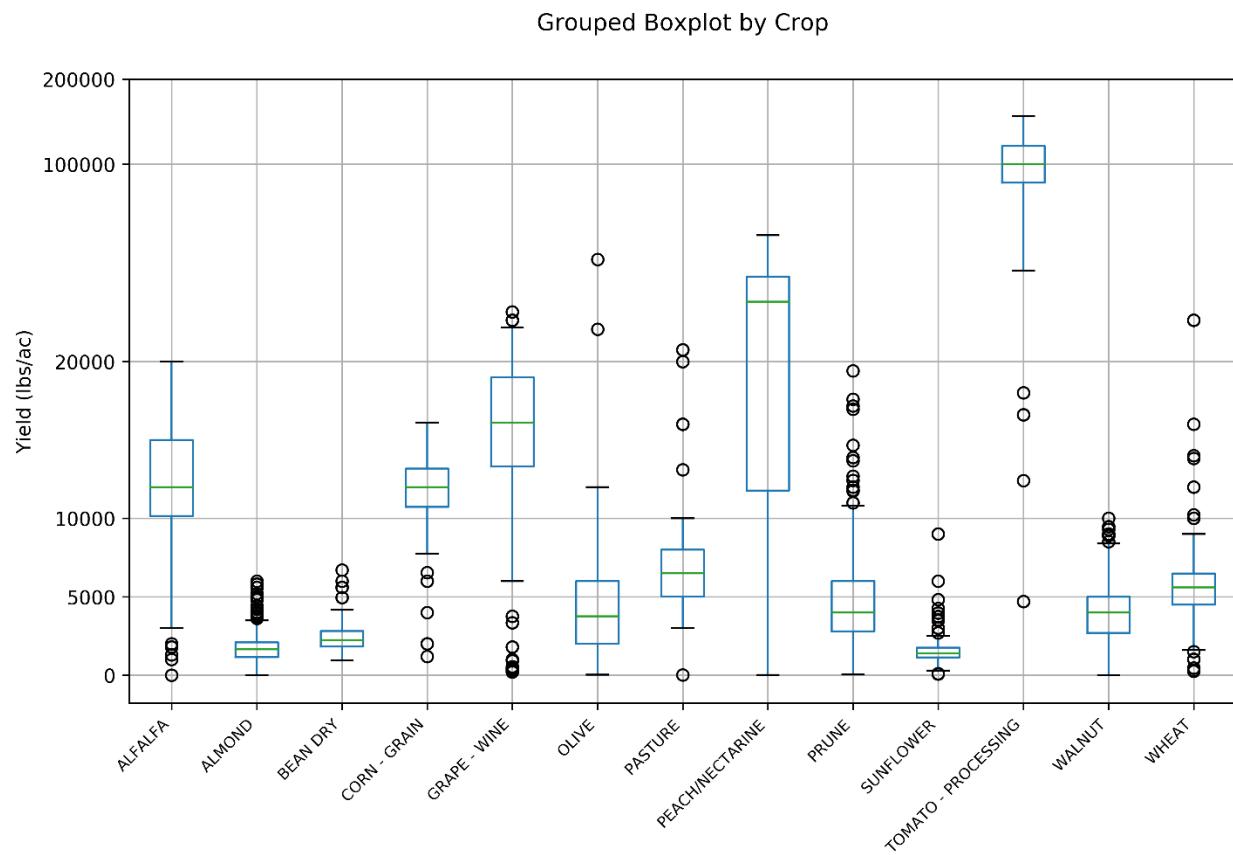
Figure 5. Box and Whisker Plot Showing the Yield per Acre for the Highest Acreage Crops

Grouped Boxplot by Crop
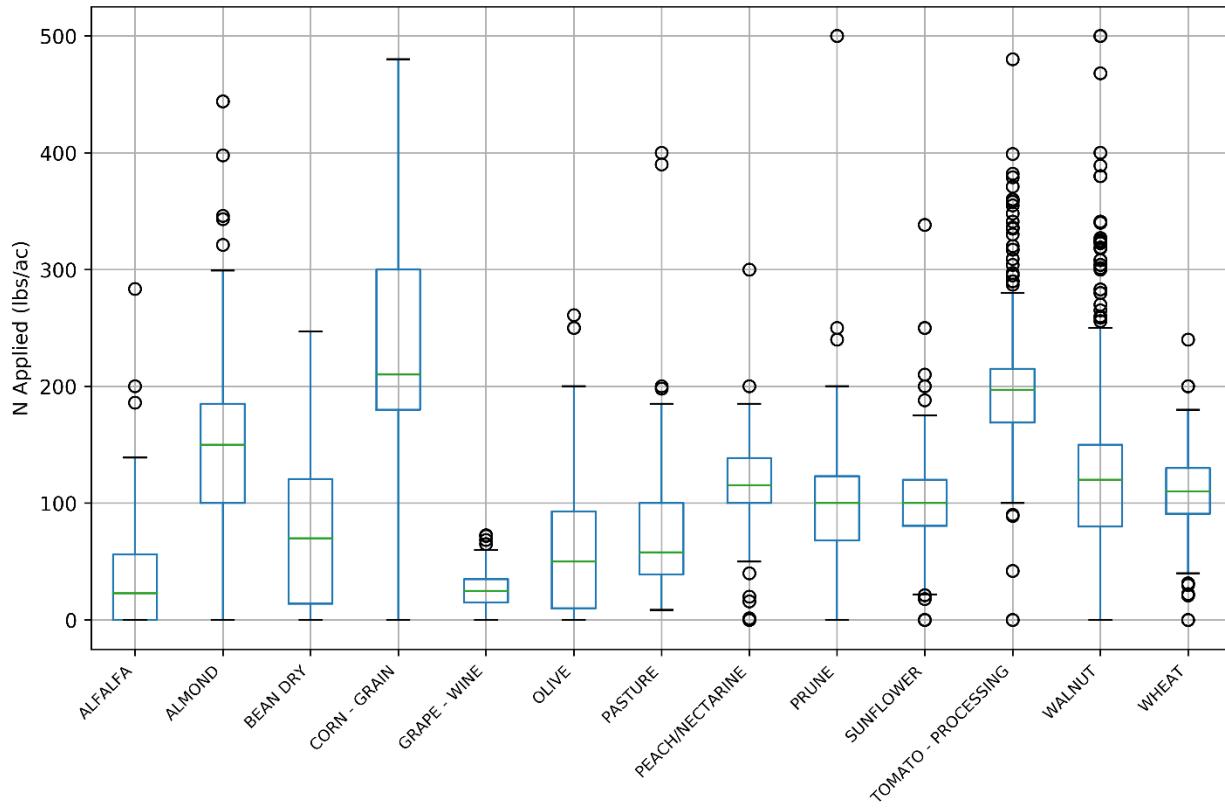
Figure 6. Box and Whisker Plot Showing the N Applied per Acre for the Highest Acreage Crops

5.1 SOIL TYPE EVALUATION RESULTS

Overall, there was little evidence that soil drainage class influenced the frequency of A/Y outliers for the Coalition's major crops (Table 7). Pear, Peach/Nectarine and Pasture had statistically significant effects, but some of the drainage classes did not have many observations. The remaining crops did not have any statistically significant p-values. The smaller acreage crops, which are not shown in Table 7, could not be analyzed individually because of the small sample size. In addition, many crops had some drainage classes with a low number of observations. Based on these results, there is little evidence of an effect of soil drainage class on A/Y outliers; however, the limited sample size within drainage classes for most crops limited the reliability of the analysis.

Table 7. Evaluation of the Frequency of A/Y Outliers by Soil Drainage Class

Crop	USDA-NRCS Drainage Class	# of Fields	Non-Outliers	Outliers	Percentage of Outliers	P-value
Alfalfa	Poor	93	82	11	12%	0.8570
	Somewhat Poor	77	66	11	14%	
	Moderately Well	145	126	19	13%	
	Well	185	165	20	11%	

Crop	USDA-NRCS Drainage Class	# of Fields	Non-Outliers	Outliers	Percentage of Outliers	P-value
Almond	Poor	40	34	6	15%	0.7842
	Somewhat Poor	88	79	9	10%	
	Moderately Well	211	188	23	11%	
	Well	1108	996	112	10%	
Bean Dry	Poor	28	24	4	14%	0.8924
	Somewhat Poor	31	27	4	13%	
	Moderately Well	30	27	3	10%	
	Well	63	53	10	16%	
Corn – Fodder/Silage	Poor	4	3	1	25%	0.6530
	Somewhat Poor	9	7	2	22%	
	Moderately Well	3	2	1	33%	
	Well	41	36	5	12%	
Corn – Grain	Poor	105	94	11	10%	0.6334
	Somewhat Poor	57	47	10	18%	
	Moderately Well	15	13	2	13%	
	Well	59	52	7	12%	
Grape - Wine	Poor	139	125	14	10%	0.6112
	Somewhat Poor	117	105	12	10%	
	Moderately Well	8	6	2	25%	
	Well	17	15	2	12%	
Olive	Poor	3	2	1	33%	0.2423
	Somewhat Poor	2	1	1	50%	
	Moderately Well	8	7	1	13%	
	Well	86	77	9	10%	
Pasture	Poor	3	2	1	33%	0.0179
	Somewhat Poor	16	8	8	50%	
	Moderately Well	38	31	7	18%	
	Well	29	26	3	10%	
Peach/ Nectarine	Poor	1	0	1	100%	0.0117
	Somewhat Poor	1	0	1	100%	
	Moderately Well	34	28	6	18%	
	Well	141	121	20	14%	
Pear	Poor	44	38	6	14%	0.0070
	Somewhat Poor	29	26	3	10%	
	Moderately Well	1	0	1	100%	
	Well	1	0	1	100%	

Crop	USDA-NRCS Drainage Class	# of Fields	Non-Outliers	Outliers	Percentage of Outliers	P-value
Prune	Poor	10	8	2	20%	0.6581
	Somewhat Poor	25	21	4	16%	
	Moderately Well	103	92	11	11%	
	Well	234	210	24	10%	
Safflower	Poor	39	35	4	10%	0.7543
	Somewhat Poor	22	18	4	18%	
	Moderately Well	4	3	1	25%	
	Well	15	13	2	13%	
Seed Crop	Poor	5	4	1	20%	0.1251
	Somewhat Poor	9	8	1	11%	
	Moderately Well	1	0	1	100%	
	Well	10	9	1	10%	
Sunflower	Poor	66	58	8	12%	0.9504
	Somewhat Poor	111	98	13	12%	
	Moderately Well	109	97	12	11%	
	Well	248	223	25	10%	
Tomato - Processing	Poor	110	98	12	11%	0.9126
	Somewhat Poor	139	123	16	12%	
	Moderately Well	78	68	10	13%	
	Well	334	300	34	10%	
Vine Seed	Poor	15	13	2	13%	0.9774
	Somewhat Poor	18	15	3	17%	
	Moderately Well	38	31	7	18%	
	Well	52	43	9	17%	
Walnut	Poor	49	44	5	10%	0.9995
	Somewhat Poor	453	407	46	10%	
	Moderately Well	446	401	45	10%	
	Well	1733	1555	178	10%	
Wheat	Poor	82	73	9	11%	0.9776
	Somewhat Poor	63	56	7	11%	
	Moderately Well	37	33	4	11%	
	Well	143	125	18	13%	

6 CONCLUSIONS

Many of the reporting errors encountered on member NMP summary reports in previous years were reduced by the use of standardized, online reporting systems. This reduced the amount of time spent reviewing data for potential errors. While data quality was generally improved in 2018 compared to previous years, and a significant effort was made to correct all errors, some errors may have gone undetected. Common errors identified during the review process included incomplete data, unreasonable values for yield or N applied, incorrect yield units, or missing/incorrect yield basis if different than standard.

The NMP results showed that A/Y and A/R can vary by several orders of magnitude within the same crop class. There are also several townships were the number of observations for a specific crop may be too small to calculate percentiles and outliers. In these cases, the Coalition-wide statistics are more useful to evaluate outlier status. Fields can also be an outlier in the Coalition but not in the township or an outlier in the township but not in the Coalition. Some of the highest outliers may be due to reporting errors, although the exclusion of records with unreasonable N applied or yield values limited this.

The crop age statistical analysis results were inconclusive and limited by the small number of members who reported planting year and potentially inaccurate planting years. Walnuts and almonds were the only crops with a large amount of observations in each year, although most of the observations did not have a planting year. The other perennial crops had smaller numbers of observations in each age class, making it difficult to discern any trends.

The soil type analysis showed no effect of soil drainage class on the frequency of A/Y outliers by crop. This was also observed with the 2016 and 2017 NMP data.

7 MEMBER FEEDBACK AND OUTREACH

Member outreach will be conducted in winter 2019. Outreach activities will include individualized feedback reports sent to each member in the Coalition who submitted N application and yield data. The reports will include a table showing township and Coalition averages for N applied, A/Y, and A/R for each of the member's fields. An example of an individual member feedback report is provided in Appendix C.

The member feedback report is designed to show nitrogen use efficiency for the member's fields within the context of other members in the Coalition. Members are also encouraged to contact the Coalition if they identify any incorrectly reported values that were not identified during the data review process.

8 REFERENCES

Geisseler, D. 2016. Nitrogen concentrations in harvested plant parts - A literature overview.
https://apps1.cdfa.ca.gov/FertilizerResearch/docs/Geisseler_Report_2016_12_02.pdf

CH2M Hill. 2014. Sacramento Valley Water Quality Coalition groundwater quality assessment report. Northern California Water Association. June 2014.

CH2M Hill. 2016. Groundwater quality assessment report. Northern California Water Association. January 2016.

APPENDICES

Appendix A: Summary Statistics by Crop for Coalition and Township

Appendix B: Fertilizer Recommendations

Appendix C: Example Member Feedback Report

Appendix D: Maximum Yields by Crop Type for Data Exclusion

Appendix E: Township-Level Aggregated AR Data Table

APPENDIX A

SUMMARY STATISTICS BY CROP FOR COALITION AND TOWNSHIP

I. ALFALFA

Figure I-1. Box and Whisker plots of A/Y for ALFALFA management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
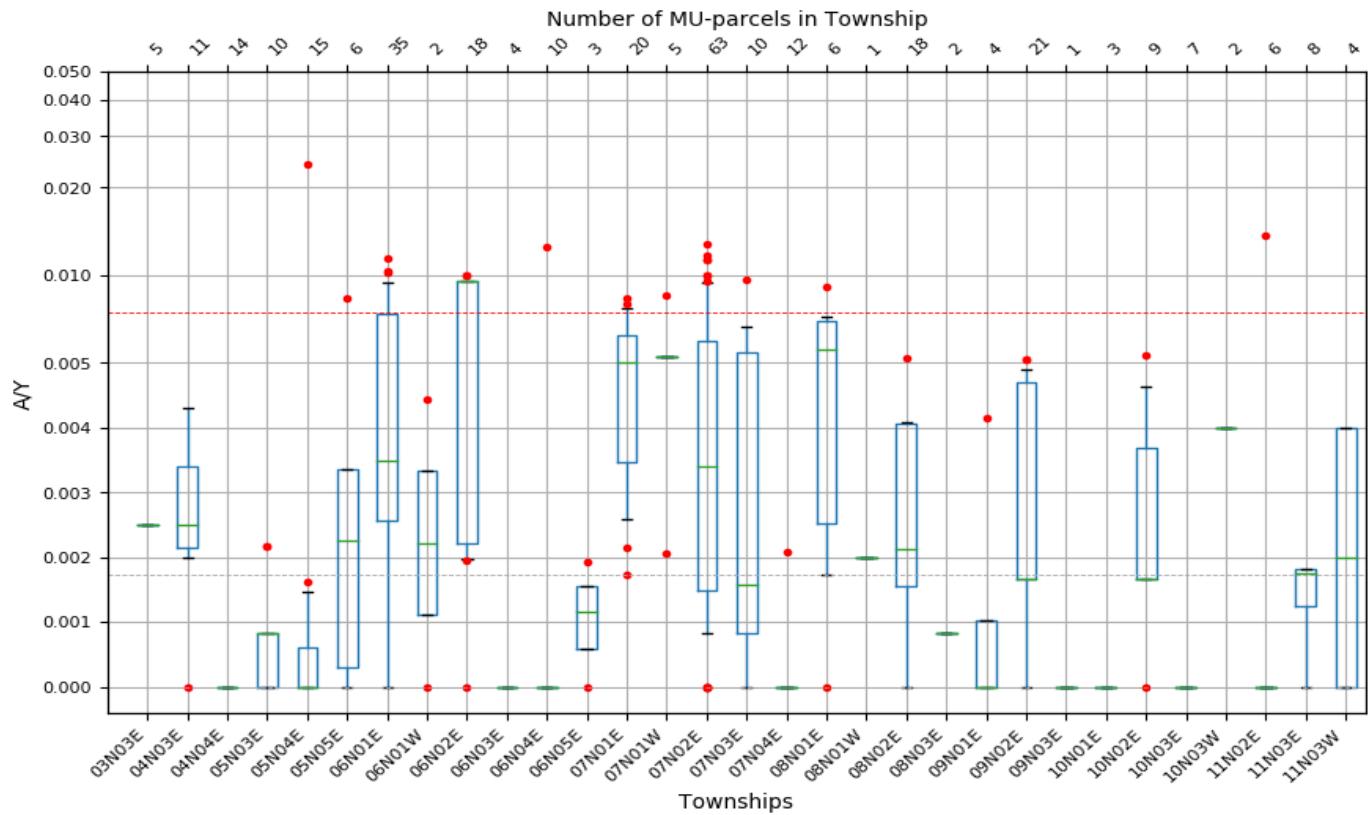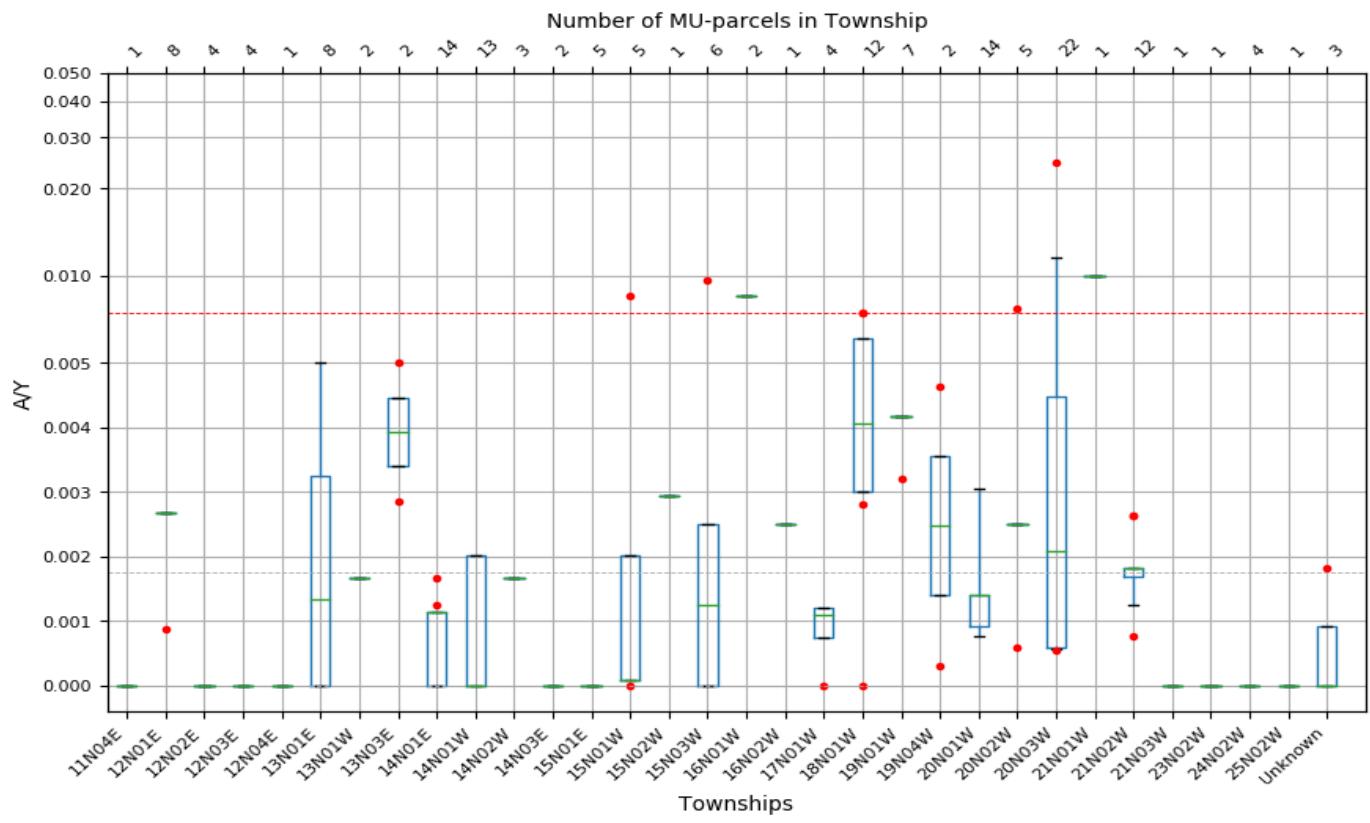
NOTE: 1 record(s) with A/Y value > 10 not shown to avoid skewing of box plot.

Table I-1. A/Y Summary Statistics for ALFALFA management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
03N03E	5	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0
04N03E	11	0.0	0.0043	0.002	0.0021	0.0025	0.0034	0.0043	0
04N04E	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
05N03E	10	0.0	0.0022	0.0	0.0	0.0008	0.0008	0.0022	2
05N04E	15	0.0	0.024	0.0	0.0	0.0	0.0006	0.0016	2
05N05E	6	0.0	0.0083	0.0	0.0003	0.0023	0.0034	0.0058	1
06N01E	35	0.0	0.0114	0.0	0.0026	0.0035	0.0074	0.0094	3
06N01W	2	0.0	0.0044						
06N02E	18	0.0	0.0099	0.002	0.0022	0.0096	0.0096	0.0097	2
06N03E	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
06N04E	10	0.0	0.0125	0.0	0.0	0.0	0.0	0.0012	1
06N05E	3	0.0	0.0019	0.0002	0.0006	0.0012	0.0015	0.0018	1
07N01E	20	0.0017	0.0083	0.0025	0.0035	0.005	0.0062	0.0077	2
07N01W	5	0.0021	0.0085	0.0033	0.0052	0.0052	0.0052	0.0072	1
07N02E	63	0.0	0.0127	0.0008	0.0015	0.0034	0.006	0.0095	7
07N03E	10	0.0	0.0097	0.0	0.0008	0.0016	0.0054	0.0069	1
07N04E	12	0.0	0.0021	0.0	0.0	0.0	0.0	0.0	1
08N01E	6	0.0	0.0091	0.0009	0.0025	0.0055	0.007	0.0082	1
08N01W	1	0.002	0.002						
08N02E	18	0.0	0.0052	0.0	0.0016	0.0021	0.0041	0.0041	1
08N03E	2	0.0008	0.0008						
09N01E	4	0.0	0.0041	0.0	0.0	0.0	0.001	0.0029	1
09N02E	21	0.0	0.0052	0.0	0.0017	0.0017	0.0047	0.0049	2
09N03E	1	0.0	0.0						
10N01E	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
10N02E	9	0.0	0.0053	0.0013	0.0017	0.0017	0.0037	0.0048	1
10N03E	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
10N03W	2	0.004	0.004						
11N02E	6	0.0	0.0137	0.0	0.0	0.0	0.0	0.0068	1
11N03E	8	0.0	0.0018	0.0	0.0013	0.0017	0.0018	0.0018	4
11N03W	4	0.0	0.004	0.0	0.0	0.002	0.004	0.004	0
11N04E	1	0.0	0.0						
12N01E	8	0.0009	0.0027	0.0021	0.0027	0.0027	0.0027	0.0027	0
12N02E	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
12N03E	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
12N04E	1	0.0	0.0						

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
13N01E	8	0.0	0.005	0.0	0.0	0.0013	0.0032	0.005	0
13N01W	2	0.0017	0.0017						
13N03E	2	0.0029	0.005						
14N01E	14	0.0	0.0017	0.0	0.0	0.0011	0.0011	0.0012	2
14N01W	13	0.0	0.002	0.0	0.0	0.0	0.002	0.002	0
14N02W	3	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017	0
14N03E	2	0.0	0.0						
15N01E	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
15N01W	5	0.0	0.0085	0.0	0.0001	0.0001	0.002	0.0059	1
15N02W	1	0.0029	0.0029						
15N03W	6	0.0	0.0096	0.0	0.0	0.0012	0.0025	0.0061	1
16N01W	2	0.0085	0.0085						
16N02W	1	0.0025	0.0025						
17N01W	4	0.0	0.0012	0.0003	0.0007	0.0011	0.0012	0.0012	0
18N01W	12	0.0	0.0074	0.0028	0.003	0.0041	0.0061	0.0073	2
19N01W	7	0.0032	0.0042	0.0038	0.0042	0.0042	0.0042	0.0042	0
19N04W	2	0.0003	0.0046						
20N01W	14	0.0008	0.0031	0.0008	0.0009	0.0014	0.0014	0.0031	0
20N02W	5	0.0006	0.0077	0.0014	0.0025	0.0025	0.0025	0.0056	1
20N03W	22	0.0005	0.0247	0.0006	0.0006	0.0021	0.0045	0.0116	1
21N01W	1	0.01	0.01						
21N02W	12	0.0008	0.0026	0.0012	0.0017	0.0018	0.0018	0.0025	2
21N03W	1	0.0	0.0						
23N02W	1	0.0	0.0						
24N02W	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
25N02W	1	0.0	0.0						
Unknown	3	0.0	0.0018	0.0	0.0	0.0	0.0009	0.0015	1

Table I-2. A/R Summary Statistics for ALFALFA management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
03N03E	5	0.0803	0.0803	0.0803	0.0803	0.0803	0.0803	0.0803	0
04N03E	11	0.0	0.1385	0.0642	0.0688	0.0803	0.1094	0.1385	0
04N04E	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
05N03E	10	0.0	0.0698	0.0	0.0	0.0268	0.0268	0.0698	0
05N04E	15	0.0	0.7705	0.0	0.0	0.0	0.0195	0.0501	2
05N05E	6	0.0	0.2675	0.0	0.0093	0.0725	0.1078	0.1876	1
06N01E	35	0.0	0.3669	0.0	0.0825	0.1124	0.2376	0.3032	3
06N01W	2	0.0	0.1427						
06N02E	18	0.0	0.3193	0.063	0.0712	0.3068	0.3068	0.3108	2
06N03E	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
06N04E	10	0.0	0.4013	0.0	0.0	0.0	0.0	0.0401	1
06N05E	3	0.0	0.0619	0.0074	0.0186	0.0372	0.0496	0.057	1
07N01E	20	0.0559	0.2675	0.0818	0.1114	0.1605	0.1998	0.2474	2
07N01W	5	0.0663	0.2726	0.1072	0.1685	0.1685	0.1685	0.231	1
07N02E	63	0.0	0.4089	0.0268	0.048	0.1093	0.1912	0.3061	7
07N03E	10	0.0	0.3114	0.0	0.0268	0.0506	0.174	0.2227	1
07N04E	12	0.0	0.0666	0.0	0.0	0.0	0.0	0.0	1
08N01E	6	0.0	0.2918	0.0279	0.0809	0.1777	0.2243	0.2622	1
08N01W	1	0.0642	0.0642						
08N02E	18	0.0	0.1669	0.0	0.05	0.068	0.1304	0.131	1
08N03E	2	0.0268	0.0268						
09N01E	4	0.0	0.133	0.0	0.0	0.0	0.0332	0.0931	1
09N02E	21	0.0	0.1658	0.0	0.0535	0.0535	0.1508	0.1574	2
09N03E	1	0.0	0.0						
10N01E	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
10N02E	9	0.0	0.1715	0.0428	0.0535	0.0535	0.1181	0.1534	1
10N03E	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
10N03W	2	0.1284	0.1284						
11N02E	6	0.0	0.4391	0.0	0.0	0.0	0.0	0.2195	1
11N03E	8	0.0	0.0584	0.0	0.0401	0.0559	0.0584	0.0584	0
11N03W	4	0.0	0.1284	0.0	0.0	0.0642	0.1284	0.1284	0
12N01E	8	0.0276	0.0856	0.0682	0.0856	0.0856	0.0856	0.0856	0
12N02E	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
12N03E	1	0.0	0.0						
13N01E	8	0.0	0.1605	0.0	0.0	0.0428	0.1043	0.1605	0

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
13N01W	2	0.0535	0.0535						
13N03E	2	0.0917	0.1605						
14N01E	14	0.0	0.0535	0.0	0.0	0.0361	0.0361	0.0389	2
14N01W	13	0.0	0.0644	0.0	0.0	0.0	0.0644	0.0644	0
14N02W	3	0.0535	0.0535	0.0535	0.0535	0.0535	0.0535	0.0535	0
14N03E	2	0.0	0.0						
15N01E	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
15N01W	5	0.0	0.2737	0.0009	0.0023	0.0023	0.0644	0.19	1
15N02W	1	0.0943	0.0943						
15N03W	6	0.0	0.3087	0.0	0.0	0.0401	0.0803	0.1945	1
16N01W	2	0.2737	0.2737						
16N02W	1	0.0803	0.0803						
17N01W	4	0.0	0.0383	0.0094	0.0235	0.0348	0.0383	0.0383	0
18N01W	12	0.0	0.2385	0.0909	0.0963	0.1304	0.1949	0.2341	2
19N01W	7	0.1027	0.1338	0.1213	0.1338	0.1338	0.1338	0.1338	0
19N04W	2	0.0099	0.149						
20N01W	14	0.0247	0.0981	0.0247	0.0297	0.0446	0.0446	0.0981	0
20N02W	5	0.0187	0.2472	0.0433	0.0803	0.0803	0.0803	0.1804	1
20N03W	22	0.0173	0.7928	0.0177	0.0187	0.0671	0.1439	0.3719	1
21N01W	1	0.321	0.321						
21N02W	12	0.0247	0.0843	0.0401	0.0539	0.0584	0.0584	0.0817	2
21N03W	1	0.0	0.0						
23N02W	1	0.0	0.0						
24N02W	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
25N02W	1	0.0	0.0						
Unknown	1	0.0584	0.0584						

Table I-3. A-R Summary Statistics for ALFALFA management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
03N03E	6	-573.0	0.0	-573.0	-573.0	-573.0	-573.0	-286.5	1
04N03E	11	-573.0	-87.45	-573.0	-573.0	-406.1	-111.101	-111.101	1
04N04E	14	-504.007	-124.6	-338.6628	-256.676	-155.75	-124.6	-124.6	0
05N03E	10	-436.1	-342.65	-436.1	-427.0425	-381.835	-363.8	-361.685	1
05N04E	15	-527.224	-35.75	-470.34	-436.1	-404.95	-279.35	-135.86	2
05N05E	6	-389.1	-273.8	-389.1	-385.275	-373.8	-365.169	-318.046	1
06N01E	37	-462.4	37.0	-442.4	-400.1	-358.225	-216.24	-172.43	4
06N01W	2	-261.66	-240.35						
06N02E	18	-346.83	-124.6	-341.1412	-304.1422	-204.1215	-155.903	-155.903	1
06N03E	4	-436.1	-436.1	-436.1	-436.1	-436.1	-436.1	-436.1	0
06N04E	13	-392.49	0.0	-392.49	-373.8	-373.8	-249.2	0.0	0
06N05E	3	-409.1	-362.292	-402.04	-391.45	-373.8	-368.046	-364.5936	1
07N01E	20	-559.373	-172.494	-540.6526	-457.7968	-345.6625	-248.016	-228.539	2
07N01W	5	-436.25	-168.133	-386.07	-310.8	-310.8	-310.8	-225.1998	1
07N02E	63	-537.687	-77.91	-432.367	-404.1	-345.688	-259.3365	-215.1098	7
07N03E	10	-425.514	-201.187	-369.9714	-354.897	-286.582	-266.9897	-258.4162	1
07N04E	13	-373.8	0.0	-373.8	-348.88	-304.647	-304.647	-281.9094	2
08N01E	8	-623.0	56.0	-578.4611	-380.7522	-266.8785	-131.59	56.0	0
08N01W	1	-320.65	-320.65						
08N02E	21	-623.0	15.0	-517.09	-432.367	-338.225	-265.27	0.0	1
08N03E	2	-363.8	-363.8						
09N01E	4	-562.569	-365.148	-562.569	-562.569	-535.78	-473.0302	-408.3009	1
09N02E	26	-623.0	56.0	-530.7	-530.7	-336.7665	-286.1828	56.0	0
09N03E	1	-124.6	-124.6						
10N01E	5	-218.05	160.0	-153.258	-56.07	-56.07	56.0	118.4	1
10N01W	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
10N02E	9	-530.7	-62.3	-530.7	-530.7	-418.103	-320.292	-228.8216	1
10N03E	8	-579.39	46.0	-561.946	-535.78	-468.8075	-414.295	-243.499	1
10N03W	2	-271.5	-271.5						
11N02E	6	-588.112	-56.07	-474.103	-309.035	-105.964	-56.07	-56.07	0
11N03E	8	-530.7	-242.97	-530.7	-431.715	-322.65	-322.65	-298.746	1
11N03W	4	-271.5	-31.15	-271.5	-271.5	-155.9975	-38.1588	-33.9535	1
12N01E	8	-427.25	-422.854	-427.25	-427.25	-427.25	-427.25	-425.9312	1
12N02E	4	-360.094	-360.094	-360.094	-360.094	-360.094	-360.094	-360.094	0
12N03E	3	-436.1	48.0	-348.88	-218.05	0.0	24.0	38.4	1

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
12N04E	1	0.0	0.0						
13N01E	10	-427.25	20.0	-427.25	-373.8	-358.225	-313.8	20.0	0
13N01W	2	-353.8	-353.8						
13N03E	2	-470.7	-396.1						
14N01E	16	-529.55	20.0	-529.55	-484.9	-480.4	-373.8	-166.9	2
14N01W	14	-435.1	0.0	-406.854	-406.854	-404.95	-373.8	-311.5	1
14N02W	3	-353.8	-353.8	-353.8	-353.8	-353.8	-353.8	-353.8	0
14N03E	2	-360.094	-360.094						
15N01E	5	-431.8792	-280.35	-403.1651	-360.094	-280.35	-280.35	-280.35	0
15N01W	6	-435.1	0.0	-435.1	-428.0385	-384.427	-324.125	-155.75	1
15N02W	3	-355.49	20.0	-280.392	-167.745	20.0	20.0	20.0	0
15N03W	7	-279.95	0.0	-249.5	-229.2	-183.162	-138.306	-56.07	1
16N01W	3	-362.0	0.0	-362.0	-362.0	-362.0	-181.0	-72.4	1
16N02W	1	-343.8	-343.8						
16N03E	1	0.0	0.0						
17N01W	4	-494.86	-401.41	-477.232	-450.79	-418.755	-401.41	-401.41	0
18N01W	16	-563.0	0.0	-508.2	-434.075	-351.1	-249.075	0.0	0
19N01W	7	-323.8	-279.5	-323.8	-323.8	-323.8	-323.8	-306.08	1
19N04W	2	-400.95	-371.1						
20N01W	14	-535.7	-394.95	-535.7	-535.7	-520.7	-422.6375	-394.95	0
20N02W	5	-440.16	-234.5	-401.616	-343.8	-343.8	-343.8	-278.22	1
20N03W	26	-477.54	0.0	-465.74	-458.85	-348.45	-234.8	0.0	0
21N01W	1	-253.8	-253.8						
21N02W	19	-457.54	15.0	-457.54	-457.54	-394.95	0.0	3.0	2
21N03W	1	-249.2	-249.2						
22N03W	1	49.9689	49.9689						
23N02W	2	-311.5	0.0						
24N02W	6	-311.5	0.0	-311.5	-311.5	-311.5	-77.875	0.0	0
24N03W	1	0.0	0.0						
25N02W	1	-311.5	-311.5						
Unknown	1	-322.65	-322.65						

Table I-4. Summary Statistics for ALFALFA management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	506	0.0	0.0247	0.0	0.0	0.0017	0.0042	0.0075	51
A/R	499	0.0	0.7928	0.0	0.0	0.0575	0.1338	0.2409	49
A-R	499	-623.0	-31.15	-529.551	-436.1	-363.8	-275.0125	-195.35	49

Figure I-2. Scatter plot of A vs. Y for ALFALFA with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
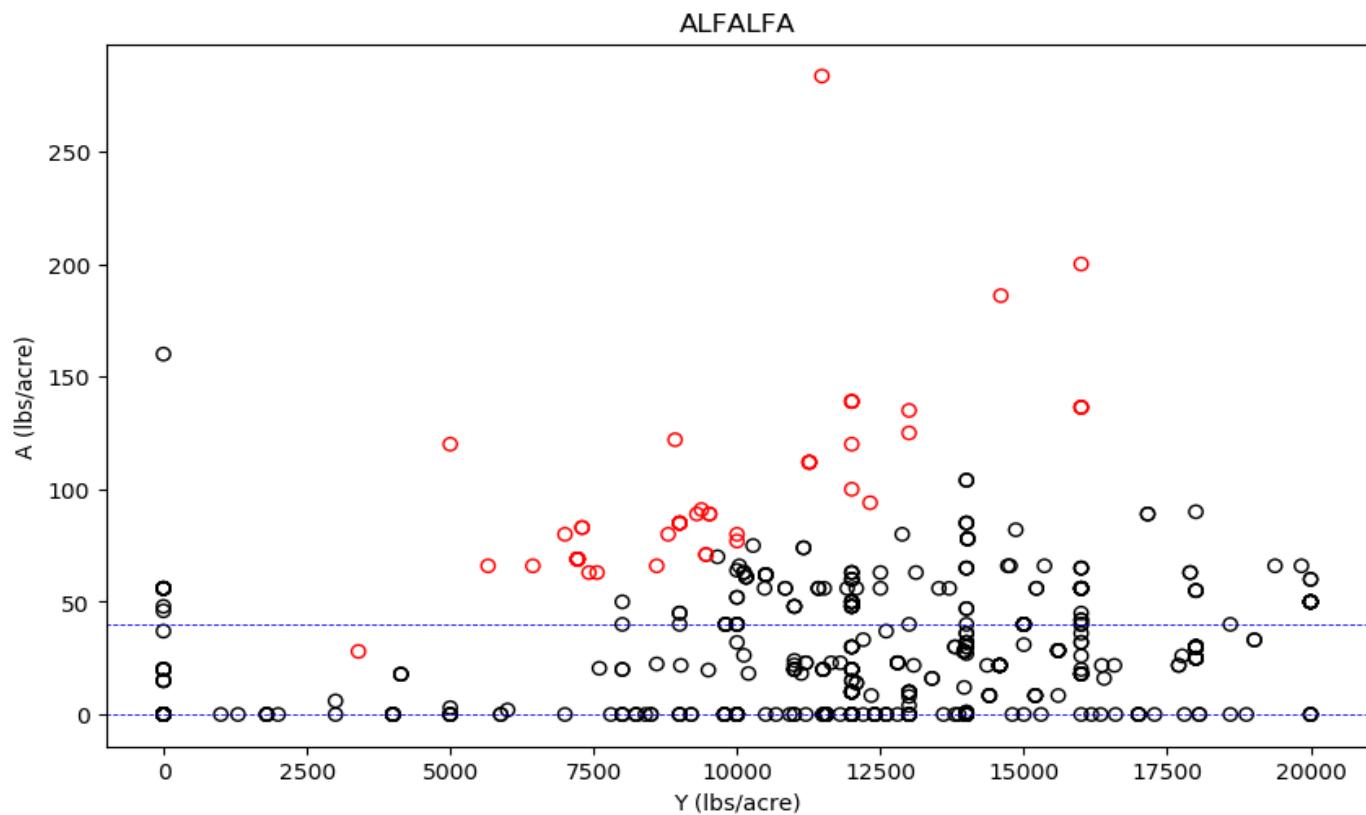
II. ALMOND

Figure II-1. Box and Whisker plots of A/Y for ALMOND management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
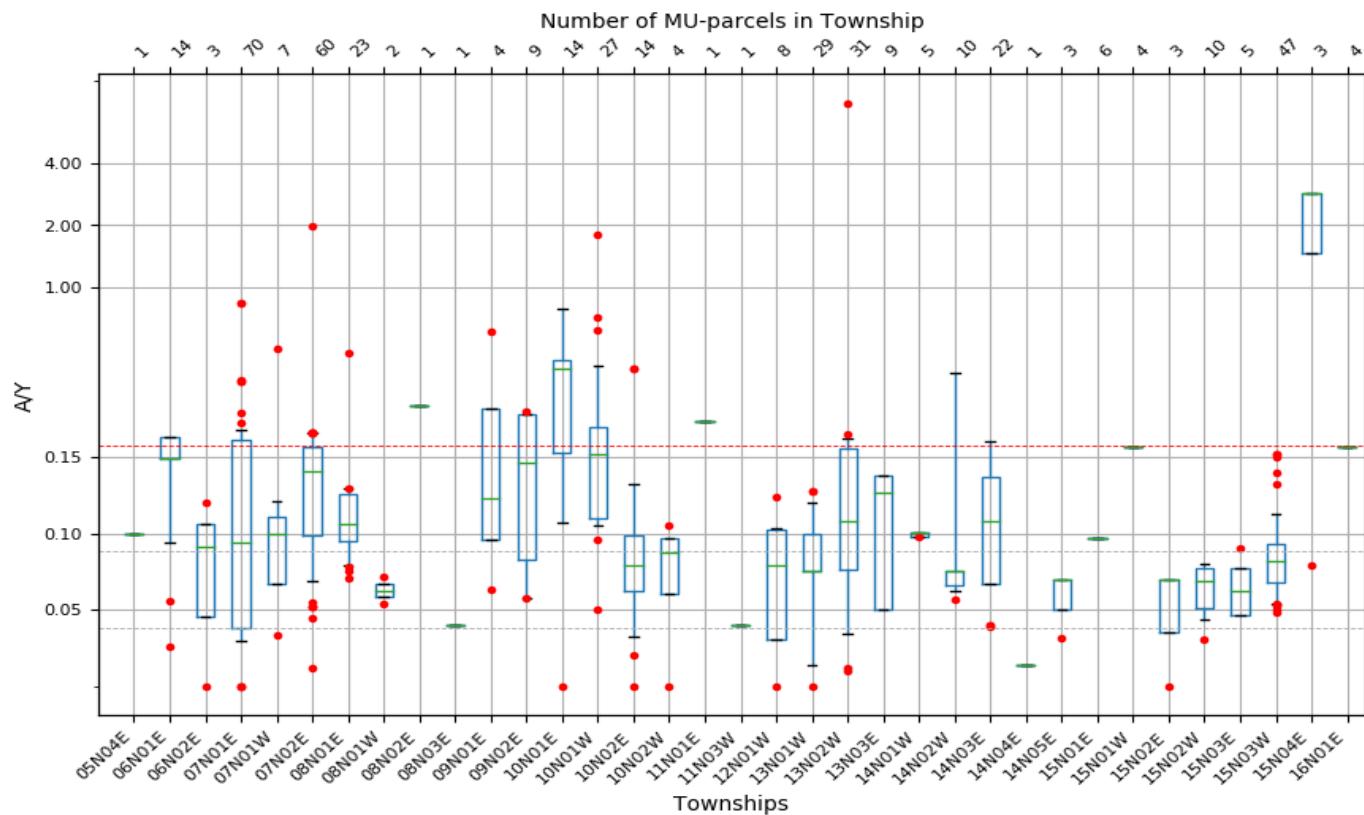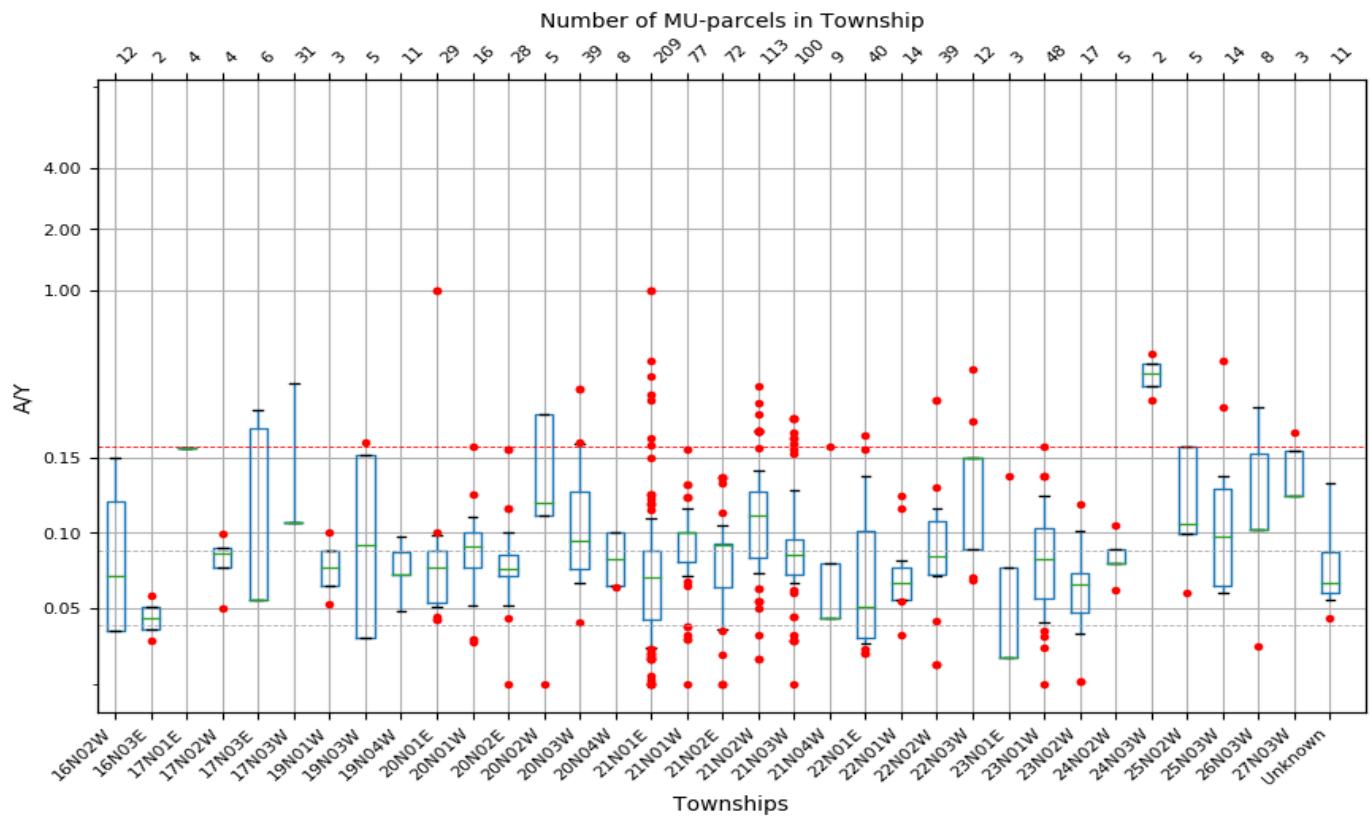
NOTE: 2 record(s) with A/Y value > 10 not shown to avoid skewing of box plot.

Table II-1. A/Y Summary Statistics for ALMOND management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N04E	1	0.1	0.1						
06N01E	14	0.0258	0.1875	0.0674	0.149	0.149	0.1875	0.1875	0
06N02E	3	0.0	0.12	0.0183	0.0458	0.0916	0.1058	0.1143	1
07N01E	70	0.0	0.8418	0.0299	0.0383	0.0935	0.1814	0.2032	7
07N01W	7	0.0336	0.5065	0.0534	0.0667	0.1	0.1105	0.2751	1
07N02E	60	0.0119	1.9906	0.0676	0.0983	0.1407	0.169	0.1955	6
08N01E	23	0.0702	0.4789	0.0781	0.0952	0.1065	0.1257	0.1294	2
08N01W	2	0.0538	0.0712						
08N02E	1	0.264	0.264						
08N03E	1	0.04	0.04						
09N01E	4	0.063	0.6136	0.076	0.0956	0.1232	0.2584	0.4715	1
09N02E	9	0.0576	0.2504	0.0577	0.0832	0.1467	0.2428	0.2443	1
10N01E	14	0.0	0.7812	0.1071	0.1581	0.4	0.4464	0.7812	0
10N01W	27	0.05	1.8	0.105	0.11	0.156	0.2105	0.4973	3
10N02E	14	0.0	0.4	0.0237	0.0627	0.0789	0.0982	0.3196	2
10N02W	4	0.0	0.1048	0.0241	0.0601	0.087	0.0966	0.1015	1
11N01E	1	0.2243	0.2243						
11N03W	1	0.04	0.04						
12N01W	8	0.0	0.1234	0.021	0.03	0.0786	0.1025	0.1097	1
13N01W	29	0.0	0.1271	0.0133	0.075	0.075	0.1	0.12	2
13N02W	31	0.01	7.85	0.0345	0.076	0.1081	0.1658	0.1858	2
13N03E	9	0.05	0.1375	0.05	0.05	0.1263	0.1375	0.1375	0
14N01W	5	0.0973	0.1004	0.0974	0.0974	0.1004	0.1004	0.1004	0
14N02W	10	0.0568	0.3832	0.0618	0.0655	0.075	0.075	0.3832	0
14N03E	22	0.0392	0.18	0.0427	0.0667	0.1082	0.1366	0.18	0
14N04E	1	0.0133	0.0133						
14N05E	3	0.031	0.07	0.0388	0.0505	0.07	0.07	0.07	0
15N01E	6	0.0971	0.0971	0.0971	0.0971	0.0971	0.0971	0.0971	0
15N01W	4	0.1675	0.1675	0.1675	0.1675	0.1675	0.1675	0.1675	0
15N02E	3	0.0	0.07	0.014	0.035	0.07	0.07	0.07	0
15N02W	10	0.0308	0.08	0.0427	0.0506	0.0691	0.0769	0.08	0
15N03E	5	0.0461	0.09	0.0461	0.0461	0.0625	0.0774	0.085	1
15N03W	47	0.0477	0.1544	0.0538	0.0679	0.0814	0.0931	0.1205	5
15N04E	3	0.0789	2.8571	0.6346	1.468	2.8571	2.8571	2.8571	0
16N01E	4	0.1675	0.1675	0.1675	0.1675	0.1675	0.1675	0.1675	0
16N02W	12	0.0355	0.15	0.0355	0.0355	0.0714	0.1207	0.15	0

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
16N03E	2	0.0284	0.0586						
17N01E	4	0.1675	0.1675	0.1675	0.1675	0.1675	0.1675	0.1675	0
17N02W	4	0.05	0.0993	0.061	0.0774	0.0865	0.0897	0.0954	1
17N03E	6	0.0556	0.2594	0.0556	0.0556	0.0556	0.2084	0.2594	0
17N03W	31	0.1074	0.3487	0.1074	0.1074	0.1074	0.1074	0.3487	0
19N01W	3	0.0525	0.1004	0.0574	0.0647	0.0769	0.0886	0.0957	1
19N03W	5	0.03	0.178	0.03	0.03	0.0916	0.1538	0.1683	1
19N04W	11	0.0478	0.0972	0.0478	0.0726	0.0726	0.0877	0.0972	0
20N01E	29	0.0424	1.0	0.0493	0.0539	0.0775	0.088	0.0985	3
20N01W	16	0.0277	0.1714	0.0403	0.0769	0.091	0.1008	0.1185	2
20N02E	28	0.0	0.1656	0.0518	0.0714	0.076	0.0857	0.1161	4
20N02W	5	0.0	0.2437	0.0448	0.112	0.12	0.2437	0.2437	0
20N03W	39	0.0411	0.3268	0.0667	0.0765	0.0945	0.1279	0.1752	3
20N04W	8	0.0636	0.1	0.0648	0.0652	0.0826	0.1	0.1	0
21N01E	209	0.0	1.0	0.024	0.0424	0.0709	0.0882	0.1098	17
21N01W	77	0.0	0.1646	0.0699	0.0805	0.1	0.1	0.1167	6
21N02E	72	0.0	0.1364	0.0362	0.064	0.0923	0.0933	0.1055	6
21N02W	113	0.0166	0.3395	0.0734	0.0833	0.1112	0.1273	0.162	12
21N03W	100	0.0	0.2333	0.0662	0.072	0.0855	0.0957	0.1313	10
21N04W	9	0.0432	0.1703	0.0432	0.0432	0.0432	0.0795	0.0976	1
22N01E	40	0.0201	0.1922	0.0263	0.0302	0.0507	0.1009	0.1374	2
22N01W	14	0.0325	0.125	0.055	0.0559	0.067	0.0766	0.1061	2
22N02W	39	0.0128	0.29	0.0655	0.072	0.0841	0.1079	0.1167	3
22N03W	12	0.0686	0.4078	0.0723	0.0895	0.15	0.15	0.2179	2
23N01E	3	0.0176	0.1374	0.0176	0.0176	0.0176	0.0775	0.1135	1
23N01W	48	0.0	0.1704	0.0408	0.0563	0.0825	0.103	0.125	4
23N02W	17	0.0018	0.119	0.0207	0.0471	0.0661	0.0731	0.1015	1
24N02W	5	0.0619	0.1048	0.0689	0.0794	0.0794	0.0895	0.0987	1
24N03W	2	0.2884	0.4845						
25N02W	5	0.06	0.1695	0.0759	0.0997	0.1059	0.1695	0.1695	0
25N03W	14	0.06	0.45	0.06	0.0654	0.0977	0.1296	0.2286	2
26N03W	8	0.025	0.2676	0.0794	0.1027	0.1027	0.1581	0.2676	0
27N03W	3	0.125	0.1995	0.125	0.125	0.125	0.1623	0.1846	1
Unknown	11	0.0431	0.1329	0.0559	0.0607	0.0667	0.0877	0.1329	0

Table II-2. A/R Summary Statistics for ALMOND management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N04E	1	1.4706	1.4706						
06N01E	14	0.38	2.7574	0.9909	2.1915	2.1915	2.7574	2.7574	0
06N02E	3	0.0	1.7647	0.2694	0.6735	1.3471	1.5559	1.6812	1
07N01E	70	0.0	12.379	0.4398	0.564	1.3756	2.6672	2.9878	7
07N01W	7	0.4937	7.4484	0.7857	0.9804	1.4706	1.6243	4.0462	1
07N02E	60	0.1747	29.2729	0.9938	1.4449	2.0698	2.4846	2.8743	6
08N01E	23	1.0328	7.0423	1.1484	1.3998	1.5659	1.8484	1.9031	2
08N01W	2	0.7915	1.0464						
08N02E	1	3.8824	3.8824						
08N03E	1	0.588	0.588						
09N01E	4	0.926	9.0241	1.118	1.4061	1.8121	3.7996	6.9343	1
09N02E	9	0.8476	3.682	0.8483	1.2233	2.1569	3.5705	3.5928	1
10N01E	14	0.0	11.489	1.5756	2.3251	5.8824	6.5651	11.489	0
10N01W	27	0.7353	26.4706	1.5441	1.6176	2.2941	3.0951	7.3135	3
10N02E	14	0.0	5.8824	0.3483	0.9215	1.161	1.4442	4.7006	2
10N02W	4	0.0	1.5413	0.3538	0.8844	1.2794	1.4199	1.4927	1
11N01E	1	3.2988	3.2988						
11N03W	1	0.588	0.588						
12N01W	8	0.0	1.8149	0.3088	0.4412	1.1555	1.5069	1.6126	1
13N01W	29	0.0	1.8694	0.1961	1.1029	1.1029	1.4706	1.7647	2
13N02W	31	0.1471	115.4412	0.5068	1.1176	1.589	2.4375	2.7323	2
13N03E	9	0.7353	2.0221	0.7353	0.7353	1.8576	2.0221	2.0221	0
14N01W	5	1.4314	1.4765	1.4319	1.4327	1.4765	1.4765	1.4765	0
14N02W	10	0.8356	5.635	0.9086	0.9633	1.1029	1.1029	5.635	0
14N03E	22	0.5762	2.6471	0.6275	0.9804	1.5906	2.0085	2.6471	0
14N04E	1	0.1961	0.1961						
14N05E	3	0.4559	1.0294	0.5706	0.7426	1.0294	1.0294	1.0294	0
15N01E	6	1.4278	1.4278	1.4278	1.4278	1.4278	1.4278	1.4278	0
15N01W	4	2.4634	2.4634	2.4634	2.4634	2.4634	2.4634	2.4634	0
15N02E	3	0.0	1.0294	0.2059	0.5147	1.0294	1.0294	1.0294	0
15N02W	10	0.4531	1.1765	0.6274	0.7438	1.0155	1.1309	1.1765	0
15N03E	5	0.6772	1.3235	0.6772	0.6772	0.9191	1.1386	1.2496	1
15N03W	47	0.7022	2.2703	0.7908	0.9984	1.1967	1.3693	1.7717	5
15N04E	3	1.161	42.0168	9.3322	21.5889	42.0168	42.0168	42.0168	0
16N01E	4	2.4634	2.4634	2.4634	2.4634	2.4634	2.4634	2.4634	0

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
16N02W	12	0.5218	2.2059	0.5218	0.5218	1.0505	1.7751	2.2059	0
16N03E	2	0.4178	0.8614						
17N01E	4	2.4634	2.4634	2.4634	2.4634	2.4634	2.4634	2.4634	0
17N02W	4	0.7353	1.4596	0.8965	1.1383	1.2726	1.3194	1.4035	1
17N03E	6	0.817	3.8141	0.817	0.817	0.817	3.0648	3.8141	0
17N03W	31	1.5792	5.1275	1.5792	1.5792	1.5792	1.5792	5.1275	0
19N01W	3	0.7721	1.4765	0.8437	0.9512	1.1303	1.3034	1.4072	1
19N03W	5	0.4412	2.6171	0.4412	0.4412	1.3471	2.2624	2.4753	1
19N04W	11	0.7036	1.4297	0.7036	1.0674	1.0674	1.2899	1.4297	0
20N01E	29	0.6228	14.7059	0.7254	0.7919	1.1397	1.2941	1.4481	3
20N01W	16	0.407	2.521	0.5925	1.1303	1.3386	1.4828	1.7425	2
20N02E	28	0.0002	2.4347	0.761	1.0504	1.1176	1.2605	1.7078	4
20N02W	5	0.0	3.5835	0.6588	1.6471	1.7647	3.5835	3.5835	0
20N03W	39	0.6043	4.8058	0.9804	1.1246	1.3901	1.8805	2.5765	3
20N04W	8	0.936	1.4706	0.9524	0.9595	1.215	1.4706	1.4706	0
21N01E	209	0.0	14.7059	0.3537	0.6228	1.043	1.2976	1.6146	17
21N01W	77	0.0	2.4202	1.0282	1.1832	1.4706	1.4706	1.7157	6
21N02E	72	0.0	2.0065	0.533	0.941	1.3575	1.3725	1.5513	6
21N02W	113	0.2434	4.9932	1.0797	1.2255	1.6358	1.8717	2.3831	12
21N03W	100	0.0	3.4306	0.9732	1.0588	1.2576	1.4066	1.9303	10
21N04W	9	0.6353	2.5037	0.6353	0.6353	0.6353	1.1686	1.4356	1
22N01E	40	0.2958	2.8263	0.3873	0.4437	0.7457	1.4844	2.0209	2
22N01W	14	0.4779	1.8382	0.8095	0.8213	0.9859	1.1272	1.5599	2
22N02W	39	0.1888	4.2647	0.9629	1.0588	1.2366	1.5873	1.7157	3
22N03W	12	1.0086	5.9976	1.063	1.3162	2.2059	2.2059	3.2044	2
23N01E	3	0.2592	2.0209	0.2592	0.2592	0.2592	1.14	1.6686	1
23N01W	48	0.0	2.5064	0.5993	0.8279	1.2136	1.5141	1.8382	4
23N02W	17	0.0257	1.7507	0.3044	0.6927	0.9726	1.0746	1.4921	1
24N02W	5	0.9104	1.5406	1.0133	1.1677	1.1677	1.3162	1.4508	1
24N03W	2	4.2415	7.1249						
25N02W	5	0.8824	2.4925	1.1159	1.4662	1.5578	2.4925	2.4925	0
25N03W	14	0.8824	6.6176	0.8824	0.9613	1.437	1.9052	3.3624	2
26N03W	8	0.3676	3.9356	1.1677	1.5106	1.5106	2.3244	3.9356	0
27N03W	3	1.8382	2.9343	1.8382	1.8382	1.8382	2.3863	2.7151	1
Unknown	11	0.6344	1.955	0.8213	0.8921	0.9804	1.2897	1.955	0

Table II-3. A-R Summary Statistics for ALMOND management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N04E	2	6.4	8.82						
06N01E	32	-33.9359	165.4545	0.0	0.0	42.015	97.64	165.4545	0
06N02E	5	-88.264	17.7	-52.9584	0.0	0.0	13.0	15.82	1
06N03E	1	15.0	15.0						
07N01E	77	-62.86	286.3012	-53.3313	-31.636	26.108	101.66	136.4596	8
07N01W	9	-53.3313	135.056	-12.5863	-2.4	10.496	28.0	86.5248	1
07N02E	71	-98.2333	244.3572	2.2	40.5	78.5634	121.7436	131.4834	1
07N04E	4	29.2	29.2	29.2	29.2	29.2	29.2	29.2	0
08N01E	28	0.0	145.86	8.0228	27.909	47.4104	55.571	70.4327	3
08N01W	2	-20.2	4.076						
08N02E	12	0.0	180.0	0.0	0.0	45.0	105.0	138.0	2
08N03E	1	-25.2224	-25.2224						
09N01E	5	-5.396	204.0	11.2216	36.148	56.336	60.02	146.408	1
09N02E	14	-26.8	204.0	-10.0688	41.576	101.148	119.641	184.32	2
10N01E	21	-93.84	166.0	10.96	35.5	57.06	73.528	166.0	0
10N01W	34	-7.2	173.2	0.0	35.918	84.0	118.0	147.052	4
10N02E	17	-129.2	153.0	-85.4676	0.0	20.8	49.8	85.78	2
10N02W	5	-14.008	38.28	-8.4048	0.0	12.92	29.984	34.9616	1
11N01E	2	0.0	132.404						
11N03W	2	-68.668	235.0						
11N04E	1	253.8539	253.8539						
12N01W	14	-95.0	58.3852	-90.98	0.0	0.2378	19.15	41.688	2
12N03W	1	75.0	75.0						
13N01W	29	-82.0	88.776	-82.0	14.0	14.0	69.76	78.4	3
13N02W	34	-98.6	142.652	-29.879	4.0	58.63	106.62	137.1872	4
13N03E	9	-18.0	55.6	-18.0	-18.0	55.4	55.6	55.6	0
14N01W	6	0.0	64.544	22.0	44.035	54.342	64.544	64.544	0
14N02W	14	-24.6	80.0	-13.256	0.0	14.0	28.793	66.1172	2
14N03E	28	-101.5	221.04	-18.361	-4.0	24.0	55.4	89.6	1
14N04E	3	-328.0	50.0	-252.4	-139.0	50.0	50.0	50.0	0
14N05E	5	-111.0	126.5	-65.8	2.0	2.0	126.5	126.5	0
15N01E	6	20.972	20.972	20.972	20.972	20.972	20.972	20.972	0
15N01W	4	41.5835	41.5835	41.5835	41.5835	41.5835	41.5835	41.5835	0
15N02E	3	-136.0	3.4855	-108.1029	-66.2572	3.4855	3.4855	3.4855	0
15N02W	15	-68.8	12.0	-53.6176	-16.324	9.0	10.0	11.2144	2

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
15N03E	5	-83.4	44.0	-83.4	-83.4	-17.6	18.722	33.8888	1
15N03W	60	-52.168	131.4904	-35.9204	1.185	21.4	42.8	73.48	4
15N04E	3	20.8	136.668	43.9736	78.734	136.668	136.668	136.668	0
16N01E	4	41.5835	41.5835	41.5835	41.5835	41.5835	41.5835	41.5835	0
16N02W	16	-100.8	85.156	-100.8	-100.8	24.6	33.42	77.578	2
16N03E	4	-174.2	0.0	-128.867	-60.8675	-11.545	0.0	0.0	0
17N01E	4	41.5835	41.5835	41.5835	41.5835	41.5835	41.5835	41.5835	0
17N02W	5	-54.0	48.2	-21.6	27.0	37.788	48.2	48.2	0
17N03E	8	-22.4	112.8693	-22.4	-22.4	8.8	71.568	83.9584	1
17N03W	37	1.0	58.68	16.0	57.958	58.68	58.68	58.68	0
18N01W	1	0.0	0.0						
19N01W	3	-31.0	64.544	-20.6512	-5.128	20.744	42.644	55.784	1
19N03W	10	-76.0	129.76	-76.0	17.935	55.0	58.0	103.876	1
19N04W	17	-42.12	55.0	-8.328	14.2	22.0	50.0	52.6	1
20N01E	29	-54.5	150.052	-37.7552	-26.276	11.4	27.4	49.444	3
20N01W	21	-71.372	82.76	-33.38	0.0	29.104	55.0	64.0	1
20N02E	28	-108.78	88.392	-32.5	4.8	20.0	31.0	74.6	2
20N02W	9	-17.0	173.748	-3.4	0.0	6.6	18.2	173.748	0
20N03W	62	-54.36	150.0	0.66	20.241	27.416	60.0	116.7492	7
20N04W	9	-4.648	32.0	-4.648	-4.648	17.0	32.0	32.0	0
21N01E	235	-279.4	309.2481	-68.056	-39.496	0.0	30.3352	70.42	17
21N01W	82	-71.0	250.0	0.0	10.66	37.458	80.0	87.6	4
21N02E	76	-285.6	109.42	-40.6988	-7.088	34.082	38.0	55.22	5
21N02W	121	-96.364	173.748	10.0	25.0	78.512	97.8	117.2	12
21N03W	138	-218.8	150.0	0.0	10.0	33.8	48.98	76.14	13
21N04W	13	-124.0	153.38	-124.0	-124.0	12.84	34.0	34.0	1
22N01E	45	-103.6	113.16	-75.992	-47.32	0.0	34.1	87.896	5
22N01W	16	-71.0	87.6	-28.412	-27.408	1.582	19.995	71.7	2
22N02W	41	-63.2	155.4	0.0	11.296	35.4	72.0	103.12	2
22N03W	15	1.284	145.7216	14.684	37.935	49.2	49.2	109.1027	2
23N01E	3	-242.416	113.16	-242.416	-242.416	-242.416	-64.628	42.0448	1
23N01W	48	-109.0	117.8	-65.3	-20.831	18.4	66.365	92.88	4
23N02W	19	-132.5	51.284	-68.1	-35.354	-2.0	18.798	32.8189	2
24N02W	6	-6.4	77.2	-3.04	6.164	23.696	38.174	60.1	1
24N03W	2	107.456	116.164						
25N02W	6	-12.0	59.88	-6.0	6.714	29.326	52.859	59.88	0
25N03W	24	-12.0	111.886	-12.0	0.0	0.0	49.8	86.34	3
26N03W	9	-50.74	111.886	-10.148	32.712	33.802	33.802	111.886	0
27N03W	9	0.0	58.6693	0.0	0.0	0.0	45.6	48.2139	1

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
Unknown	11	-47.832	109.42	-27.408	-15.236	-4.0	32.366	109.42	0

Table II-4. Summary Statistics for ALMOND management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	1460	0.0	7.85	0.0383	0.0652	0.088	0.1167	0.1696	146
A/R	1460	0.0	115.4412	0.5633	0.9594	1.2948	1.7157	2.4936	146
A-R	1460	-328.0	309.2481	-52.0168	-4.648	31.32	64.8	104.72	145

Figure II-2. Scatter plot of A vs. Y for ALMOND with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
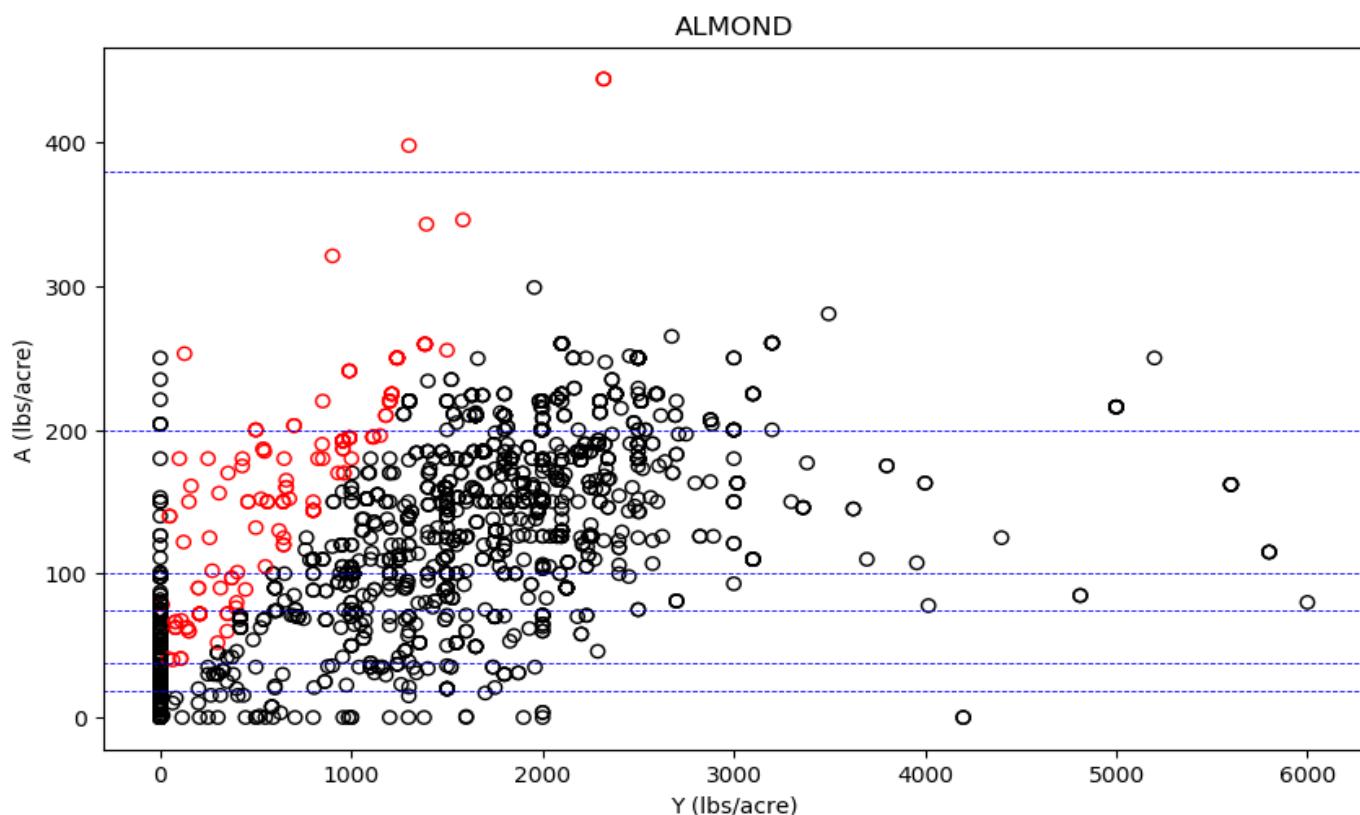
ALMOND

Figure II-3. Box and Whisker plots of A/Y for ALMOND management units grouped by Age.

Numbers at the top indicate the number of MU-parcels within each age group. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each age group. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
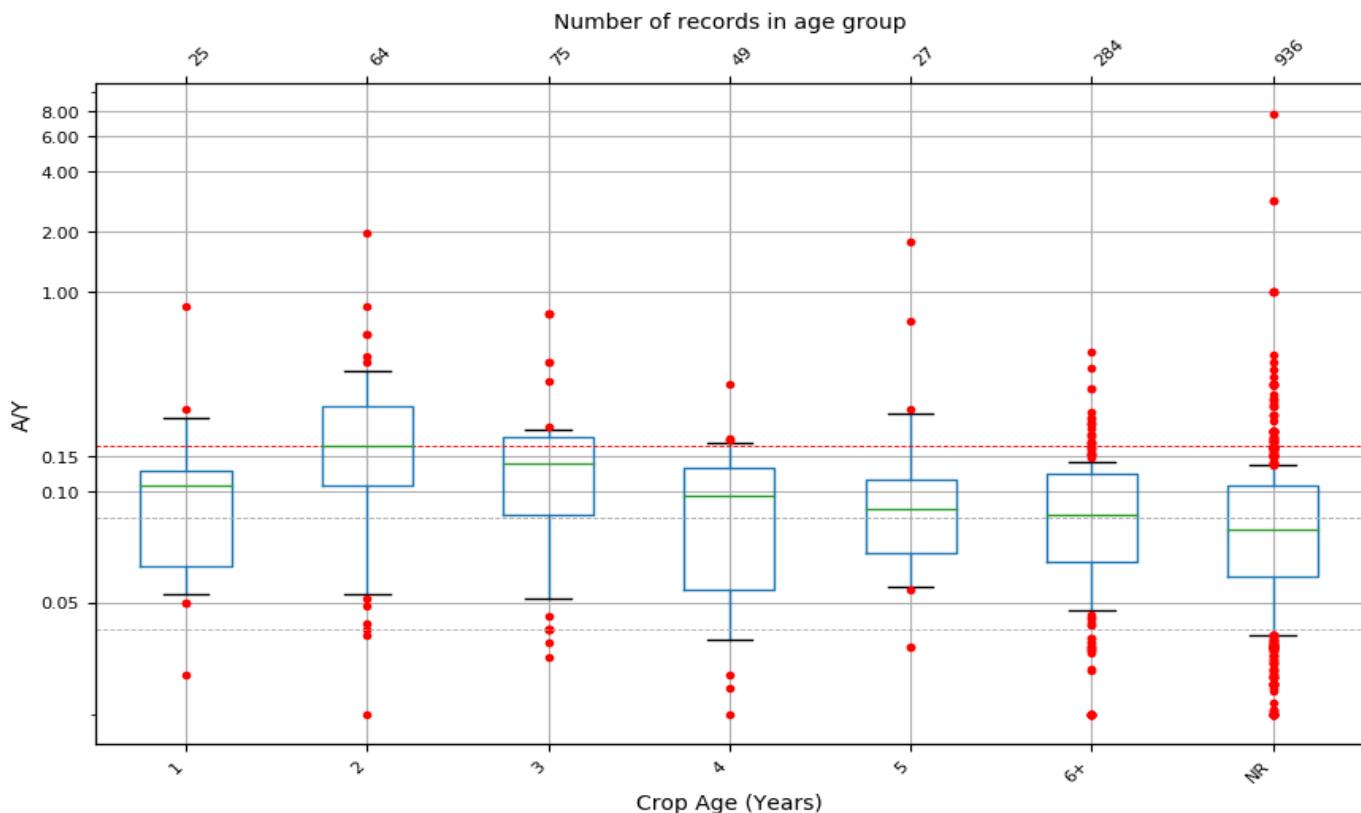
NOTE: 2 record(s) with A/Y value > 10 not shown to avoid skewing of box plot.

Table II-5. A/Y Summary Statistics for ALMOND management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	25	0.0176	0.8418	0.0515	0.0667	0.1068	0.1273	0.2333	2
2	64	0.0	1.9906	0.0539	0.1081	0.169	0.2694	0.4	6
3	75	0.0258	0.7812	0.0471	0.0897	0.1399	0.1875	0.2051	7
4	49	0.0	0.3487	0.0336	0.0559	0.0983	0.1321	0.1771	4
5	27	0.03	1.8	0.0566	0.0726	0.0921	0.1162	0.2514	3
6+	284	0.0	0.5065	0.0452	0.0687	0.0895	0.1238	0.1407	28
NR	936	0.0	7.85	0.0355	0.0619	0.0833	0.1072	0.1374	94

Table II-6. A/R Summary Statistics for ALMOND management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	25	0.2592	12.379	0.7579	0.9804	1.5711	1.8717	3.4306	4
2	64	0.0	29.2729	0.7919	1.5893	2.4846	3.9622	5.8824	6
3	75	0.38	11.489	0.6932	1.3186	2.0581	2.7574	3.0164	7
4	49	0.0	5.1275	0.4937	0.8213	1.4449	1.9433	2.6042	4
5	27	0.4412	26.4706	0.8322	1.0675	1.355	1.7082	3.6964	3
6+	284	0.0	7.4484	0.6649	1.01	1.3162	1.8207	2.0698	28
NR	936	0.0	115.4412	0.5221	0.9104	1.2255	1.5765	2.0212	94

Table II-7. A-R Summary Statistics for ALMOND management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	25	-242.416	129.76	-18.6456	-2.0	44.2	97.8	112.8304	3
2	64	-88.264	244.3572	-10.3529	31.503	80.696	131.4834	141.547	7
3	75	-80.64	259.732	-20.5998	10.96	50.1008	123.318	138.4	7
4	49	-242.416	138.4	-53.3313	-20.904	40.196	81.7555	118.0	3
5	27	-95.0	248.3304	-20.392	9.2	29.984	93.288	162.52	3
6+	284	-195.424	286.3012	-36.89	0.8689	34.212	78.5634	105.9532	29
NR	936	-328.0	309.2481	-60.66	-12.0	26.856	58.68	87.6	76

III. BARLEY

Figure III-1. Box and Whisker plots of A/Y for BARLEY management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
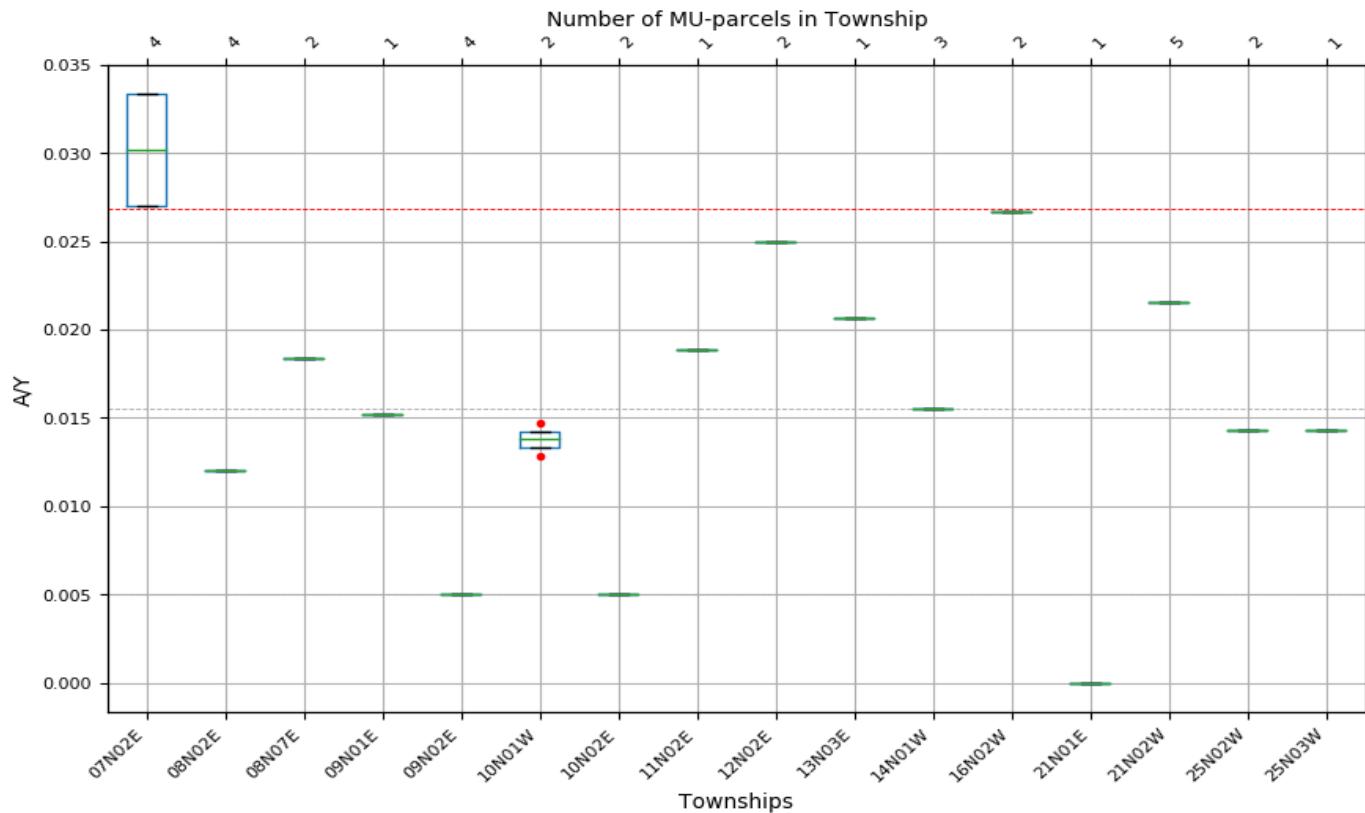
Table III-1. A/Y Summary Statistics for BARLEY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N02E	4	0.027	0.0333	0.027	0.027	0.0302	0.0333	0.0333	0
08N02E	4	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0
08N07E	2	0.0184	0.0184						
09N01E	1	0.0152	0.0152						
09N02E	4	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0
10N01W	2	0.0129	0.0147						
10N02E	2	0.005	0.005						
11N02E	1	0.0188	0.0188						
12N02E	2	0.025	0.025						
13N03E	1	0.0206	0.0206						
14N01W	3	0.0156	0.0156	0.0156	0.0156	0.0156	0.0156	0.0156	0
16N02W	2	0.0267	0.0267						
21N01E	1	0.0	0.0						
21N02W	5	0.0216	0.0216	0.0216	0.0216	0.0216	0.0216	0.0216	0
25N02W	2	0.0143	0.0143						
25N03W	1	0.0143	0.0143						

Table III-2. A/R Summary Statistics for BARLEY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N02E	4	1.6088	1.9841	1.6088	1.6088	1.7964	1.9841	1.9841	2
08N02E	4	0.7143	0.7143	0.7143	0.7143	0.7143	0.7143	0.7143	0
08N07E	2	1.0952	1.0952						
09N01E	1	0.9063	0.9063						
09N02E	4	0.2976	0.2976	0.2976	0.2976	0.2976	0.2976	0.2976	0
10N01W	2	0.7653	0.8754						
10N02E	2	0.2976	0.2976						
11N02E	1	1.1207	1.1207						
12N02E	2	1.4881	1.4881						
13N03E	1	1.2283	1.2283						
14N01W	3	0.9259	0.9259	0.9259	0.9259	0.9259	0.9259	0.9259	0
16N02W	2	1.5873	1.5873						
21N01E	1	0.0	0.0						
21N02W	5	1.2831	1.2831	1.2831	1.2831	1.2831	1.2831	1.2831	0
25N02W	2	0.8503	0.8503						
25N03W	1	0.8503	0.8503						

Table III-3. A-R Summary Statistics for BARLEY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N02E	4	37.84	49.6	37.84	37.84	43.72	49.6	49.6	0
08N02E	4	-24.0	-24.0	-24.0	-24.0	-24.0	-24.0	-24.0	0
08N07E	2	8.0	8.0						
09N01E	1	-9.3048	-9.3048						
09N02E	4	-70.8	-70.8	-70.8	-70.8	-70.8	-70.8	-70.8	0
10N01W	2	-11.592	-10.68						
10N02E	2	-70.8	-70.8						
11N02E	1	13.136	13.136						
12N02E	2	49.2	49.2						
13N03E	1	24.16	24.16						
14N01W	3	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	-5.6	0
16N02W	2	44.4	44.4						
21N01E	1	-67.2	-67.2						
21N02W	5	21.4	21.4	21.4	21.4	21.4	21.4	21.4	0
25N02W	2	-17.6	-17.6						
25N03W	1	-17.6	-17.6						

Table III-4. Summary Statistics for BARLEY management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	37	0.0	0.0333	0.005	0.012	0.0156	0.0216	0.0268	4
A/R	37	0.0	1.9841	0.2976	0.7143	0.9259	1.2831	1.5959	4
A-R	37	-70.8	49.6	-70.8	-24.0	-5.6	21.4	46.32	4

Figure III-2. Scatter plot of A vs. Y for BARLEY with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
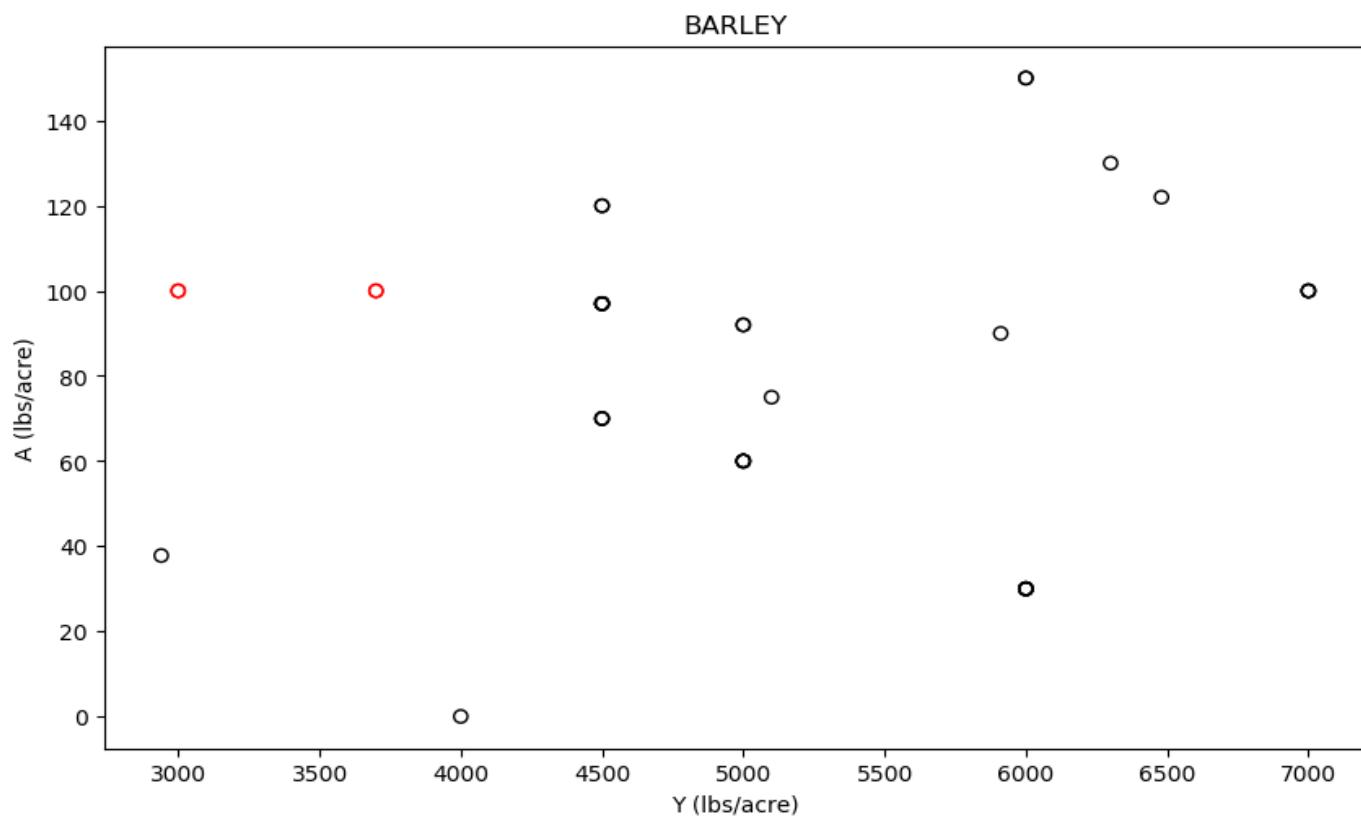
IV. BEAN DRY

Figure IV-1. Box and Whisker plots of A/Y for BEAN DRY management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
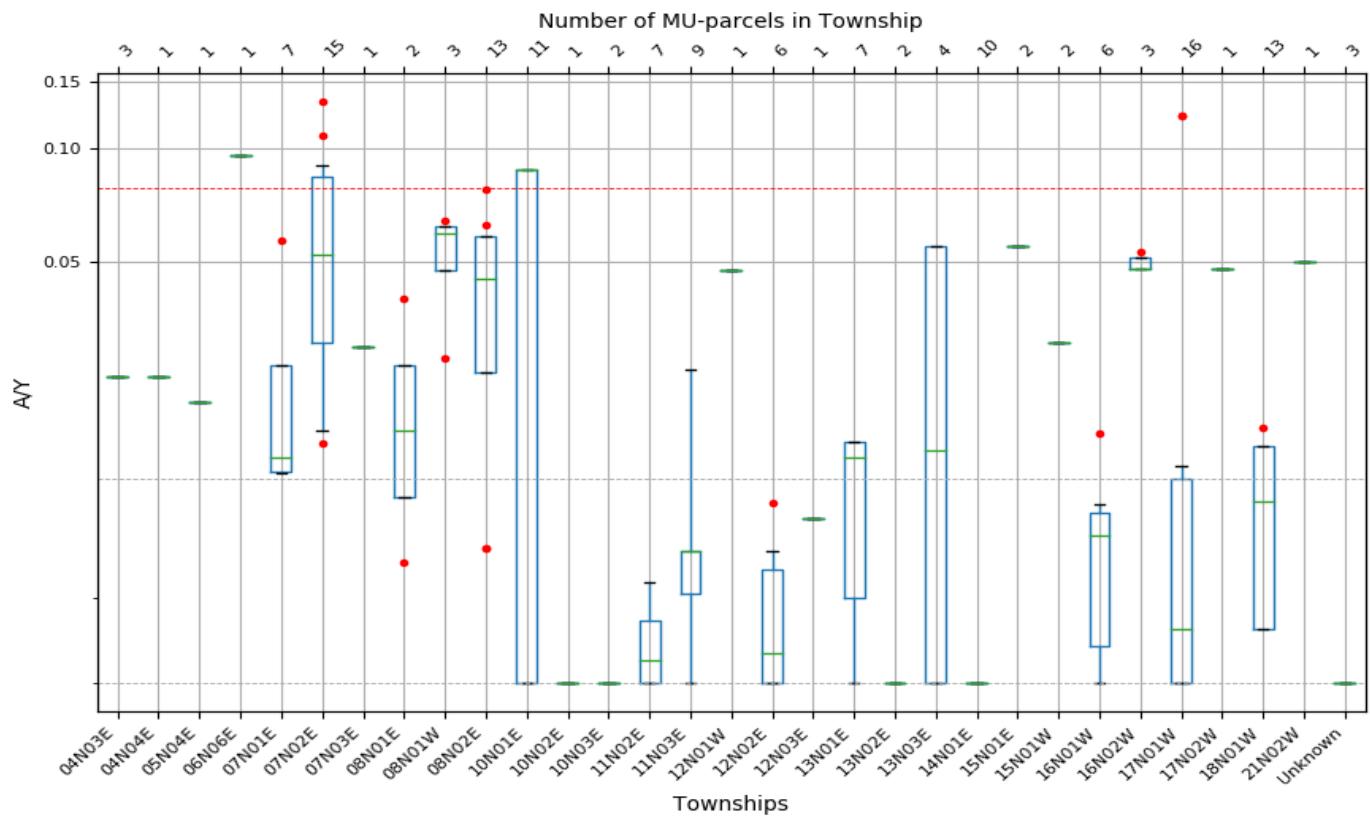
Table IV-1. A/Y Summary Statistics for BEAN DRY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	3	0.0363	0.0363	0.0363	0.0363	0.0363	0.0363	0.0363	0
04N04E	1	0.0363	0.0363						
05N04E	1	0.0333	0.0333						
06N06E	1	0.0958	0.0958						
07N01E	7	0.0249	0.0571	0.0249	0.0251	0.0267	0.0377	0.0455	1
07N02E	15	0.0285	0.132	0.03	0.0403	0.052	0.0837	0.1004	2
07N03E	1	0.0399	0.0399						
08N01E	2	0.0142	0.0456						
08N01W	3	0.0385	0.064	0.0427	0.049	0.0595	0.0617	0.0631	1
08N02E	13	0.0159	0.0774	0.0201	0.0369	0.0479	0.0583	0.0616	2
10N01E	11	0.0	0.0877	0.0	0.0	0.0877	0.0877	0.0877	0
10N02E	1	0.0	0.0						
10N03E	2	0.0	0.0						
11N02E	7	0.0	0.0119	0.0	0.0	0.0027	0.0073	0.0119	0
11N03E	9	0.0	0.0372	0.0	0.0106	0.0156	0.0156	0.0372	0
12N01W	1	0.0489	0.0489						
12N02E	6	0.0	0.0213	0.0	0.0	0.0034	0.0134	0.0184	1
12N03E	1	0.0196	0.0196						
13N01E	7	0.0	0.0286	0.0	0.01	0.0268	0.0286	0.0286	0
13N02E	2	0.0	0.0						
13N03E	4	0.0	0.055	0.0	0.0	0.0275	0.055	0.055	0
14N01E	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
15N01E	2	0.055	0.055						
15N01W	2	0.0403	0.0403						
16N01W	6	0.0	0.0295	0.0	0.0044	0.0175	0.0202	0.0253	1
16N02W	3	0.0492	0.0532	0.0492	0.0492	0.0492	0.0512	0.0524	1
17N01W	16	0.0	0.1217	0.0	0.0	0.0064	0.0242	0.0737	2
17N02W	1	0.0492	0.0492						
18N01W	13	0.0064	0.0303	0.0064	0.0064	0.0214	0.0281	0.0281	1
21N02W	1	0.05	0.05						
Unknown	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

Table IV-2. A/R Summary Statistics for BEAN DRY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	3	1.0235	1.0235	1.0235	1.0235	1.0235	1.0235	1.0235	0
04N04E	1	1.0235	1.0235						
05N04E	1	0.9412	0.9412						
06N06E	1	2.7052	2.7052						
07N01E	7	0.7022	1.6125	0.7022	0.7087	0.755	1.0642	1.2835	1
07N02E	15	0.8045	3.7257	0.8471	1.1378	1.4682	2.3622	2.8362	2
07N03E	1	1.1252	1.1252						
08N01E	2	0.4001	1.2877						
08N01W	3	1.0873	1.8072	1.2056	1.3831	1.6788	1.743	1.7816	1
08N02E	13	0.449	2.1845	0.5677	1.0422	1.3529	1.6464	1.7388	2
10N01E	11	0.0	2.4754	0.0	0.0	2.4754	2.4754	2.4754	0
10N02E	1	0.0	0.0						
10N03E	2	0.0	0.0						
11N02E	7	0.0	0.3355	0.0	0.0	0.0756	0.2055	0.3355	0
11N03E	9	0.0	1.0513	0.0	0.2995	0.4418	0.4418	1.0513	0
12N01W	1	1.3817	1.3817						
12N02E	6	0.0	0.6	0.0	0.0	0.0963	0.3795	0.5209	1
12N03E	1	0.5521	0.5521						
13N01E	7	0.0	0.8067	0.0	0.2824	0.7563	0.8067	0.8067	0
13N02E	2	0.0	0.0						
13N03E	4	0.0	1.5519	0.0	0.0	0.776	1.5519	1.5519	0
14N01E	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
15N01E	2	1.5519	1.5519						
15N01W	2	1.1385	1.1385						
16N01W	6	0.0	0.8342	0.0	0.1235	0.4941	0.5709	0.7154	1
16N02W	3	1.3892	1.5019	1.3892	1.3892	1.3892	1.4455	1.4793	1
17N01W	16	0.0	3.4373	0.0	0.0	0.1797	0.6845	2.0807	2
17N02W	1	1.3892	1.3892						
18N01W	13	0.1797	0.8559	0.1797	0.1797	0.605	0.7941	0.7941	1
21N02W	1	1.4118	1.4118						
Unknown	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

Table IV-3. A-R Summary Statistics for BEAN DRY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	3	1.6104	1.6104	1.6104	1.6104	1.6104	1.6104	1.6104	0
04N04E	1	1.6104	1.6104						
05N04E	1	-3.125	-3.125						
06N06E	1	100.8542	100.8542						
07N01E	7	-40.7083	36.4646	-40.7083	-39.4688	-31.1458	7.4792	19.0733	1
07N02E	15	-24.7917	165.4708	-13.5417	17.4958	42.625	92.2708	149.1375	2
07N03E	1	11.8833	11.8833						
08N01E	2	-67.4833	18.3208						
08N01W	3	7.7854	45.7433	14.4027	24.3285	40.8717	43.3075	44.769	1
08N02E	16	-61.35	79.7083	-27.5542	16.7543	26.1458	39.0	63.7292	2
10N01E	11	-63.0	95.3646	-63.0	-51.66	95.3646	95.3646	95.3646	0
10N02E	1	-87.36	-87.36						
10N03E	2	-74.76	-74.76						
11N02E	7	-88.5417	-41.4375	-86.7854	-85.6146	-67.4532	-65.0008	-55.5755	1
11N03E	9	-81.875	1.7083	-80.985	-77.8104	-44.2271	-44.2271	1.7083	0
12N01W	1	31.7708	31.7708						
12N02E	6	-88.5417	-44.2271	-79.6875	-69.9883	-65.1849	-49.7292	-44.7802	1
12N03E	1	-106.2917	-106.2917						
13N01E	7	-92.5	-19.1667	-90.125	-88.5417	-24.1667	-19.1667	-19.1667	0
13N02E	2	-88.5417	-88.5417						
13N03E	4	-70.8333	55.125	-60.2083	-44.2708	9.8542	55.125	55.125	0
14N01E	11	-138.125	56.0	-138.125	-102.7083	-35.4167	-35.4167	-35.4167	1
14N01W	1	0.0	0.0						
15N01E	2	55.125	55.125						
15N01W	2	15.2083	15.2083						
16N01W	6	-68.5957	-12.9167	-56.9916	-42.999	-35.8333	-24.1771	-16.6042	1
16N02W	3	34.4583	50.125	34.4583	34.4583	34.4583	42.2917	46.9917	1
17N01W	16	-63.9167	119.125	-63.9167	-57.4635	-53.8333	-33.75	48.125	2
17N02W	1	34.4583	34.4583						
18N01W	13	-78.3333	-16.3333	-78.3333	-63.9167	-63.9167	-23.3333	-23.3333	1
21N02W	1	29.1667	29.1667						
Unknown	3	-77.8104	-35.4167	-77.8104	-77.8104	-77.8104	-56.6135	-43.8954	1

Table IV-4. Summary Statistics for BEAN DRY management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	155	0.0	0.132	0.0	0.0	0.0242	0.0471	0.0785	16
A/R	155	0.0	3.7257	0.0	0.0	0.6845	1.3305	2.217	16
A-R	155	-138.125	165.4708	-79.7908	-63.9167	-35.4167	26.1458	65.0417	16

Figure IV-2. Scatter plot of A vs. Y for BEAN DRY with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
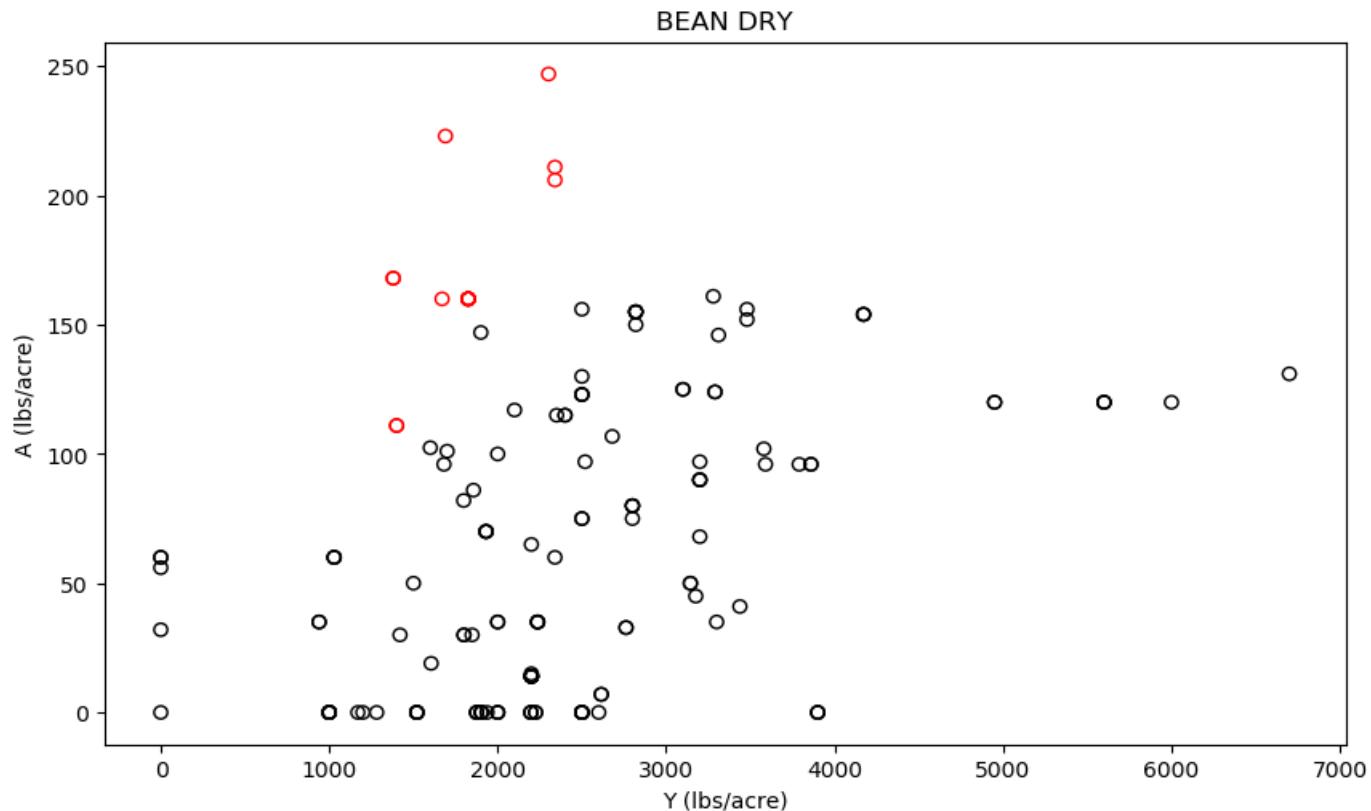
V. CHERRY

Figure V-1. Box and Whisker plots of A/Y for CHERRY management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
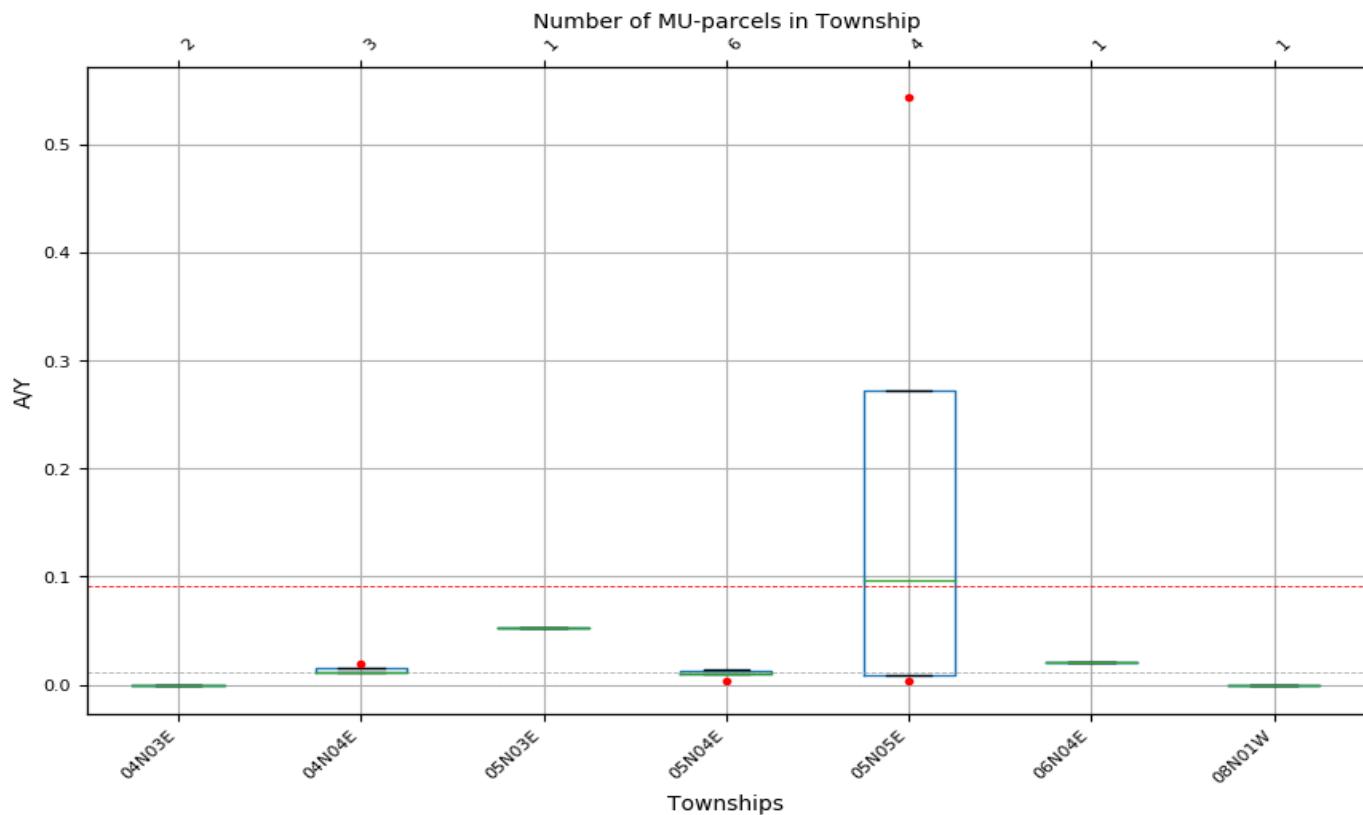
Table V-1. A/Y Summary Statistics for CHERRY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	2	0.0	0.0						
04N04E	3	0.0115	0.02	0.0115	0.0115	0.0115	0.0157	0.0183	1
05N03E	1	0.0533	0.0533						
05N04E	6	0.0034	0.014	0.0066	0.0098	0.0102	0.0131	0.014	0
05N05E	4	0.0037	0.5444	0.0057	0.0088	0.096	0.2722	0.4356	1
06N04E	1	0.0212	0.0212						
08N01W	1	0.0	0.0						

Table V-2. A/R Summary Statistics for CHERRY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	2	0.0	0.0						
04N04E	3	5.1848	9.0498	5.1848	5.1848	5.1848	7.1173	8.2768	1
05N03E	1	24.1327	24.1327						
05N04E	6	1.5394	6.3348	2.9917	4.4441	4.615	5.9476	6.3348	0
05N05E	4	1.6782	246.355	2.596	3.9727	43.428	123.1775	197.084	1
06N04E	1	9.6104	9.6104						
08N01W	1	0.0	0.0						

Table V-3. A-R Summary Statistics for CHERRY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	2	-1.326	-1.326						
04N04E	3	44.392	71.16	44.392	44.392	44.392	57.776	65.8064	1
05N03E	1	15.337	15.337						
05N04E	8	0.0	43.508	0.0	8.94	23.58	42.624	42.8892	1
05N05E	5	19.8015	49.0	27.3438	38.6572	48.4033	48.8011	48.9204	1
06N04E	4	0.0	53.7568	0.0	0.0	2.5	17.1892	39.1297	1
08N01W	1	-9.9892	-9.9892						
08N02E	2	40.0	90.0						

Table V-4. Summary Statistics for CHERRY management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	18	0.0	0.5444	0.0	0.0052	0.011	0.0185	0.0918	2
A/R	18	0.0	246.355	0.0	2.3696	4.9854	8.371	41.5284	2
A-R	18	-9.9892	71.16	-1.326	16.4531	40.6406	44.392	50.2878	2

**Figure V-2. Scatter plot of A vs. Y for CHERRY with all T-R together.**

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
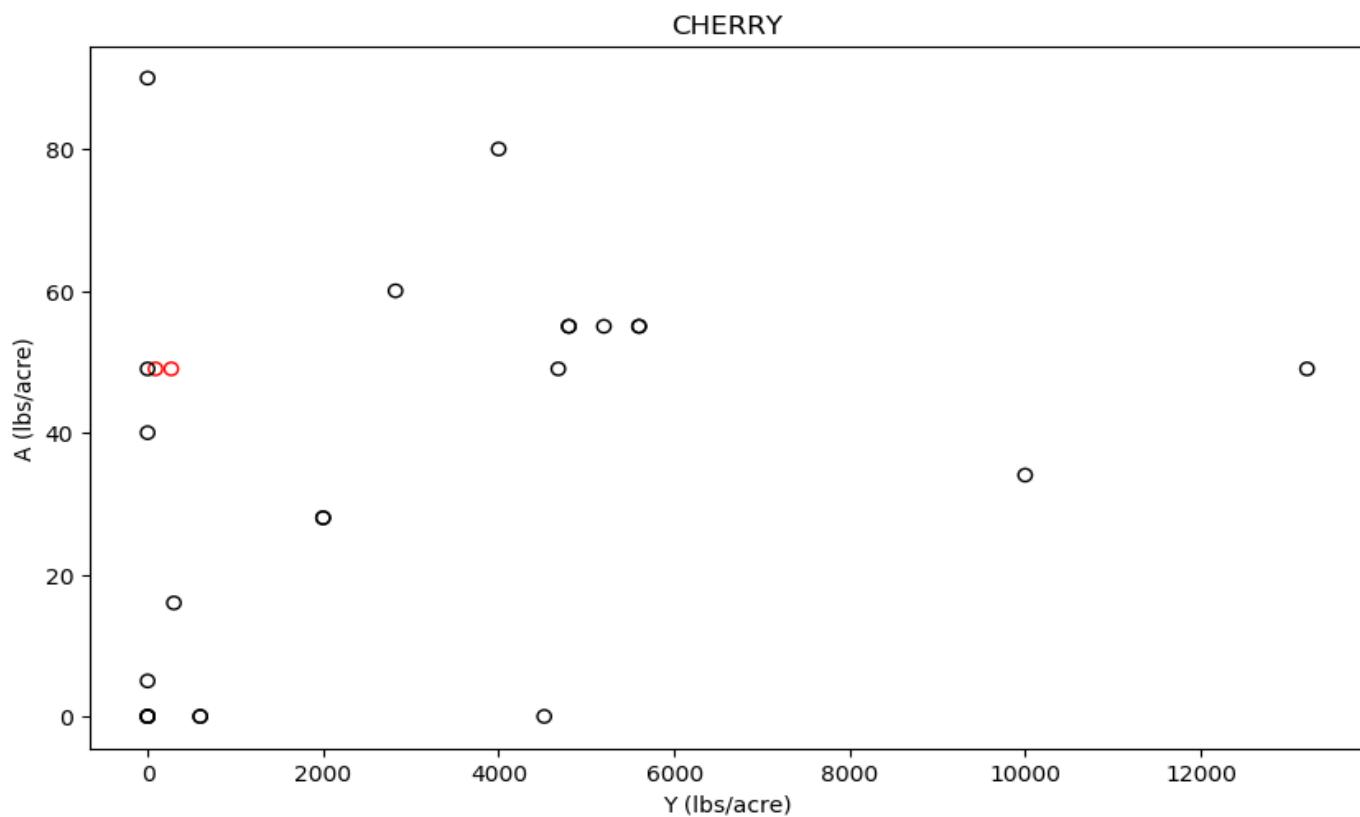
VI. CITRUS

Figure VI-1. Box and Whisker plots of A/Y for CITRUS management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
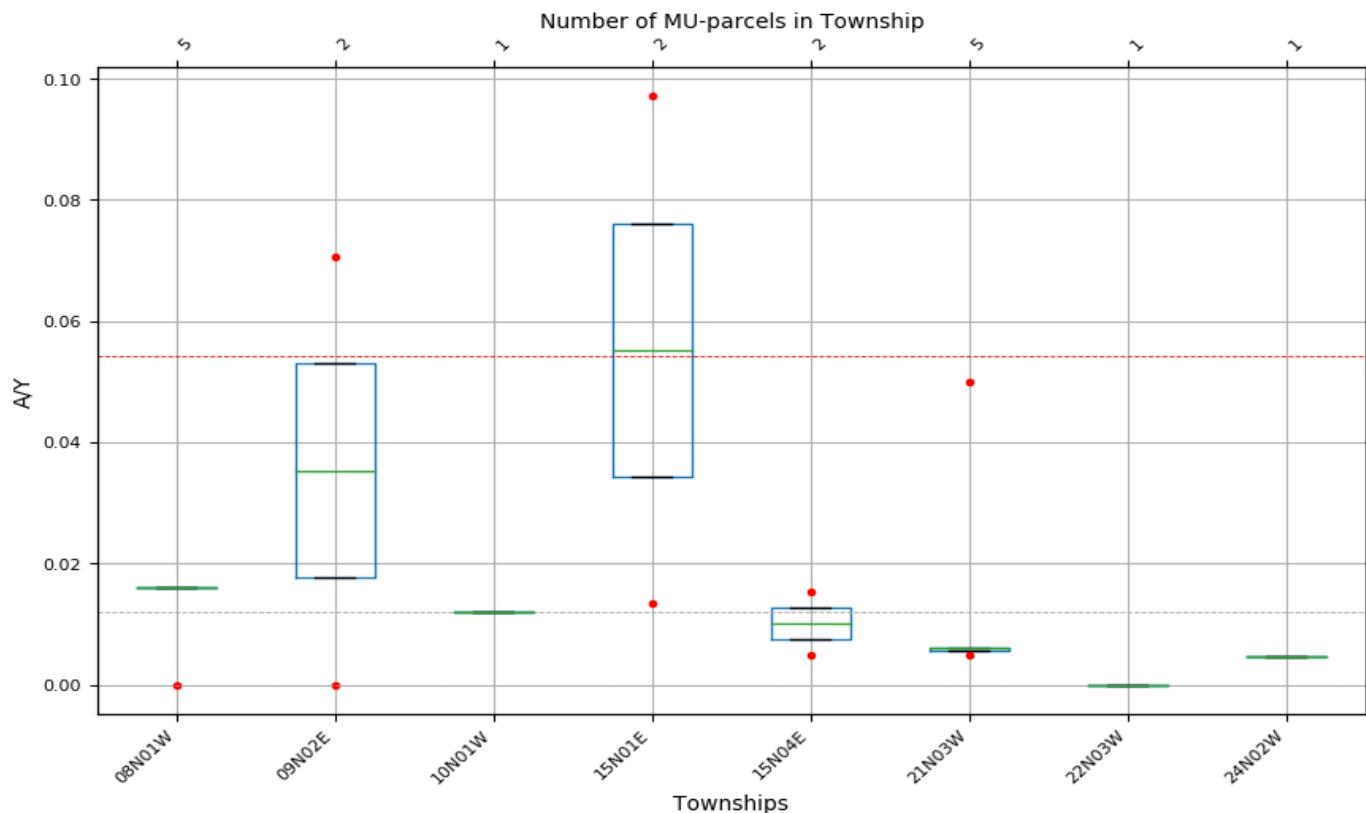
Table VI-1. A/Y Summary Statistics for CITRUS management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01W	5	0.0	0.016	0.0064	0.016	0.016	0.016	0.016	0
09N02E	2	0.0	0.0707						
10N01W	1	0.012	0.012						
15N01E	2	0.0134	0.0971						
15N04E	2	0.005	0.0153						
21N03W	5	0.005	0.05	0.0052	0.0055	0.0061	0.0061	0.0324	1
22N03W	1	0.0	0.0						
24N02W	1	0.0047	0.0047						

Table VI-2. A/R Summary Statistics for CITRUS management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01W	5	0.0	10.8108	4.3243	10.8108	10.8108	10.8108	10.8108	0
09N02E	2	0.0	47.7477						
10N01W	1	8.1081	8.1081						
15N01E	2	9.0657	65.5996						
15N04E	2	3.3617	10.3552						
21N03W	5	3.3677	33.7838	3.5071	3.7162	4.1384	4.1384	21.9256	1
22N03W	1	0.0	0.0						
24N02W	1	3.1926	3.1926						

Table VI-3. A-R Summary Statistics for CITRUS management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01W	5	-8.88	181.5	67.272	181.5	181.5	181.5	181.5	0
09N02E	3	-0.148	41.512	0.2816	0.926	2.0	21.756	33.6096	1
10N01W	1	52.6	52.6						
15N01E	2	68.9329	217.9752						
15N04E	2	67.4434	422.8052						
21N03W	5	22.076	97.04	38.9736	64.32	71.6651	71.6651	86.89	1
22N03W	2	-1.48	0.0						
24N02W	1	64.9	64.9						

Table VI-4. Summary Statistics for CITRUS management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	19	0.0	0.0971	0.0	0.005	0.012	0.016	0.0541	2
A/R	19	0.0	65.5996	0.0	3.3647	8.1081	10.8108	36.5766	2
A-R	19	-8.88	422.8052	-0.4144	47.056	68.9329	181.5	188.795	2

**Figure VI-2. Scatter plot of A vs. Y for CITRUS with all T-R together.**

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
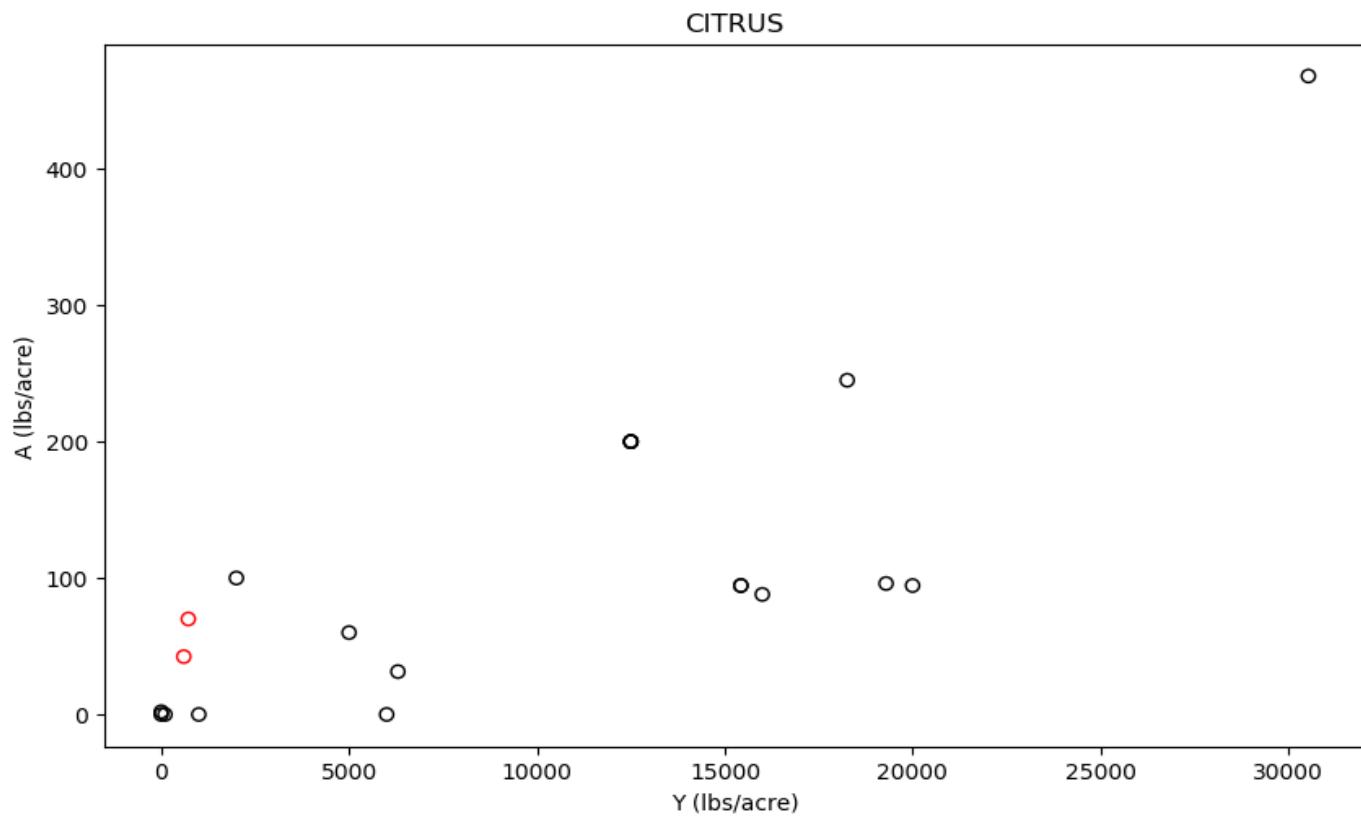
Figure VI-3. Box and Whisker plots of A/Y for CITRUS management units grouped by Age.

Numbers at the top indicate the number of MU-parcels within each age group. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each age group. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
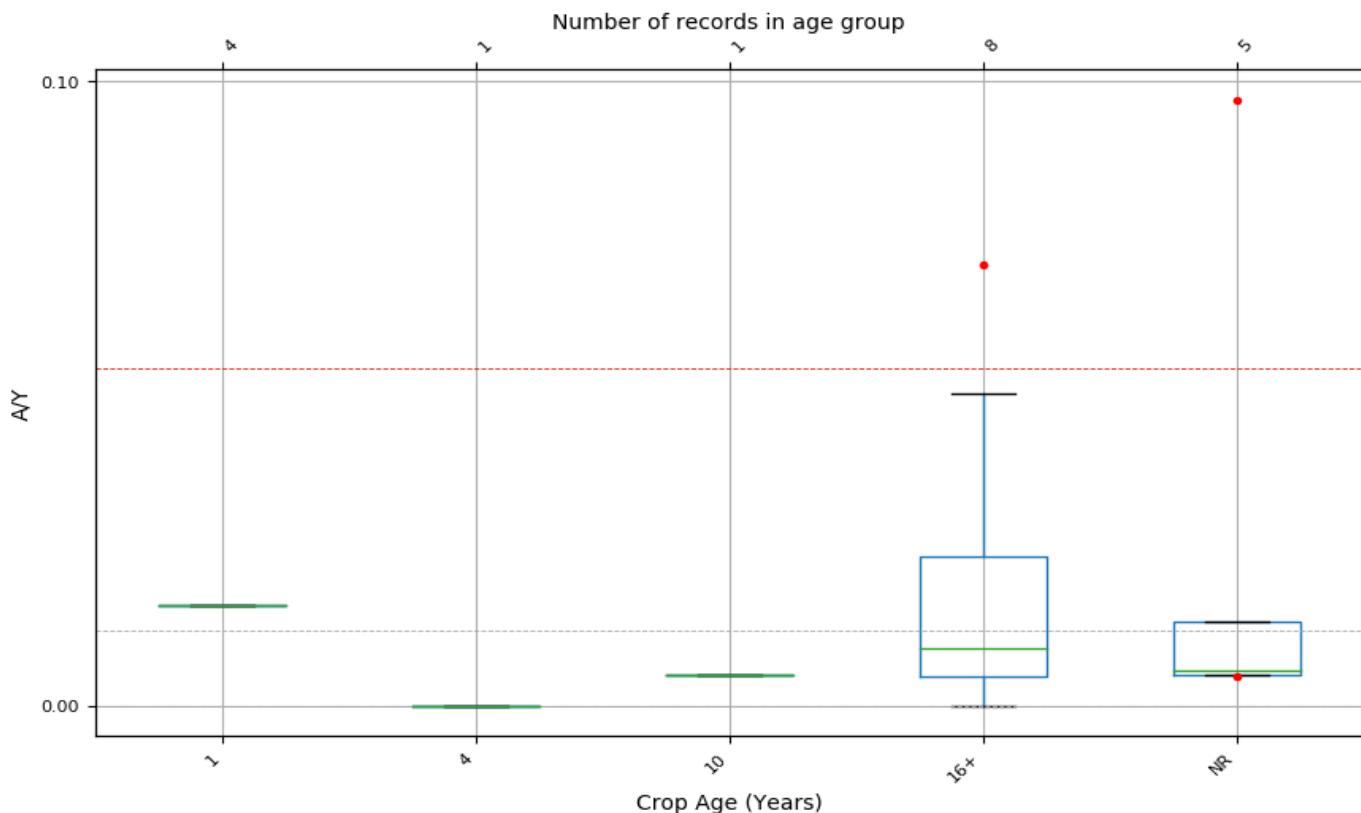
Table VI-5. A/Y Summary Statistics for CITRUS management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	4	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0
4	1	0.0	0.0						
10	1	0.005	0.005						
16+	8	0.0	0.0707	0.0	0.0046	0.0091	0.024	0.0562	1
NR	5	0.0047	0.0971	0.0048	0.005	0.0055	0.0134	0.0636	1

Table VI-6. A/R Summary Statistics for CITRUS management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	4	10.8108	10.8108	10.8108	10.8108	10.8108	10.8108	10.8108	0
4	1	0.0	0.0						
10	1	3.3617	3.3617						
16+	8	0.0	47.7477	0.0	3.1038	6.1233	16.2123	37.973	1
NR	5	3.1926	65.5996	3.2626	3.3677	3.7162	9.0657	42.986	1

Table VI-7. A-R Summary Statistics for CITRUS management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	4	181.5	181.5	181.5	181.5	181.5	181.5	181.5	0
4	1	-0.148	-0.148						
10	1	67.4434	67.4434						
16+	8	-8.88	422.8052	-3.7	30.764	62.1325	78.0088	194.7696	1
NR	5	22.076	217.9752	38.9736	64.32	64.9	68.9329	158.3583	1

VII. CORN - FODDER/SILAGE

Figure VII-1. Box and Whisker plots of A/Y for CORN - FODDER/SILAGE management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
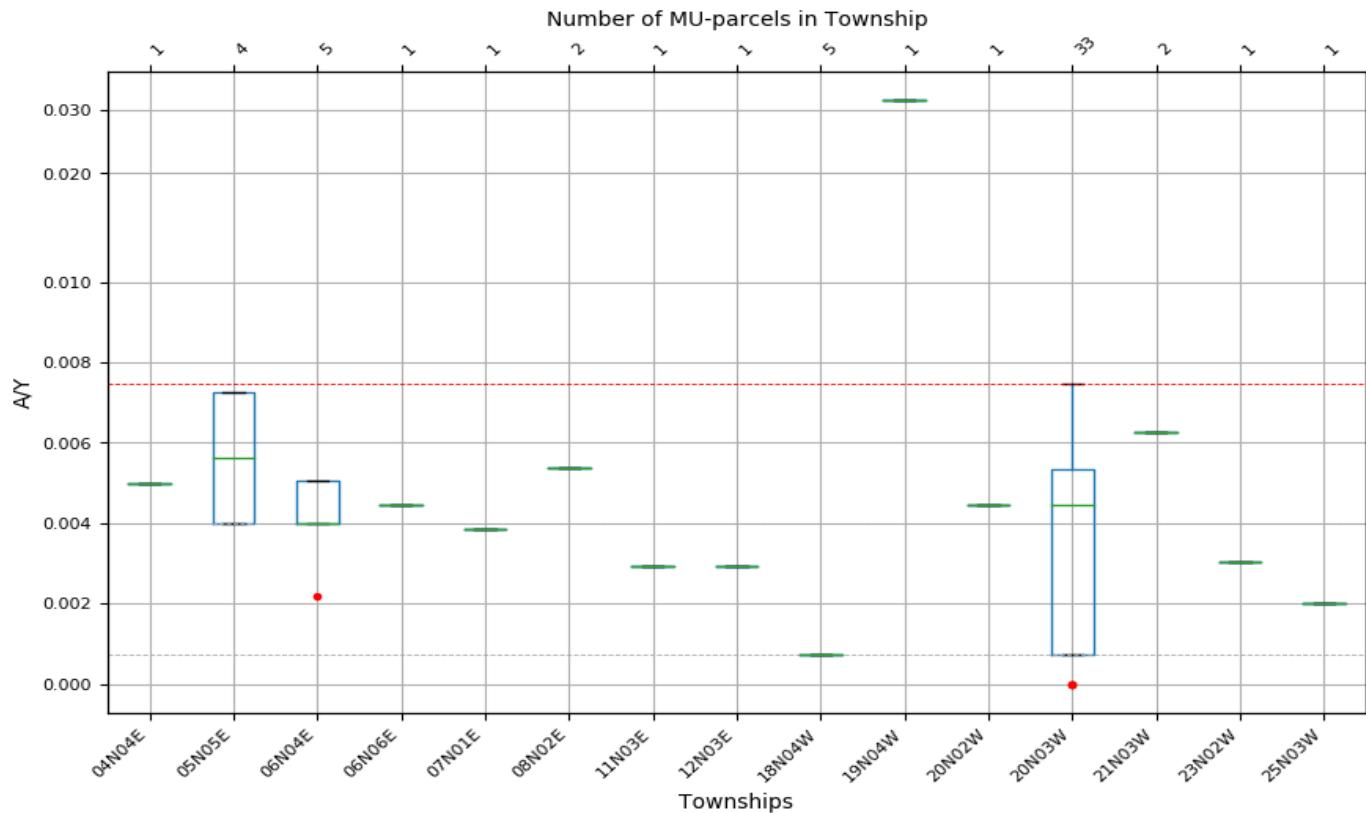
Table VII-1. A/Y Summary Statistics for CORN - FODDER/SILAGE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N04E	1	0.005	0.005						
05N05E	4	0.004	0.0073	0.004	0.004	0.0056	0.0073	0.0073	0
06N04E	5	0.0022	0.0051	0.0029	0.004	0.004	0.0051	0.0051	0
06N06E	1	0.0045	0.0045						
07N01E	1	0.0038	0.0038						
08N02E	2	0.0054	0.0054						
11N03E	1	0.0029	0.0029						
12N03E	1	0.0029	0.0029						
18N04W	5	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0
19N04W	1	0.0318	0.0318						
20N02W	1	0.0045	0.0045						
20N03W	33	0.0	0.0075	0.0007	0.0007	0.0044	0.0053	0.0075	0
21N03W	2	0.0062	0.0062						
23N02W	1	0.003	0.003						
25N03W	1	0.002	0.002						

Table VII-2. A/R Summary Statistics for CORN - FODDER/SILAGE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N04E	1	1.3228	1.3228						
05N05E	4	1.0582	1.9232	1.0582	1.0582	1.4907	1.9232	1.9232	0
06N04E	5	0.582	1.3425	0.7725	1.0582	1.0582	1.3425	1.3425	0
06N06E	1	1.178	1.178						
07N01E	1	1.0175	1.0175						
08N02E	2	1.4263	1.4263						
11N03E	1	0.7759	0.7759						
12N03E	1	0.7759	0.7759						
18N04W	5	0.189	0.189	0.189	0.189	0.189	0.189	0.189	0
19N04W	1	8.4127	8.4127						
20N02W	1	1.1773	1.1773						
20N03W	33	0.0	1.9788	0.189	0.189	1.1772	1.4125	1.9788	0
21N03W	2	1.6534	1.6534						
23N02W	1	0.8031	0.8031						
25N03W	1	0.5291	0.5291						

Table VII-3. A-R Summary Statistics for CORN - FODDER/SILAGE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N04E	1	61.0	61.0						
05N05E	4	11.0	86.4072	11.0	11.0	48.7036	86.4072	86.4072	0
06N04E	5	-79.0	48.4768	-43.0	11.0	11.0	48.4768	48.4768	0
06N06E	1	45.472	45.472						
07N01E	1	3.44	3.44						
08N02E	2	74.12	74.12						
11N03E	1	-30.324	-30.324						
12N03E	1	-30.324	-30.324						
18N04W	5	-171.68	-171.68	-171.68	-171.68	-171.68	-171.68	-171.68	0
19N04W	1	280.2	280.2						
20N02W	1	40.21	40.21						
20N03W	33	-171.68	185.0	-171.68	-85.84	40.2	87.32	185.0	0
21N03W	2	79.04	79.04						
23N02W	1	-41.68	-41.68						
25N03W	1	-89.0	-89.0						

Table VII-4. Summary Statistics for CORN - FODDER/SILAGE management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	60	0.0	0.0318	0.0007	0.0007	0.004	0.0053	0.0075	1
A/R	60	0.0	8.4127	0.189	0.189	1.0582	1.4125	1.9788	1
A-R	60	-171.68	280.2	-171.68	-80.71	11.0	79.04	185.0	1

Figure VII-2. Scatter plot of A vs. Y for CORN - FODDER/SILAGE with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.

CORN - FODDER/SILAGE
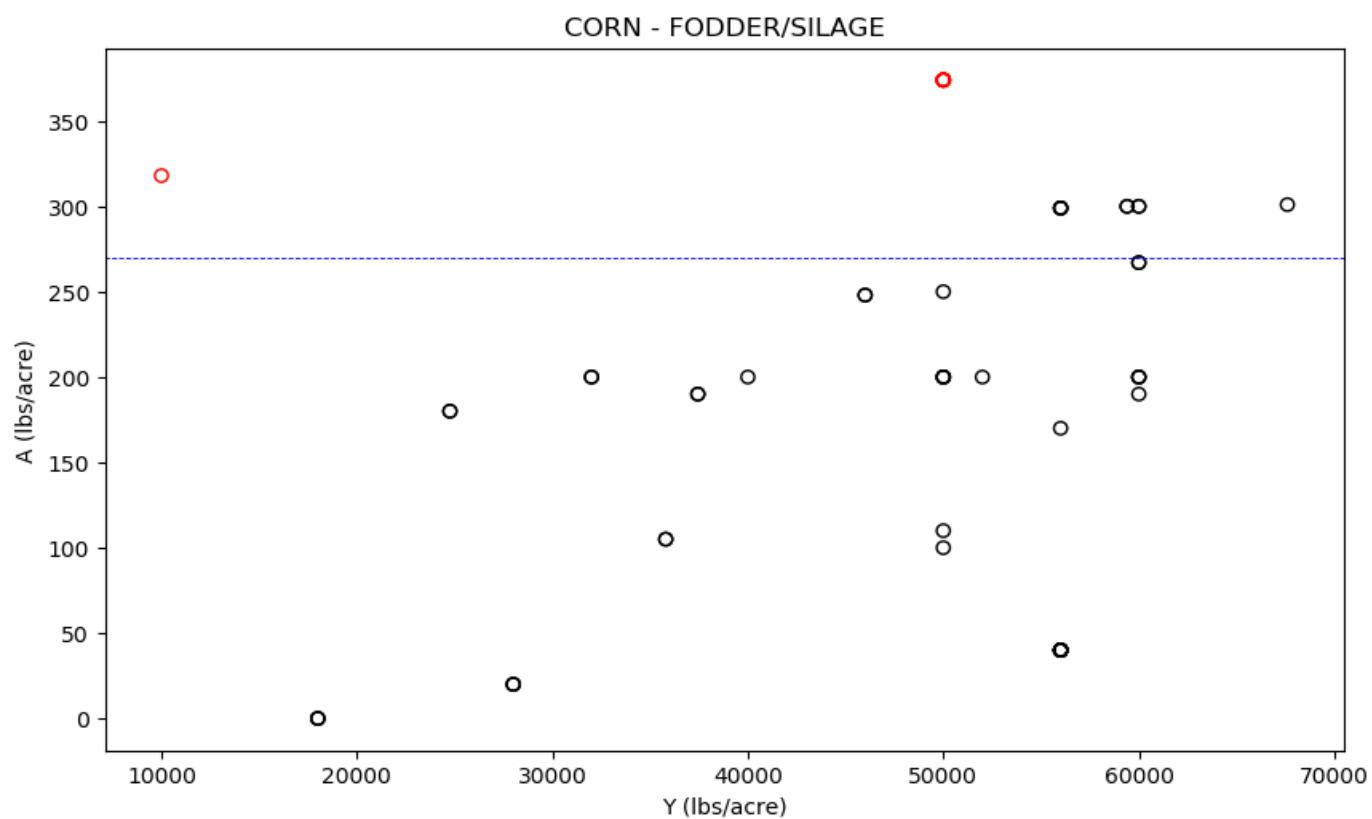
VIII. CORN - GRAIN

Figure VIII-1. Box and Whisker plots of A/Y for CORN - GRAIN management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
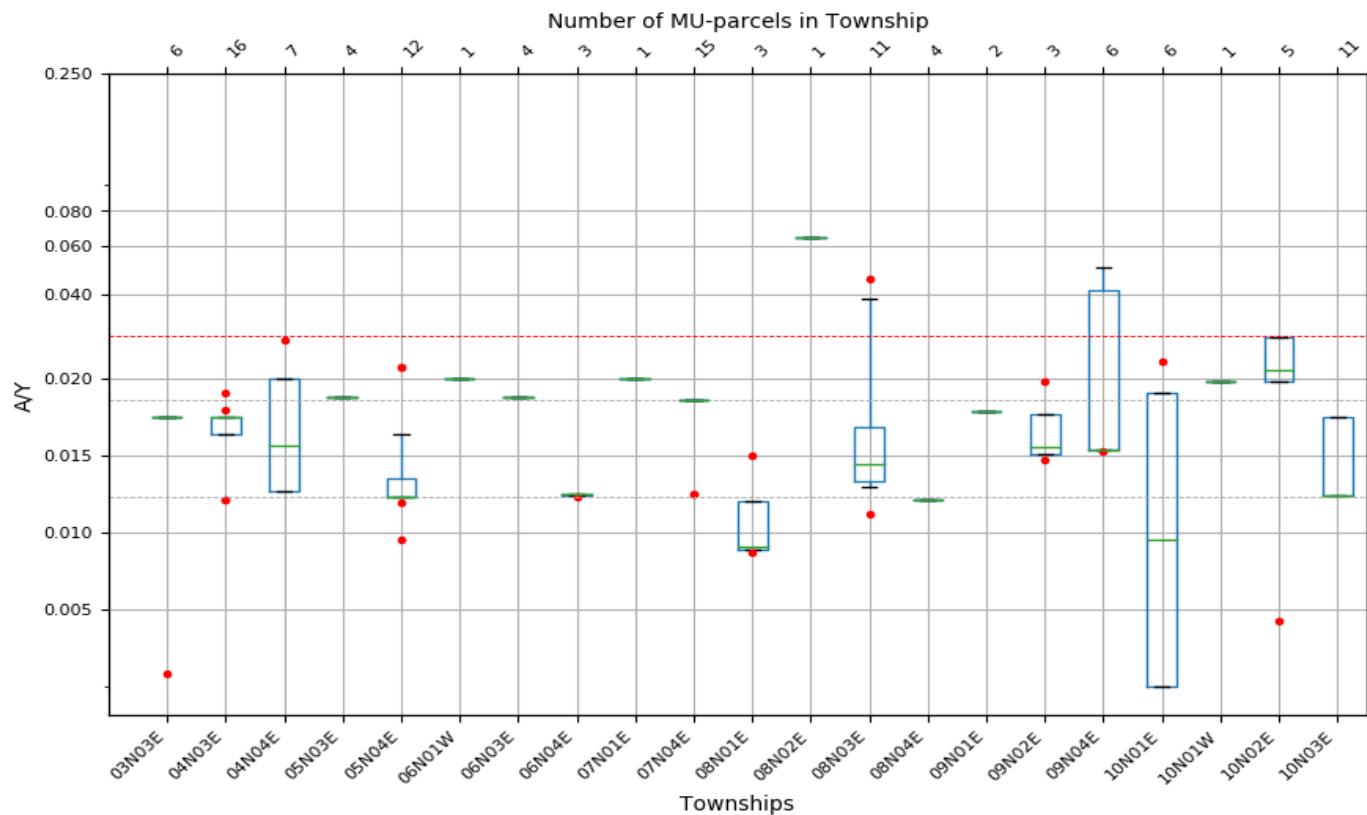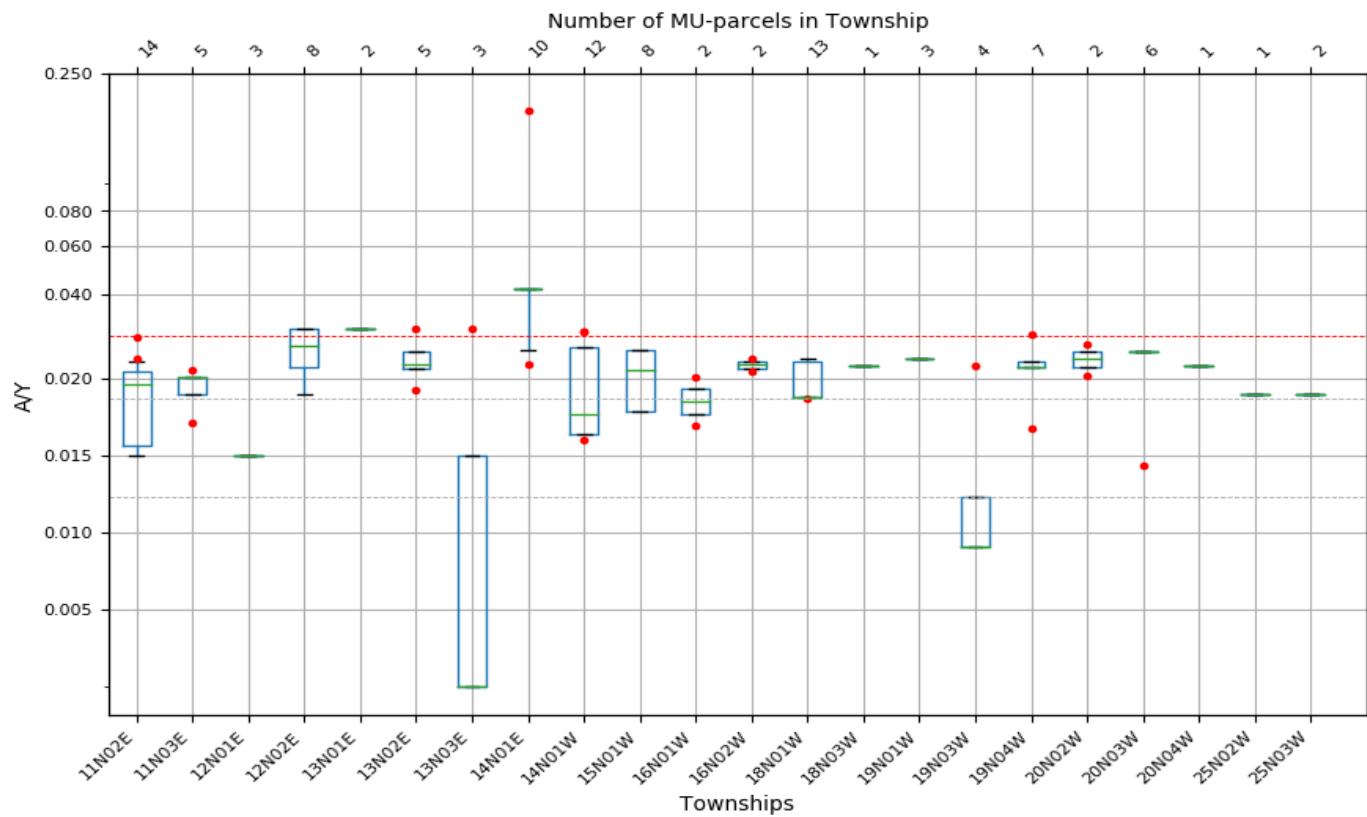
Table VIII-1. A/Y Summary Statistics for CORN - GRAIN management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
03N03E	6	0.0008	0.0175	0.0092	0.0175	0.0175	0.0175	0.0175	0
04N03E	16	0.0121	0.019	0.0143	0.0164	0.0175	0.0175	0.0177	2
04N04E	7	0.0127	0.0275	0.0127	0.0127	0.0156	0.02	0.023	1
05N03E	4	0.0188	0.0188	0.0188	0.0188	0.0188	0.0188	0.0188	0
05N04E	12	0.0095	0.0219	0.0119	0.0123	0.0123	0.0135	0.0213	2
06N01W	1	0.02	0.02						
06N03E	4	0.0188	0.0188	0.0188	0.0188	0.0188	0.0188	0.0188	0
06N04E	3	0.0123	0.0125	0.0123	0.0124	0.0125	0.0125	0.0125	0
07N01E	1	0.02	0.02						
07N04E	15	0.0125	0.0186	0.0149	0.0186	0.0186	0.0186	0.0186	0
08N01E	3	0.0087	0.015	0.0088	0.0089	0.0091	0.012	0.0138	1
08N02E	1	0.064	0.064						
08N03E	11	0.0112	0.0458	0.0129	0.0133	0.0144	0.0168	0.0387	1
08N04E	4	0.0121	0.0121	0.0121	0.0121	0.0121	0.0121	0.0121	0
09N01E	2	0.0179	0.0179						
09N02E	3	0.0147	0.0198	0.0148	0.0151	0.0155	0.0177	0.019	1
09N04E	6	0.0152	0.05	0.0153	0.0154	0.0154	0.0413	0.05	0
10N01E	6	0.0	0.023	0.0	0.0	0.0095	0.019	0.021	1
10N01W	1	0.0198	0.0198						
10N02E	5	0.0043	0.0281	0.0105	0.0198	0.0213	0.0281	0.0281	0
10N03E	11	0.0124	0.0175	0.0124	0.0124	0.0124	0.0175	0.0175	0
11N02E	14	0.015	0.028	0.015	0.0156	0.0196	0.0212	0.0234	2
11N03E	5	0.0171	0.0214	0.0179	0.0189	0.0202	0.0202	0.0209	1
12N01E	3	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0
12N02E	8	0.019	0.03	0.019	0.0218	0.0262	0.03	0.03	0
13N01E	2	0.03	0.03						
13N02E	5	0.0192	0.03	0.0202	0.0216	0.0225	0.025	0.028	1
13N03E	3	0.0	0.03	0.0	0.0	0.0	0.015	0.024	1
14N01E	10	0.0225	0.1833	0.0249	0.0421	0.0421	0.0421	0.0562	1
14N01W	12	0.016	0.0294	0.0164	0.0164	0.0176	0.0257	0.029	2
15N01W	8	0.0178	0.0251	0.0178	0.0178	0.0214	0.0251	0.0251	4
16N01W	2	0.0169	0.0201						
16N02W	2	0.0211	0.0235						
18N01W	13	0.0186	0.0233	0.0188	0.0188	0.0188	0.0229	0.0233	0
18N03W	1	0.022	0.022						
19N01W	3	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0.0233	0

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
19N03W	4	0.009	0.022	0.009	0.009	0.009	0.0123	0.0181	1
19N04W	7	0.0167	0.0286	0.0197	0.0217	0.0217	0.0228	0.0251	1
20N02W	2	0.0204	0.0266						
20N03W	6	0.0143	0.0248	0.0195	0.0248	0.0248	0.0248	0.0248	0
20N04W	1	0.0221	0.0221						
25N02W	1	0.0189	0.0189						
25N03W	2	0.0189	0.0189						

Table VIII-2. A/R Summary Statistics for CORN - GRAIN management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
03N03E	6	0.0694	1.4583	0.7639	1.4583	1.4583	1.4583	1.4583	0
04N03E	16	1.0096	1.5835	1.1877	1.3657	1.4583	1.4583	1.4749	2
04N04E	7	1.0587	2.2917	1.0587	1.0587	1.2997	1.6667	1.9167	1
05N03E	4	1.5625	1.5625	1.5625	1.5625	1.5625	1.5625	1.5625	0
05N04E	12	0.7917	1.8229	0.9941	1.0246	1.0246	1.1228	1.7772	2
06N01W	1	1.6667	1.6667						
06N03E	4	1.5625	1.5625	1.5625	1.5625	1.5625	1.5625	1.5625	0
06N04E	3	1.0246	1.0417	1.028	1.0331	1.0417	1.0417	1.0417	0
07N01E	1	1.6667	1.6667						
07N04E	15	1.0417	1.5512	1.2455	1.5512	1.5512	1.5512	1.5512	0
08N01E	3	0.7241	1.25	0.7308	0.7408	0.7576	1.0038	1.1515	1
08N02E	1	5.3333	5.3333						
08N03E	11	0.9352	3.8191	1.0759	1.111	1.1995	1.401	3.2237	1
08N04E	4	1.0069	1.0069	1.0069	1.0069	1.0069	1.0069	1.0069	0
09N01E	2	1.4905	1.4905						
09N02E	3	1.2221	1.6523	1.2359	1.2567	1.2913	1.4718	1.5801	1
09N04E	6	1.2698	4.1667	1.2759	1.2821	1.2821	3.4455	4.1667	0
10N01E	6	0.0	1.9175	0.0	0.0	0.793	1.5859	1.7517	1
10N01W	1	1.6523	1.6523						
10N02E	5	0.3551	2.3438	0.874	1.6523	1.773	2.3438	2.3438	0
10N03E	11	1.0331	1.455	1.0331	1.0331	1.0331	1.455	1.455	0
11N02E	14	1.25	2.3333	1.25	1.3007	1.6338	1.7654	1.9459	2
11N03E	5	1.4276	1.7857	1.4881	1.5787	1.6839	1.6839	1.745	1
12N01E	3	1.25	1.25	1.25	1.25	1.25	1.25	1.25	0
12N02E	8	1.5798	2.5	1.5798	1.8176	2.1836	2.5	2.5	0
13N01E	2	2.5	2.5						
13N02E	5	1.6026	2.5	1.6799	1.796	1.875	2.0833	2.3333	1
13N03E	3	0.0	2.5	0.0	0.0	0.0	1.25	2.0	1
14N01E	10	1.875	15.2778	2.0711	3.5088	3.5088	3.5088	4.6857	1
14N01W	12	1.3333	2.4479	1.3636	1.3636	1.4667	2.1419	2.4173	2
15N01W	8	1.4821	2.0929	1.4821	1.4821	1.7875	2.0929	2.0929	0
16N01W	2	1.4049	1.6766						
16N02W	2	1.7575	1.9583						
18N01W	13	1.5528	1.9444	1.5625	1.5625	1.5625	1.9048	1.9444	3
18N03W	1	1.8333	1.8333						

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
19N01W	3	1.9444	1.9444	1.9444	1.9444	1.9444	1.9444	1.9444	0
19N03W	4	0.754	1.8333	0.754	0.754	0.754	1.0239	1.5095	1
19N04W	7	1.3908	2.381	1.6433	1.8116	1.8116	1.8988	2.0952	1
20N02W	2	1.6959	2.2135						
20N03W	6	1.1905	2.0661	1.6283	2.0661	2.0661	2.0661	2.0661	0
20N04W	1	1.8452	1.8452						
25N02W	1	1.5789	1.5789						
25N03W	2	1.5789	1.5789						

Table VIII-3. A-R Summary Statistics for CORN - GRAIN management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
03N03E	6	-134.0	66.0	-34.0	66.0	66.0	66.0	66.0	0
04N03E	16	1.5	66.0	24.45	47.4	62.48	66.0	66.0	0
04N04E	7	8.6	93.0	8.6	8.6	41.0	80.0	85.2	1
05N03E	4	54.0	54.0	54.0	54.0	54.0	54.0	54.0	0
05N04E	13	-30.0	79.0	-0.8	3.6	3.6	6.0	73.92	2
06N01W	1	80.0	80.0						
06N03E	4	81.0	81.0	81.0	81.0	81.0	81.0	81.0	0
06N04E	3	3.6	6.0	4.08	4.8	6.0	6.0	6.0	0
07N01E	1	80.0	80.0						
07N04E	15	6.0	66.8	30.32	66.8	66.8	66.8	66.8	0
08N01E	3	-41.92	42.0	-39.936	-36.96	-32.0	5.0	27.2	1
08N02E	1	208.0	208.0						
08N03E	11	-12.48	221.448	11.64	16.66	31.6	45.84	206.94	1
08N04E	4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0
09N01E	2	72.4	72.4						
09N02E	3	38.16	90.8	41.355	46.1476	54.1352	72.4676	83.467	1
09N04E	7	14.5	228.0	26.2	36.8	39.6	133.8	228.0	0
10N01E	6	-192.0	127.28	-192.0	-180.0	-31.36	81.28	104.28	1
10N01W	1	90.8	90.8						
10N02E	5	-68.1	129.0	-4.54	90.8	104.64	129.0	129.0	0
10N03E	11	5.76	68.8	5.76	5.76	5.76	68.8	68.8	0
11N02E	14	36.0	160.0	36.0	47.1	90.8	127.365	146.25	2
11N03E	5	64.4	132.0	79.696	102.64	114.9	114.9	125.16	1
12N01E	3	36.0	36.0	36.0	36.0	36.0	36.0	36.0	0
12N02E	8	97.9961	180.0	97.9961	130.879	160.2	180.0	180.0	0
13N01E	2	180.0	180.0						
13N02E	5	84.0	180.0	88.0	94.0	110.8	150.8	168.32	1
13N03E	3	-24.0	180.0	-24.0	-24.0	-24.0	78.0	139.2	1
14N01E	10	84.0	343.2	163.02	240.0	343.2	343.2	343.2	0
14N01W	12	48.0	194.6	48.0	57.0	70.0	175.4	192.68	2
15N01W	8	86.2	171.8	86.2	86.2	129.0	171.8	171.8	0
16N01W	3	0.0	81.52	11.816	29.54	59.08	70.3	77.032	1
16N02W	2	141.8	161.0						
18N01W	13	106.8	170.0	108.0	108.0	108.0	152.0	170.0	0
18N03W	1	125.0	125.0						

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
19N01W	3	170.0	170.0	170.0	170.0	170.0	170.0	170.0	0
19N03W	4	-30.99	125.0	-30.99	-30.99	-30.99	8.0075	78.203	1
19N04W	7	69.4	174.0	108.4	134.4	134.4	151.0	160.8	1
20N02W	2	107.22	186.4						
20N03W	6	32.0	154.8	93.4	154.8	154.8	154.8	154.8	0
20N04W	1	142.0	142.0						
25N02W	1	66.0	66.0						
25N03W	2	66.0	66.0						

Table VIII-4. Summary Statistics for CORN - GRAIN management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	236	0.0	0.1833	0.0123	0.0152	0.0186	0.0225	0.0283	24
A/R	236	0.0	15.2778	1.0246	1.2646	1.5512	1.875	2.3624	24
A-R	236	-192.0	343.2	3.6	37.64	69.7	134.4	176.98	24

Figure VIII-2. Scatter plot of A vs. Y for CORN - GRAIN with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
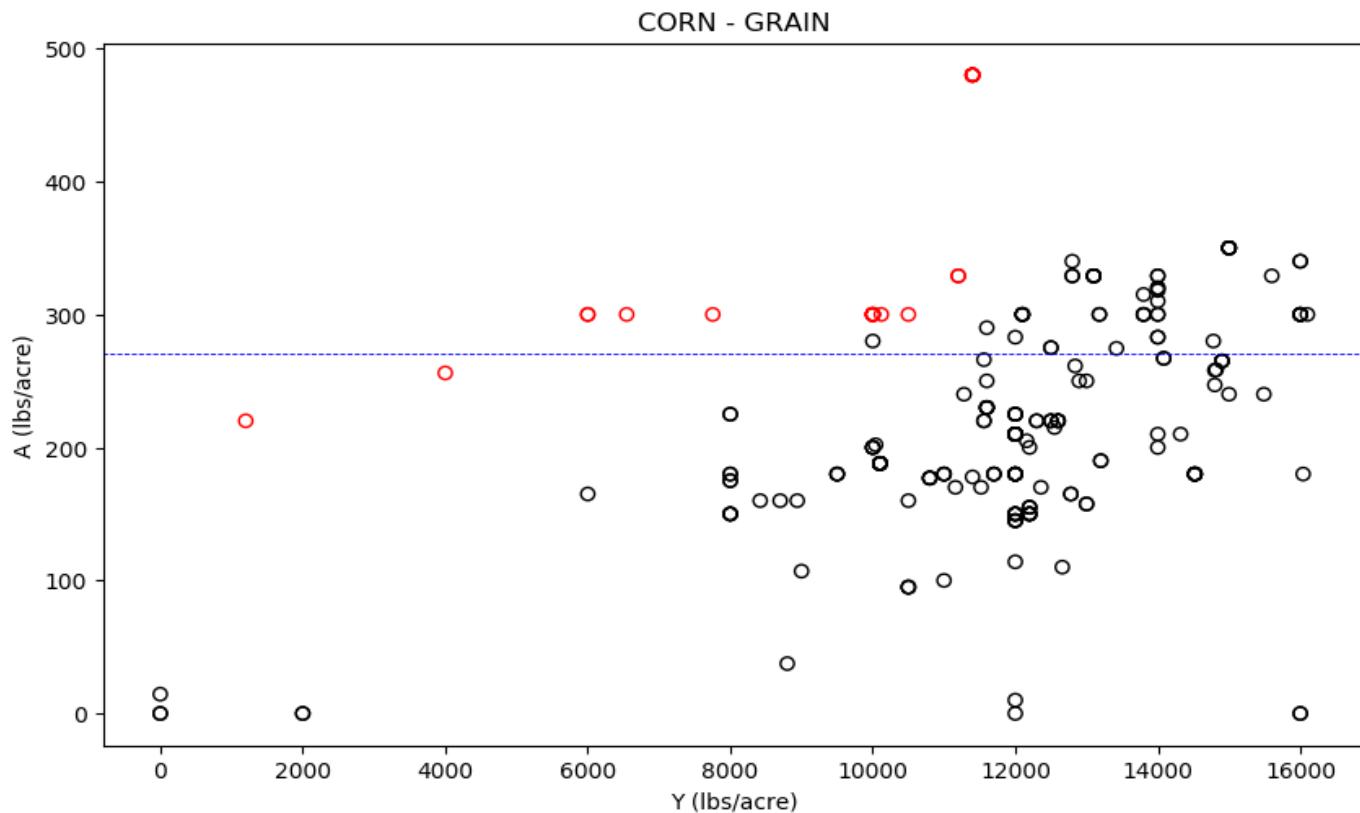
IX. COTTON

Figure IX-1. Box and Whisker plots of A/Y for COTTON management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
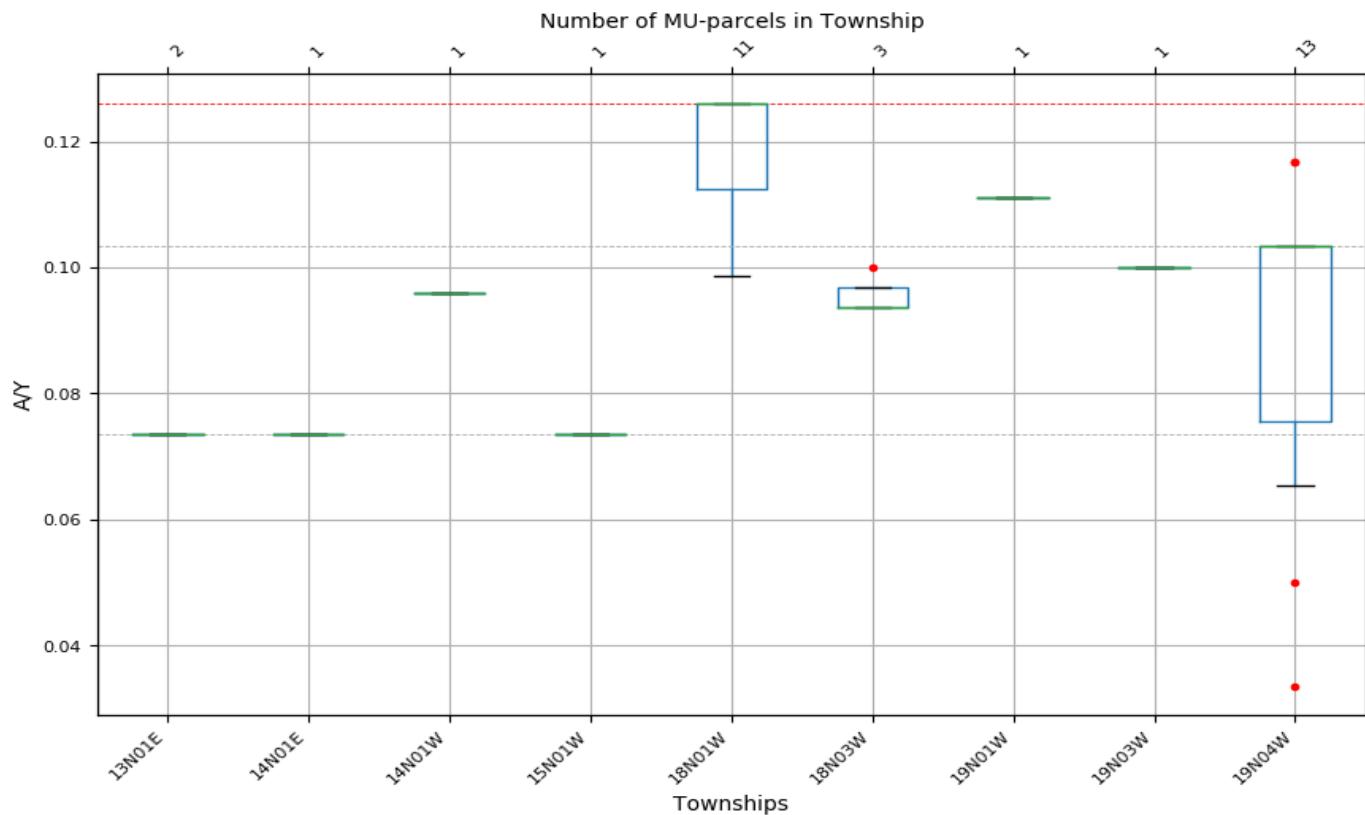
Table IX-1. A/Y Summary Statistics for COTTON management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
13N01E	2	0.0735	0.0735						
14N01E	1	0.0735	0.0735						
14N01W	1	0.096	0.096						
15N01W	1	0.0735	0.0735						
18N01W	11	0.0986	0.1261	0.0986	0.1124	0.1261	0.1261	0.1261	0
18N03W	3	0.0938	0.1	0.0938	0.0938	0.0938	0.0969	0.0988	1
19N01W	1	0.1111	0.1111						
19N03W	1	0.1	0.1						
19N04W	13	0.0336	0.1167	0.0531	0.0756	0.1033	0.1033	0.114	2

Table IX-2. A/R Summary Statistics for COTTON management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
13N01E	2	3.3652	3.3652						
14N01E	1	3.3652	3.3652						
14N01W	1	4.3936	4.3936						
15N01W	1	3.3652	3.3652						
18N01W	11	4.5113	5.7727	4.5113	5.142	5.7727	5.7727	5.7727	0
18N03W	3	4.2906	4.5767	4.2906	4.2906	4.2906	4.4336	4.5195	1
19N01W	1	5.0852	5.0852						
19N03W	1	4.5767	4.5767						
19N04W	13	1.5381	5.3394	2.4291	3.4579	4.7292	4.7292	5.2174	2

Table IX-3. A-R Summary Statistics for COTTON management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
13N01E	2	87.855	87.855						
14N01E	1	87.855	87.855						
14N01W	1	92.6875	92.6875						
15N01W	1	87.855	87.855						
18N01W	12	0.0	156.425	134.2625	134.2625	156.425	156.425	156.425	0
18N03W	3	115.04	136.7625	115.04	115.04	115.04	125.9012	132.418	1
19N01W	2	0.0	80.335						
19N03W	1	136.7625	136.7625						
19N04W	13	56.3	122.225	57.3103	113.78	122.225	122.225	122.225	0

Table IX-4. Summary Statistics for COTTON management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	34	0.0336	0.1261	0.0735	0.0938	0.1033	0.1167	0.1261	0
A/R	34	1.5381	5.7727	3.3652	4.2906	4.7292	5.3394	5.7727	0
A-R	34	56.3	156.425	82.591	97.9606	122.225	136.7625	156.425	0

**Figure IX-2. Scatter plot of A vs. Y for COTTON with all T-R together.**

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
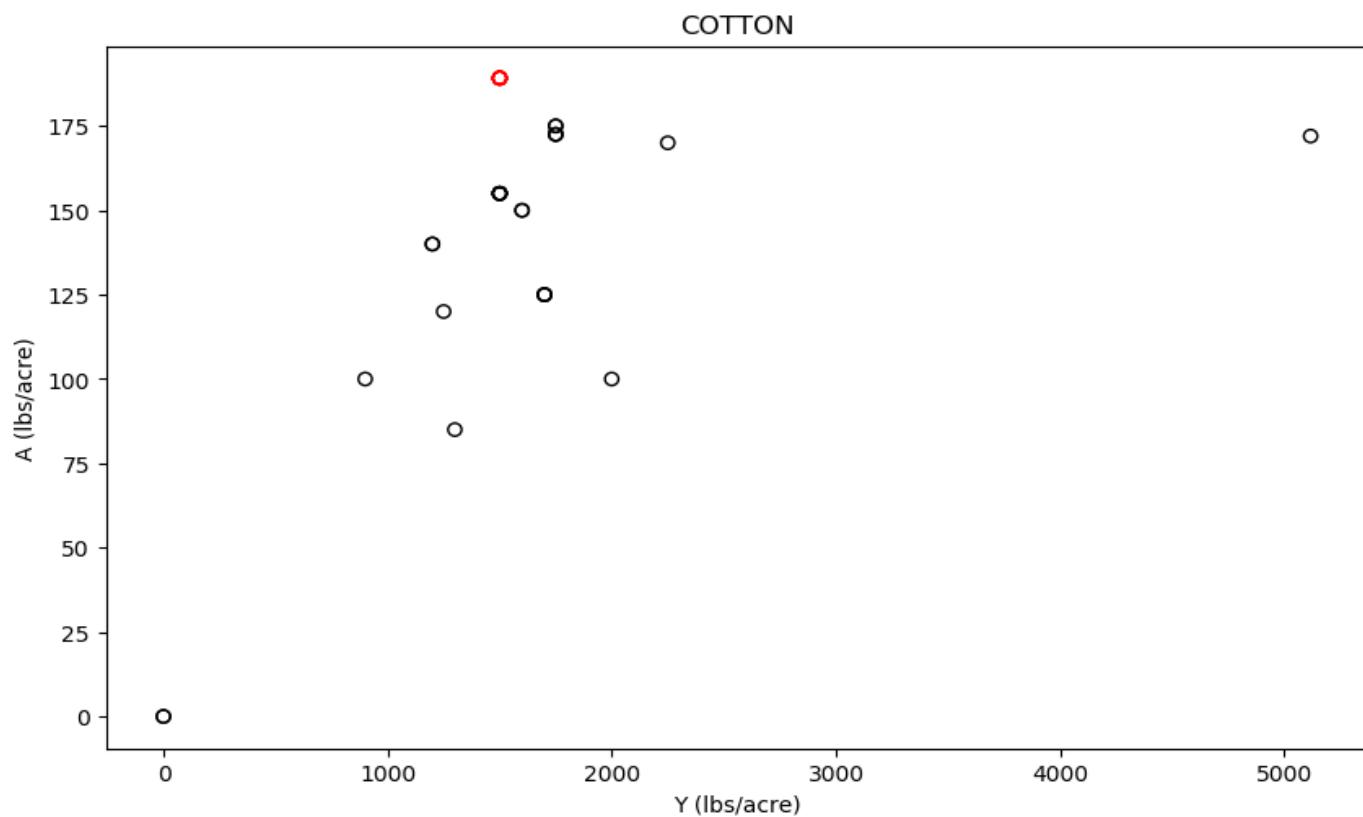
X. CUCUMBER

Figure X-1. Box and Whisker plots of A/Y for CUCUMBER management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
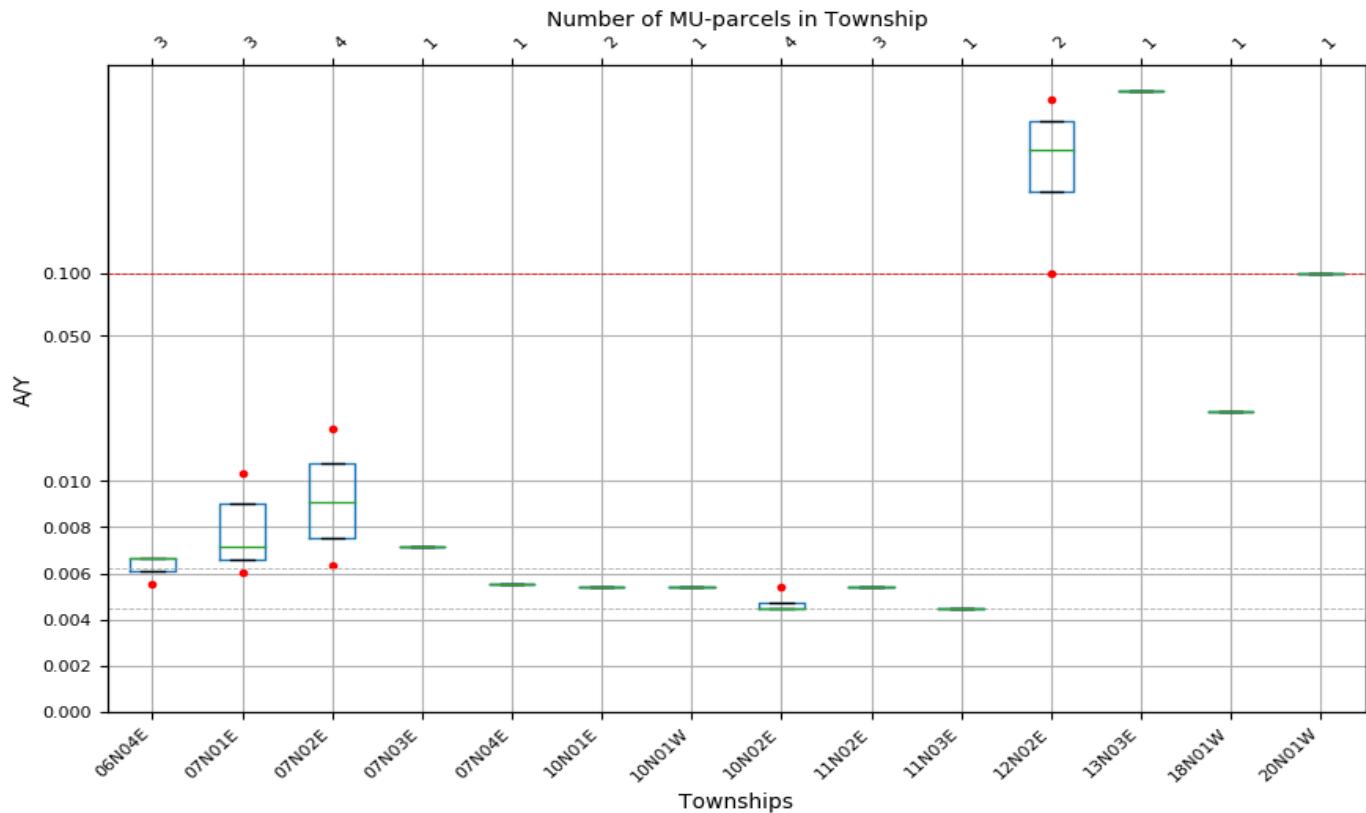
Table X-1. A/Y Summary Statistics for CUCUMBER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N04E	3	0.0056	0.0067	0.0058	0.0061	0.0067	0.0067	0.0067	0
07N01E	3	0.0061	0.0109	0.0063	0.0066	0.0072	0.009	0.0102	1
07N02E	4	0.0064	0.018	0.0068	0.0075	0.0091	0.0122	0.0157	1
07N03E	1	0.0071	0.0071						
07N04E	1	0.0056	0.0056						
10N01E	2	0.0054	0.0054						
10N01W	1	0.0054	0.0054						
10N02E	4	0.0045	0.0054	0.0045	0.0045	0.0045	0.0047	0.0051	1
11N02E	3	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0
11N03E	1	0.0045	0.0045						
12N02E	2	0.1	0.685						
13N03E	1	0.75	0.75						
18N01W	1	0.0214	0.0214						
20N01W	1	0.1	0.1						

Table X-2. A/R Summary Statistics for CUCUMBER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N04E	3	5.144	6.1728	5.3498	5.6584	6.1728	6.1728	6.1728	0
07N01E	3	5.6117	10.114	5.8174	6.1261	6.6405	8.3772	9.4193	1
07N02E	4	5.8844	16.6307	6.3104	6.9495	8.4105	11.295	14.4964	1
07N03E	1	6.6138	6.6138						
07N04E	1	5.144	5.144						
10N01E	2	4.9888	4.9888						
10N01W	1	4.9888	4.9888						
10N02E	4	4.1667	4.9888	4.1667	4.1667	4.1667	4.3722	4.7422	1
11N02E	3	4.9888	4.9888	4.9888	4.9888	4.9888	4.9888	4.9888	0
11N03E	1	4.1667	4.1667						
12N02E	2	92.5926	634.2593						
13N03E	1	694.4444	694.4444						
18N01W	1	19.8413	19.8413						
20N01W	1	92.5926	92.5926						

Table X-3. A-R Summary Statistics for CUCUMBER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N04E	3	80.56	100.56	84.56	90.56	100.56	100.56	100.56	0
07N01E	3	120.616	255.92	122.7904	126.052	131.488	193.704	231.0336	1
07N02E	4	112.888	347.752	115.7896	120.142	144.06	211.108	293.0944	1
07N03E	1	84.88	84.88						
07N04E	1	80.56	80.56						
10N01E	2	79.9552	79.9552						
10N01W	1	79.9552	79.9552						
10N02E	5	68.4	80.0	68.4	68.4	68.4	79.9552	79.9821	1
11N02E	3	79.9552	79.9552	79.9552	79.9552	79.9552	79.9552	79.9552	0
11N03E	1	68.4	68.4						
12N02E	2	118.704	136.784						
13N03E	1	89.8704	89.8704						
17N01W	1	208.0	208.0						
18N01W	1	113.952	113.952						
20N01W	1	98.92	98.92						

Table X-4. Summary Statistics for CUCUMBER management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	28	0.0045	0.75	0.0045	0.0054	0.0062	0.0104	0.1	2
A/R	28	4.1667	694.4444	4.1667	4.9888	5.748	9.6658	92.5926	3
A-R	28	68.4	347.752	68.4	79.9552	87.3752	119.182	145.4168	3

**Figure X-2. Scatter plot of A vs. Y for CUCUMBER with all T-R together.**

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.

CUCUMBER
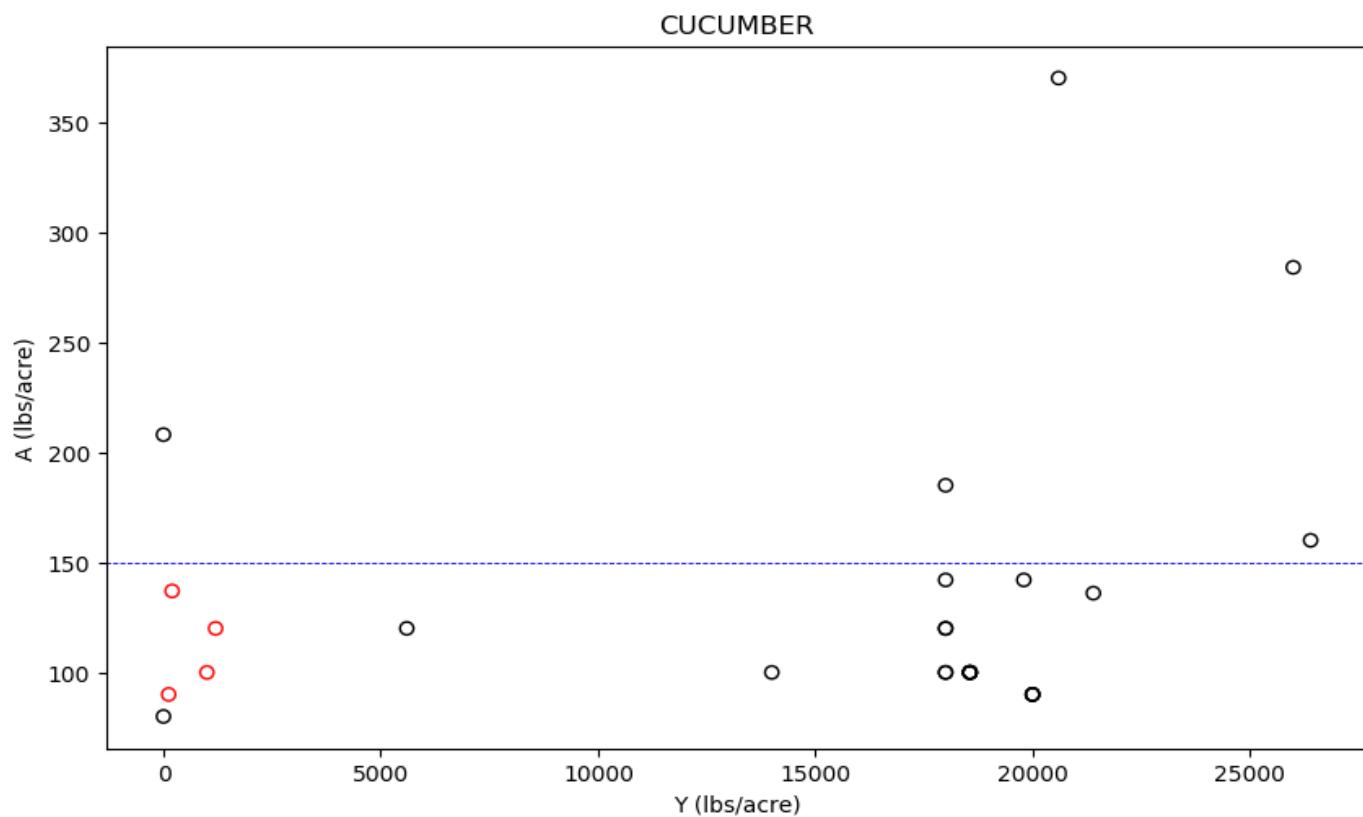
XI. GRAIN HAY

Figure XI-1. Box and Whisker plots of A/Y for GRAIN HAY management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
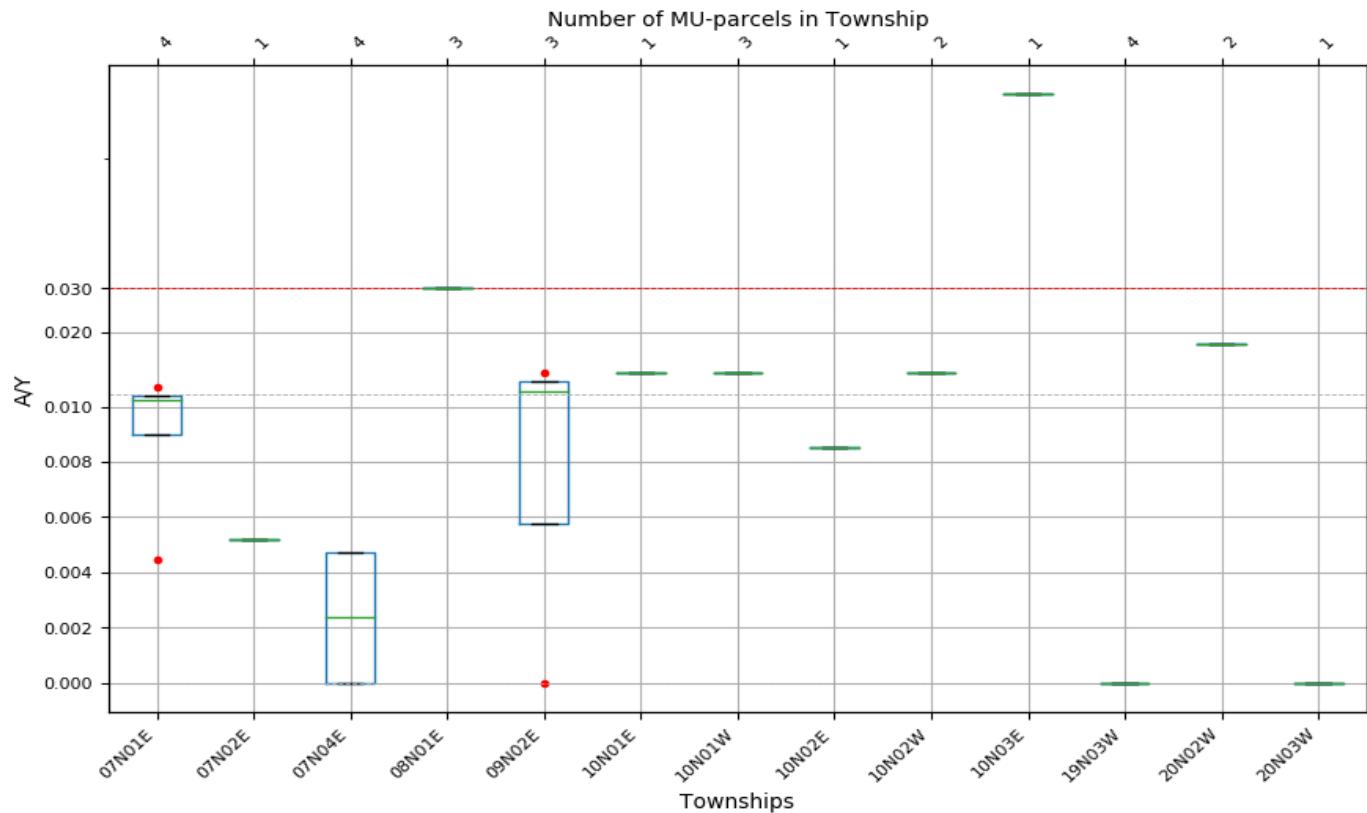
Table XI-1. A/Y Summary Statistics for GRAIN HAY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N01E	4	0.0044	0.0119	0.0063	0.009	0.0107	0.0111	0.0116	1
07N02E	1	0.0052	0.0052						
07N04E	4	0.0	0.0047	0.0	0.0	0.0023	0.0047	0.0047	0
08N01E	3	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0
09N02E	3	0.0	0.0137	0.0023	0.0058	0.0115	0.0126	0.0133	1
10N01E	1	0.0137	0.0137						
10N01W	3	0.0137	0.0137	0.0137	0.0137	0.0137	0.0137	0.0137	0
10N02E	1	0.0085	0.0085						
10N02W	2	0.0137	0.0137						
10N03E	1	0.1805	0.1805						
19N03W	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
20N02W	2	0.0179	0.0179						
20N03W	1	0.0	0.0						

Table XI-2. A/R Summary Statistics for GRAIN HAY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N01E	4	0.4089	1.0989	0.5766	0.828	0.9844	1.0256	1.0696	1
07N02E	1	0.4759	0.4759						
07N04E	4	0.0	0.4326	0.0	0.0	0.2163	0.4326	0.4326	0
08N01E	3	2.765	2.765	2.765	2.765	2.765	2.765	2.765	0
09N02E	3	0.0	1.2625	0.2127	0.5317	1.0635	1.163	1.2227	1
10N01E	1	1.2625	1.2625						
10N01W	3	1.2625	1.2625	1.2625	1.2625	1.2625	1.2625	1.2625	0
10N02E	1	0.7868	0.7868						
10N02W	2	1.2625	1.2625						
10N03E	1	16.6364	16.6364						
19N03W	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
20N02W	2	1.6458	1.6458						
20N03W	1	0.0	0.0						

Table XI-3. A-R Summary Statistics for GRAIN HAY management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N01E	4	-91.07	8.37	-64.379	-24.3425	-1.015	2.145	5.88	1
07N02E	1	-69.37	-69.37						
07N04E	4	-97.65	-60.33	-94.395	-89.5125	-73.565	-60.33	-60.33	0
08N01E	3	76.6	76.6	76.6	76.6	76.6	76.6	76.6	0
09N02E	3	-86.8	16.636	-68.724	-41.61	3.58	10.108	14.0248	1
10N01E	1	16.636	16.636						
10N01W	3	16.636	16.636	16.636	16.636	16.636	16.636	16.636	0
10N02E	2	-11.382	0.0						
10N02W	2	16.636	16.636						
10N03E	1	93.9891	93.9891						
19N03W	4	-58.59	-43.4	-58.59	-58.59	-58.59	-54.7925	-47.957	1
20N02W	2	58.86	58.86						
20N03W	1	-21.7	-21.7						

Table XI-4. Summary Statistics for GRAIN HAY management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	30	0.0	0.1805	0.0	0.0011	0.0112	0.0137	0.03	1
A/R	30	0.0	16.6364	0.0	0.1022	1.0323	1.2625	2.765	1
A-R	30	-97.65	93.9891	-86.8	-58.59	1.825	16.636	76.6	1

**Figure XI-2. Scatter plot of A vs. Y for GRAIN HAY with all T-R together.**

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
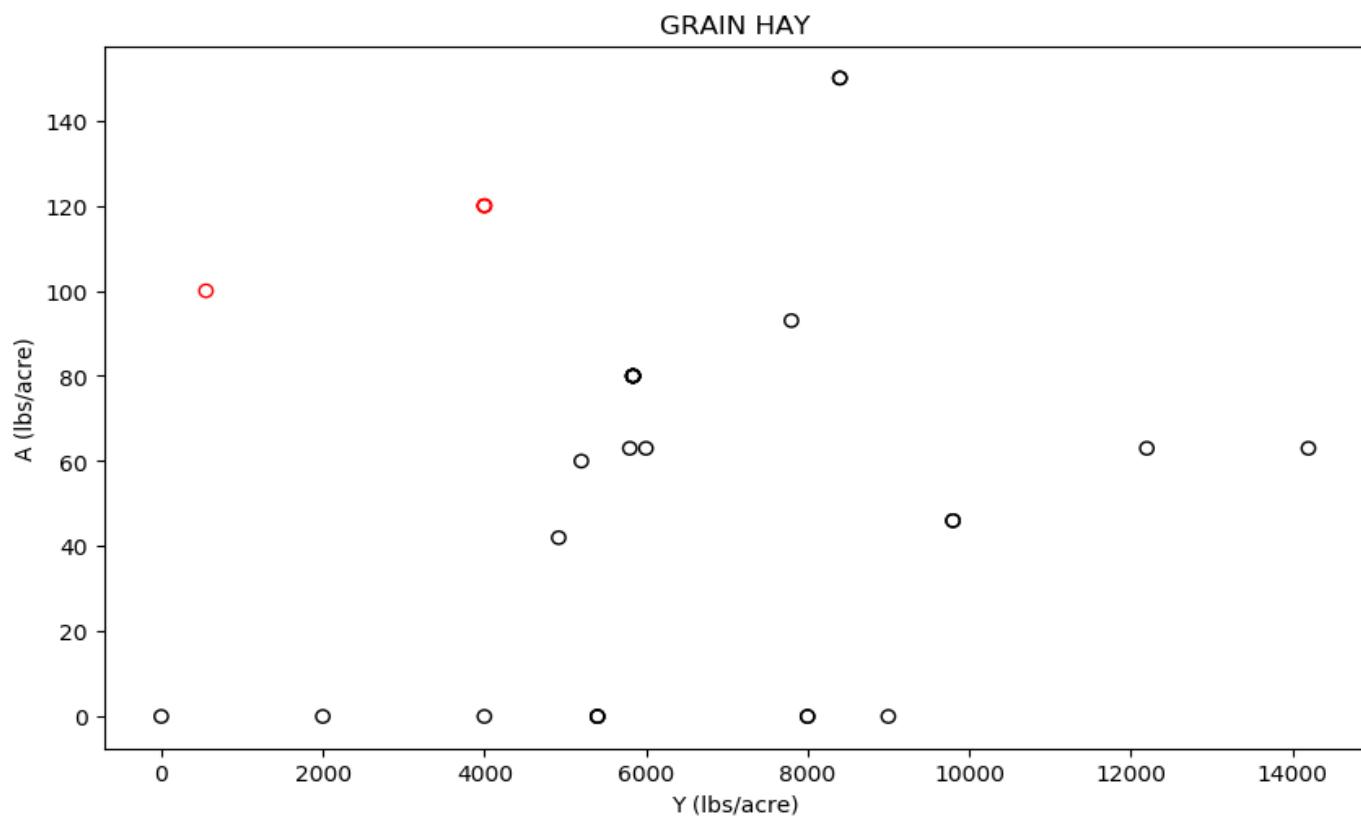
XII. GRAPE - WINE

Figure XII-1. Box and Whisker plots of A/Y for GRAPE - WINE management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
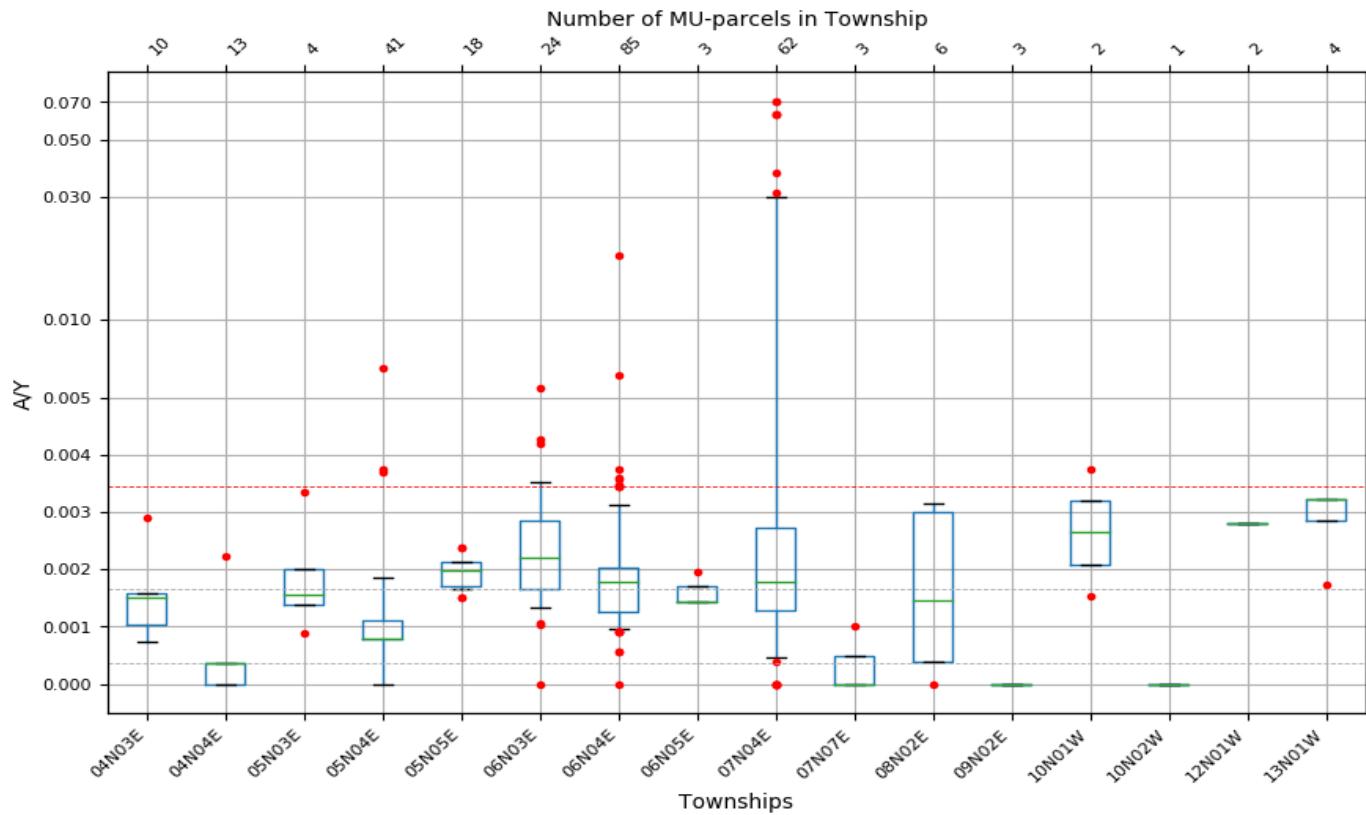
Table XII-1. A/Y Summary Statistics for GRAPE - WINE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	10	0.0007	0.0029	0.0007	0.001	0.0015	0.0016	0.0017	1
04N04E	13	0.0	0.0022	0.0	0.0	0.0004	0.0004	0.0004	1
05N03E	4	0.0009	0.0034	0.0011	0.0014	0.0015	0.002	0.0028	1
05N04E	41	0.0	0.0065	0.0	0.0008	0.0008	0.0011	0.0019	3
05N05E	18	0.0015	0.0024	0.0016	0.0017	0.002	0.0021	0.0022	2
06N03E	24	0.0	0.0054	0.0011	0.0017	0.0022	0.0029	0.004	3
06N04E	85	0.0	0.0178	0.001	0.0012	0.0018	0.002	0.0034	10
06N05E	3	0.0014	0.002	0.0014	0.0014	0.0014	0.0017	0.0019	1
07N04E	62	0.0	0.0708	0.0004	0.0013	0.0018	0.0027	0.0309	7
07N07E	3	0.0	0.001	0.0	0.0	0.0	0.0005	0.0008	1
08N02E	6	0.0	0.0032	0.0002	0.0004	0.0015	0.003	0.0032	0
09N02E	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
10N01W	2	0.0015	0.0038						
10N02W	1	0.0	0.0						
12N01W	2	0.0028	0.0028						
13N01W	4	0.0017	0.0032	0.0022	0.0028	0.0032	0.0032	0.0032	0

Table XII-2. A/R Summary Statistics for GRAPE - WINE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	10	0.4116	1.6092	0.4116	0.5707	0.8324	0.8742	0.9477	1
04N04E	13	0.0	1.2418	0.0	0.0	0.2083	0.2083	0.2083	1
05N03E	4	0.4971	1.8611	0.6033	0.7627	0.8596	1.1163	1.5632	1
05N04E	41	0.0	3.609	0.0	0.4343	0.4343	0.6173	1.0294	3
05N05E	18	0.8367	1.323	0.8992	0.9518	1.1041	1.1789	1.2221	2
06N03E	24	0.0	3.0082	0.6361	0.9213	1.2216	1.5843	2.2212	3
06N04E	85	0.0	9.8901	0.5392	0.6944	0.9921	1.1277	1.9097	10
06N05E	3	0.7965	1.088	0.7965	0.7965	0.7965	0.9422	1.0297	1
07N04E	62	0.0	39.3056	0.2165	0.7107	0.9921	1.5118	17.1543	7
07N07E	3	0.0	0.5556	0.0	0.0	0.0	0.2778	0.4444	1
08N02E	6	0.0	1.75	0.1049	0.2099	0.8133	1.6667	1.75	0
09N02E	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
10N01W	2	0.8503	2.0833						
10N02W	1	0.0	0.0						
12N01W	2	1.5625	1.5625						
13N01W	4	0.9641	1.788	1.2112	1.582	1.788	1.788	1.788	3

Table XII-3. A-R Summary Statistics for GRAPE - WINE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	10	-23.3	24.608	-23.3	-16.7	-8.07	-6.34	-3.2452	1
04N04E	16	-26.64	40.0	-22.8	-22.8	-22.8	-13.5	23.7	2
05N03E	4	-17.2	15.5	-13.6132	-8.233	-4.522	1.025	9.71	1
05N04E	46	-39.0	84.0	-19.55	-19.55	-18.775	-4.825	11.222	5
05N05E	18	-4.88	10.0	-3.144	-1.575	3.103	5.306	6.7142	2
06N03E	27	-47.448	31.376	-9.4416	-3.67	6.0	19.8	24.3448	3
06N04E	92	-37.98	39.96	-14.1	-8.905	-0.2	7.328	19.47	10
06N05E	3	-1.2264	1.9	-1.2264	-1.2264	-1.2264	0.3368	1.2747	1
07N04E	64	-54.0	36.24	-20.9428	-9.494	0.006	11.6898	20.366	7
07N07E	3	-36.0	-19.2	-36.0	-36.0	-36.0	-27.6	-22.56	1
08N02E	6	-3.24	13.5	-2.9	-2.56	2.47	12.0	13.5	0
09N02E	4	-12.24	0.0	-9.108	-4.41	-1.8	-1.35	-0.54	1
10N01W	2	-5.04	15.6						
10N02W	1	-10.8	-10.8						
12N01W	2	16.2	16.2						
13N01W	4	-0.968	24.68	6.7264	18.268	24.68	24.68	24.68	0
24N02W	1	0.0	0.0						

Table XII-4. Summary Statistics for GRAPE - WINE management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	281	0.0	0.0708	0.0004	0.0009	0.0017	0.0023	0.0034	26
A/R	281	0.0	39.3056	0.2083	0.4974	0.9213	1.2567	1.9097	26
A-R	281	-54.0	49.592	-19.8	-14.1	-2.3	6.0	16.596	28

Figure XII-2. Scatter plot of A vs. Y for GRAPE - WINE with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
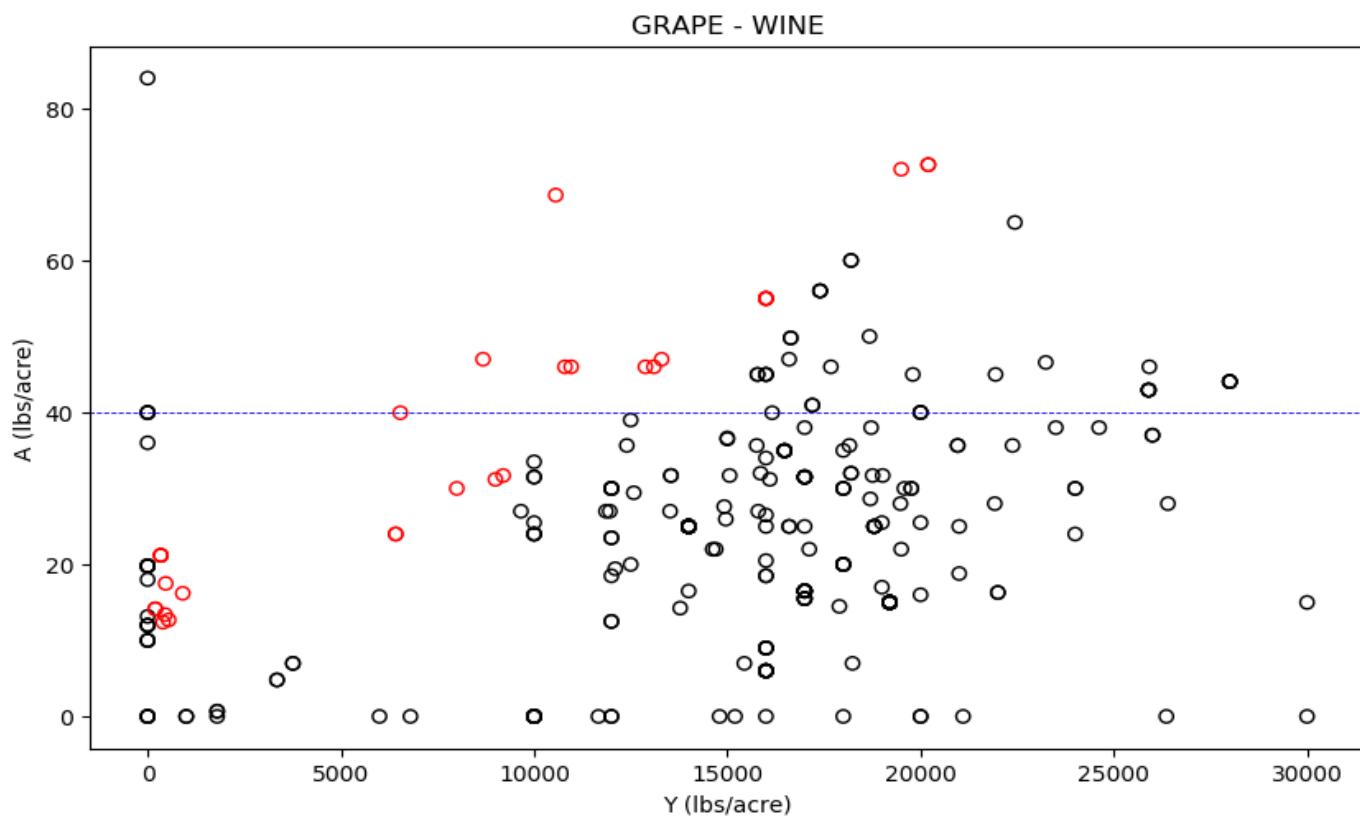
Figure XII-3. Box and Whisker plots of A/Y for GRAPE - WINE management units grouped by Age.

Numbers at the top indicate the number of MU-parcels within each age group. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each age group. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
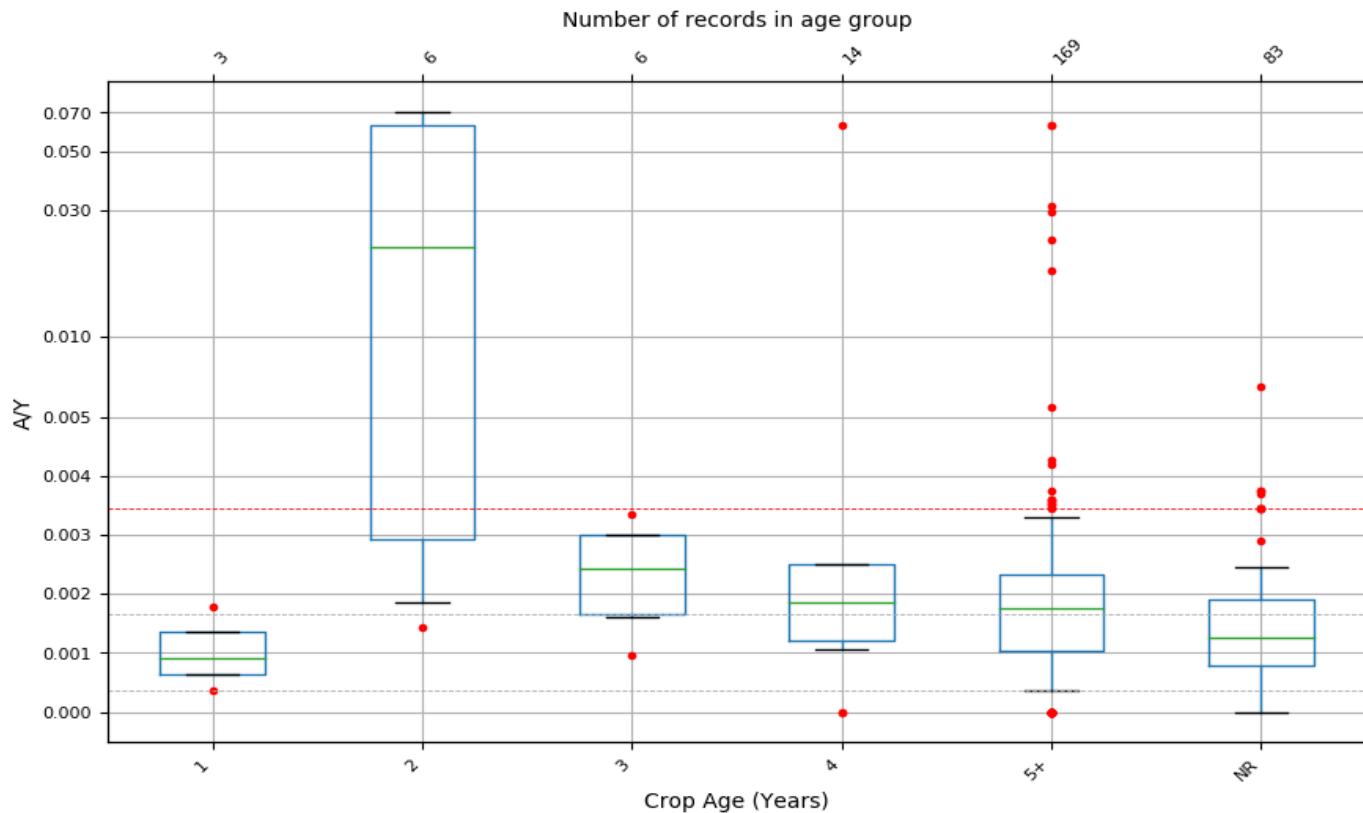
Table XII-5. A/Y Summary Statistics for GRAPE - WINE management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	3	0.0004	0.0018	0.0005	0.0006	0.0009	0.0013	0.0016	1
2	6	0.0014	0.0708	0.0016	0.0029	0.0218	0.0624	0.0708	0
3	6	0.001	0.0034	0.0013	0.0017	0.0024	0.003	0.0032	1
4	14	0.0	0.0624	0.0003	0.0012	0.0019	0.0025	0.0025	1
5+	169	0.0	0.0624	0.0004	0.001	0.0018	0.0023	0.0033	17
NR	83	0.0	0.0065	0.0	0.0008	0.0012	0.0019	0.0028	9

Table XII-6. A/R Summary Statistics for GRAPE - WINE management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	3	0.2083	0.9921	0.268	0.3574	0.5065	0.7493	0.895	1
2	6	0.7906	39.3056	0.911	1.6221	12.0842	34.6727	39.3056	0
3	6	0.5392	1.8611	0.7141	0.9237	1.3454	1.6627	1.7619	1
4	14	0.0	34.6405	0.1768	0.672	1.0285	1.3889	1.3889	1
5+	169	0.0	34.6405	0.2083	0.5787	0.9768	1.3007	1.8481	17
NR	83	0.0	3.609	0.0	0.4343	0.6944	1.0587	1.5588	9

Table XII-7. A-R Summary Statistics for GRAPE - WINE management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	3	-22.8	-0.2	-21.26	-18.95	-15.1	-7.65	-3.18	1
2	6	-9.8	28.188	-4.794	3.6065	13.79	15.9407	22.4228	1
3	6	-14.1	19.848	-8.3	-1.6865	8.127	18.761	19.848	0
4	14	-27.36	20.588	-20.976	-10.379	0.92	8.4	8.4	1
5+	169	-54.0	36.24	-20.1624	-10.554	-0.76	6.786	16.596	16
NR	83	-39.0	49.592	-19.55	-19.55	-12.4	1.4	11.9552	9

XIII. HAY/FORAGE

Figure XIII-1. Box and Whisker plots of A/Y for HAY/FORAGE management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
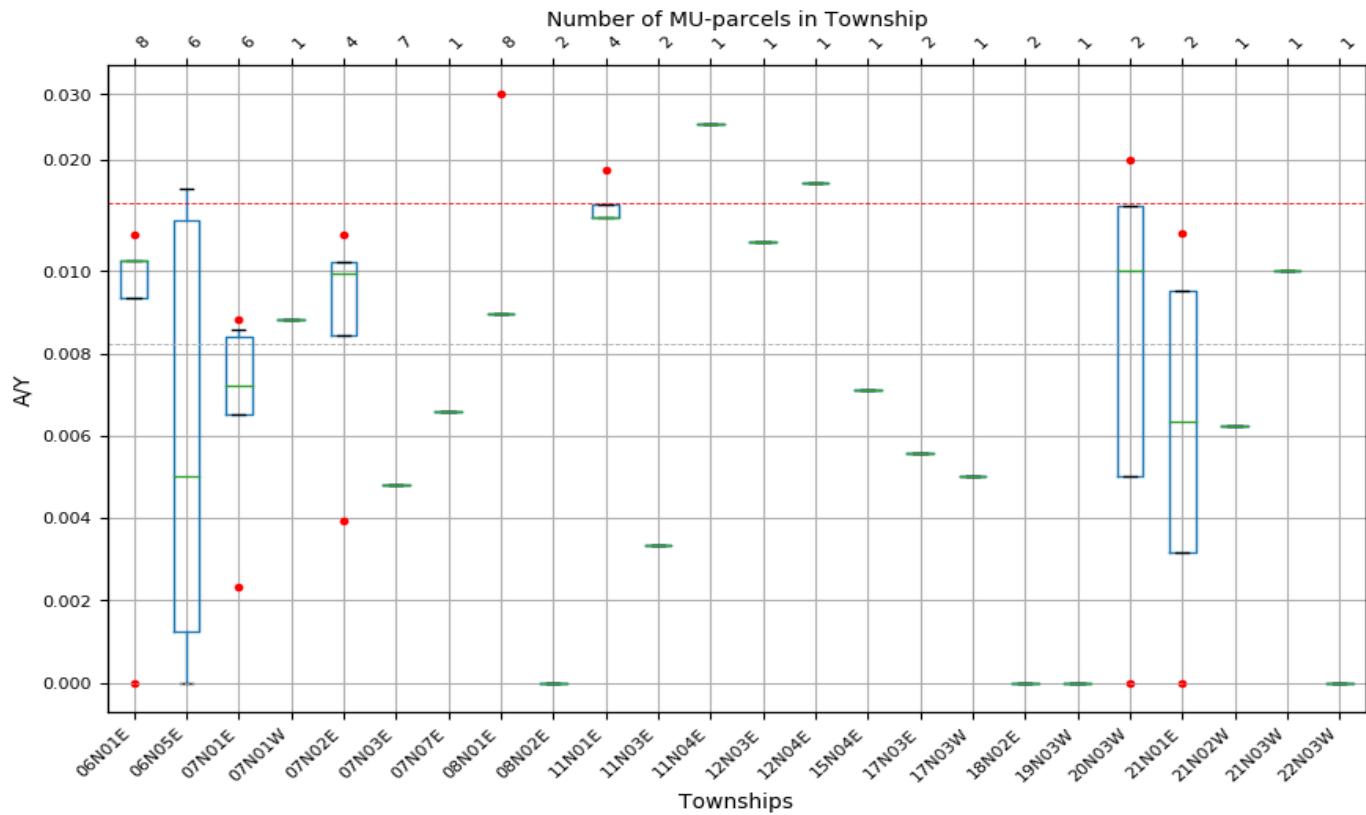
Table XIII-1. A/Y Summary Statistics for HAY/FORAGE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N01E	8	0.0	0.0125	0.0065	0.0093	0.0107	0.0107	0.0112	1
06N05E	6	0.0	0.0167	0.0	0.0012	0.005	0.0138	0.0167	0
07N01E	6	0.0023	0.0088	0.0044	0.0065	0.0072	0.0084	0.0087	1
07N01W	1	0.0088	0.0088						
07N02E	4	0.0039	0.0125	0.0057	0.0084	0.0099	0.0106	0.0117	1
07N03E	7	0.0048	0.0048	0.0048	0.0048	0.0048	0.0048	0.0048	0
07N07E	1	0.0066	0.0066						
08N01E	8	0.009	0.03	0.009	0.009	0.009	0.009	0.0153	1
08N02E	2	0.0	0.0						
11N01E	4	0.0139	0.0187	0.0139	0.0139	0.0139	0.0151	0.0173	1
11N03E	2	0.0033	0.0033						
11N04E	1	0.025	0.025						
12N03E	1	0.012	0.012						
12N04E	1	0.0173	0.0173						
15N04E	1	0.0071	0.0071						
17N03E	2	0.0056	0.0056						
17N03W	1	0.005	0.005						
18N02E	2	0.0	0.0						
19N03W	1	0.0	0.0						
20N03W	2	0.0	0.02						
21N01E	2	0.0	0.0127						
21N02W	1	0.0062	0.0062						
21N03W	1	0.01	0.01						
22N03W	1	0.0	0.0						

Table XIII-2. A/R Summary Statistics for HAY/FORAGE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N01E	5	0.4013	0.4682	0.4013	0.4013	0.4013	0.4013	0.4414	1
07N01E	3	0.2957	0.3305	0.3008	0.3084	0.321	0.3257	0.3286	1
07N02E	2	0.3725	0.3725						
07N03E	7	0.1795	0.1795	0.1795	0.1795	0.1795	0.1795	0.1795	0
11N01E	4	0.5224	0.6998	0.5224	0.5224	0.5224	0.5667	0.6466	1
12N04E	1	0.6476	0.6476						
15N04E	1	0.266	0.266						
18N02E	2	0.0	0.0						

Table XIII-3. A-R Summary Statistics for HAY/FORAGE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N01E	7	-111.9	0.0	-111.9	-111.9	-111.9	-42.6	0.0	0
07N01E	3	-178.65	-126.9	-173.31	-165.3	-151.95	-139.425	-131.91	1
07N02E	2	-188.642	-188.642						
07N03E	7	-177.45	-177.45	-177.45	-177.45	-177.45	-177.45	-177.45	0
10N01E	1	0.0	0.0						
11N01E	4	-48.46	-30.46	-48.46	-48.46	-48.46	-43.96	-35.86	1
12N04E	1	-100.69	-100.69						
15N04E	1	-193.1285	-193.1285						
18N02E	2	-80.1	-80.1						

Table XIII-4. Summary Statistics for HAY/FORAGE management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	66	0.0	0.03	0.0	0.0048	0.0082	0.0107	0.0153	7
A/R	25	0.0	0.6998	0.1795	0.1795	0.3305	0.4013	0.5224	2
A-R	25	-193.1285	-30.46	-184.6452	-177.45	-126.9	-85.2	-48.46	1

Figure XIII-2. Scatter plot of A vs. Y for HAY/FORAGE with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
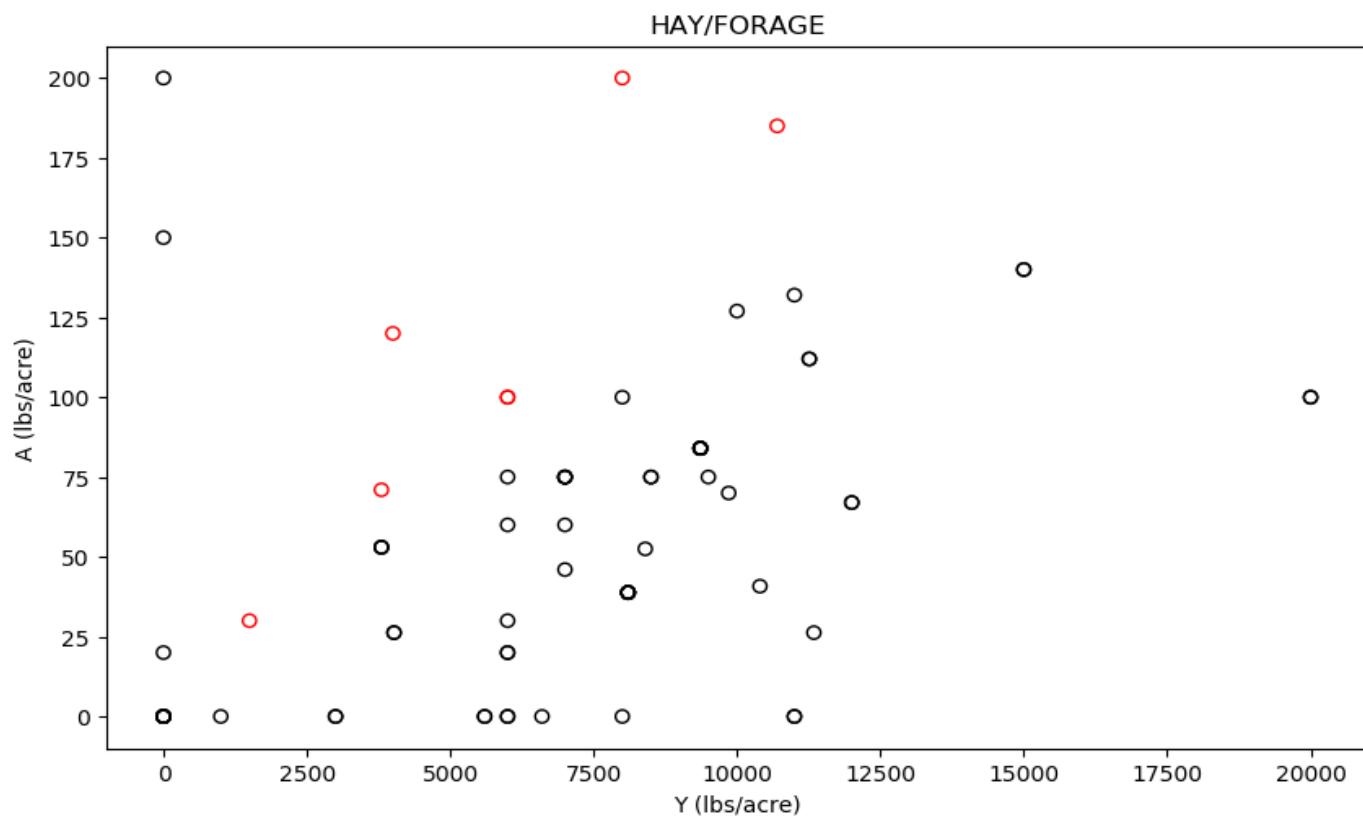
XIV. KIWI

Figure XIV-1. Box and Whisker plots of A/Y for KIWI management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
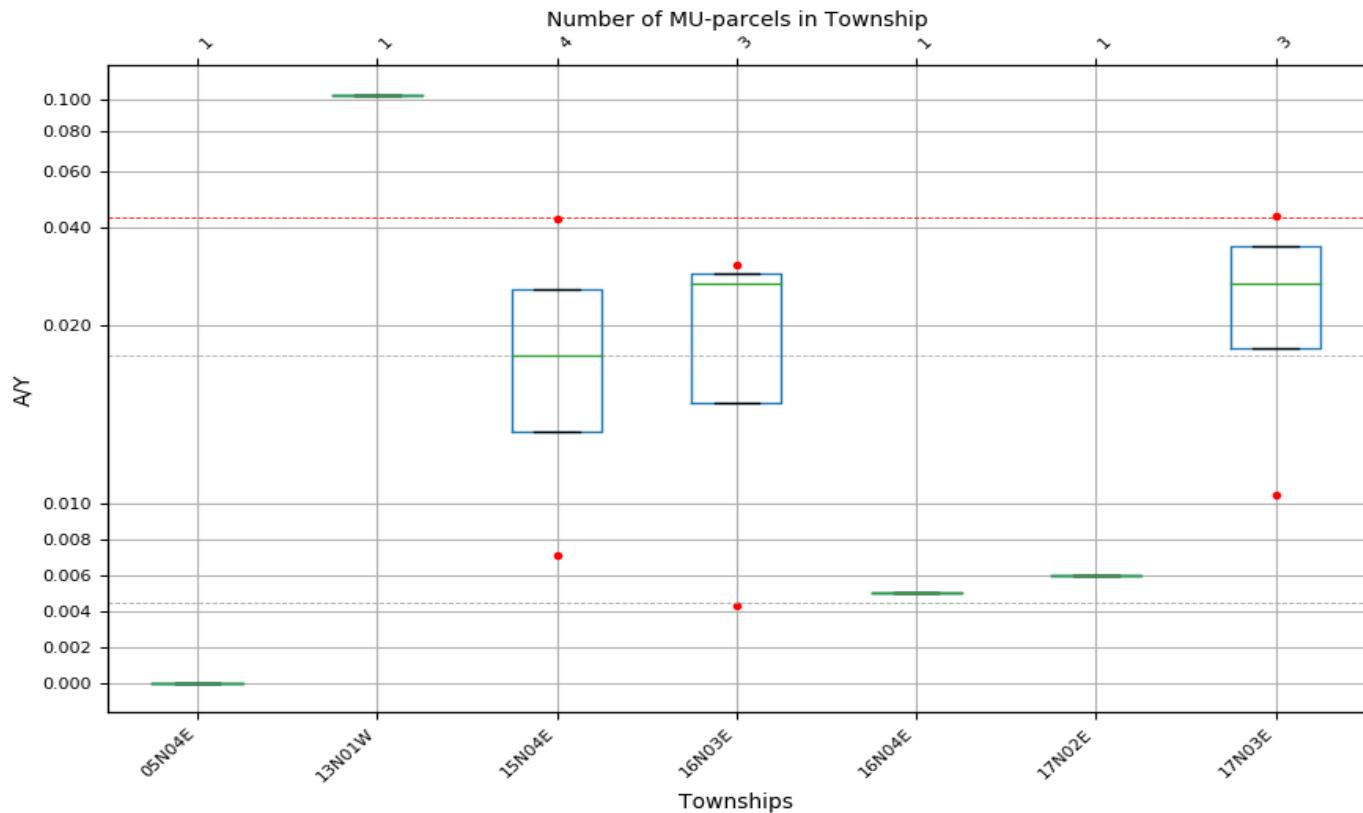
Table XIV-1. A/Y Summary Statistics for KIWI management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N04E	1	0.0	0.0						
13N01W	1	0.1037	0.1037						
15N04E	4	0.0071	0.0425	0.0099	0.014	0.0183	0.0258	0.0358	1
16N03E	3	0.0043	0.0307	0.0088	0.0156	0.027	0.0288	0.0299	1
16N04E	1	0.005	0.005						
17N02E	1	0.006	0.006						
17N03E	3	0.0105	0.0434	0.0138	0.0187	0.027	0.0352	0.0401	1

Table XIV-4. Summary Statistics for KIWI management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	14	0.0	0.1037	0.0045	0.0063	0.0183	0.0297	0.0431	2
A/R	0								
A-R	0								

Figure XIV-2. Scatter plot of A vs. Y for KIWI with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
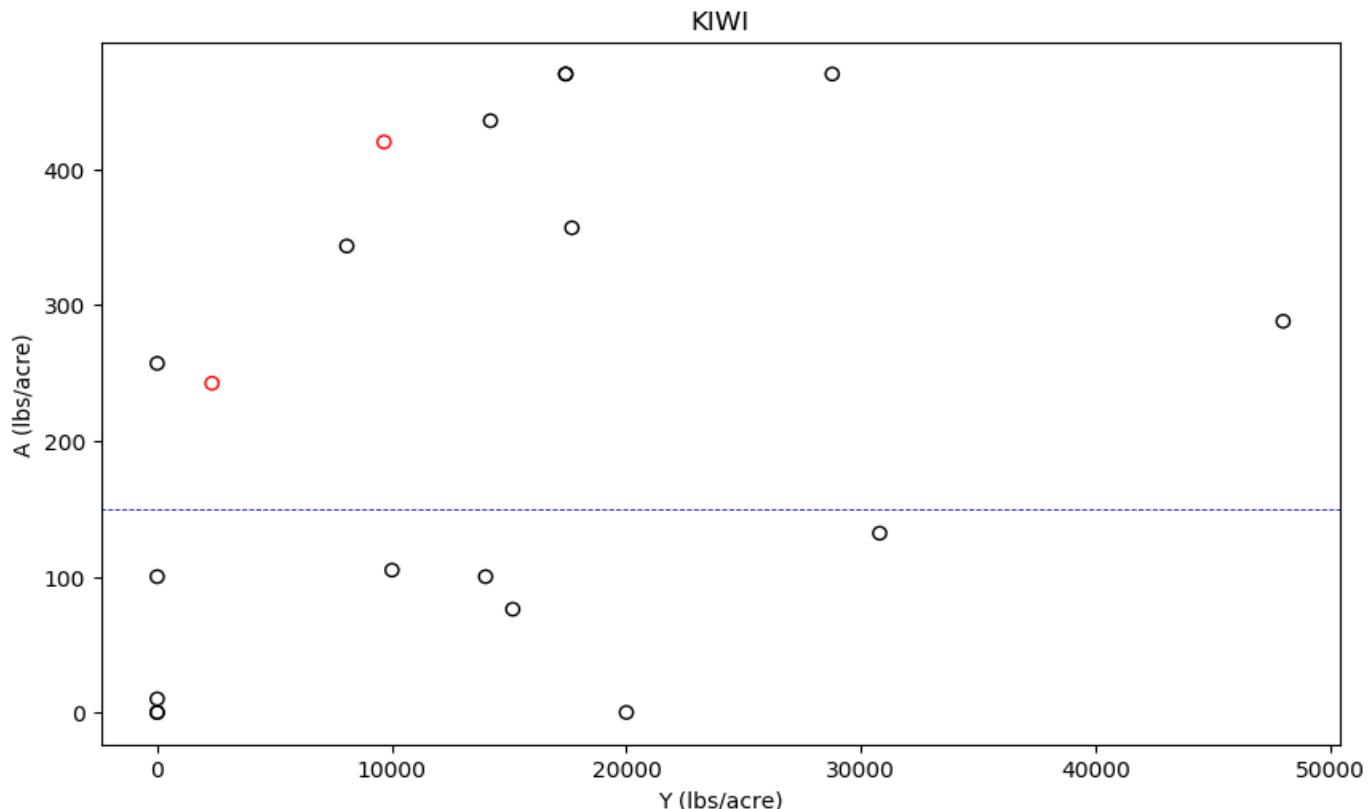
XV. MISC FRUIT TREE

Figure XV-1. Box and Whisker plots of A/Y for MISC FRUIT TREE management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
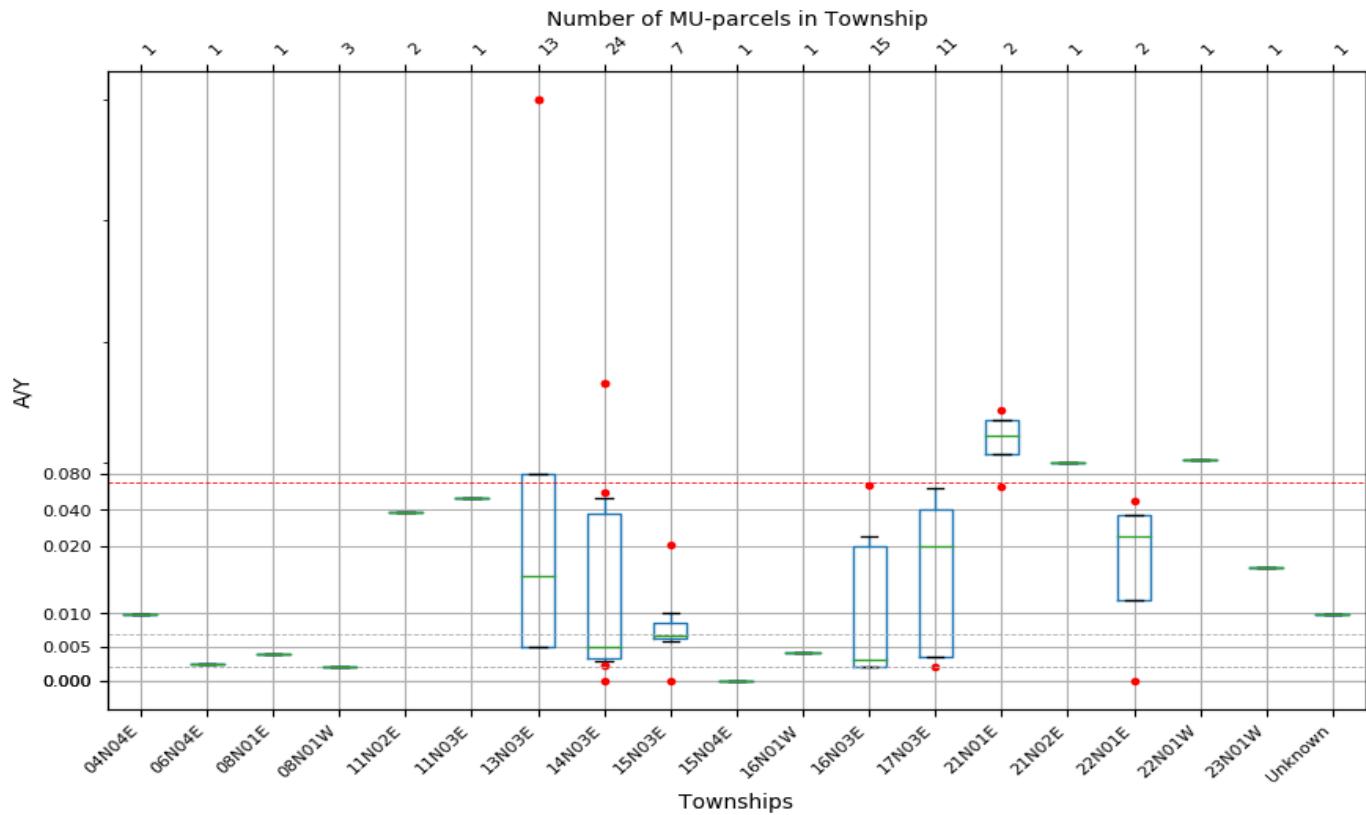
Table XV-1. A/Y Summary Statistics for MISC FRUIT TREE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N04E	1	0.0098	0.0098						
06N04E	1	0.0023	0.0023						
08N01E	1	0.004	0.004						
08N01W	3	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0
11N02E	2	0.0383	0.0383						
11N03E	1	0.05	0.05						
13N03E	11	0.005	0.08	0.005	0.005	0.0092	0.0228	0.08	0
14N03E	24	0.0	0.4526	0.0024	0.0032	0.005	0.0376	0.0539	3
15N03E	7	0.0	0.0208	0.0035	0.0063	0.0067	0.0085	0.0143	1
15N04E	1	0.0	0.0						
16N01W	1	0.0041	0.0041						
16N03E	15	0.002	0.0636	0.002	0.002	0.003	0.02	0.0241	1
17N03E	11	0.002	0.0609	0.0034	0.0034	0.02	0.0405	0.0609	0
21N01E	2	0.0624	0.2727						
21N02E	1	0.1	0.1						
22N01E	2	0.0	0.0481						
22N01W	1	0.1041	0.1041						
23N01W	1	0.0168	0.0168						
Unknown	1	0.0098	0.0098						

Table XV-4. Summary Statistics for MISC FRUIT TREE management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	87	0.0	0.4526	0.002	0.0032	0.0067	0.027	0.0615	9
A/R	0								
A-R	0								

**Figure XV-2. Scatter plot of A vs. Y for MISC FRUIT TREE with all T-R together.**

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
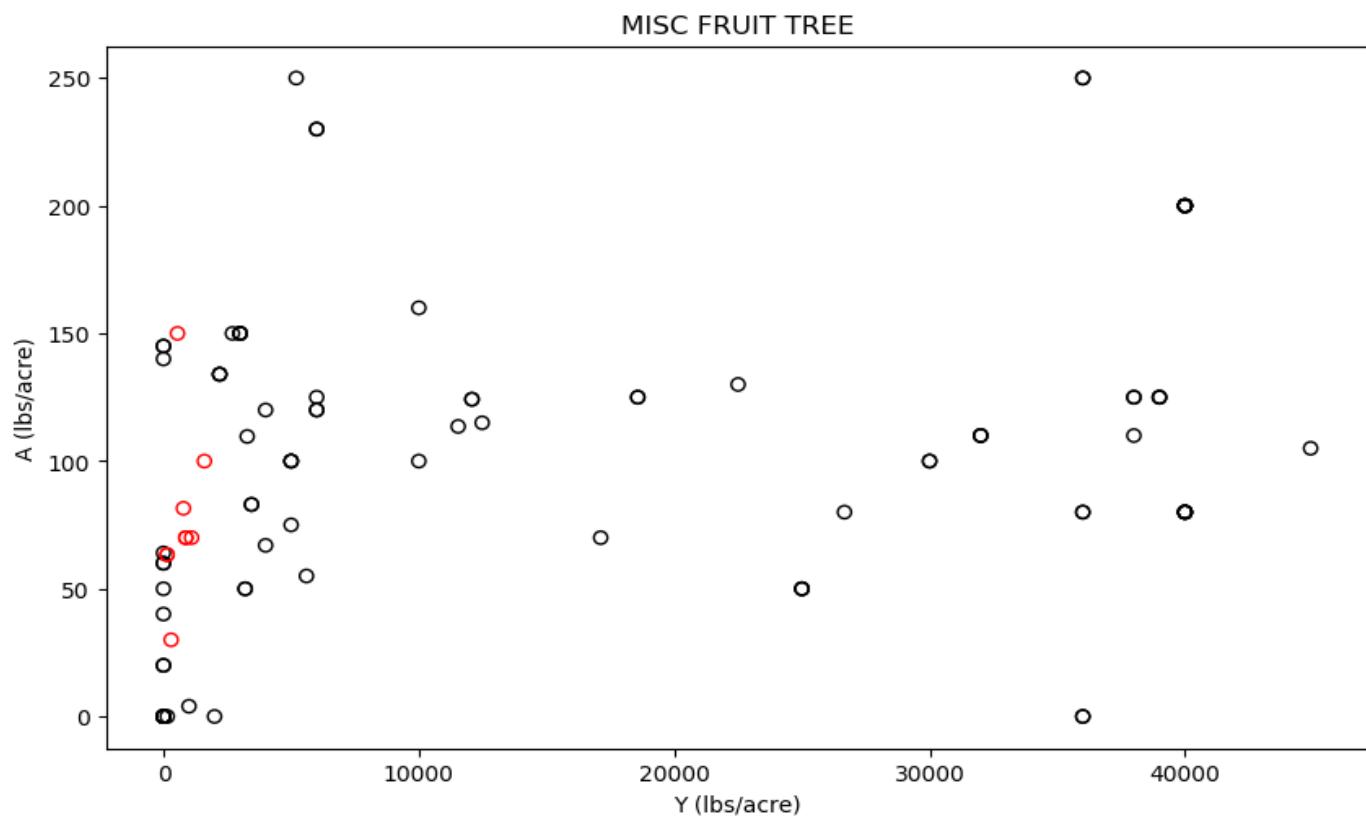
XVI. MISC ROW CROP

Figure XVI-1. Box and Whisker plots of A/Y for MISC ROW CROP management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
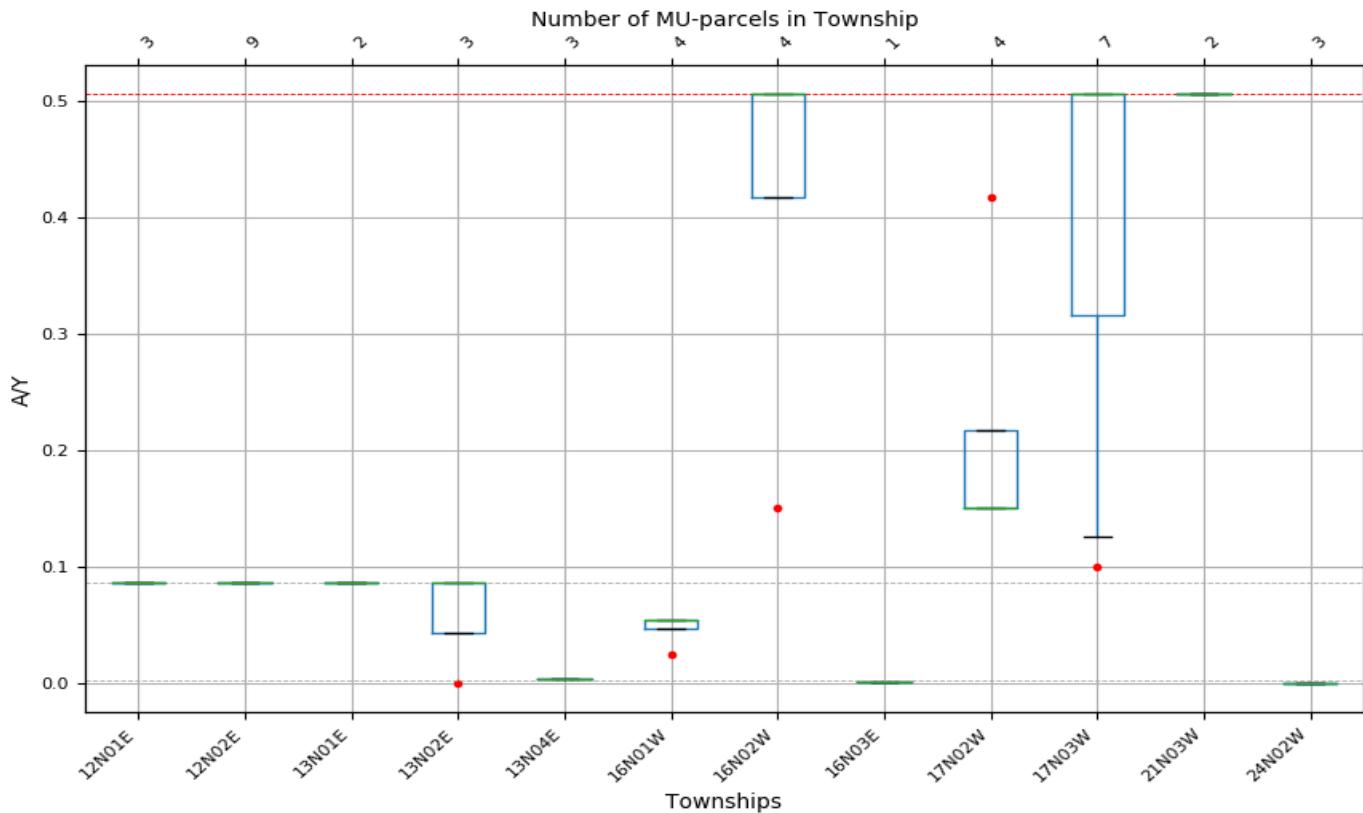
Table XVI-1. A/Y Summary Statistics for MISC ROW CROP management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
12N01E	3	0.0857	0.0857	0.0857	0.0857	0.0857	0.0857	0.0857	0
12N02E	9	0.0857	0.0857	0.0857	0.0857	0.0857	0.0857	0.0857	0
13N01E	2	0.0857	0.0857						
13N02E	3	0.0	0.0857	0.0171	0.0429	0.0857	0.0857	0.0857	0
13N04E	3	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0
16N01W	4	0.0236	0.0533	0.0325	0.0459	0.0533	0.0533	0.0533	3
16N02W	4	0.15	0.5051	0.2565	0.4163	0.5051	0.5051	0.5051	0
16N03E	1	0.0007	0.0007						
17N02W	4	0.15	0.4167	0.15	0.15	0.15	0.2167	0.3367	1
17N03W	7	0.1	0.5051	0.115	0.315	0.5051	0.5051	0.5051	0
21N03W	2	0.5051	0.5051						
24N02W	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

Table XVI-4. Summary Statistics for MISC ROW CROP management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	45	0.0	0.5051	0.0018	0.0533	0.0857	0.15	0.5051	0
A/R	0								
A-R	0								

Figure XVI-2. Scatter plot of A vs. Y for MISC ROW CROP with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
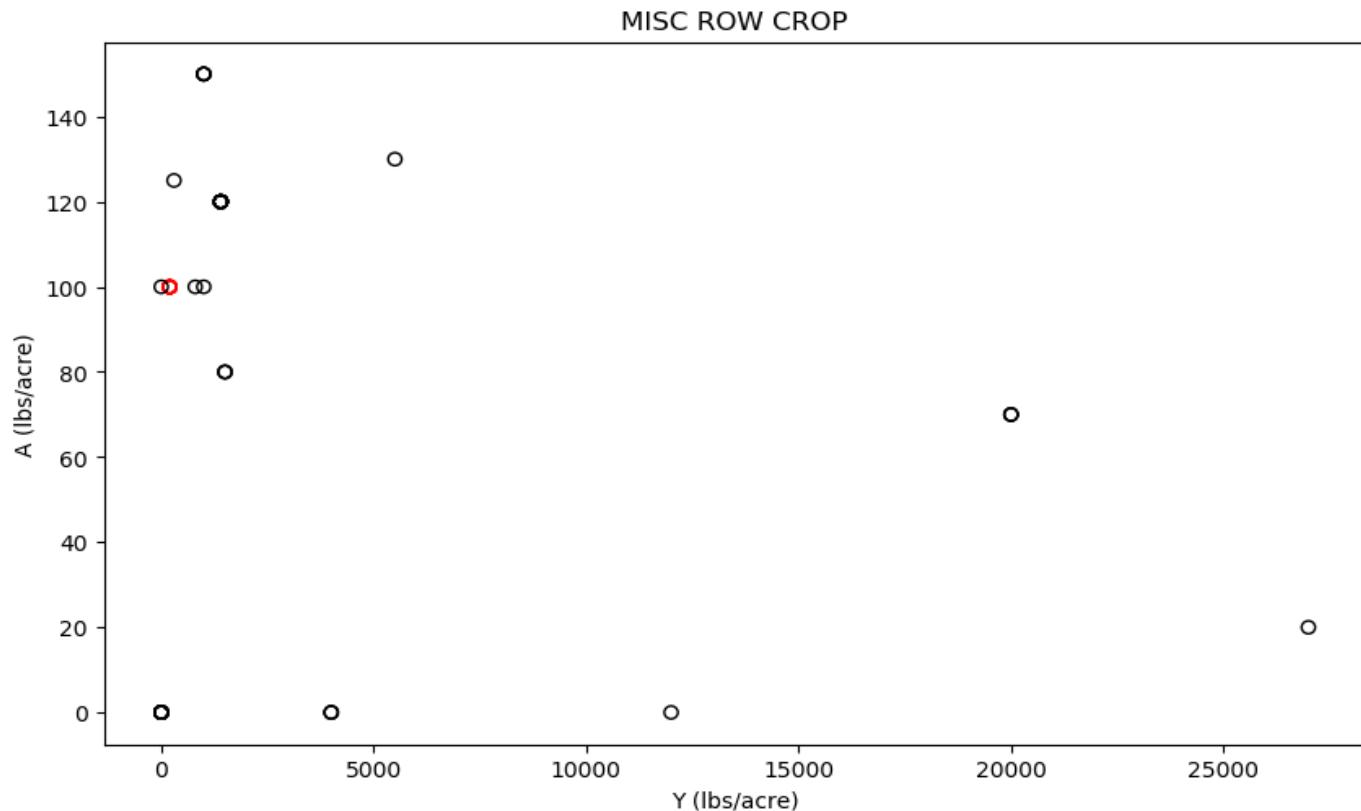
XVII. OLIVE

Figure XVII-1. Box and Whisker plots of A/Y for OLIVE management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
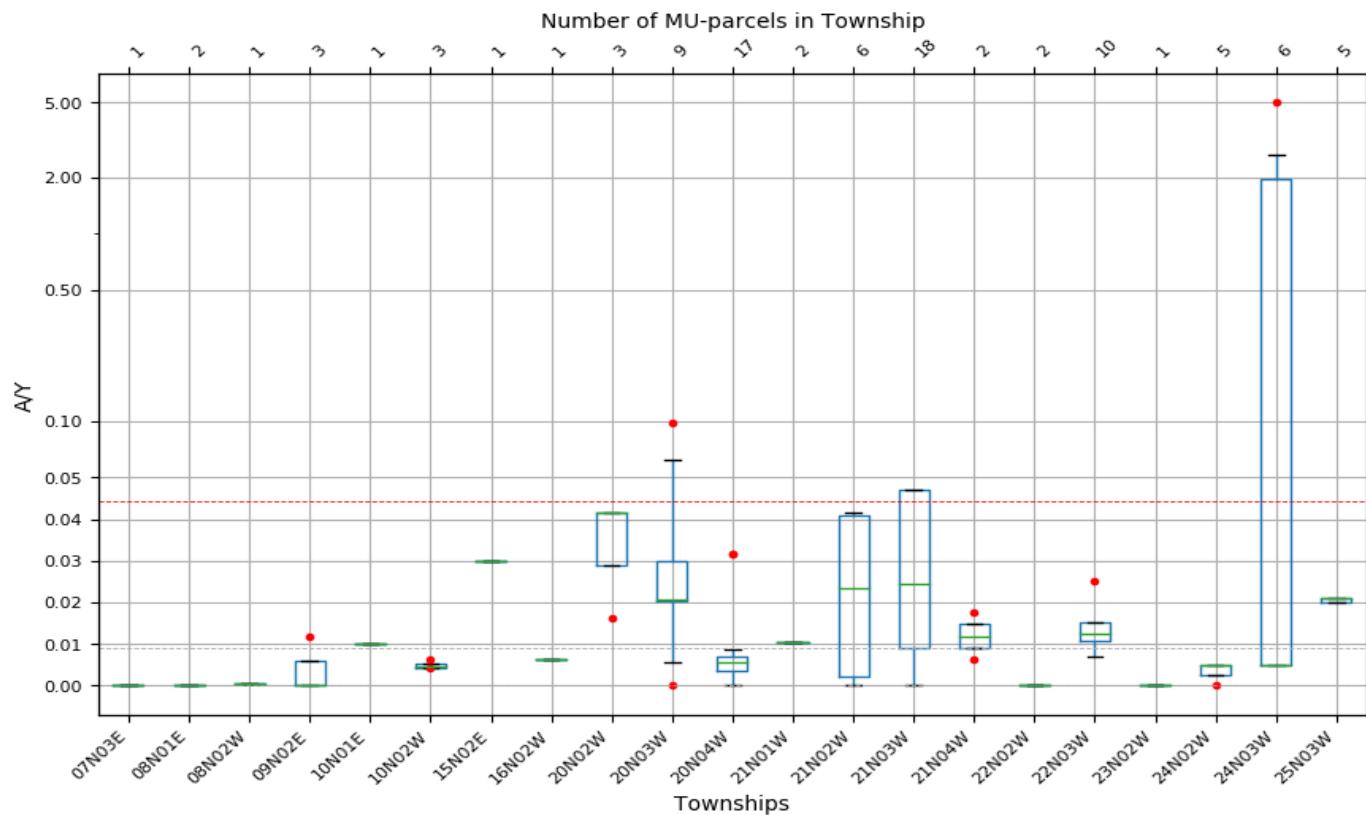
Table XVII-1. A/Y Summary Statistics for OLIVE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N03E	1	0.0	0.0						
08N01E	2	0.0	0.0						
08N02W	1	0.0006	0.0006						
09N02E	3	0.0	0.0117	0.0	0.0	0.0	0.0058	0.0093	1
10N01E	1	0.01	0.01						
10N02W	3	0.0042	0.0063	0.0043	0.0044	0.0045	0.0054	0.006	1
15N02E	1	0.03	0.03						
16N02W	1	0.0062	0.0062						
20N02W	3	0.0164	0.0417	0.0214	0.029	0.0417	0.0417	0.0417	0
20N03W	9	0.0	0.0981	0.0044	0.0205	0.0208	0.03	0.0691	1
20N04W	17	0.0	0.0317	0.0	0.0036	0.0055	0.0071	0.0178	2
21N01W	2	0.0105	0.0105						
21N02W	6	0.0	0.0417	0.0	0.0022	0.0234	0.0407	0.0417	0
21N03W	18	0.0	0.0469	0.0	0.0092	0.0244	0.0469	0.0469	0
21N04W	2	0.0064	0.0175						
22N02W	2	0.0	0.0						
22N03W	10	0.007	0.025	0.007	0.0108	0.0124	0.0153	0.0163	1
23N02W	1	0.0003	0.0003						
24N02W	5	0.0	0.005	0.001	0.0026	0.005	0.005	0.005	0
24N03W	6	0.005	5.0	0.005	0.005	0.005	1.97	3.8125	1
25N03W	5	0.02	0.0209	0.02	0.02	0.0209	0.0209	0.0209	0

Table XVII-2. A/R Summary Statistics for OLIVE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

| T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N03E	1	0.0	0.0						
08N01E	2	0.0	0.0						
08N02W	1	0.199	0.199						
09N02E	3	0.0	3.7155	0.0	0.0	0.0	1.8577	2.9724	1
10N01E	1	3.1847	3.1847						
10N02W	3	1.3495	2.0156	1.3691	1.3985	1.4476	1.7316	1.902	1
15N02E	1	9.5541	9.5541						
16N02W	1	1.966	1.966						
20N02W	3	5.219	13.2696	6.8291	9.2443	13.2696	13.2696	13.2696	0
20N03W	9	0.0	31.2347	1.3985	6.5287	6.6182	9.5541	21.9993	1
20N04W	17	0.0	10.1008	0.0	1.1336	1.7482	2.2558	5.6776	2
21N01W	2	3.3439	3.3439						
21N02W	6	0.0	13.2696	0.0	0.7093	7.4395	12.9626	13.2696	0
21N03W	18	0.0	14.9517	0.0	2.9314	7.7719	14.9517	14.9517	0
21N04W	2	2.0316	5.5683						
22N02W	2	0.0	0.0						
22N03W	10	2.2293	7.9618	2.2293	3.4501	3.9544	4.8736	5.1824	1
23N02W	1	0.0818	0.0818						
24N02W	5	0.0	1.5924	0.3268	0.8169	1.5924	1.5924	1.5924	0
24N03W	6	1.5924	1592.3567	1.5924	1.5924	1.5924	627.3885	1214.172	1
25N03W	5	6.3694	6.6504	6.3694	6.3694	6.6504	6.6504	6.6504	0

Table XVII-3. A-R Summary Statistics for OLIVE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N03E	1	-12.56	-12.56						
08N01E	2	-18.84	-16.328						
08N02E	2	24.0	40.0						
08N02W	1	-2.012	-2.012						
09N02E	3	-6.28	51.16	-6.1544	-5.966	-5.652	22.754	39.7976	1
10N01E	1	34.3	34.3						
10N01W	1	28.0	28.0						
10N02W	6	0.0	32.0	0.0	3.092	12.658	18.3534	26.0776	1
11N03W	2	0.0	40.0						
15N01W	1	0.0	0.0						
15N02E	1	17.9067	17.9067						
15N04E	1	0.0	0.0						
16N02W	1	32.758	32.758						
19N01W	1	40.0	40.0						
20N02W	3	60.1444	231.16	94.3475	145.6522	231.16	231.16	231.16	0
20N03W	20	-1.884	112.904	0.0	50.313	77.22	85.0	109.534	2
20N04W	17	-6.908	76.5848	-6.908	1.342	6.578	18.928	62.9446	2
21N01W	4	0.0	29.44	0.0	0.0	14.72	29.44	29.44	0
21N02W	9	-15.028	168.4996	-3.087	10.0	10.0	92.464	107.6711	1
21N03W	31	-6.28	242.16	0.0	36.0	57.72	136.1	186.6236	1
21N04W	2	18.788	45.902						
22N02W	3	-33.284	3.0	-27.2552	-18.212	-3.14	-0.07	1.772	1
22N03W	15	0.0	80.276	0.0	0.0	43.44	46.16	80.276	0
23N02W	1	-74.96	-74.96						
24N02W	9	-37.68	3.72	-28.688	0.0	0.0	3.72	3.72	0
24N03W	8	0.0	199.8744	0.0	2.79	3.72	29.0086	133.3744	1
25N03W	8	0.0	67.44	0.0	0.0	60.324	62.103	67.44	0
26N03W	4	50.0	83.3	50.0	50.0	50.0	58.325	73.31	1

Table XVII-4. Summary Statistics for OLIVE management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	99	0.0	5.0	0.0	0.005	0.0089	0.0211	0.0442	10
A/R	99	0.0	1592.3567	0.0	1.5924	2.8373	6.7132	14.0731	10
A-R	99	-74.96	242.16	-6.908	3.72	32.758	76.5848	172.1244	10

Figure XVII-2. Scatter plot of A vs. Y for OLIVE with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
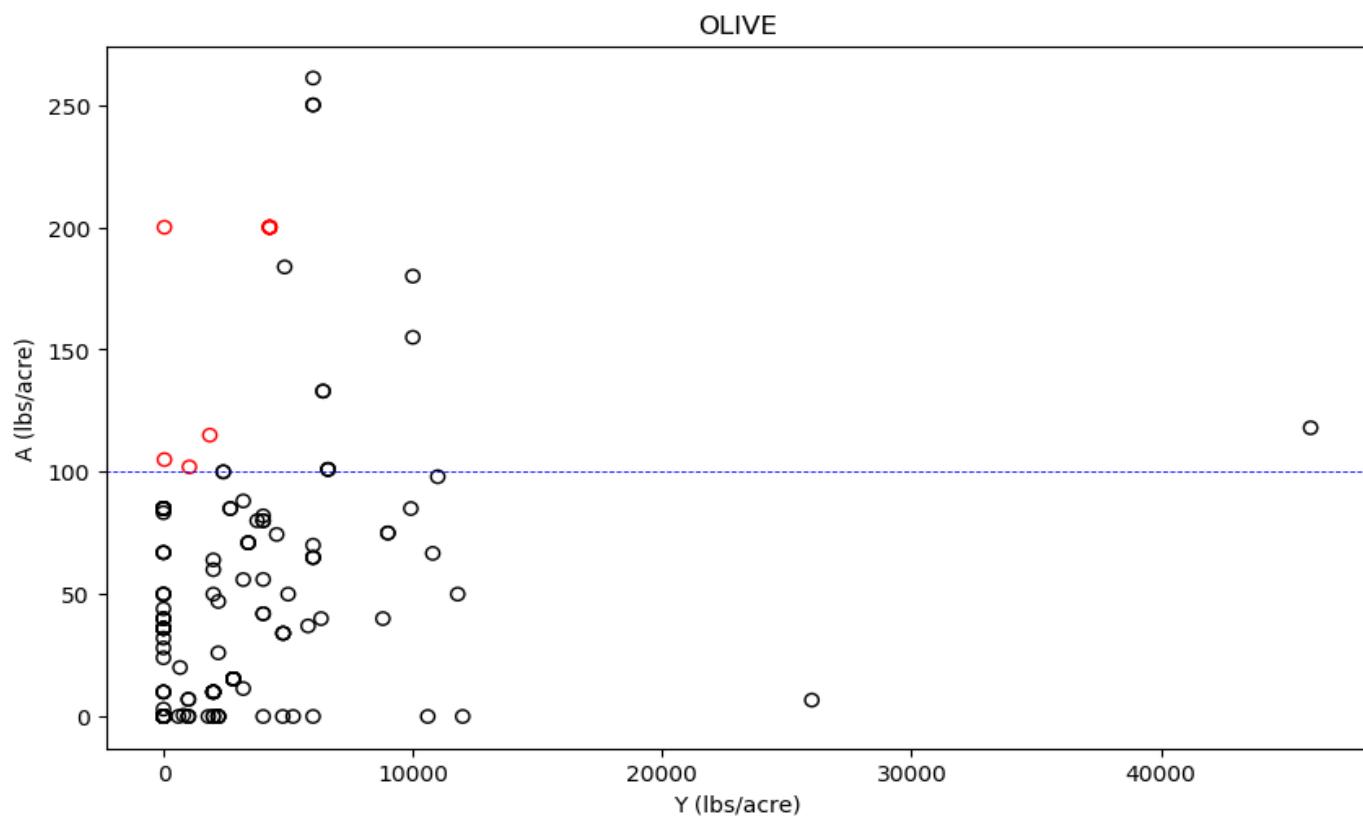
Figure XVII-3. Box and Whisker plots of A/Y for OLIVE management units grouped by Age.

Numbers at the top indicate the number of MU-parcels within each age group. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each age group. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
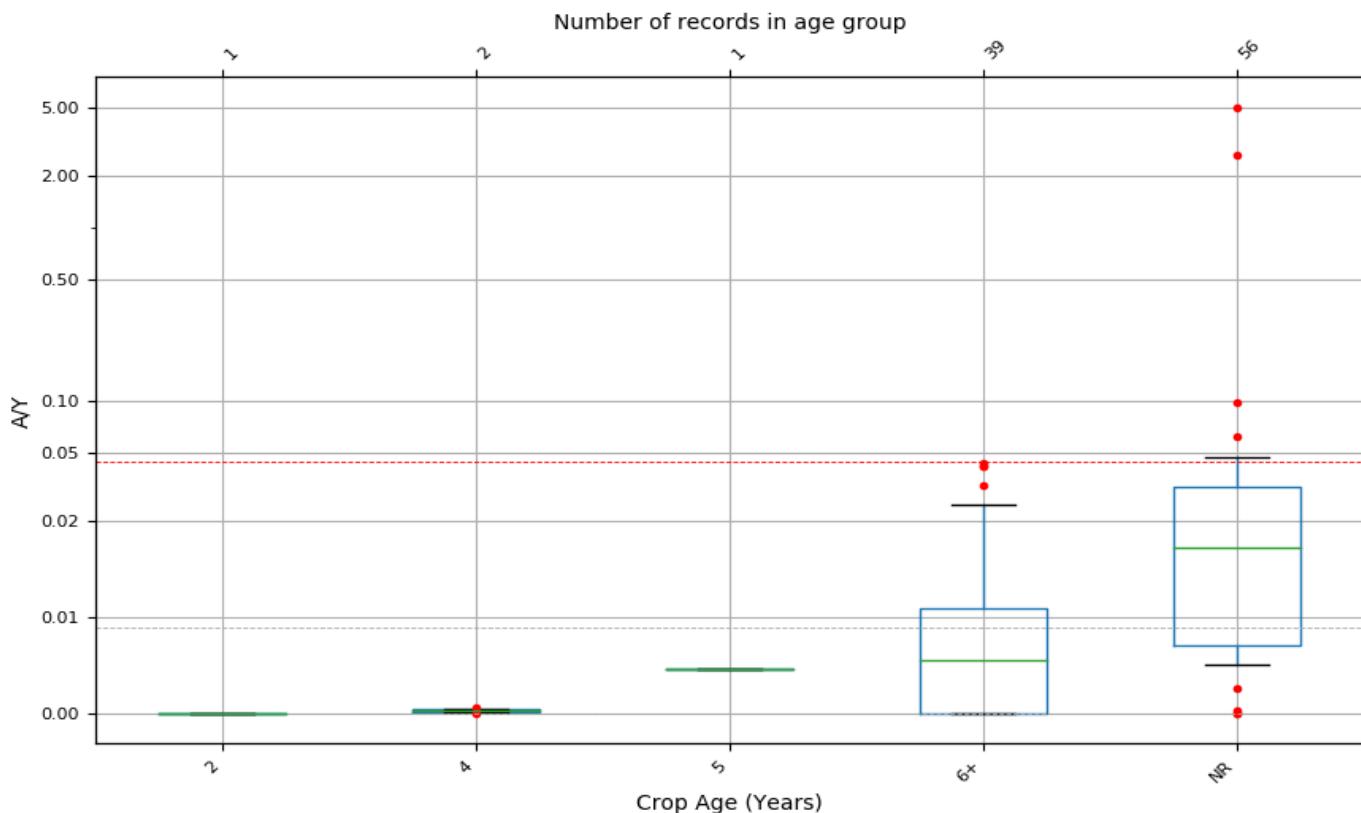
Table XVII-5. A/Y Summary Statistics for OLIVE management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
2	1	0.0	0.0						
4	2	0.0	0.0006						
5	1	0.0045	0.0045						
6+	39	0.0	0.0435	0.0	0.0	0.0055	0.0108	0.0264	4
NR	56	0.0	5.0	0.005	0.0071	0.0172	0.0317	0.0469	4

Table XVII-6. A/R Summary Statistics for OLIVE management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
2	1	0.0	0.0						
4	2	0.0	0.199						
5	1	1.4476	1.4476						
6+	39	0.0	13.8535	0.0	0.0	1.7482	3.4501	8.4076	4
NR	56	0.0	1592.3567	1.5924	2.2492	5.4757	10.1008	14.9517	4

Table XVII-7. A-R Summary Statistics for OLIVE management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
2	1	-6.908	-6.908						
4	2	-6.28	-2.012						
5	1	12.368	12.368						
6+	39	-33.284	242.16	-13.0536	-4.396	6.578	43.58	58.868	4
NR	56	-74.96	199.8744	3.72	18.5677	60.324	100.2694	186.6236	1

XVIII. PASTURE

Figure XVIII-1. Box and Whisker plots of A/Y for PASTURE management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
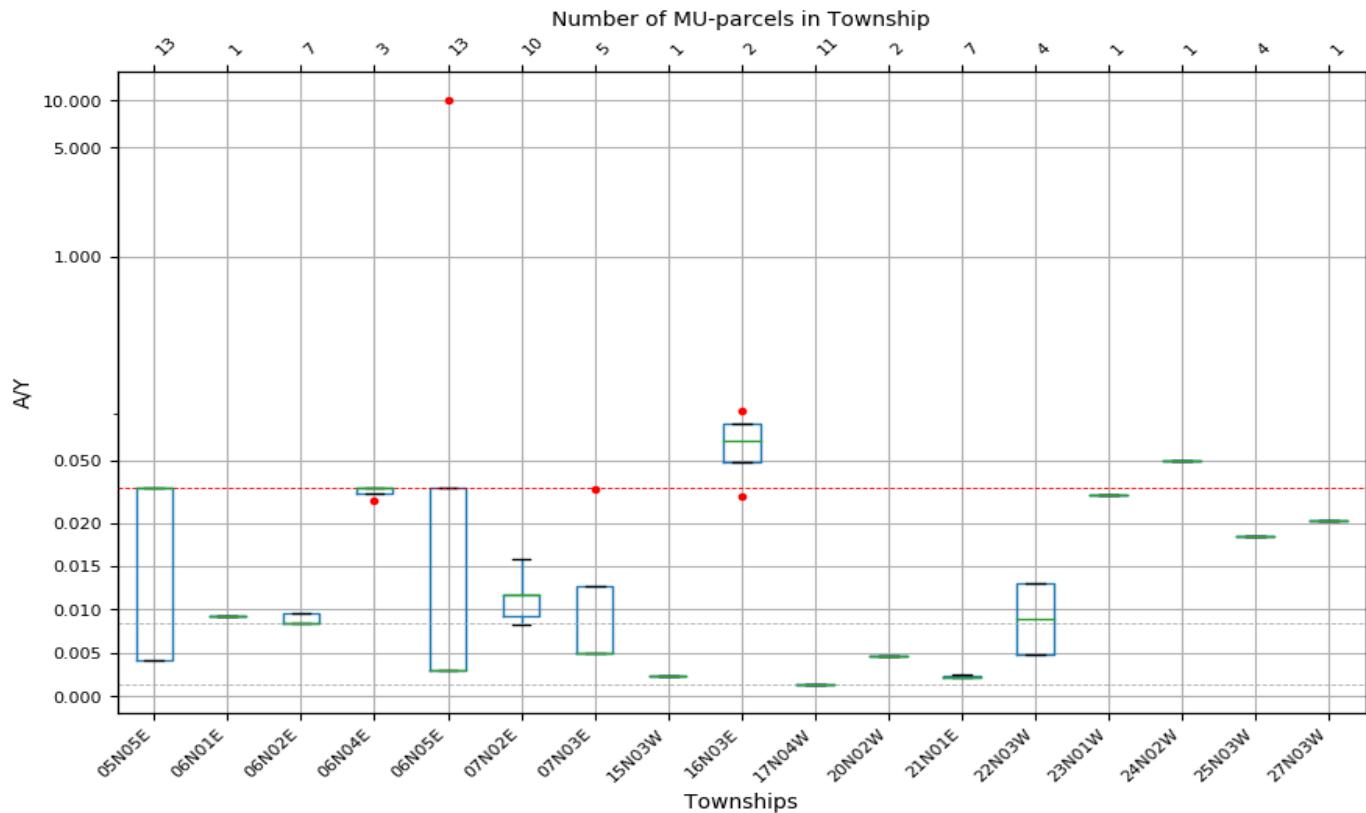
Table XVIII-1. A/Y Summary Statistics for PASTURE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N05E	13	0.0042	0.0333	0.0042	0.0042	0.0333	0.0333	0.0333	0
06N01E	1	0.0092	0.0092						
06N02E	7	0.0085	0.0096	0.0085	0.0085	0.0085	0.0096	0.0096	0
06N04E	3	0.0278	0.0333	0.0289	0.0306	0.0333	0.0333	0.0333	0
06N05E	13	0.003	10.0	0.003	0.003	0.003	0.0333	0.0333	1
07N02E	10	0.0082	0.0157	0.0082	0.0093	0.0116	0.0116	0.0157	0
07N03E	5	0.0049	0.033	0.0049	0.0049	0.0049	0.0128	0.0249	1
15N03W	1	0.0024	0.0024						
16N03E	2	0.0298	0.1048						
17N04W	11	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0
20N02W	2	0.0046	0.0046						
21N01E	7	0.0023	0.0025	0.0023	0.0023	0.0023	0.0024	0.0025	0
22N03W	4	0.0048	0.013	0.0048	0.0048	0.0089	0.013	0.013	0
23N01W	1	0.03	0.03						
24N02W	1	0.05	0.05						
25N03W	4	0.0185	0.0185	0.0185	0.0185	0.0185	0.0185	0.0185	0
27N03W	1	0.0205	0.0205						

Table XVIII-4. Summary Statistics for PASTURE management units in Coalition.

| Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	86	0.0015	10.0	0.0015	0.003	0.0085	0.026	0.0333	3
A/R	0								
A-R	0								

Figure XVIII-2. Scatter plot of A vs. Y for PASTURE with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
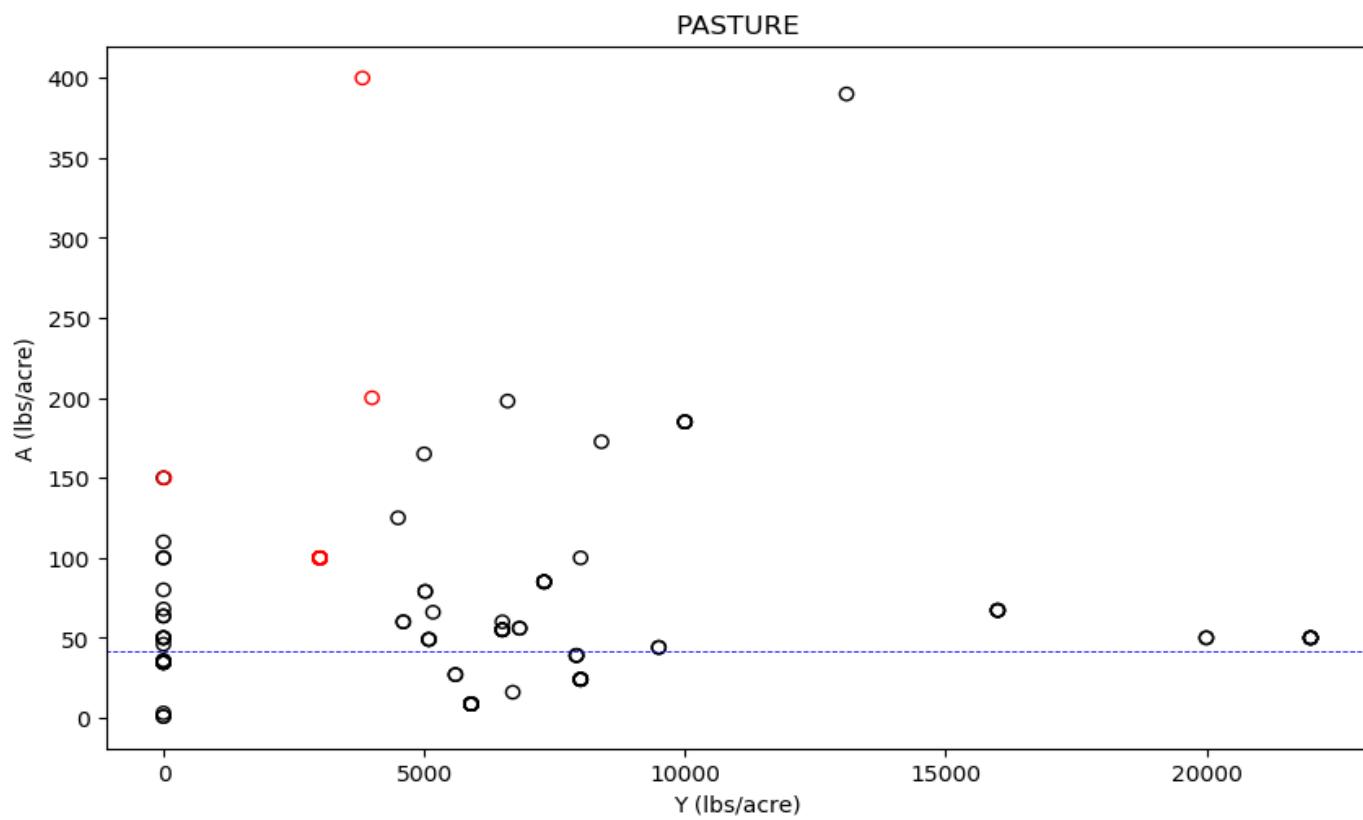
XIX. PEACH/NECTARINE

Figure XIX-1. Box and Whisker plots of A/Y for PEACH/NECTARINE management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
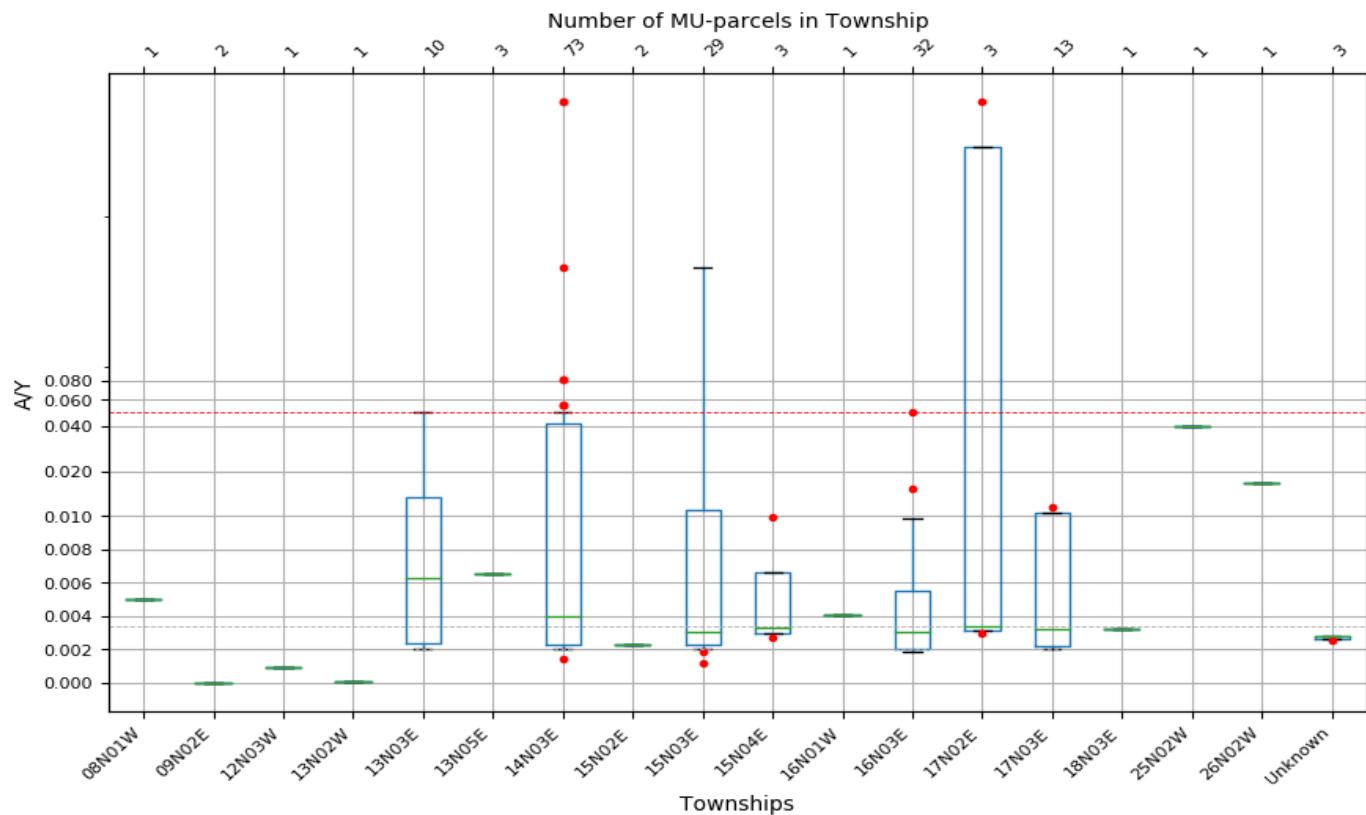
Table XIX-1. A/Y Summary Statistics for PEACH/NECTARINE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01W	1	0.0049	0.0049						
09N02E	2	0.0	0.0						
12N03W	1	0.0009	0.0009						
13N02W	1	0.0001	0.0001						
13N03E	10	0.002	0.05	0.002	0.0023	0.0063	0.0133	0.05	0
13N05E	3	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0.0065	0
14N03E	73	0.0014	5.8333	0.002	0.0023	0.004	0.0411	0.0544	8
15N02E	2	0.0023	0.0023						
15N03E	29	0.0011	0.4563	0.002	0.0022	0.003	0.0109	0.4563	0
15N04E	3	0.0027	0.01	0.0028	0.003	0.0032	0.0066	0.0086	1
16N01W	1	0.0041	0.0041						
16N03E	32	0.0018	0.05	0.0018	0.002	0.003	0.0055	0.0098	2
17N02E	3	0.0029	5.8333	0.003	0.0031	0.0033	2.9183	4.6673	1
17N03E	13	0.002	0.0116	0.002	0.0021	0.0032	0.0106	0.0106	1
18N03E	1	0.0032	0.0032						
25N02W	1	0.04	0.04						
26N02W	1	0.0167	0.0167						
Unknown	3	0.0025	0.0028	0.0026	0.0026	0.0028	0.0028	0.0028	2

Table XIX-2. A/R Summary Statistics for PEACH/NECTARINE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01W	1	4.3801	4.3801						
09N02E	2	0.0	0.0						
12N03W	1	0.7753	0.7753						
13N02W	1	0.0737	0.0737						
13N03E	10	1.7699	44.2478	1.7699	2.0649	5.5678	11.7573	44.2478	0
13N05E	3	5.7514	5.7514	5.7514	5.7514	5.7514	5.7514	5.7514	0
14N03E	73	1.2642	5162.2419	1.7383	2.0113	3.5398	36.4097	48.1809	8
15N02E	2	2.0113	2.0113						
15N03E	29	0.9833	403.8359	1.7383	1.9753	2.6902	9.6237	403.8359	0
15N04E	3	2.3544	8.809	2.4576	2.6123	2.8701	5.8396	7.6212	1
16N01W	1	3.6184	3.6184						
16N03E	32	1.6119	44.2478	1.6119	1.7699	2.6443	4.9061	8.7079	2
17N02E	3	2.58	5162.2419	2.6539	2.7649	2.9499	2582.5959	4130.3835	1
17N03E	13	1.7938	10.2258	1.7938	1.8963	2.8364	9.4011	9.4011	1
18N03E	1	2.8364	2.8364						
25N02W	1	35.3982	35.3982						
26N02W	1	14.7493	14.7493						
Unknown	3	2.2124	2.4582	2.2616	2.3353	2.4582	2.4582	2.4582	0

Table XIX-3. A-R Summary Statistics for PEACH/NECTARINE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01W	1	41.633	41.633						
08N02E	1	64.0	64.0						
09N02E	2	-0.113	-0.0226						
12N02E	1	95.0	95.0						
12N03W	1	-4.6361	-4.6361						
13N02W	1	-18.84	-18.84						
13N03E	10	34.8	162.4	34.8	45.93	83.14	131.98	148.189	1
13N05E	3	61.9598	61.9598	61.9598	61.9598	61.9598	61.9598	61.9598	0
14N03E	78	0.0	162.74	46.72	50.28	89.56	129.36	146.7117	8
14N05E	1	0.0	0.0						
15N02E	2	50.28	50.28						
15N03E	30	-0.68	151.7333	45.398	47.61	65.2774	117.071	151.7333	0
15N04E	6	0.0	103.9486	0.0	0.0	27.9007	72.5928	91.0693	1
16N01W	1	50.6544	50.6544						
16N03E	36	0.0	265.1508	19.36	29.7325	57.1708	104.3609	130.705	4
17N02E	3	48.9917	139.9729	55.0573	64.1558	79.32	109.6464	127.8423	1
17N03E	18	0.0	145.0	0.0	33.19	70.125	111.6412	131.9971	2
18N03E	1	80.93	80.93						
25N02W	1	19.435	19.435						
26N02W	1	93.22	93.22						
Unknown	3	49.32	59.32	51.32	54.32	59.32	59.32	59.32	0

Table XIX-4. Summary Statistics for PEACH/NECTARINE management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	180	0.0	5.8333	0.002	0.002	0.0034	0.01	0.05	14
A/R	180	0.0	5162.2419	1.7383	1.7938	2.9683	8.809	44.2478	14
A-R	180	-18.84	265.1508	33.469	46.72	79.32	111.8109	146.6439	18

Figure XIX-2. Scatter plot of A vs. Y for PEACH/NECTARINE with all T-R together.
Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
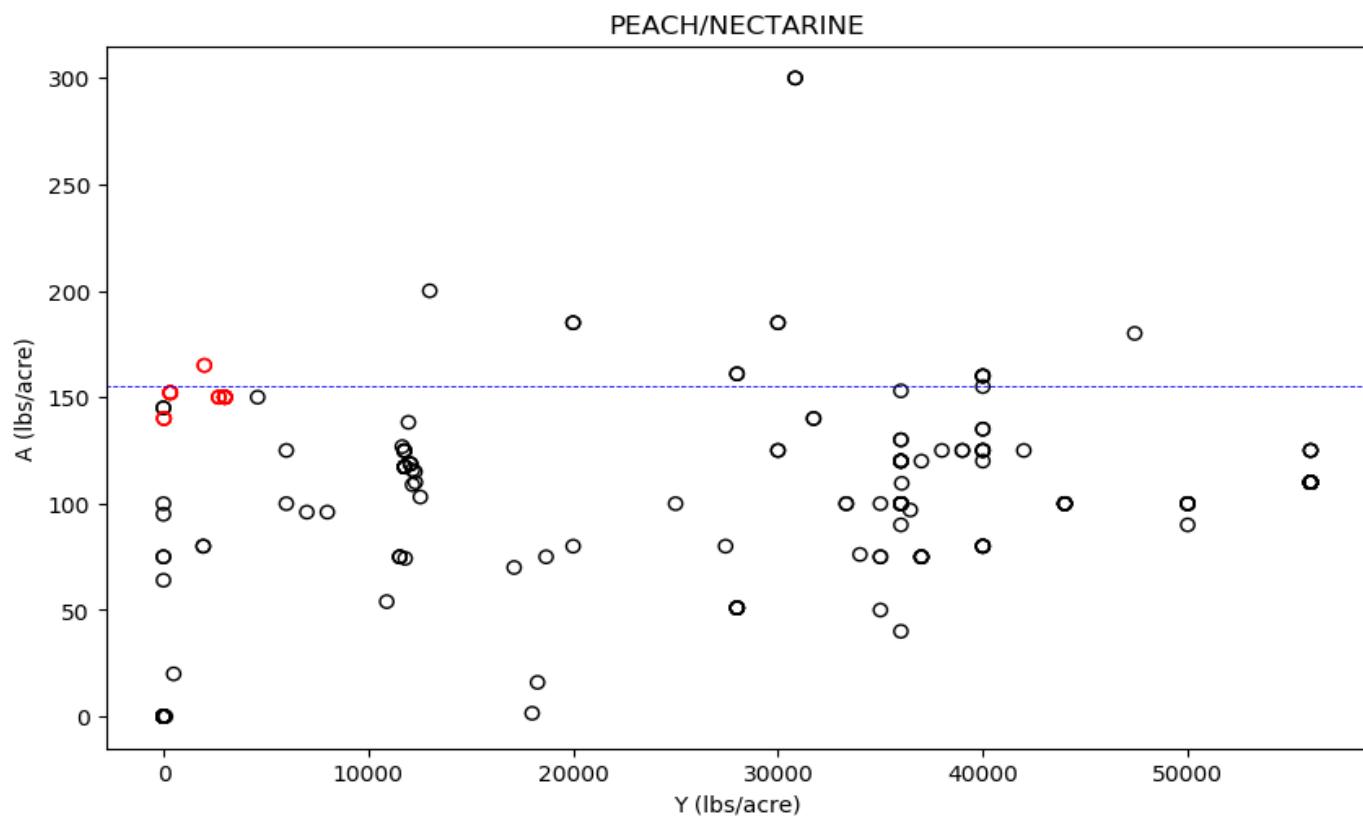
XX. PEAR

Figure XX-1. Box and Whisker plots of A/Y for PEAR management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
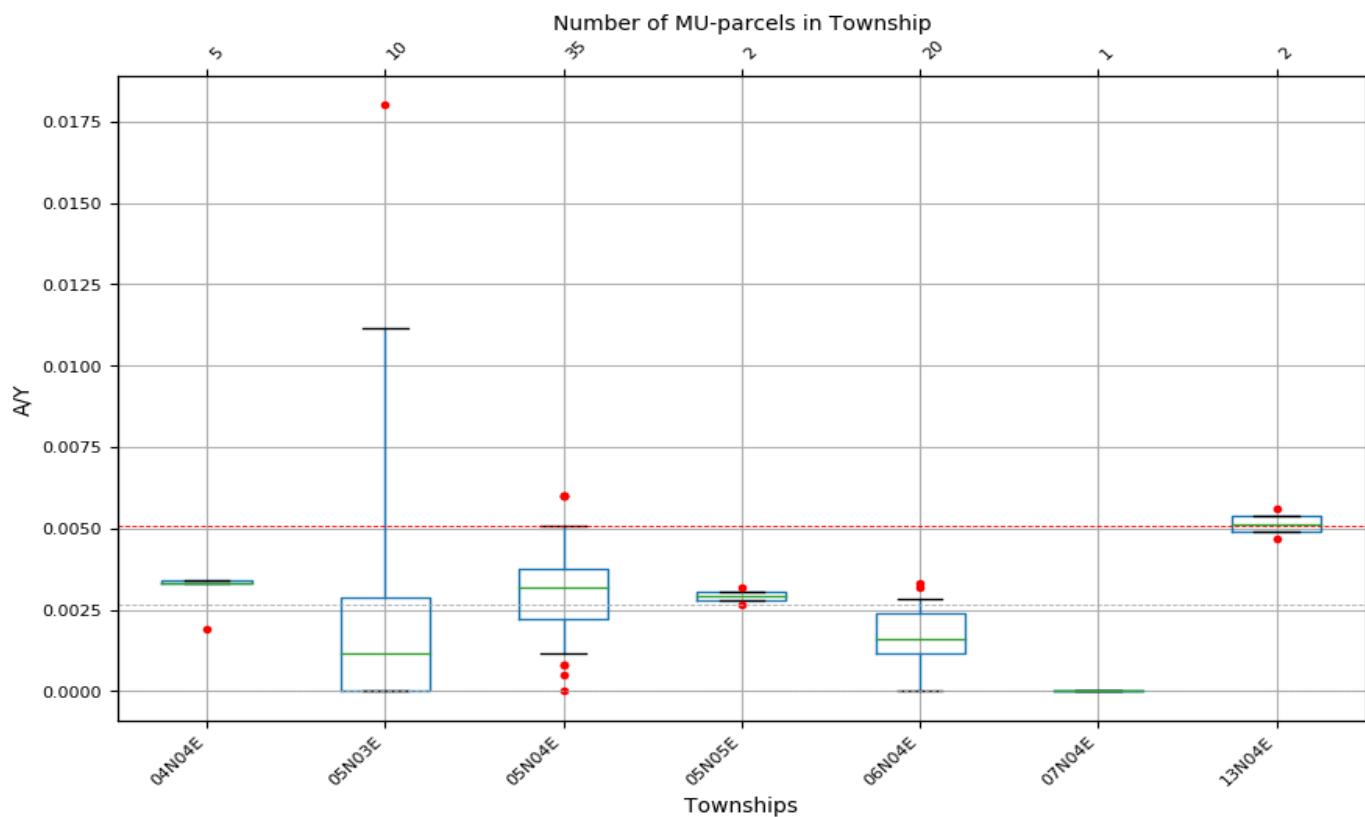
Table XX-1. A/Y Summary Statistics for PEAR management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N04E	5	0.0019	0.0034	0.0025	0.0033	0.0033	0.0034	0.0034	0
05N03E	10	0.0	0.018	0.0	0.0	0.0012	0.0029	0.0118	1
05N04E	35	0.0	0.006	0.001	0.0022	0.0032	0.0038	0.0056	4
05N05E	2	0.0026	0.0032						
06N04E	20	0.0	0.0033	0.0	0.0012	0.0016	0.0024	0.0029	2
07N04E	1	0.0	0.0						
13N04E	2	0.0047	0.0056						

Table XX-2. A/R Summary Statistics for PEAR management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

| T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N04E	5	2.9958	5.2632	3.8464	5.1224	5.1224	5.2632	5.2632	0
05N03E	10	0.0	27.907	0.0	0.0	1.824	4.4712	18.3638	1
05N04E	35	0.0	9.3023	1.4738	3.422	4.9225	5.814	8.7442	4
05N05E	2	4.104	4.9225						
06N04E	20	0.0	5.168	0.0	1.824	2.4624	3.7209	4.4457	2
07N04E	1	0.0	0.0						
13N04E	2	7.2351	8.6822						

Table XX-3. A-R Summary Statistics for PEAR management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N04E	5	69.9507	104.49	75.7712	84.5019	84.5019	104.49	104.49	0
05N03E	10	-25.8	173.55	-25.8	-25.8	18.07	35.0128	59.7544	1
05N04E	36	-32.25	133.65	7.75	63.5125	86.2274	114.4975	123.555	4
05N05E	2	68.07	101.2						
06N04E	30	-32.25	101.2	-25.8	18.07	40.0	58.65	80.0	1
07N03E	1	40.0	40.0						
07N04E	1	-25.026	-25.026						
13N04E	2	120.65	123.875						

Table XX-4. Summary Statistics for PEAR management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	75	0.0	0.018	0.0	0.0012	0.0026	0.0034	0.0051	7
A/R	75	0.0	27.907	0.0	1.824	4.104	5.2743	7.907	7
A-R	75	-32.25	173.55	-25.8	18.07	64.52	100.394	121.62	7

**Figure XX-2. Scatter plot of A vs. Y for PEAR with all T-R together.**

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
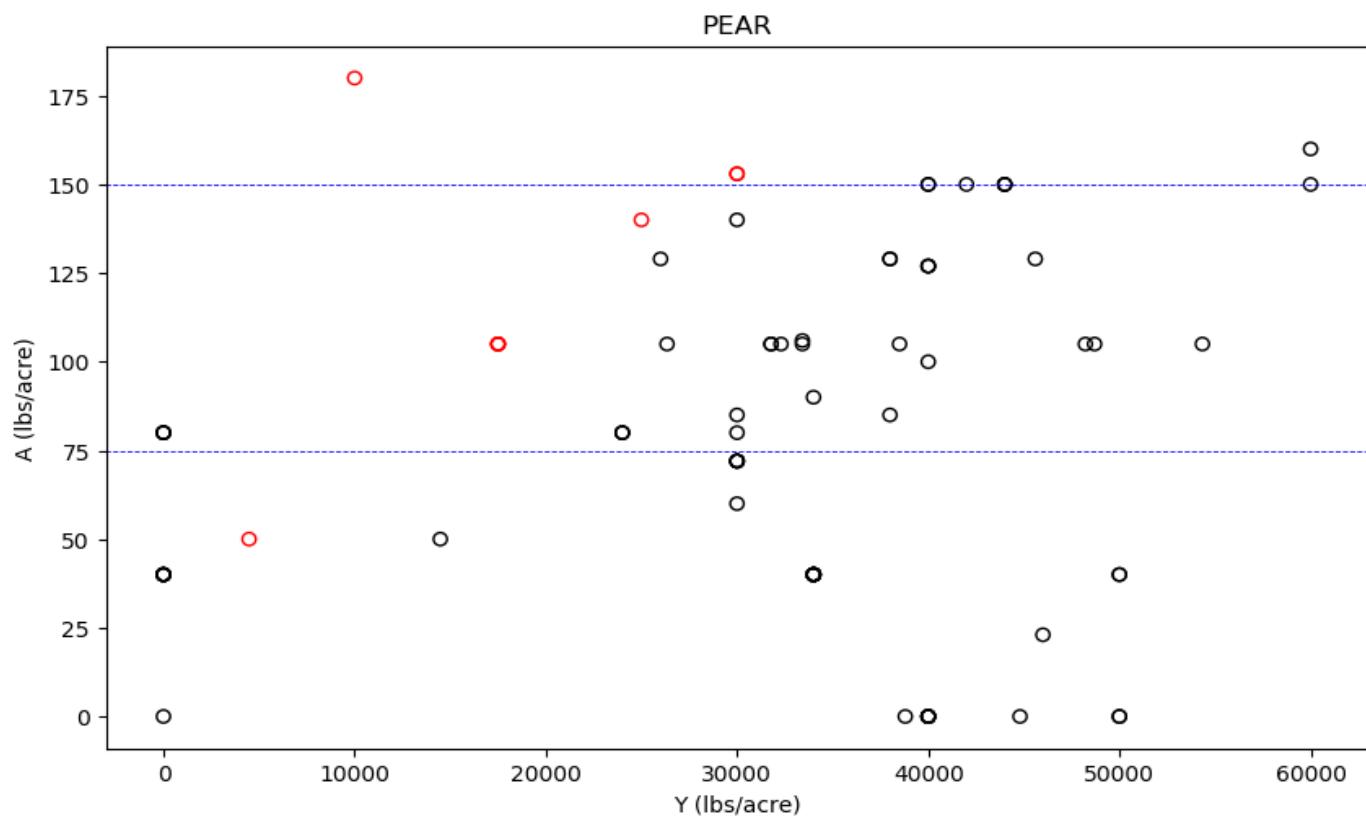
XXI. PECAN

Figure XXI-1. Box and Whisker plots of A/Y for PECAN management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
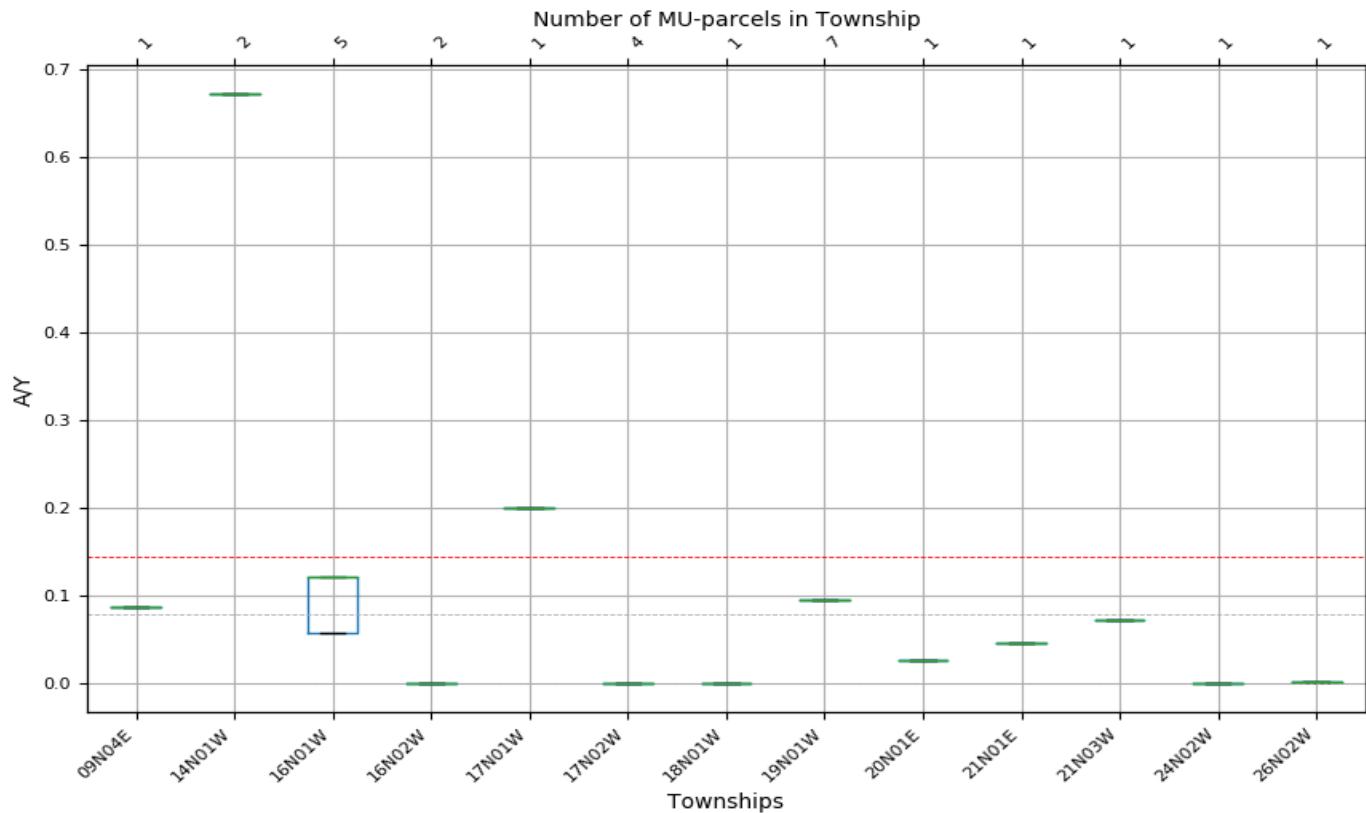
Table XXI-1. A/Y Summary Statistics for PECAN management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
09N04E	1	0.0866	0.0866						
14N01W	2	0.671	0.671						
16N01W	5	0.0563	0.12	0.0563	0.0563	0.12	0.12	0.12	0
16N02W	2	0.0	0.0						
17N01W	1	0.2	0.2						
17N02W	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
18N01W	1	0.0	0.0						
19N01W	7	0.0944	0.0944	0.0944	0.0944	0.0944	0.0944	0.0944	0
20N01E	1	0.0257	0.0257						
21N01E	1	0.0455	0.0455						
21N03W	1	0.0708	0.0708						
24N02W	1	0.0	0.0						
26N02W	1	0.0016	0.0016						

Table XXI-4. Summary Statistics for PECAN management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	28	0.0	0.671	0.0	0.0	0.0787	0.0944	0.144	3
A/R	0								
A-R	0								

Figure XXI-2. Scatter plot of A vs. Y for PECAN with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
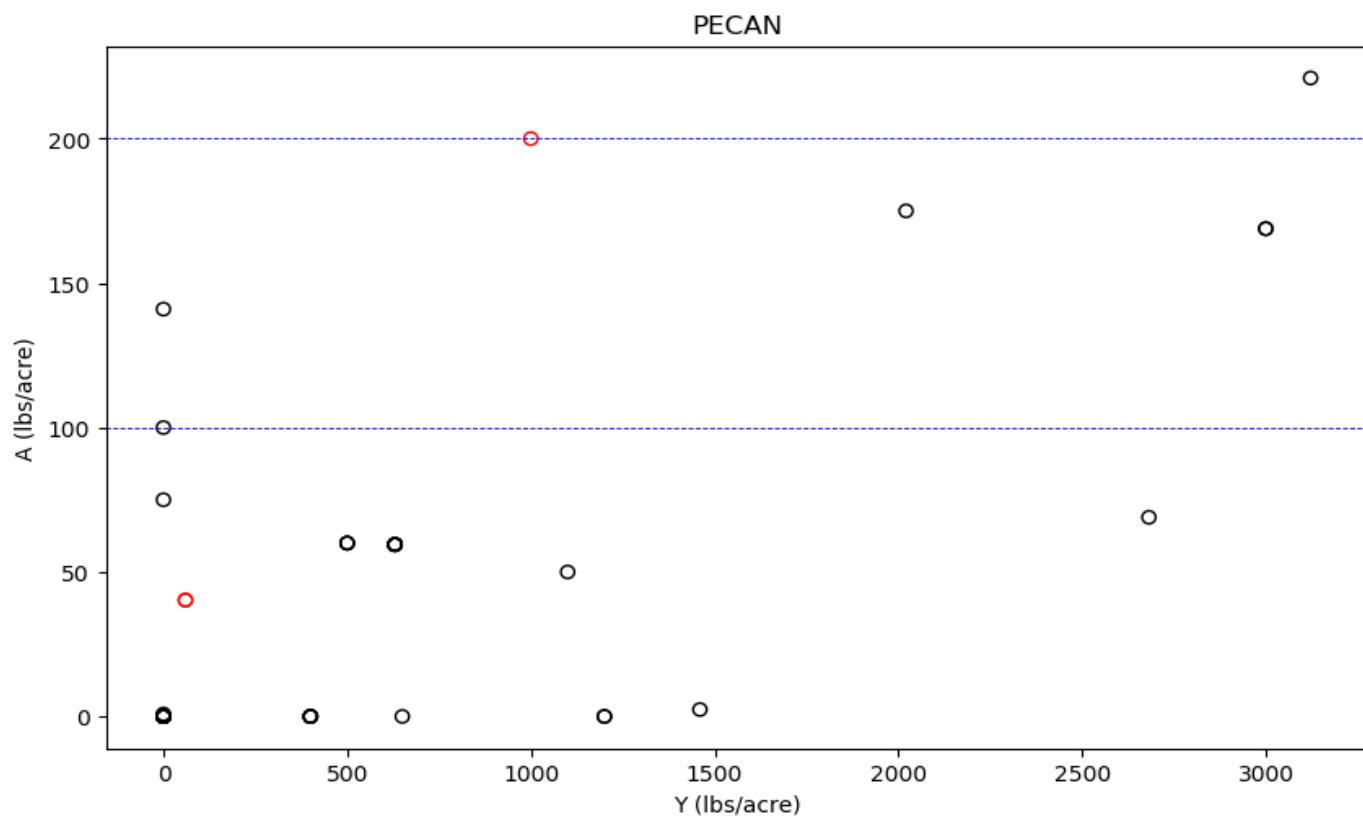
XXII. PEPPER

Figure XXII-1. Box and Whisker plots of A/Y for PEPPER management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
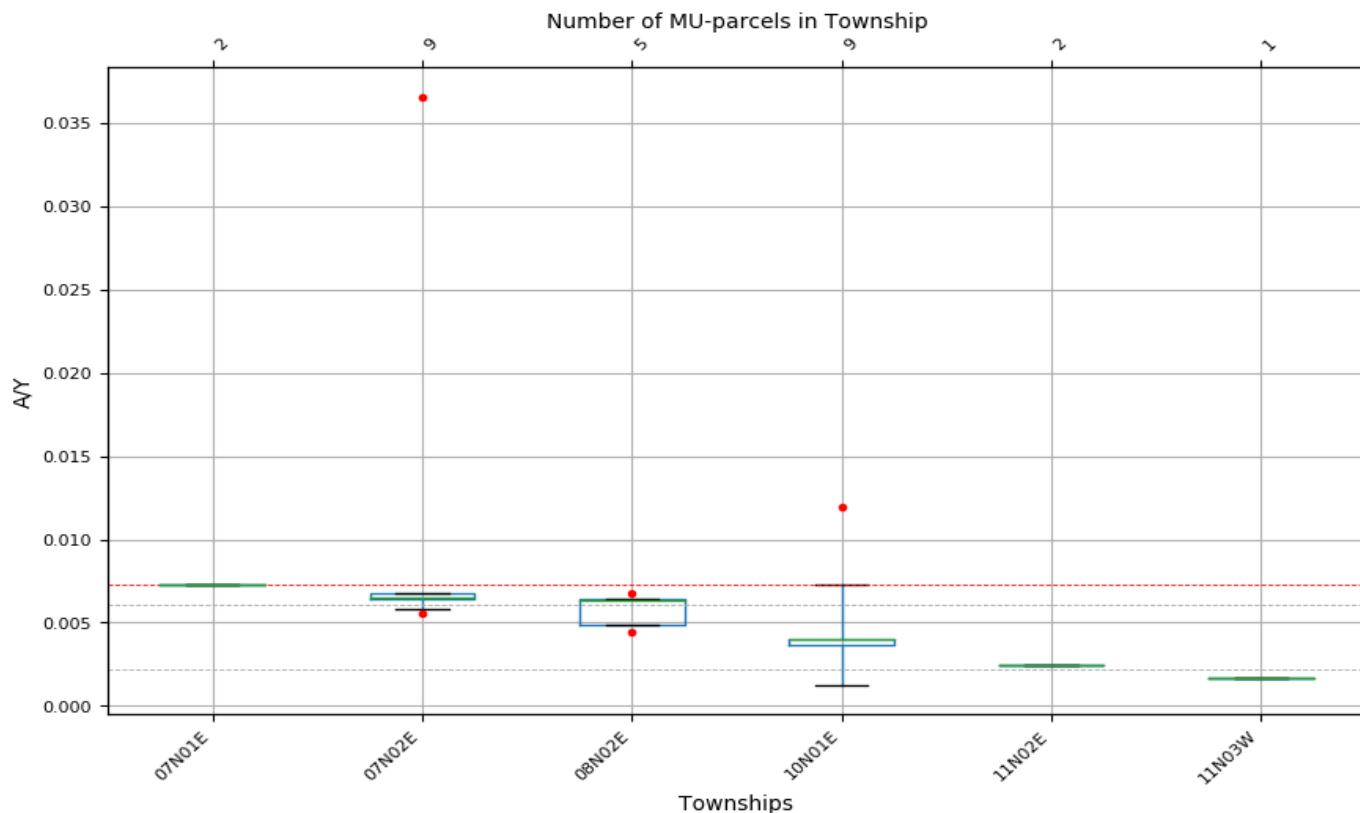
Table XXII-1. A/Y Summary Statistics for PEPPER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N01E	2	0.0073	0.0073						
07N02E	9	0.0056	0.0366	0.0057	0.0064	0.0065	0.0068	0.0128	1
08N02E	5	0.0045	0.0068	0.0046	0.0049	0.0064	0.0064	0.0066	1
10N01E	9	0.0013	0.0119	0.0013	0.0037	0.004	0.004	0.0082	1
11N02E	2	0.0024	0.0024						
11N03W	1	0.0017	0.0017						

Table XXII-2. A/R Summary Statistics for PEPPER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N01E	2	4.415	4.415						
07N02E	9	3.3706	22.0975	3.4708	3.8778	3.9183	4.1108	7.7082	1
08N02E	5	2.7053	4.1095	2.8054	2.9555	3.8451	3.8778	4.0168	1
10N01E	9	0.7684	7.2091	0.7684	2.2235	2.4089	2.4089	4.9466	1
11N02E	2	1.469	1.469						
11N03W	1	1.007	1.007						

Table XXII-3. A-R Summary Statistics for PEPPER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N01E	2	147.7383	147.7383						
07N02E	9	61.1038	177.3678	138.7475	158.1584	159.385	173.49	177.3678	0
08N02E	5	124.18	178.5715	134.056	148.87	165.744	177.3678	178.09	1
10N01E	9	-20.8003	149.0025	-20.8003	88.0406	98.2583	98.2583	124.8787	1
11N02E	2	50.763	50.763						
11N03W	1	0.14	0.14						

Table XXII-4. Summary Statistics for PEPPER management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	28	0.0013	0.0366	0.0022	0.0039	0.0061	0.0068	0.0073	2
A/R	28	0.7684	22.0975	1.3304	2.3625	3.6705	4.1108	4.415	2
A-R	28	-20.8003	178.5715	35.5761	88.0406	147.7383	160.9748	177.3678	1

**Figure XXII-2. Scatter plot of A vs. Y for PEPPER with all T-R together.**

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
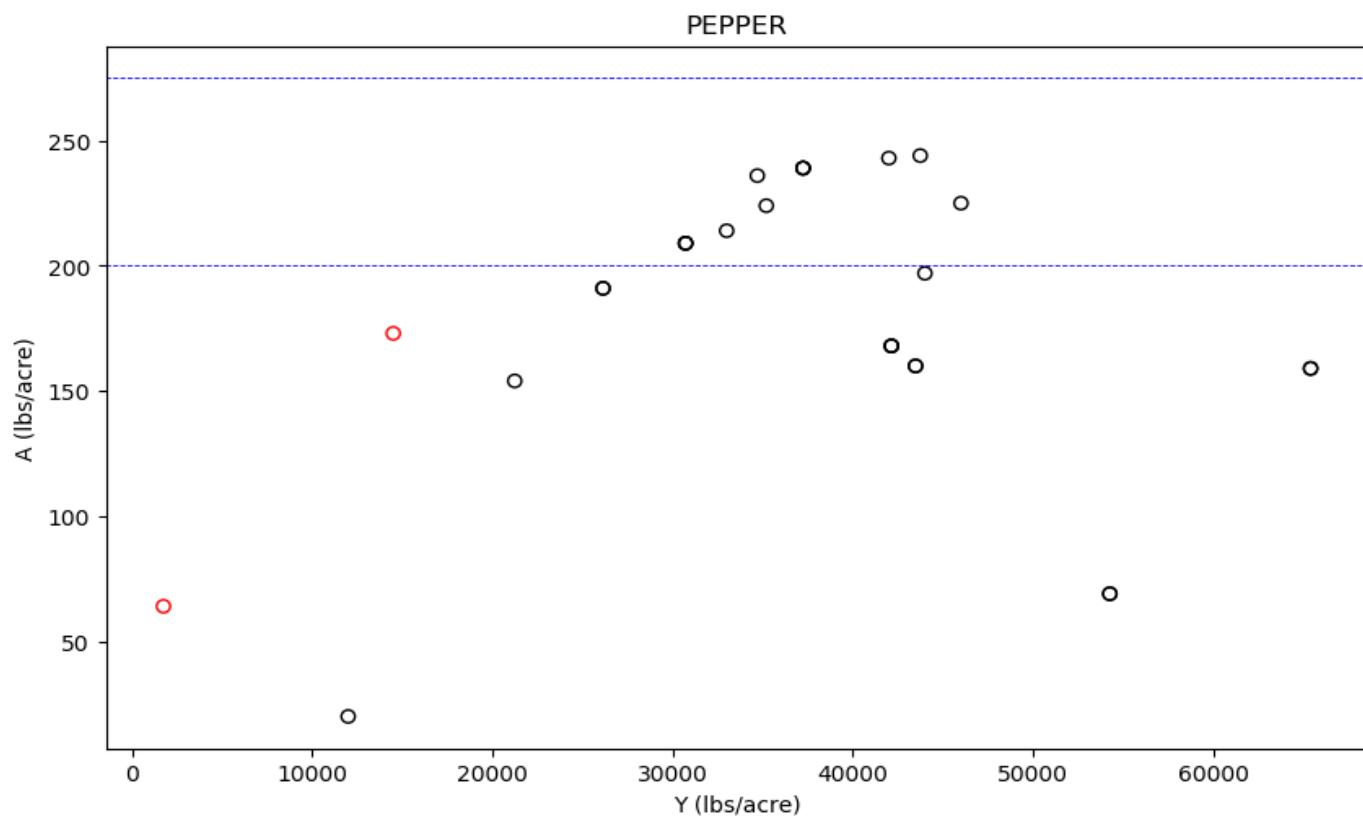
XXIII. PISTACHIO

Figure XXIII-1. Box and Whisker plots of A/Y for PISTACHIO management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
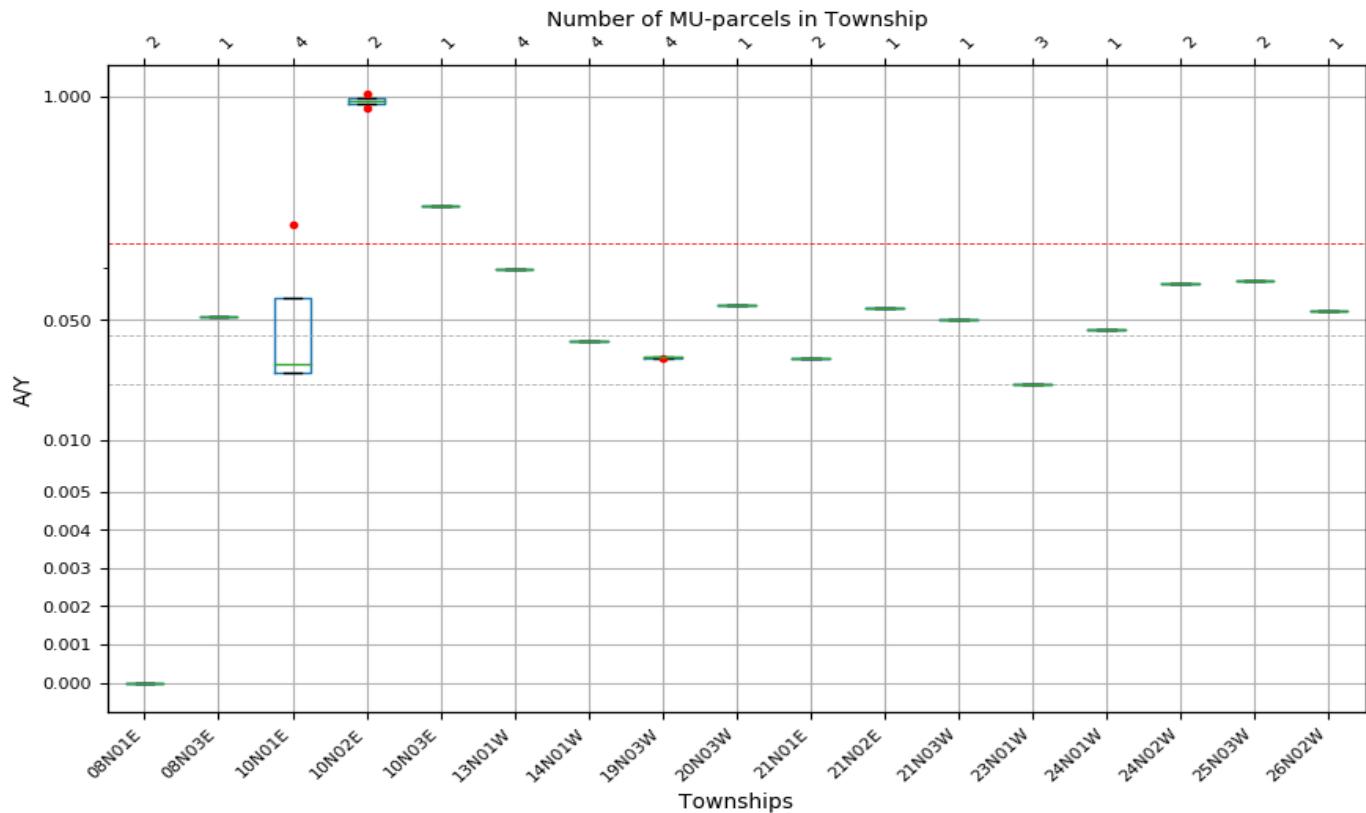
Table XXIII-1. A/Y Summary Statistics for PISTACHIO management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01E	2	0.0	0.0						
08N03E	1	0.0527	0.0527						
10N01E	4	0.0249	0.1788	0.0249	0.0249	0.0276	0.0675	0.1342	1
10N02E	2	0.86	1.0321						
10N03E	1	0.2305	0.2305						
13N01W	4	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0.0991	0
14N01W	4	0.0374	0.0374	0.0374	0.0374	0.0374	0.0374	0.0374	0
19N03W	4	0.0299	0.0303	0.03	0.0302	0.0303	0.0303	0.0303	0
20N03W	1	0.0609	0.0609						
21N01E	2	0.03	0.03						
21N02E	1	0.0583	0.0583						
21N03W	1	0.0503	0.0503						
23N01W	3	0.0213	0.0213	0.0213	0.0213	0.0213	0.0213	0.0213	0
24N01W	1	0.0444	0.0444						
24N02W	2	0.0814	0.0814						
25N03W	2	0.085	0.085						
26N02W	1	0.0562	0.0562						

Table XXIII-2. A/R Summary Statistics for PISTACHIO management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01E	2	0.0	0.0						
08N03E	1	1.8801	1.8801						
10N01E	4	0.8862	6.3729	0.8862	0.8862	0.9847	2.4057	4.786	1
10N02E	2	30.6595	36.7945						
10N03E	1	8.2185	8.2185						
13N01W	4	3.5329	3.5329	3.5329	3.5329	3.5329	3.5329	3.5329	0
14N01W	4	1.3334	1.3334	1.3334	1.3334	1.3334	1.3334	1.3334	0
19N03W	4	1.0655	1.0807	1.0701	1.0769	1.0807	1.0807	1.0807	0
20N03W	1	2.17	2.17						
21N01E	2	1.0695	1.0695						
21N02E	1	2.0796	2.0796						
21N03W	1	1.7917	1.7917						
23N01W	3	0.7605	0.7605	0.7605	0.7605	0.7605	0.7605	0.7605	0
24N01W	1	1.5845	1.5845						
24N02W	2	2.9023	2.9023						
25N03W	2	3.0303	3.0303						
26N02W	1	2.0019	2.0019						

Table XXIII-3. A-R Summary Statistics for PISTACHIO management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01E	2	-143.055	-35.0625						
08N02E	5	0.0	46.3	8.0	20.0	46.3	46.3	46.3	0
08N03E	1	67.643	67.643						
09N02E	10	0.0	109.0	0.0	10.71	20.0	109.0	109.0	0
10N01E	8	-12.9672	225.0	-12.9672	2.5796	17.5	95.1138	155.0	1
10N02E	7	144.5	187.7546	157.634	173.195	180.0	180.0	183.1019	1
10N03E	2	86.0	129.9919						
11N03E	11	4.0	17.0	4.0	4.0	11.0	17.0	17.0	0
13N01W	4	107.994	107.994	107.994	107.994	107.994	107.994	107.994	0
14N01W	4	42.3018	42.3018	42.3018	42.3018	42.3018	42.3018	42.3018	0
15N02E	1	0.0	0.0						
15N03E	1	60.0	60.0						
19N03W	4	8.6058	10.6058	9.2058	10.1058	10.6058	10.6058	10.6058	0
20N03W	1	105.679	105.679						
21N01E	2	5.265	5.265						
21N02E	1	36.34	36.34						
21N03W	3	18.9	77.3299	22.72	28.45	38.0	57.665	69.4639	1
21N04W	2	15.0	15.0						
23N01W	4	-20.15	0.0	-20.15	-20.15	-20.15	-15.1125	-6.045	1
24N01W	1	29.51	29.51						
24N02W	2	87.8297	87.8297						
25N02W	3	30.0	65.0	33.0	37.5	45.0	55.0	61.0	1
25N03W	3	85.0	113.9	90.78	99.45	113.9	113.9	113.9	0
26N02W	1	36.535	36.535						

Table XXIII-4. Summary Statistics for PISTACHIO management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	36	0.0	1.0321	0.0213	0.03	0.0409	0.085	0.1389	4
A/R	36	0.0	36.7945	0.7605	1.0695	1.4589	3.0303	4.9529	4
A-R	36	-143.055	187.7546	-20.15	7.1376	42.3018	106.2578	113.9	3

Figure XXIII-2. Scatter plot of A vs. Y for PISTACHIO with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
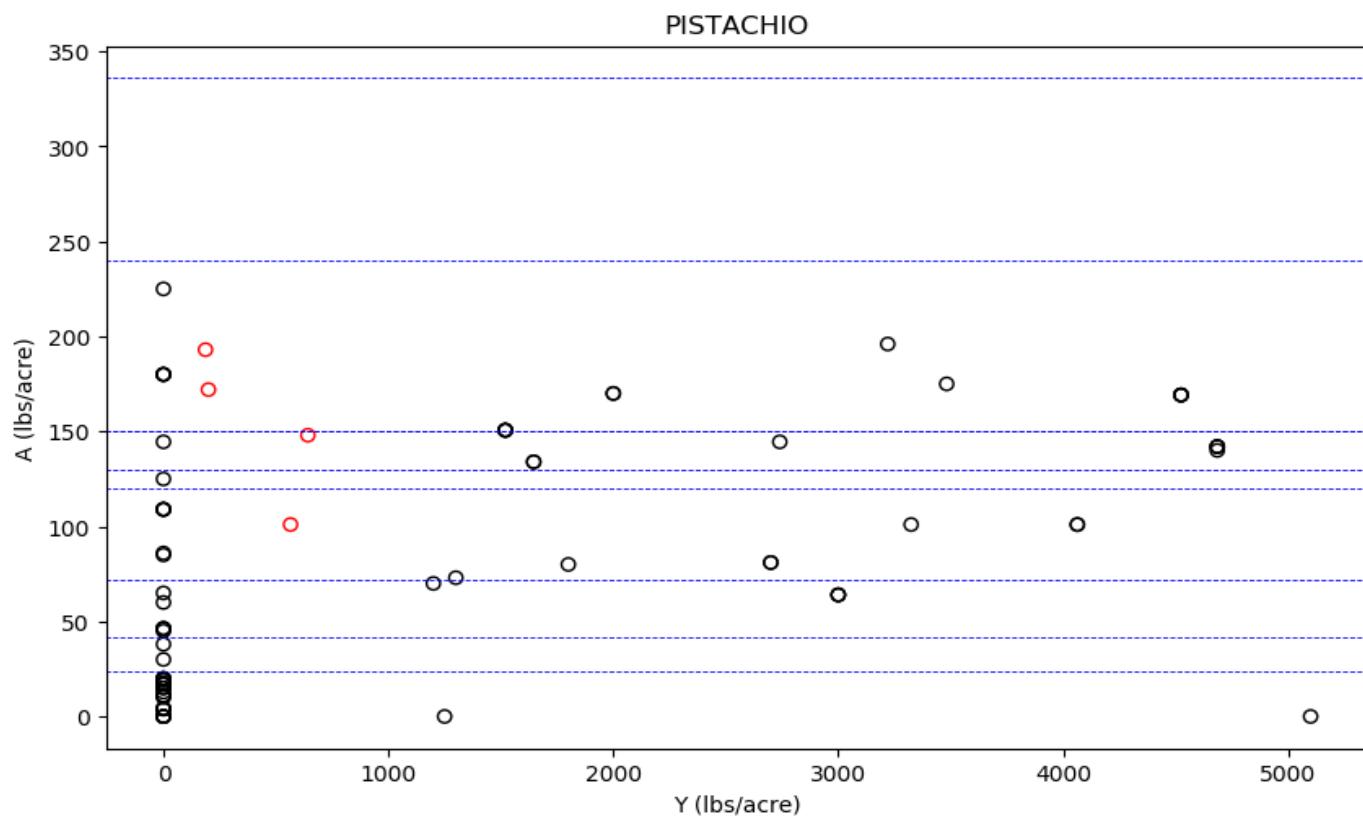
Figure XXIII-3. Box and Whisker plots of A/Y for PISTACHIO management units grouped by Age.

Numbers at the top indicate the number of MU-parcels within each age group. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each age group. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
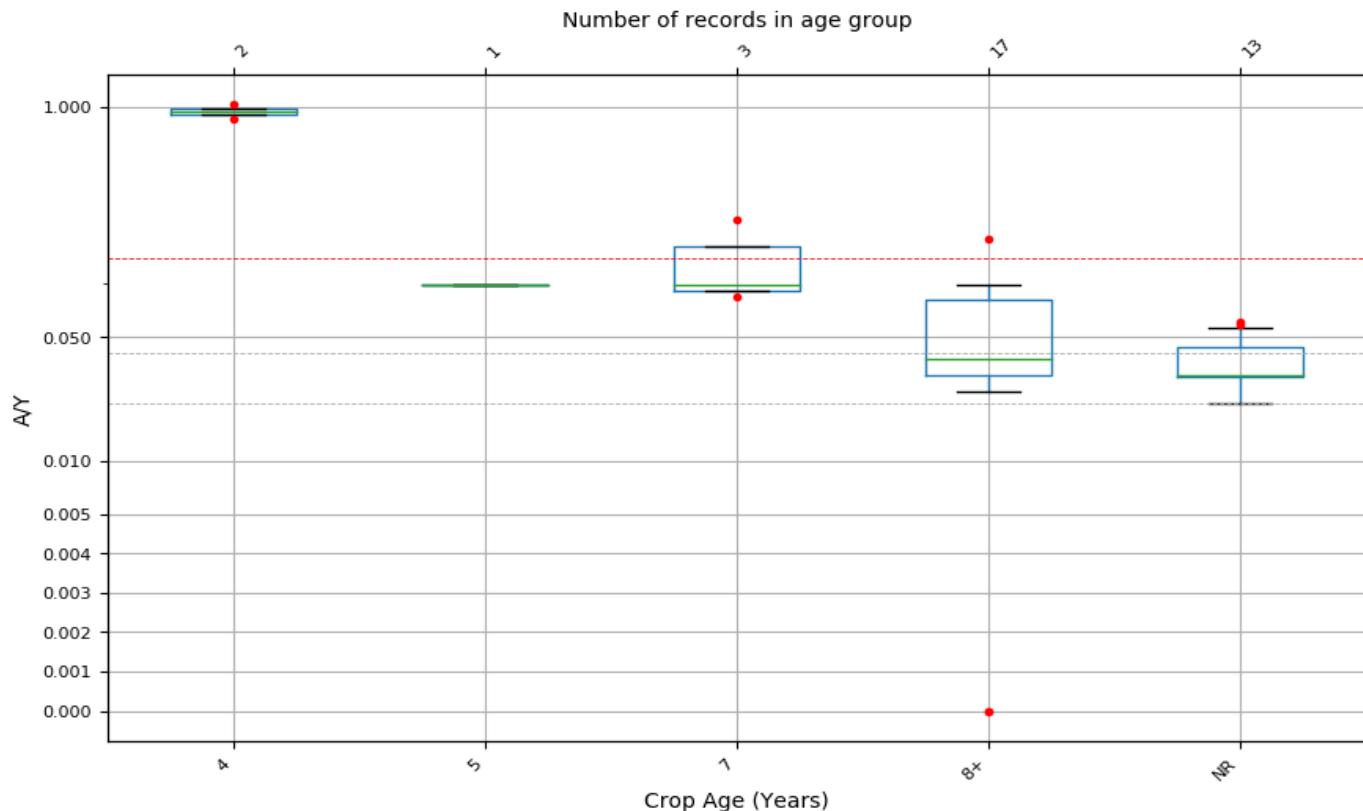
Table XXIII-5. A/Y Summary Statistics for PISTACHIO management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
4	2	0.86	1.0321						
5	1	0.0991	0.0991						
7	3	0.085	0.2305	0.0878	0.092	0.0991	0.1648	0.2042	1
8+	17	0.0	0.1788	0.0149	0.0304	0.0374	0.0814	0.0991	1
NR	13	0.0213	0.0609	0.0213	0.0299	0.0303	0.0444	0.0579	2

Table XXIII-6. A/R Summary Statistics for PISTACHIO management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
4	2	30.6595	36.7945						
5	1	3.5329	3.5329						
7	3	3.0303	8.2185	3.1308	3.2816	3.5329	5.8757	7.2814	1
8+	17	0.0	6.3729	0.5317	1.0832	1.3334	2.9023	3.5329	1
NR	13	0.7605	2.17	0.7605	1.0655	1.0807	1.5845	2.0641	2

Table XXIII-7. A-R Summary Statistics for PISTACHIO management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
4	2	166.39	187.7546						
5	1	107.994	107.994						
7	3	107.994	129.9919	109.1752	110.947	113.9	121.946	126.7735	1
8+	17	-143.055	113.9	-21.8053	7.7618	42.3018	87.8297	107.994	1
NR	13	-20.15	105.679	-20.15	5.265	10.6058	29.51	36.496	2

XXIV. PRUNE

Figure XXIV-1. Box and Whisker plots of A/Y for PRUNE management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
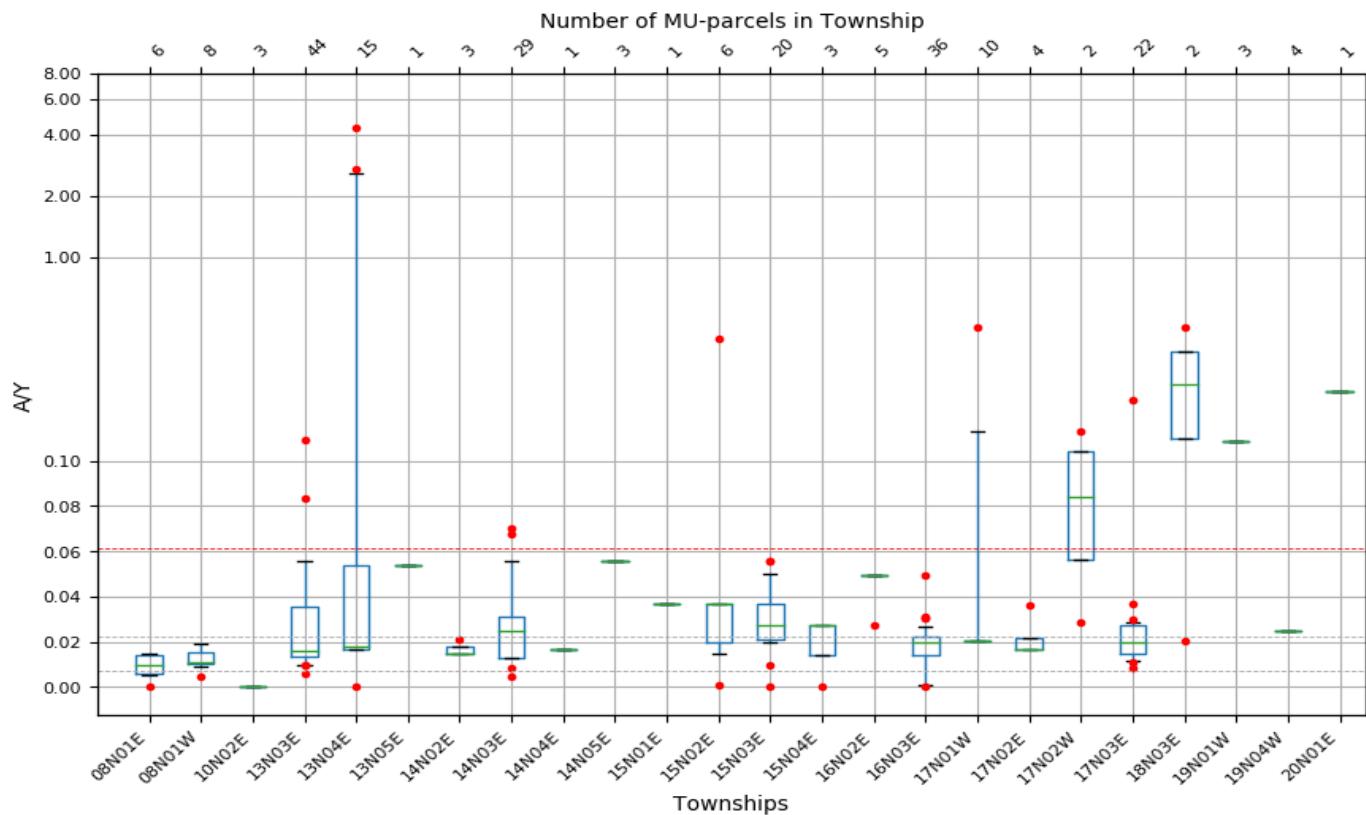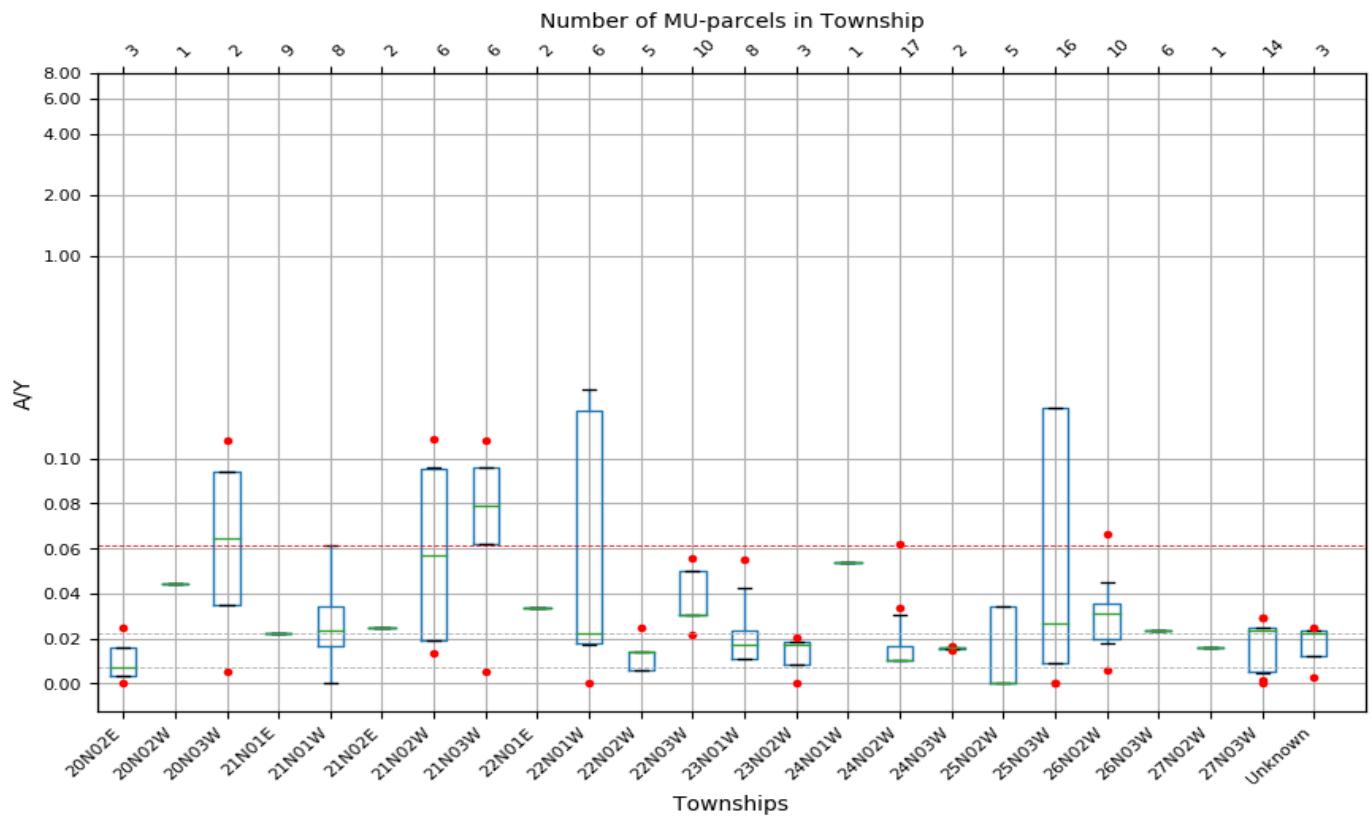
Table XXIV-1. A/Y Summary Statistics for PRUNE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01E	6	0.0	0.0148	0.0027	0.0062	0.0099	0.0139	0.0148	0
08N01W	8	0.0046	0.0191	0.0078	0.0104	0.0112	0.0152	0.0191	0
10N02E	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
13N03E	44	0.0058	0.1263	0.01	0.0136	0.0158	0.0357	0.0556	2
13N04E	15	0.0	4.3	0.0167	0.0167	0.0182	0.0536	2.6597	2
13N05E	1	0.0536	0.0536						
14N02E	3	0.0145	0.0208	0.0145	0.0145	0.0145	0.0177	0.0196	1
14N03E	29	0.0047	0.07	0.0126	0.0126	0.025	0.031	0.0556	2
14N04E	1	0.0167	0.0167						
14N05E	3	0.0556	0.0556	0.0556	0.0556	0.0556	0.0556	0.0556	0
15N01E	1	0.0367	0.0367						
15N02E	6	0.001	0.4	0.0077	0.02	0.0367	0.0367	0.2183	1
15N03E	20	0.0	0.0556	0.019	0.0212	0.0273	0.0369	0.0506	2
15N04E	3	0.0004	0.0273	0.0058	0.0139	0.0273	0.0273	0.0273	0
16N02E	5	0.0275	0.0497	0.0364	0.0497	0.0497	0.0497	0.0497	0
16N03E	36	0.0	0.0497	0.0006	0.0141	0.02	0.0221	0.0286	4
17N01W	10	0.0205	0.4545	0.0205	0.0205	0.0205	0.0205	0.1715	1
17N02E	4	0.0167	0.036	0.0167	0.0167	0.0167	0.0215	0.0302	1
17N02W	2	0.0285	0.14						
17N03E	22	0.0083	0.2	0.0119	0.0149	0.02	0.0274	0.0299	3
18N03E	2	0.0205	0.4545						
19N01W	3	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0
19N04W	4	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0
20N01E	1	0.2203	0.2203						
20N02E	3	0.0	0.025	0.0014	0.0035	0.0069	0.016	0.0214	1
20N02W	1	0.0446	0.0446						
20N03W	2	0.0054	0.1237						
21N01E	9	0.0224	0.0224	0.0224	0.0224	0.0224	0.0224	0.0224	0
21N01W	8	0.0	0.0614	0.0	0.0168	0.0237	0.0341	0.0614	0
21N02E	2	0.025	0.025						
21N02W	6	0.0137	0.125	0.0163	0.0188	0.0569	0.0955	0.1104	1
21N03W	6	0.0054	0.1237	0.0336	0.0617	0.0787	0.0958	0.1097	1
22N01E	2	0.0339	0.0339						
22N01W	6	0.0	0.2203	0.0085	0.018	0.0222	0.1711	0.2203	0
22N02W	5	0.0062	0.025	0.0062	0.0062	0.0142	0.0142	0.0207	1
22N03W	10	0.0214	0.0556	0.0295	0.0304	0.0304	0.05	0.0506	1

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
23N01W	8	0.0112	0.0551	0.0112	0.0112	0.017	0.0234	0.0463	1
23N02W	3	0.0004	0.0202	0.0037	0.0087	0.017	0.0186	0.0196	1
24N01W	1	0.054	0.054						
24N02W	17	0.0102	0.062	0.0102	0.0102	0.0102	0.0164	0.0315	2
24N03W	2	0.015	0.0166						
25N02W	5	0.0	0.0344	0.0	0.0	0.0	0.0344	0.0344	0
25N03W	16	0.0	0.177	0.0046	0.0092	0.0267	0.177	0.177	0
26N02W	10	0.0058	0.0667	0.0166	0.0196	0.0313	0.0355	0.0472	1
26N03W	6	0.0235	0.0235	0.0235	0.0235	0.0235	0.0235	0.0235	0
27N02W	1	0.0158	0.0158						
27N03W	14	0.0	0.0292	0.0025	0.0053	0.0235	0.025	0.0279	2
Unknown	3	0.0025	0.025	0.0064	0.0123	0.0221	0.0236	0.0244	1

Table XXIV-2. A/R Summary Statistics for PRUNE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01E	6	0.0	2.638	0.4817	1.103	1.7759	2.486	2.638	0
08N01W	8	0.8267	3.418	1.3881	1.8629	1.9913	2.7157	3.418	0
10N02E	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
13N03E	44	1.0292	22.5564	1.7857	2.4312	2.8274	6.3776	9.9206	2
13N04E	15	0.0	767.8571	2.9762	2.9762	3.2468	9.5782	474.9512	2
13N05E	1	9.5663	9.5663						
14N02E	3	2.5877	3.7202	2.5877	2.5877	2.5877	3.154	3.4937	1
14N03E	29	0.8423	12.5	2.2588	2.2588	4.4643	5.5357	9.9206	2
14N04E	1	2.9762	2.9762						
14N05E	3	9.9206	9.9206	9.9206	9.9206	9.9206	9.9206	9.9206	0
15N01E	1	6.5476	6.5476						
15N02E	6	0.1786	71.4286	1.3831	3.5777	6.5476	6.5476	38.9881	1
15N03E	20	0.0	9.9206	3.3849	3.7792	4.8788	6.5848	9.0278	2
15N04E	3	0.0804	4.8701	1.0383	2.4752	4.8701	4.8701	4.8701	0
16N02E	5	4.9107	8.8698	6.4944	8.8698	8.8698	8.8698	8.8698	0
16N03E	36	0.0	8.8698	0.1004	2.5138	3.5714	3.9541	5.1131	4
17N01W	10	3.6607	81.1688	3.6607	3.6607	3.6607	3.6607	30.6169	1
17N02E	4	2.9762	6.435	2.9762	2.9762	2.9762	3.8409	5.3974	1
17N02W	2	5.0824	25.0						
17N03E	22	1.4881	35.7143	2.1205	2.6652	3.5714	4.898	5.3365	3
18N03E	2	3.663	81.1688						
19N01W	3	22.3214	22.3214	22.3214	22.3214	22.3214	22.3214	22.3214	0
19N04W	4	4.4643	4.4643	4.4643	4.4643	4.4643	4.4643	4.4643	0
20N01E	1	39.3329	39.3329						
20N02E	3	0.0	4.4643	0.2464	0.6161	1.2321	2.8482	3.8179	1
20N02W	1	7.9719	7.9719						
20N03W	2	0.9705	22.0865						
21N01E	9	4.0025	4.0025	4.0025	4.0025	4.0025	4.0025	4.0025	0
21N01W	8	0.0	10.9649	0.0	3.0018	4.2334	6.0894	10.9649	0
21N02E	2	4.4643	4.4643						
21N02W	6	2.4429	22.3214	2.9039	3.365	10.1585	17.0622	19.7102	1
21N03W	6	0.9705	22.0865	5.9958	11.0211	14.06	17.099	19.5927	1
22N01E	2	6.0451	6.0451						
22N01W	6	0.0	39.3329	1.5207	3.2186	3.9676	30.546	39.3329	0
22N02W	5	1.1039	4.4643	1.1039	1.1039	2.5298	2.5298	3.6905	1

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
22N03W	10	3.8149	9.9206	5.2728	5.4348	5.4348	8.9286	9.0278	1
23N01W	8	2.0089	9.8417	2.0089	2.0089	3.0415	4.1784	8.265	1
23N02W	3	0.067	3.6127	0.6619	1.5542	3.0415	3.3271	3.4985	1
24N01W	1	9.6438	9.6438						
24N02W	17	1.8136	11.0714	1.8136	1.8136	1.8136	2.9231	5.6335	2
24N03W	2	2.6786	2.9558						
25N02W	5	0.0	6.1508	0.0	0.0	0.0	6.1508	6.1508	0
25N03W	16	0.0	31.6103	0.8176	1.6379	4.7619	31.6103	31.6103	0
26N02W	10	1.0436	11.9048	2.9572	3.4935	5.5974	6.335	8.4226	1
26N03W	6	4.2017	4.2017	4.2017	4.2017	4.2017	4.2017	4.2017	0
27N02W	1	2.8274	2.8274						
27N03W	14	0.0	5.2083	0.4461	0.9431	4.2017	4.4643	4.9851	2
Unknown	3	0.4464	4.4643	1.148	2.2003	3.9541	4.2092	4.3622	1

Table XXIV-3. A-R Summary Statistics for PRUNE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
08N01E	6	-39.2	80.72	-20.81	6.26	41.87	73.4	80.72	0
08N01W	9	-10.48	86.66	-2.096	12.816	24.24	52.5	86.66	0
10N01E	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
10N02E	3	-10.08	-6.832	-9.4304	-8.456	-6.832	-6.832	-6.832	0
13N03E	45	2.272	168.64	26.4	51.44	79.84	128.704	134.88	4
13N04E	18	-29.3328	171.776	0.0	66.4	66.4	99.32	138.9699	2
13N05E	1	134.32	134.32						
14N02E	3	69.35	91.4	69.35	69.35	69.35	80.375	86.99	1
14N03E	29	-14.976	134.88	37.784	37.784	79.84	127.0	134.88	0
14N04E	1	66.4	66.4						
14N05E	3	134.88	134.88	134.88	134.88	134.88	134.88	134.88	0
15N01E	1	93.2	93.2						
15N02E	6	-13.8	493.0	27.775	75.3125	93.2	93.2	293.1	1
15N03E	24	-22.4	134.88	3.0	37.008	89.1333	115.8	133.2	2
15N04E	3	-30.9	95.36	-5.648	32.23	95.36	95.36	95.36	2
16N01W	2	0.0	0.0						
16N02E	6	25.0	87.6	45.994	66.988	66.988	66.988	77.294	1
16N03E	37	-21.7	125.0	-20.15	50.0	72.0	73.12	115.8	2
17N01W	10	89.4	197.536	89.4	89.4	89.4	89.4	140.7136	1
17N02E	4	66.4	67.568	66.4	66.4	66.4	66.692	67.2176	1
17N02W	2	59.44	134.4						
17N03E	26	0.0	194.4	0.0	50.2	62.48	89.63	95.52	3
18N03E	2	58.16	197.536						
19N01W	3	477.6	477.6	477.6	477.6	477.6	477.6	477.6	0
19N04W	4	77.6	77.6	77.6	77.6	77.6	77.6	77.6	0
20N01E	1	97.4576	97.4576						
20N02E	3	-11.2	116.4	-8.622	-4.755	1.69	59.045	93.458	1
20N02W	1	218.64	218.64						
20N03W	2	-0.152	89.744						
21N01E	9	48.76	48.76	48.76	48.76	48.76	48.76	48.76	0
21N01W	8	-20.16	159.04	-19.768	31.67	63.18	97.96	159.04	0
21N02E	2	116.4	116.4						
21N02W	8	0.0	141.2275	5.656	15.145	52.712	81.0464	109.2323	1
21N03W	6	-0.152	141.2275	44.796	98.4503	124.5692	137.063	141.2275	0
22N01E	2	83.4576	83.4576						

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
22N01W	7	-23.52	97.4576	-9.24	28.68	67.2552	87.2288	97.4576	0
22N02W	5	6.4	77.6	6.4	6.4	51.4	51.4	67.12	1
22N03W	13	0.0	68.544	7.6296	44.4	50.0	68.544	68.544	0
23N01W	8	45.2	87.144	45.2	45.2	67.2552	68.8914	77.8032	1
23N02W	4	-6.9659	67.2552	-4.8761	-1.7415	25.312	54.7818	62.2658	1
24N01W	1	80.6676	80.6676						
24N02W	17	29.16	69.32	29.16	29.16	29.16	51.1124	53.2274	2
24N03W	4	0.0	75.2	0.0	0.0	19.1888	47.5832	64.1533	1
25N02W	6	-16.8	103.84	-10.08	-3.36	-1.68	77.88	103.84	0
25N03W	30	-16.201	114.267	0.0	0.0	0.0	63.2	114.267	0
26N02W	10	1.88	183.2	39.0007	51.7439	83.2	125.0119	131.252	1
26N03W	6	60.96	60.96	60.96	60.96	60.96	60.96	60.96	0
27N02W	1	61.4	61.4						
27N03W	16	-82.1251	77.6	-42.08	7.27	28.28	65.12	77.6	0
Unknown	3	-12.4	116.4	13.24	51.7	115.8	116.1	116.28	1

Table XXIV-4. Summary Statistics for PRUNE management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	378	0.0	4.3	0.0075	0.0141	0.0221	0.0337	0.0615	38
A/R	378	0.0	767.8571	1.3312	2.5112	3.9541	6.0219	10.9818	38
A-R	378	-82.1251	493.0	7.576	45.5	68.544	95.36	134.344	38

Figure XXIV-2. Scatter plot of A vs. Y for PRUNE with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
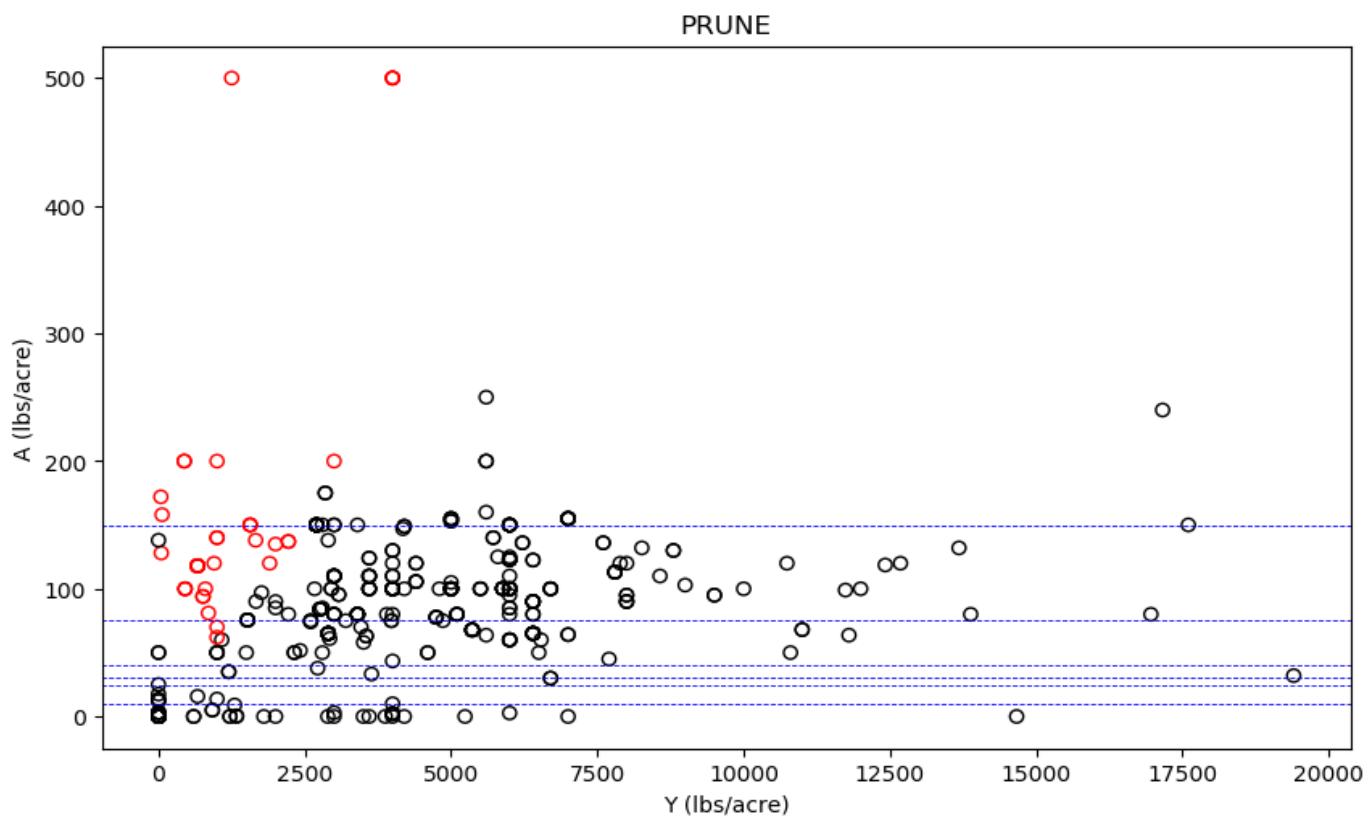
Figure XXIV-3. Box and Whisker plots of A/Y for PRUNE management units grouped by Age.

Numbers at the top indicate the number of MU-parcels within each age group. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each age group. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
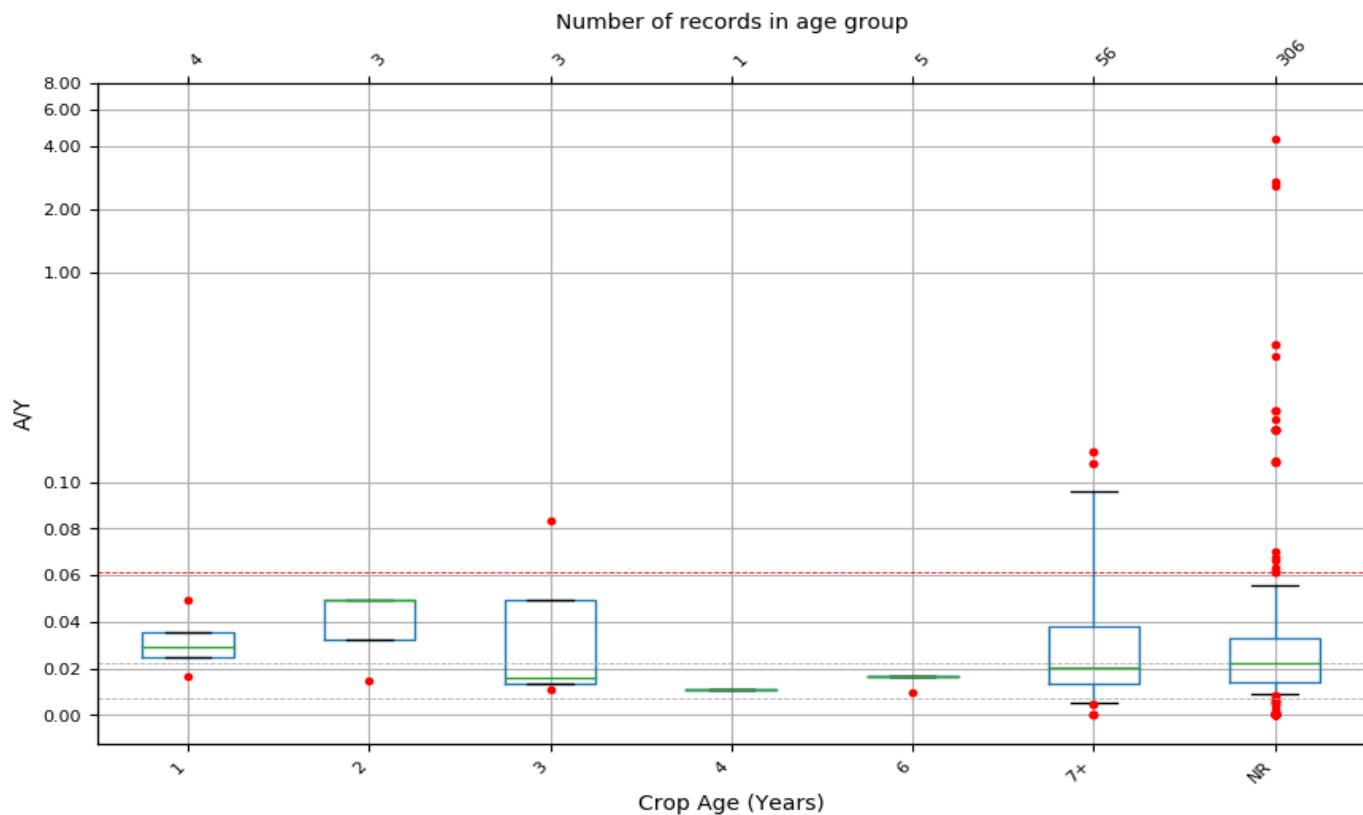
Table XXIV-5. A/Y Summary Statistics for PRUNE management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	4	0.0167	0.0497	0.0199	0.0248	0.029	0.0352	0.0439	1
2	3	0.0149	0.0497	0.0219	0.0323	0.0497	0.0497	0.0497	0
3	3	0.0109	0.0831	0.0119	0.0134	0.016	0.0496	0.0697	1
4	1	0.0109	0.0109						
6	5	0.0096	0.0164	0.0123	0.0164	0.0164	0.0164	0.0164	0
7+	56	0.0	0.14	0.0051	0.0136	0.0205	0.0382	0.0958	4
NR	306	0.0	4.3	0.0088	0.0141	0.0224	0.0331	0.0556	29

Table XXIV-6. A/R Summary Statistics for PRUNE management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	4	2.9762	8.8698	3.5565	4.4271	5.1727	6.2935	7.8393	1
2	3	2.6652	8.8698	3.9062	5.7675	8.8698	8.8698	8.8698	0
3	3	1.941	14.8451	2.1235	2.3973	2.8537	8.8494	12.4468	1
4	1	1.941	1.941						
6	5	1.7231	2.9231	2.2031	2.9231	2.9231	2.9231	2.9231	0
7+	56	0.0	25.0	0.9028	2.4342	3.6607	6.8192	17.099	4
NR	306	0.0	767.8571	1.5703	2.5112	4.0025	5.9152	9.9206	29

Table XXIV-7. A-R Summary Statistics for PRUNE management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	4	66.4	87.6	66.5764	66.841	67.766	73.308	81.8832	1
2	3	62.48	66.988	63.3816	64.734	66.988	66.988	66.988	0
3	3	24.24	128.704	36.5408	54.992	85.744	107.224	120.112	1
4	1	24.24	24.24						
6	5	51.1124	55.392	51.1124	51.1124	51.1124	51.1124	53.6802	1
7+	56	-39.2	218.64	-4.626	48.117	74.6709	89.4	134.4	5
NR	306	-82.1251	493.0	16.5524	45.2	69.2	103.172	134.6	31

XXV. RYEGRASS

Figure XXV-1. Box and Whisker plots of A/Y for RYEGRASS management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
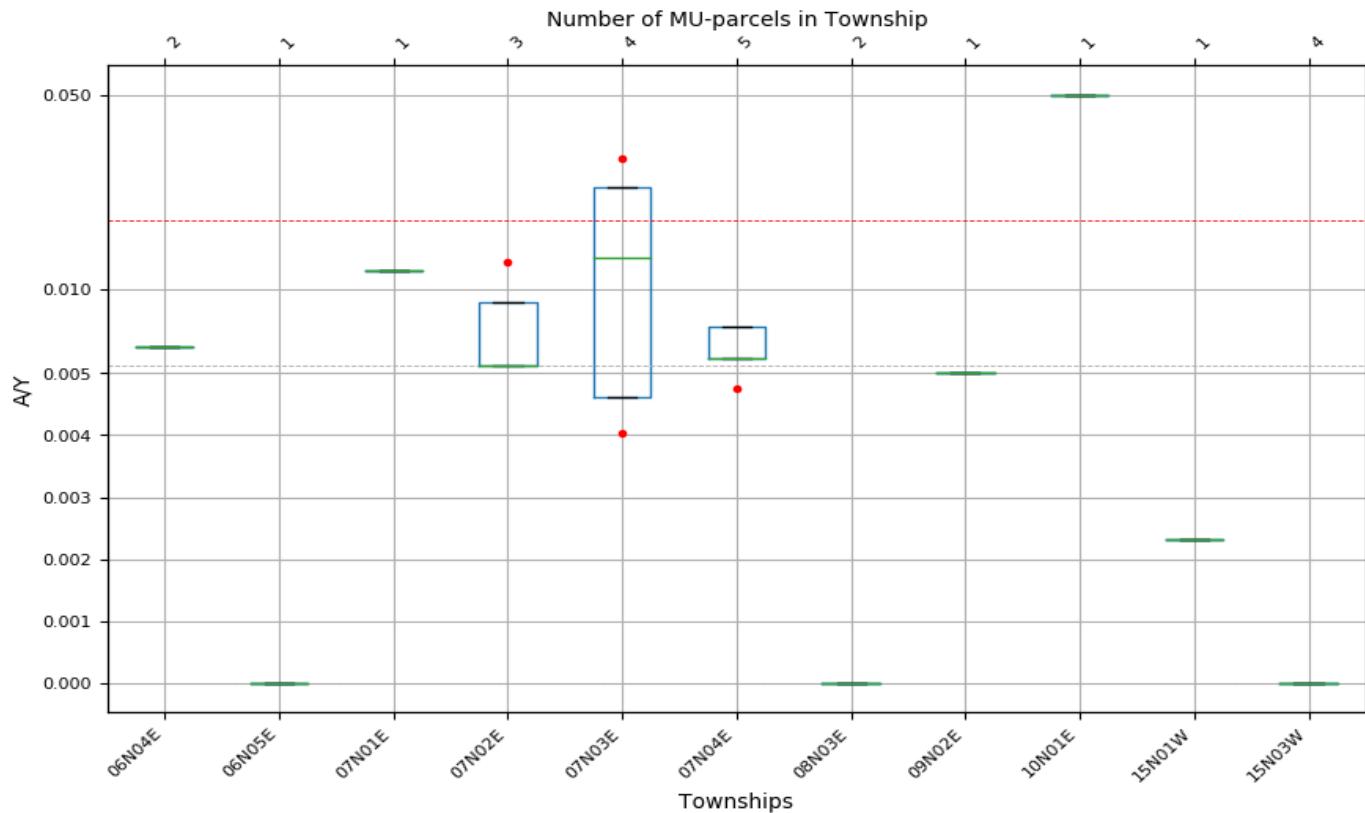
Table XXV-1. A/Y Summary Statistics for RYEGRASS management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N04E	2	0.0062	0.0062						
06N05E	1	0.0	0.0						
07N01E	1	0.0117	0.0117						
07N02E	3	0.0054	0.0126	0.0054	0.0054	0.0054	0.009	0.0111	1
07N03E	4	0.004	0.0296	0.0043	0.0046	0.0129	0.0232	0.0271	1
07N04E	5	0.0047	0.0074	0.0051	0.0057	0.0057	0.0074	0.0074	0
08N03E	2	0.0	0.0						
09N02E	1	0.005	0.005						
10N01E	1	0.05	0.05						
15N01W	1	0.0023	0.0023						
15N03W	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

Table XXV-2. A/R Summary Statistics for RYEGRASS management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N04E	2	0.2277	0.2277						
06N05E	1	0.0	0.0						
07N01E	1	0.4273	0.4273						
07N02E	3	0.195	0.4582	0.195	0.195	0.195	0.3266	0.4056	1
07N03E	4	0.1473	1.0794	0.1555	0.1678	0.4708	0.8451	0.9857	1
07N04E	5	0.1727	0.2678	0.1862	0.2065	0.2065	0.2678	0.2678	0
08N03E	2	0.0	0.0						
09N02E	1	0.1821	0.1821						
10N01E	1	1.8215	1.8215						
15N01W	1	0.0847	0.0847						
15N03W	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

Table XXV-3. A-R Summary Statistics for RYEGRASS management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N04E	2	-169.6	-169.6						
06N05E	1	-274.5	-274.5						
07N01E	1	-107.209	-107.209						
07N02E	3	-201.095	-94.582	-201.095	-201.095	-201.095	-147.8385	-115.8846	1
07N03E	4	-224.7	11.77	-212.3475	-193.8188	-116.0725	-33.5225	-6.347	1
07N04E	5	-225.519	-140.79	-225.519	-225.519	-182.97	-182.97	-157.662	1
08N03E	2	-225.09	-225.09						
09N02E	1	-134.7	-134.7						
10N01E	1	90.2	90.2						
15N01W	1	-86.428	-86.428						
15N03W	4	-82.35	-82.35	-82.35	-82.35	-82.35	-82.35	-82.35	0

Table XXV-4. Summary Statistics for RYEGRASS management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	25	0.0	0.05	0.0	0.0	0.0054	0.0074	0.0177	3
A/R	25	0.0	1.8215	0.0	0.0	0.195	0.2678	0.6435	3
A-R	25	-274.5	90.2	-225.3474	-201.095	-169.6	-82.35	-62.112	3

Figure XXV-2. Scatter plot of A vs. Y for RYEGRASS with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
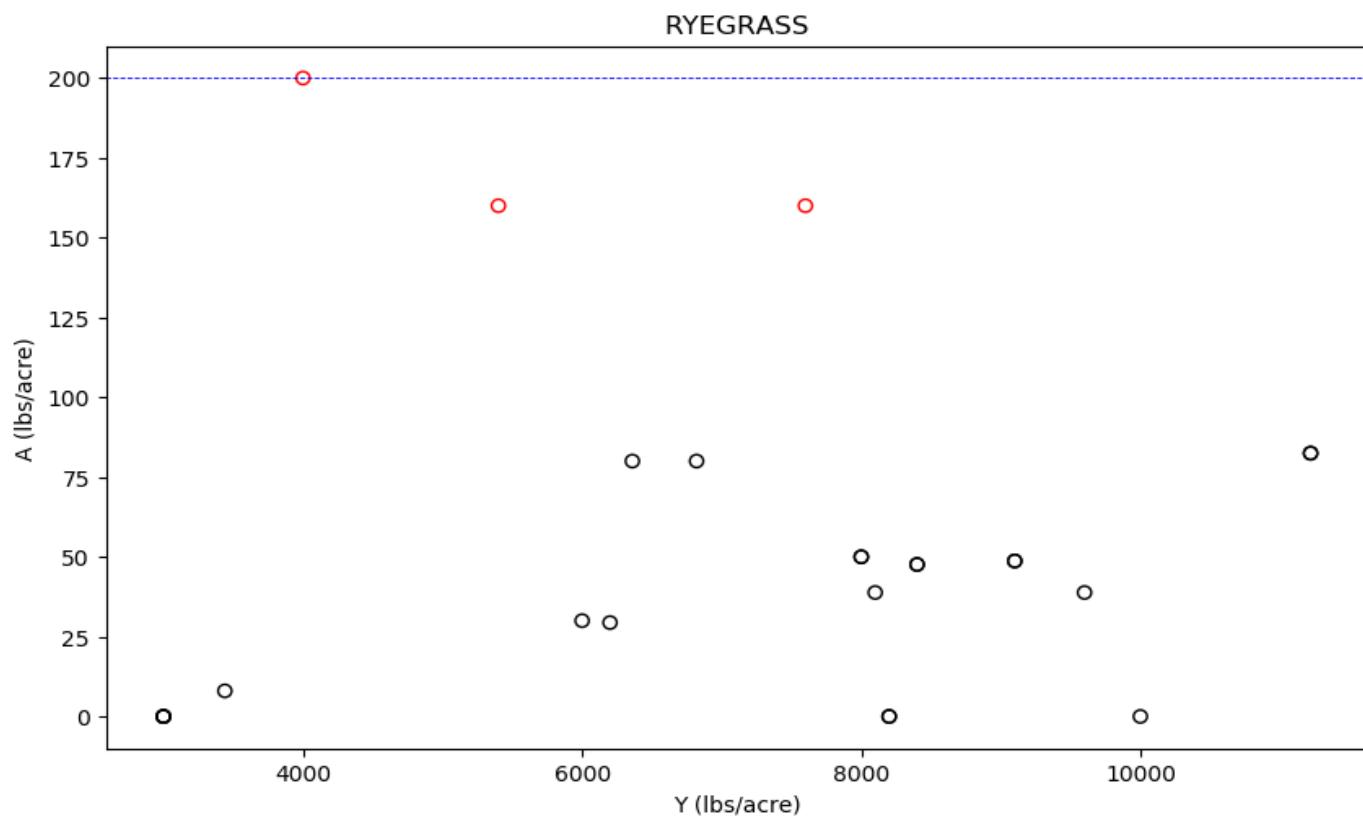
XXVI. SAFFLOWER

Figure XXVI-1. Box and Whisker plots of A/Y for SAFFLOWER management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
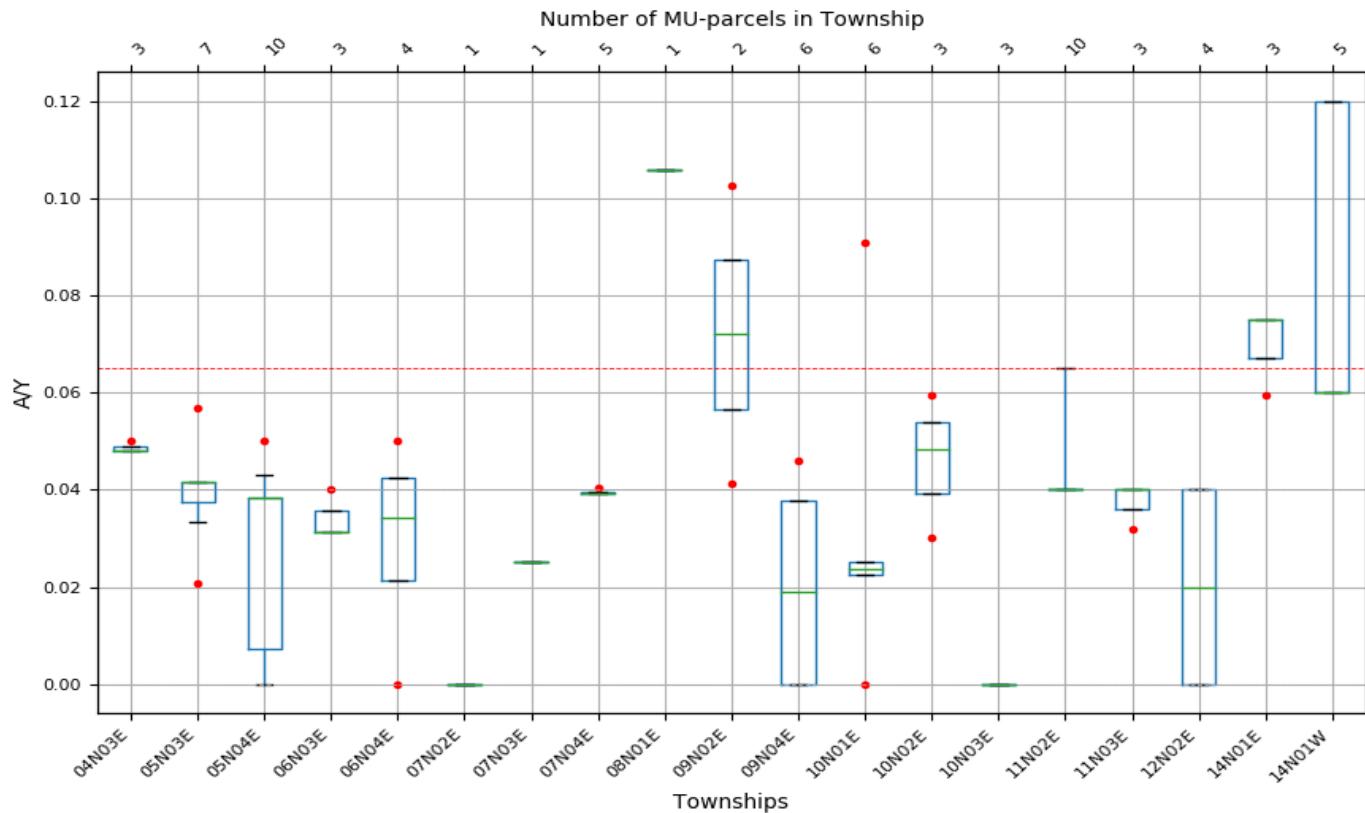
Table XXVI-1. A/Y Summary Statistics for SAFFLOWER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	3	0.0481	0.05	0.0481	0.0481	0.0481	0.049	0.0496	1
05N03E	7	0.0208	0.0568	0.0283	0.0375	0.0417	0.0417	0.0477	1
05N04E	10	0.0	0.05	0.0	0.0071	0.0385	0.0385	0.0438	1
06N03E	3	0.0312	0.04	0.0312	0.0312	0.0312	0.0356	0.0382	1
06N04E	4	0.0	0.05	0.0086	0.0214	0.0343	0.0425	0.047	1
07N02E	1	0.0	0.0						
07N03E	1	0.025	0.025						
07N04E	5	0.0393	0.0402	0.0393	0.0393	0.0393	0.0396	0.04	1
08N01E	1	0.1059	0.1059						
09N02E	2	0.0414	0.1025						
09N04E	6	0.0	0.0459	0.0	0.0	0.0189	0.0379	0.0419	1
10N01E	6	0.0	0.0909	0.0112	0.0224	0.0237	0.025	0.058	1
10N02E	3	0.03	0.0595	0.0336	0.0391	0.0482	0.0538	0.0573	1
10N03E	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
11N02E	10	0.04	0.0649	0.04	0.04	0.04	0.04	0.0649	0
11N03E	3	0.032	0.04	0.0336	0.036	0.04	0.04	0.04	0
12N02E	4	0.0	0.04	0.0	0.0	0.02	0.04	0.04	0
14N01E	3	0.0593	0.075	0.0625	0.0672	0.075	0.075	0.075	0
14N01W	5	0.06	0.12	0.06	0.06	0.06	0.12	0.12	0

Table XXVI-2. A/R Summary Statistics for SAFFLOWER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	3	1.6928	1.7606	1.6928	1.6928	1.6928	1.7267	1.747	1
05N03E	7	0.7336	2.0006	0.9977	1.3204	1.4671	1.4671	1.6805	1
05N04E	10	0.0	1.7606	0.0	0.2515	1.3543	1.3543	1.542	1
06N03E	3	1.1004	1.4085	1.1004	1.1004	1.1004	1.2544	1.3468	1
06N04E	4	0.0	1.7606	0.3018	0.7545	1.2072	1.4965	1.6549	1
07N02E	1	0.0	0.0						
07N03E	1	0.8803	0.8803						
07N04E	5	1.3831	1.4171	1.3831	1.3831	1.3831	1.3943	1.408	1
08N01E	1	3.73	3.73						
09N02E	2	1.4574	3.6077						
09N04E	6	0.0	1.6152	0.0	0.0	0.6669	1.3338	1.4745	1
10N01E	6	0.0	3.201	0.3938	0.7876	0.834	0.8803	2.0407	1
10N02E	3	1.0563	2.0959	1.1843	1.3761	1.696	1.8959	2.0159	1
10N03E	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
11N02E	10	1.4085	2.2861	1.4085	1.4085	1.4085	1.4085	2.2861	0
11N03E	3	1.1268	1.4085	1.1831	1.2676	1.4085	1.4085	1.4085	0
12N02E	4	0.0	1.4085	0.0	0.0	0.7042	1.4085	1.4085	0
14N01E	3	2.0893	2.6408	2.1996	2.3651	2.6408	2.6408	2.6408	0
14N01W	5	2.1127	4.2254	2.1127	2.1127	2.1127	4.2254	4.2254	0

Table XXVI-3. A-R Summary Statistics for SAFFLOWER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	3	43.2	51.16	44.792	47.18	51.16	51.16	51.16	0
05N03E	7	-45.4	62.52	-9.28	27.3	39.8	39.8	48.888	1
05N04E	10	-56.8	43.2	-56.8	-42.45	26.16	26.16	35.0208	1
06N03E	3	11.4	34.8	11.4	11.4	11.4	23.1	30.12	1
06N04E	4	-71.0	43.2	-49.52	-17.3	17.7	36.9	40.68	1
07N02E	1	-18.2853	-18.2853						
07N03E	1	-6.8	-6.8						
07N04E	5	27.2	28.904	27.2	27.2	27.2	27.768	28.4496	1
08N01E	1	91.488	91.488						
09N02E	2	39.232	90.352						
09N04E	6	-92.584	38.088	-92.584	-87.898	-24.408	25.024	31.556	1
10N01E	6	-85.2	68.76	-54.06	-22.92	-18.26	-13.6	27.58	1
10N02E	5	8.0	125.0	22.0352	43.088	65.36	125.0	125.0	0
10N03E	3	-92.459	-17.608	-86.236	-76.9015	-61.344	-39.476	-26.3552	1
11N02E	10	29.0	97.3256	29.0	29.0	29.0	29.0	97.3256	0
11N03E	3	9.0	34.8	14.16	21.9	34.8	34.8	34.8	0
12N02E	4	-56.8	29.0	-56.8	-56.8	-13.9	29.0	29.0	0
14N01E	3	78.2048	93.2	81.2038	85.7024	93.2	93.2	93.2	0
14N01W	5	63.2	114.5	63.2	63.2	63.2	114.5	114.5	0
18N01W	1	40.0	40.0						

Table XXVI-4. Summary Statistics for SAFFLOWER management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	80	0.0	0.12	0.0	0.0277	0.04	0.0481	0.0649	7
A/R	80	0.0	4.2254	0.0	0.9746	1.4085	1.6928	2.2861	7
A-R	80	-92.584	114.5	-56.8	-1.25	29.0	43.116	79.4195	8

Figure XXVI-2. Scatter plot of A vs. Y for SAFFLOWER with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
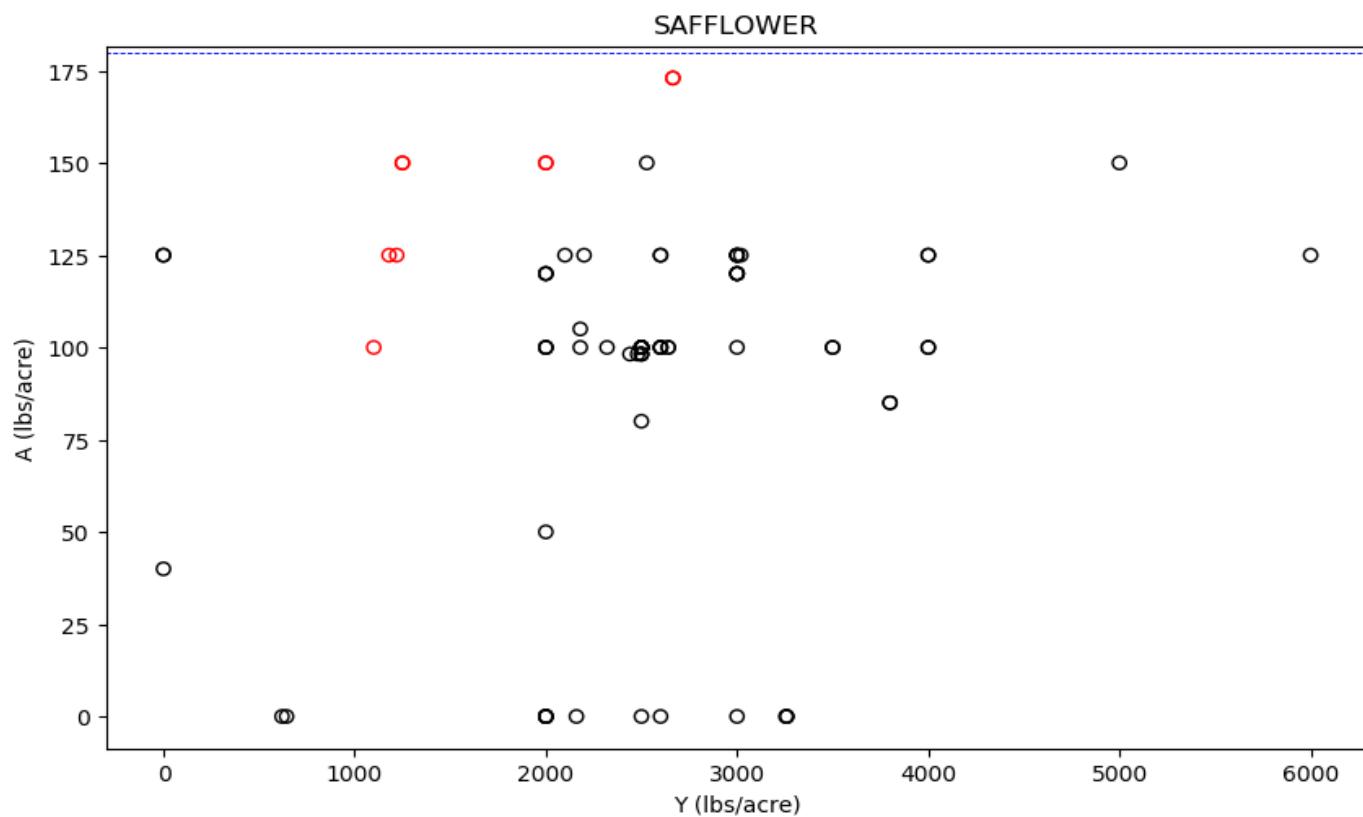
XXVII. SEED CROP

Figure XXVII-1. Box and Whisker plots of A/Y for SEED CROP management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
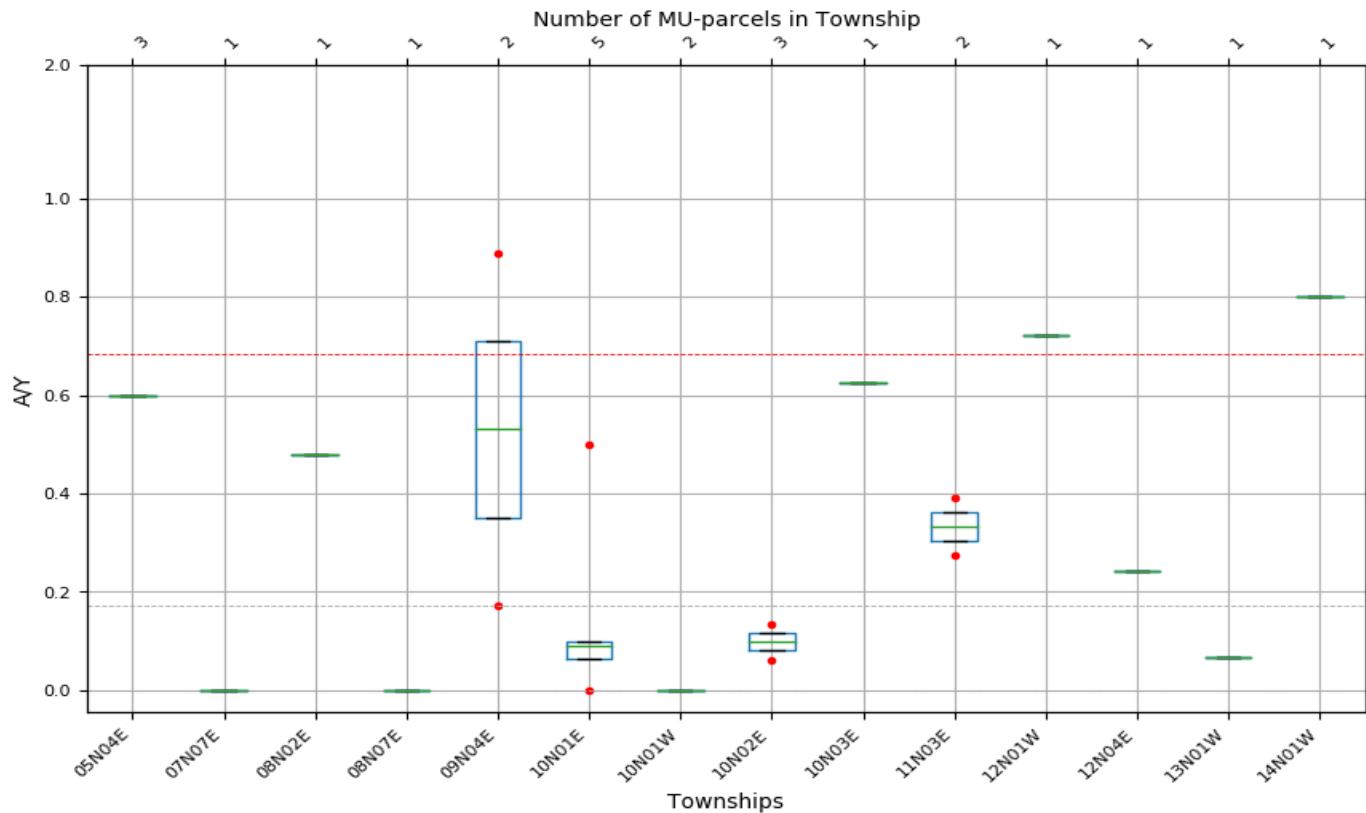
Table XXVII-1. A/Y Summary Statistics for SEED CROP management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N04E	3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0
07N07E	1	0.0	0.0						
08N02E	1	0.4793	0.4793						
08N07E	1	0.0	0.0						
09N04E	2	0.1718	0.8889						
10N01E	5	0.0	0.5	0.0259	0.0648	0.0909	0.0976	0.3391	1
10N01W	2	0.0	0.0						
10N02E	3	0.0623	0.1351	0.0694	0.08	0.0976	0.1164	0.1276	1
10N03E	1	0.625	0.625						
11N03E	2	0.2752	0.392						
12N01W	1	0.7215	0.7215						
12N04E	1	0.2432	0.2432						
13N01W	1	0.0682	0.0682						
14N01W	1	0.8	0.8						

Table XXVII-4. Summary Statistics for SEED CROP management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	25	0.0	0.8889	0.0	0.0648	0.1718	0.6	0.6829	3
A/R	0								
A-R	0								

**Figure XXVII-2. Scatter plot of A vs. Y for SEED CROP with all T-R together.**

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
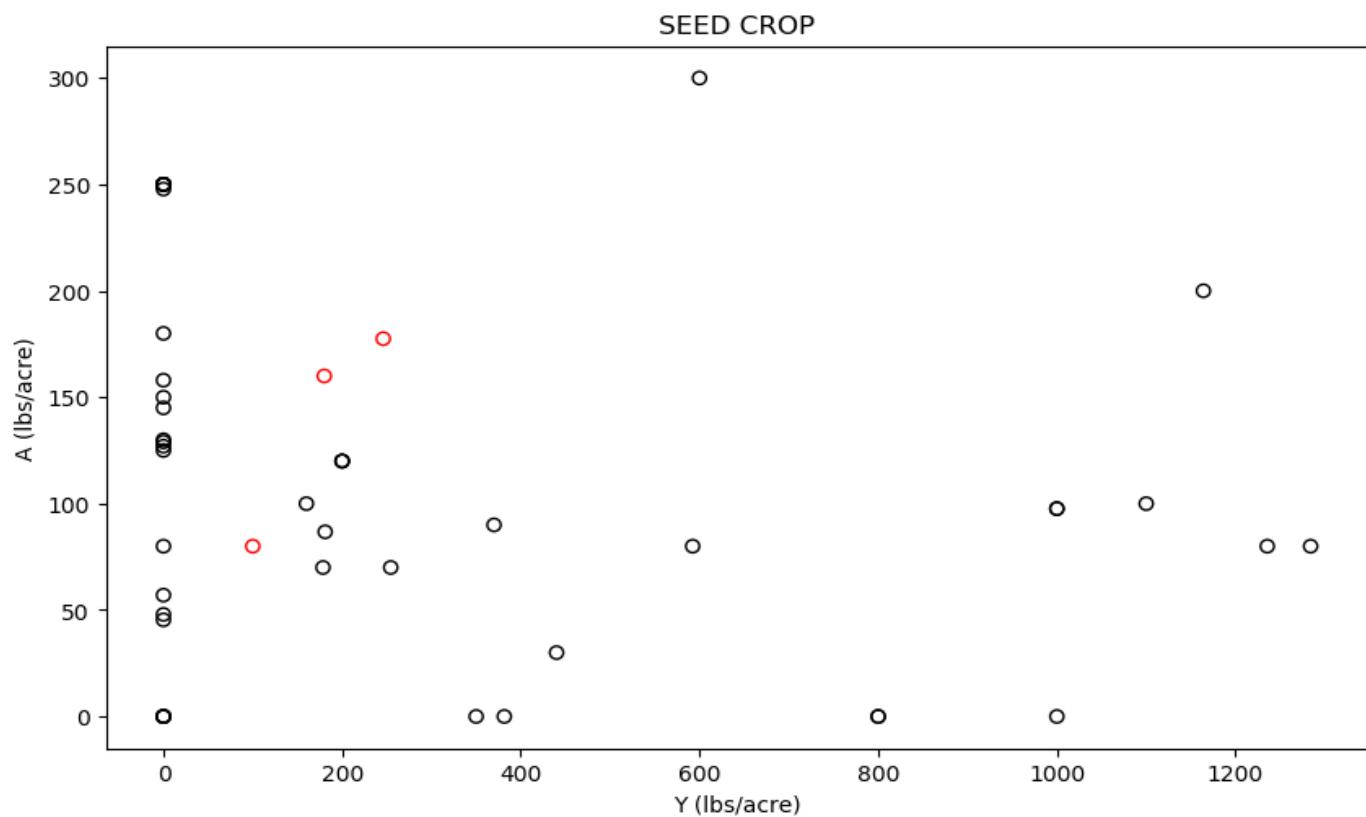
XXVIII. SORGHUM/MILO

Figure XXVIII-1. Box and Whisker plots of A/Y for SORGHUM/MILO management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
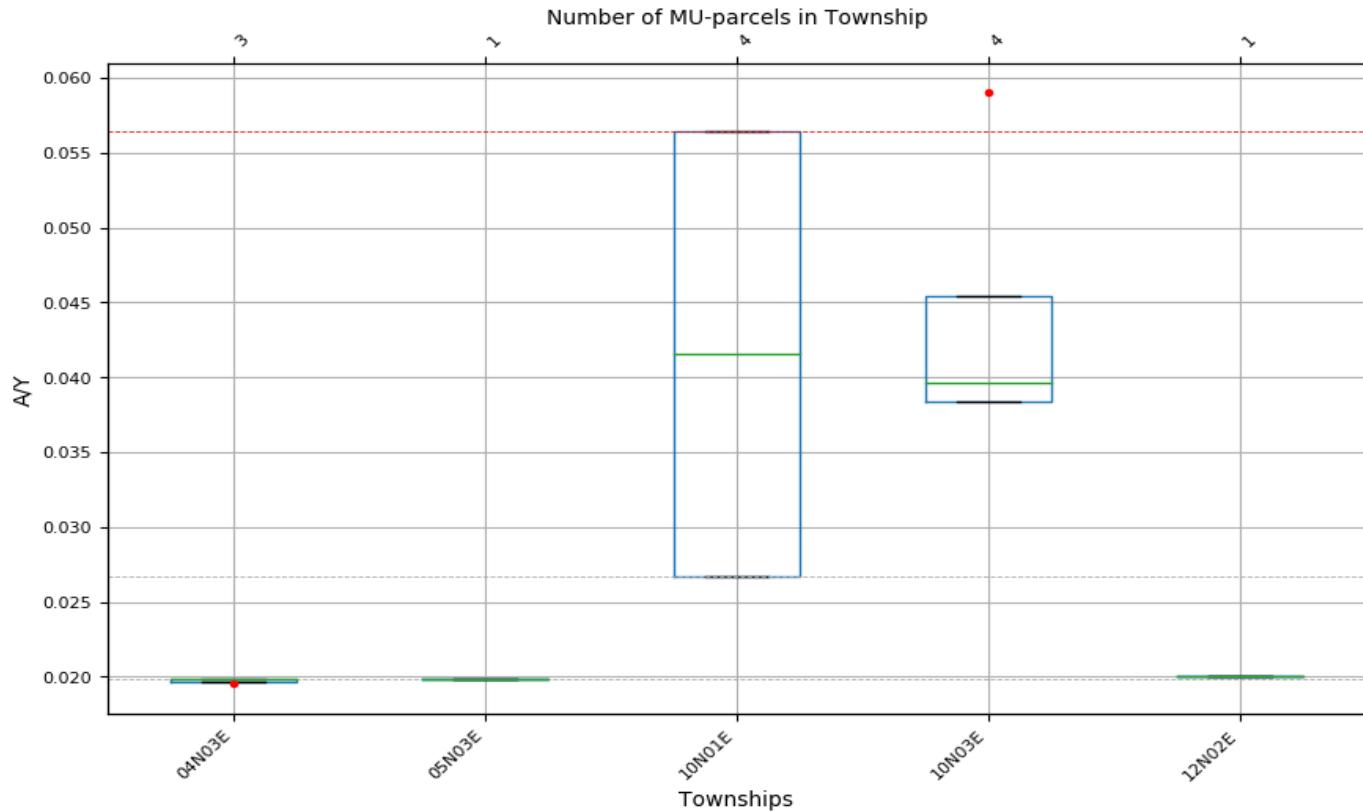
Table XXVIII-1. A/Y Summary Statistics for SORGHUM/MILO management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	3	0.0195	0.0198	0.0196	0.0197	0.0198	0.0198	0.0198	0
05N03E	1	0.0198	0.0198						
10N01E	4	0.0267	0.0564	0.0267	0.0267	0.0415	0.0564	0.0564	0
10N03E	4	0.0384	0.059	0.0384	0.0384	0.0396	0.0454	0.0536	1
12N02E	1	0.02	0.02						

Table XXVIII-2. A/R Summary Statistics for SORGHUM/MILO management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	3	1.1837	1.2025	1.1875	1.1931	1.2025	1.2025	1.2025	0
05N03E	1	1.2025	1.2025						
10N01E	4	1.6162	3.4172	1.6162	1.6162	2.5167	3.4172	3.4172	0
10N03E	4	2.3267	3.5755	2.3267	2.3267	2.4017	2.7514	3.2458	1
12N02E	1	1.2121	1.2121						

Table XXVIII-3. A-R Summary Statistics for SORGHUM/MILO management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	3	19.4	21.05	19.73	20.225	21.05	21.05	21.05	2
05N03E	1	21.05	21.05						
07N04E	1	65.0	65.0						
10N01E	4	61.0	239.3	61.0	61.0	150.15	239.3	239.3	0
10N03E	4	108.339	136.1399	108.339	108.339	110.5133	118.5506	129.1042	1
12N02E	1	21.0	21.0						
16N01W	1	180.0	180.0						

Table XXVIII-4. Summary Statistics for SORGHUM/MILO management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	13	0.0195	0.059	0.0198	0.0198	0.0267	0.0409	0.0564	1
A/R	13	1.1837	3.5755	1.2025	1.2025	1.6162	2.4767	3.4172	1
A-R	13	19.4	239.3	21.01	21.05	61.0	112.6875	218.668	2

**Figure XXVIII-2. Scatter plot of A vs. Y for SORGHUM/MILO with all T-R together.**

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.

SORGHUM/MILO
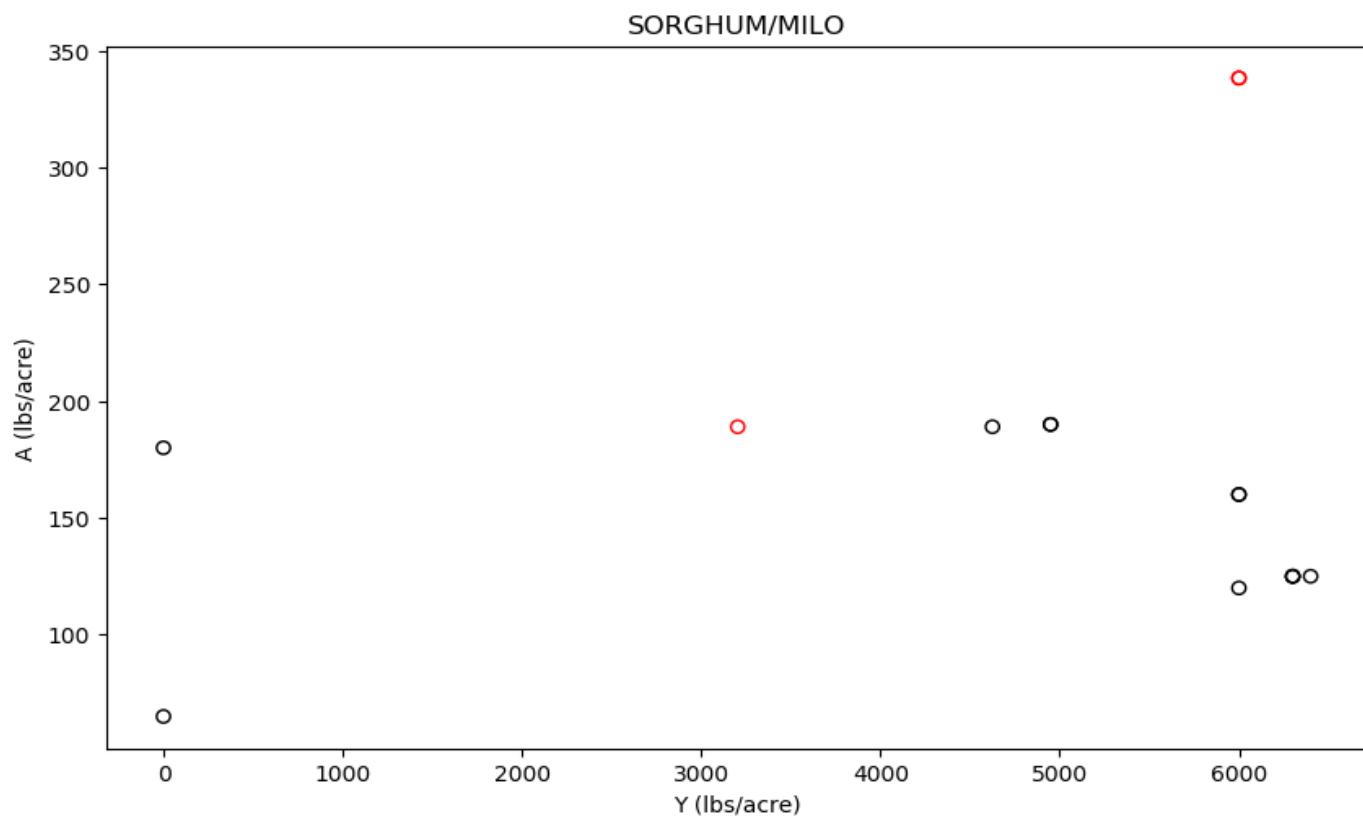
XXIX. SQUASH

Figure XXIX-1. Box and Whisker plots of A/Y for SQUASH management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
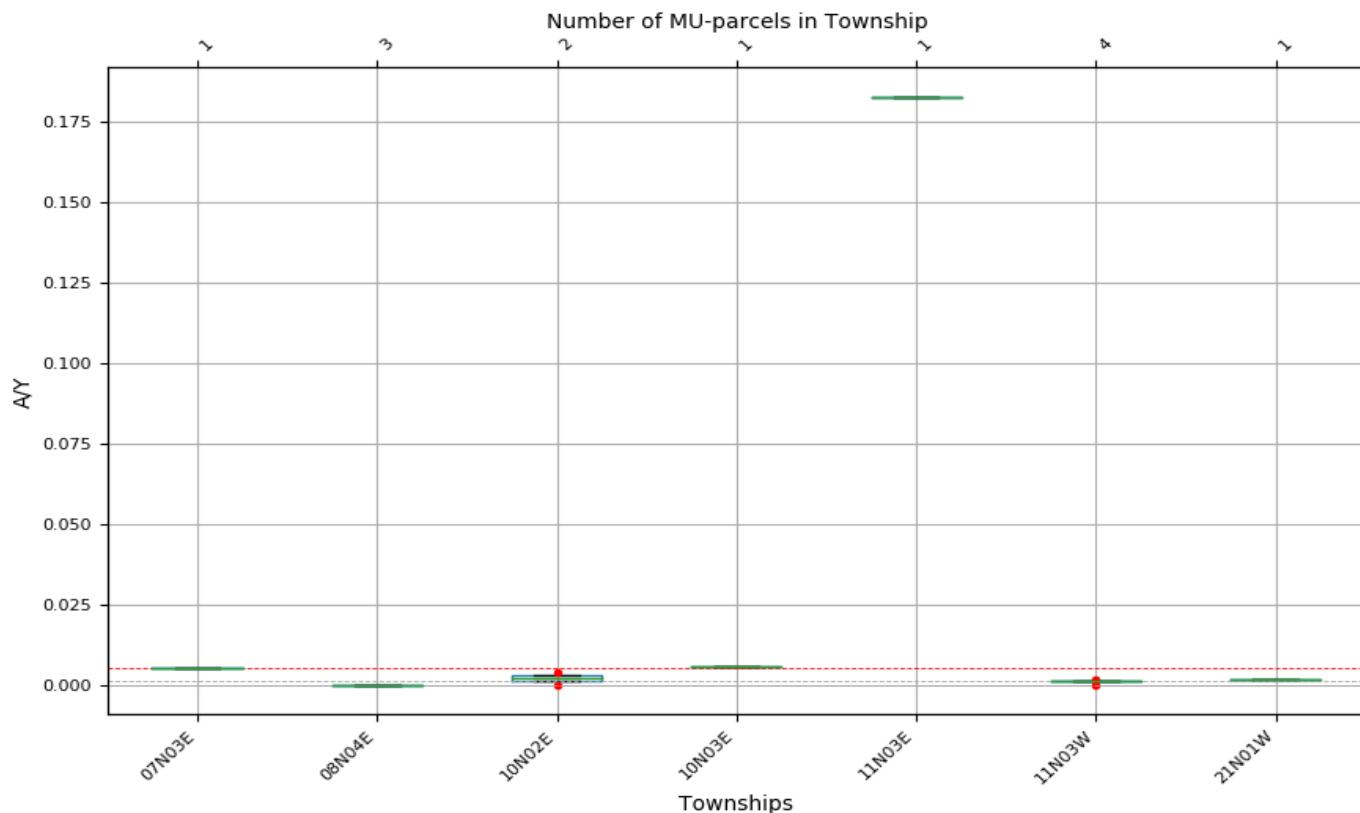
Table XXIX-1. A/Y Summary Statistics for SQUASH management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N03E	1	0.005	0.005						
08N04E	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
10N02E	2	0.0	0.0038						
10N03E	1	0.0055	0.0055						
11N03E	1	0.1826	0.1826						
11N03W	4	0.0	0.0014	0.0004	0.001	0.0013	0.0014	0.0014	1
21N01W	1	0.0017	0.0017						

Table XXIX-2. A/R Summary Statistics for SQUASH management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N03E	1	2.7248	2.7248						
08N04E	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
10N02E	2	0.0218	2.076						
10N03E	1	2.9973	2.9973						
11N03E	1	99.4986	99.4986						
11N03W	4	0.0	0.7785	0.218	0.545	0.7266	0.7396	0.7629	1
21N01W	1	0.9083	0.9083						

Table XXIX-3. A-R Summary Statistics for SQUASH management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

| T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
07N03E	1	63.3	63.3						
08N04E	3	-38.535	-38.535	-38.535	-38.535	-38.535	-38.535	-38.535	0
10N02E	2	-44.875	41.465						
10N03E	1	87.96	87.96						
11N03E	1	63.3568	63.3568						
11N03W	4	-28.2296	-5.69	-22.0182	-12.7012	-7.525	-7.0663	-6.2405	1
21N01W	1	-4.04	-4.04						

Table XXIX-4. Summary Statistics for SQUASH management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	13	0.0	0.1826	0.0	0.0	0.0013	0.0038	0.0054	2
A/R	13	0.0	99.4986	0.0	0.0	0.7266	2.076	2.9428	2
A-R	13	-44.875	87.96	-38.535	-38.535	-7.525	41.465	63.3454	2

Figure XXIX-2. Scatter plot of A vs. Y for SQUASH with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.


SQUASH
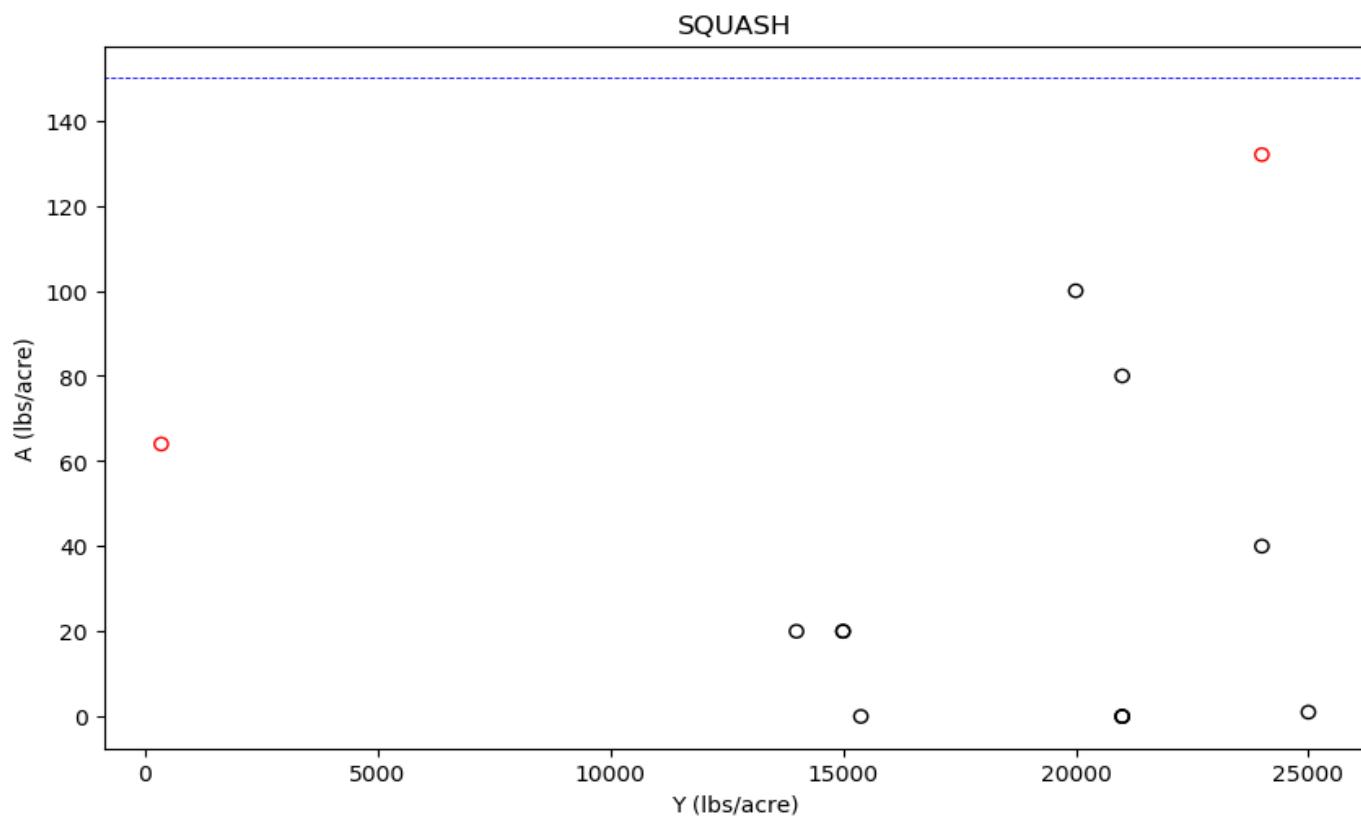
XXX. SUDAN GRASS

Figure XXX-1. Box and Whisker plots of A/Y for SUDAN GRASS management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
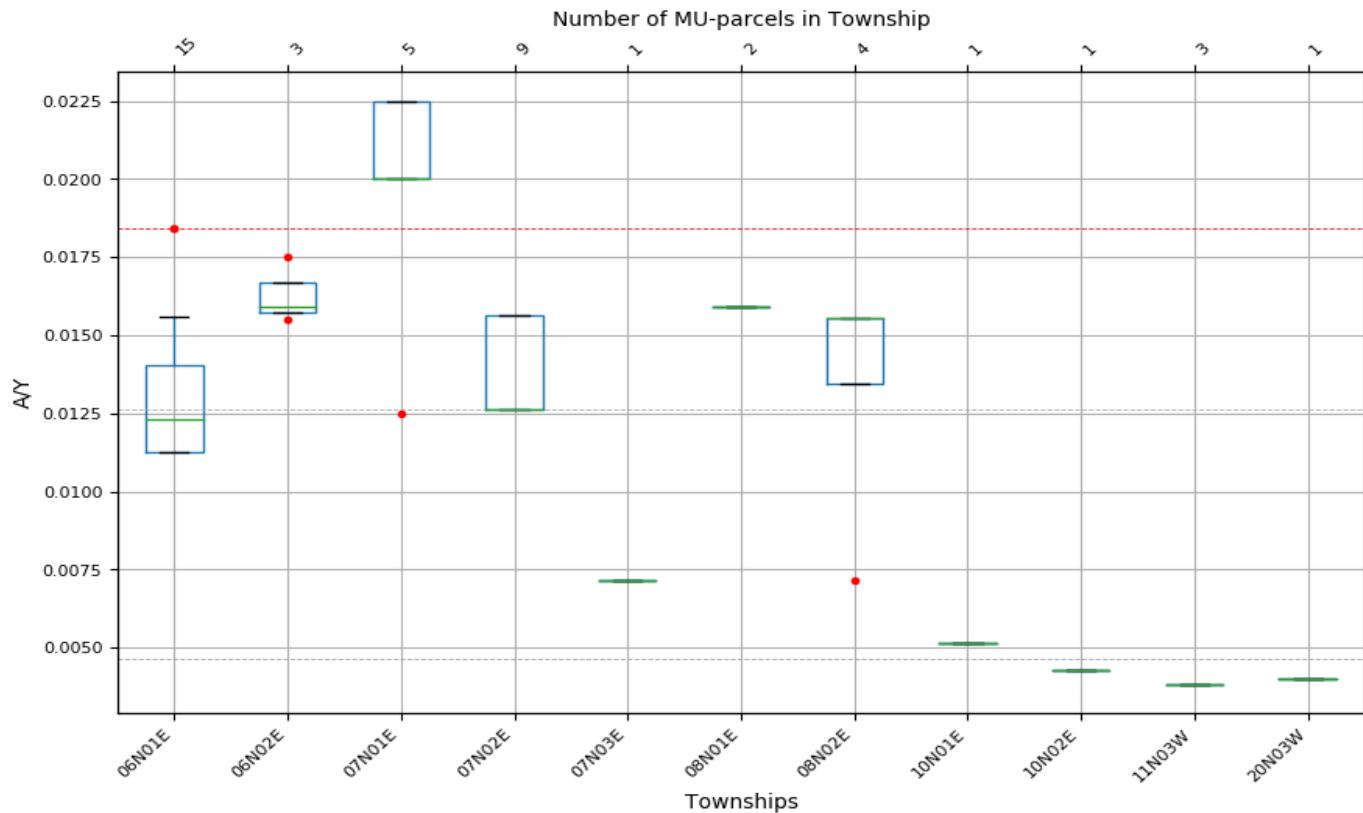
Table XXX-1. A/Y Summary Statistics for SUDAN GRASS management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N01E	15	0.0112	0.0184	0.0112	0.0112	0.0123	0.014	0.0173	2
06N02E	3	0.0155	0.0175	0.0156	0.0157	0.0159	0.0167	0.0172	1
07N01E	5	0.0125	0.0225	0.0155	0.02	0.02	0.0225	0.0225	0
07N02E	9	0.0126	0.0156	0.0126	0.0126	0.0126	0.0156	0.0156	0
07N03E	1	0.0071	0.0071						
08N01E	2	0.0159	0.0159						
08N02E	4	0.0071	0.0155	0.0097	0.0134	0.0155	0.0155	0.0155	0
10N01E	1	0.0052	0.0052						
10N02E	1	0.0043	0.0043						
11N03W	3	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038	0
20N03W	1	0.004	0.004						

Table XXX-4. Summary Statistics for SUDAN GRASS management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	45	0.0038	0.0225	0.0046	0.0112	0.0126	0.0156	0.0184	4
A/R	0								
A-R	0								

Figure XXX-2. Scatter plot of A vs. Y for SUDAN GRASS with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
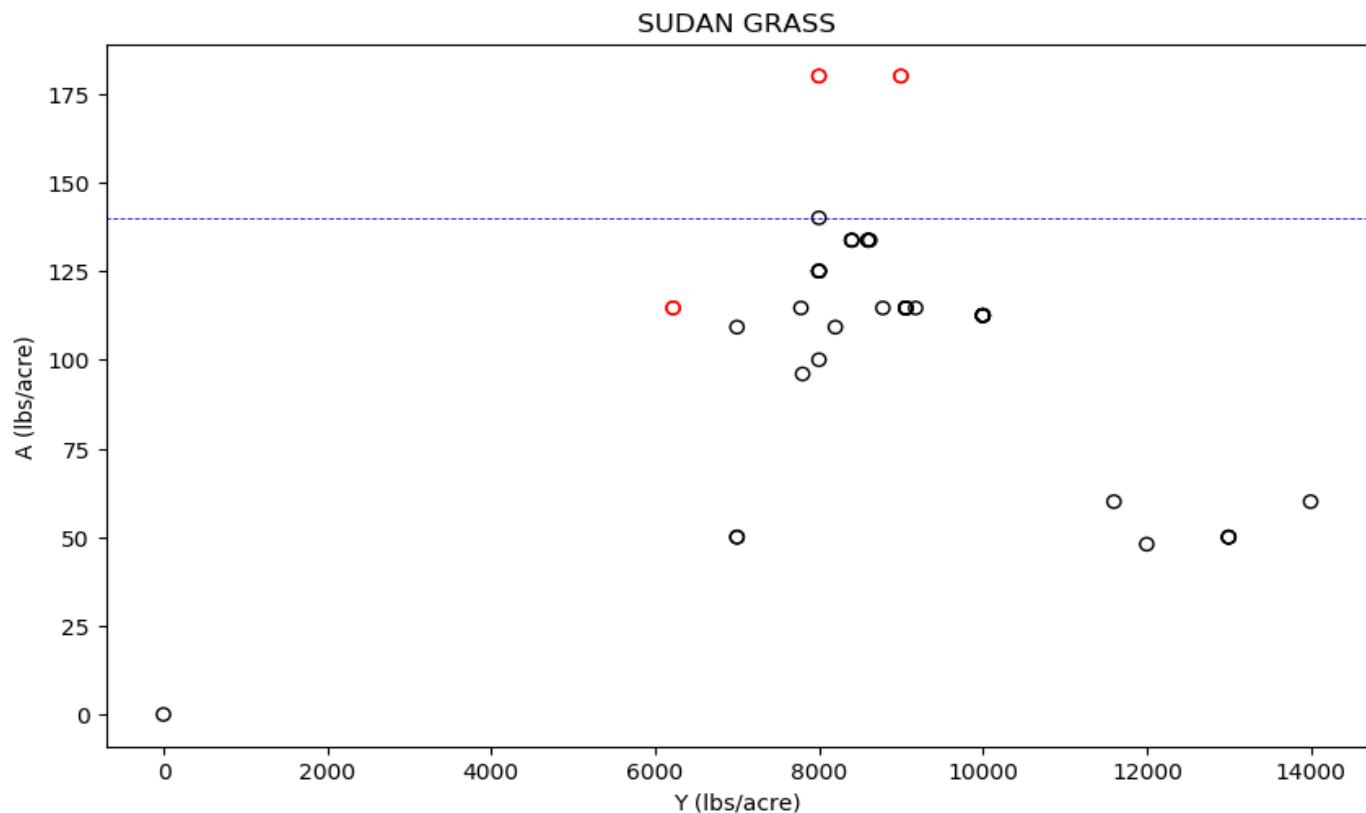
XXXI. SUNFLOWER

Figure XXXI-1. Box and Whisker plots of A/Y for SUNFLOWER management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
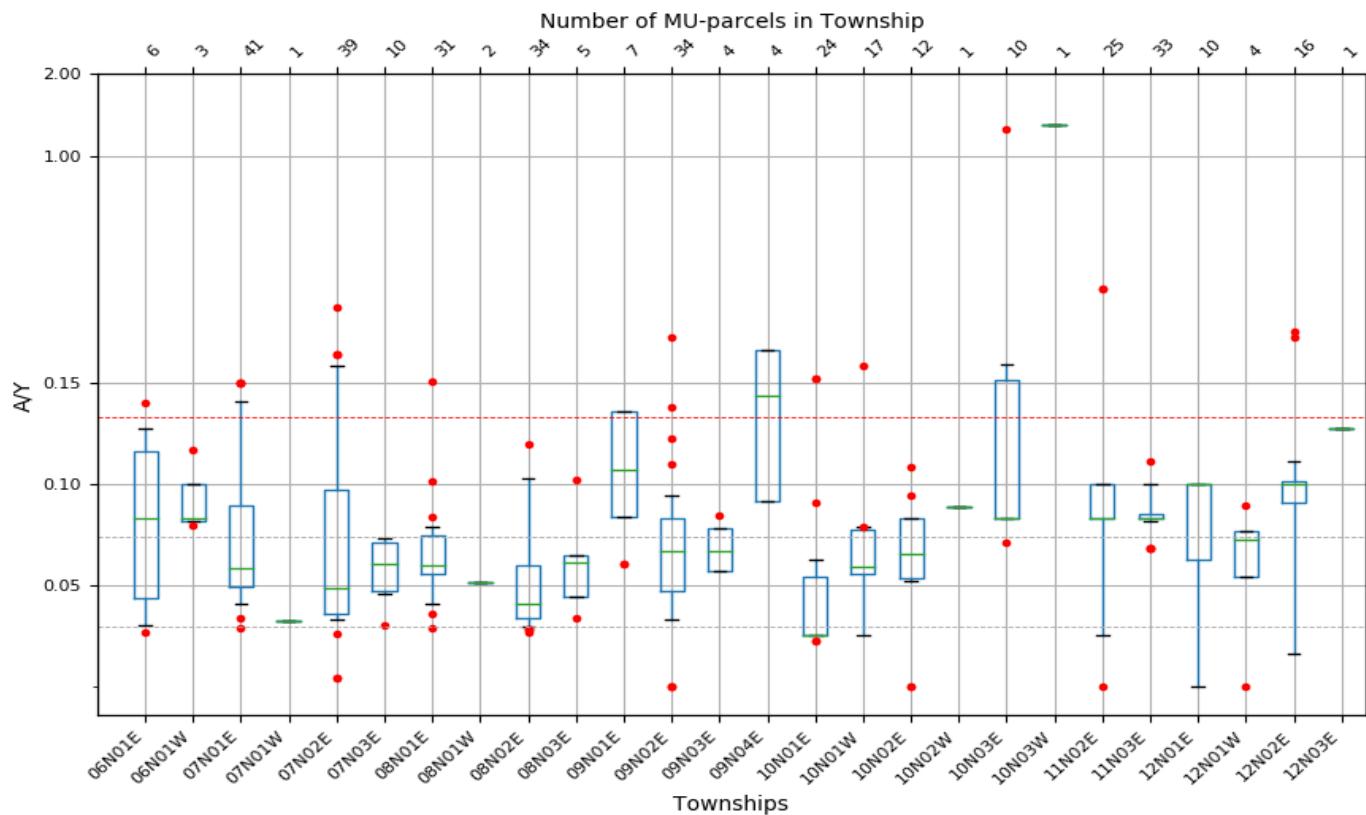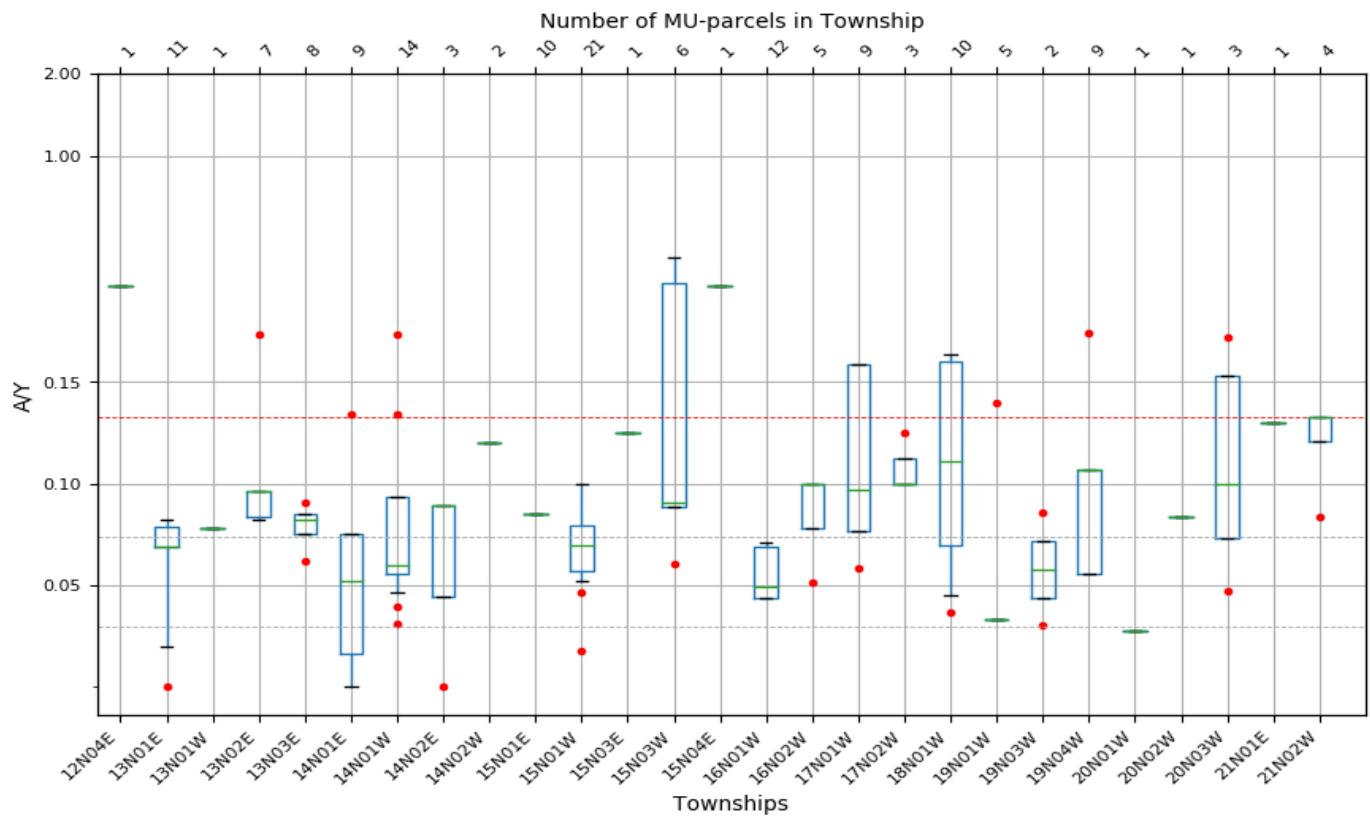
Table XXXI-1. A/Y Summary Statistics for SUNFLOWER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

| T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N01E	6	0.0267	0.14	0.0287	0.0436	0.0829	0.1163	0.1336	1
06N01W	3	0.0794	0.1167	0.0802	0.0814	0.0833	0.1	0.11	1
07N01E	41	0.029	0.15	0.0412	0.0495	0.0583	0.0893	0.1404	4
07N01W	1	0.0326	0.0326						
07N02E	39	0.0045	0.2821	0.0335	0.036	0.0487	0.0972	0.1748	4
07N03E	10	0.0307	0.0734	0.0442	0.0475	0.0605	0.0712	0.0734	0
08N01E	31	0.0293	0.1513	0.0412	0.0556	0.0597	0.0749	0.0787	3
08N01W	2	0.0512	0.0512						
08N02E	34	0.0268	0.1197	0.0287	0.0338	0.041	0.0597	0.1024	1
08N03E	5	0.0337	0.1023	0.0379	0.0442	0.0615	0.0647	0.0873	1
09N01E	7	0.0602	0.1359	0.0602	0.0835	0.1068	0.1359	0.1359	0
09N02E	34	0.0	0.22	0.0334	0.0473	0.0669	0.0833	0.1052	4
09N03E	4	0.0571	0.0846	0.0571	0.0571	0.0666	0.0782	0.0821	1
09N04E	4	0.0917	0.1956	0.0917	0.0917	0.1436	0.1956	0.1956	0
10N01E	24	0.0229	0.1538	0.0256	0.0256	0.0256	0.0543	0.0824	3
10N01W	17	0.0256	0.1714	0.0256	0.0557	0.0589	0.0774	0.0789	2
10N02E	12	0.0	0.1081	0.0052	0.0538	0.0652	0.0833	0.0935	2
10N02W	1	0.0889	0.0889						
10N03E	10	0.0714	1.25	0.0821	0.0833	0.0833	0.1527	0.282	1
10N03W	1	1.3	1.3						
11N02E	25	0.0	0.3276	0.0256	0.0833	0.0833	0.1	0.1	2
11N03E	33	0.068	0.1109	0.0708	0.0828	0.0831	0.0848	0.1	1
12N01E	10	0.0	0.1	0.0	0.0625	0.1	0.1	0.1	0
12N01W	4	0.0	0.0894	0.0218	0.0544	0.0726	0.0768	0.0843	1
12N02E	16	0.0167	0.2285	0.0167	0.0907	0.1	0.1012	0.1649	2
12N03E	1	0.1272	0.1272						
12N04E	1	0.3367	0.3367						
13N01E	11	0.0	0.0825	0.02	0.0693	0.0693	0.0784	0.0825	0
13N01W	1	0.0778	0.0778						
13N02E	7	0.0825	0.2248	0.0825	0.0839	0.0963	0.0963	0.1477	1
13N03E	8	0.0618	0.0909	0.0711	0.075	0.082	0.0853	0.087	1
14N01E	9	0.0	0.1345	0.0	0.0163	0.0524	0.075	0.0869	1
14N01W	14	0.0314	0.225	0.0419	0.0553	0.0601	0.0933	0.1222	2
14N02E	3	0.0	0.0893	0.0179	0.0446	0.0893	0.0893	0.0893	0
14N02W	2	0.12	0.12						
15N01E	10	0.0853	0.0853	0.0853	0.0853	0.0853	0.0853	0.0853	0

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
15N01W	21	0.0175	0.1	0.0519	0.0574	0.0699	0.0792	0.1	0
15N03E	1	0.125	0.125						
15N03W	6	0.0604	0.4286	0.0744	0.0884	0.0907	0.3447	0.4286	0
15N04E	1	0.3372	0.3372						
16N01W	12	0.044	0.071	0.044	0.044	0.0494	0.0689	0.071	0
16N02W	5	0.0512	0.1	0.062	0.0783	0.1	0.1	0.1	0
17N01W	9	0.0587	0.1742	0.0731	0.0767	0.0968	0.1742	0.1742	0
17N02W	3	0.0996	0.125	0.0996	0.0996	0.0996	0.1123	0.1199	1
18N01W	10	0.0367	0.19	0.0442	0.0694	0.1111	0.1775	0.19	0
19N01W	5	0.0333	0.14	0.0333	0.0333	0.0333	0.0333	0.0973	1
19N03W	2	0.03	0.0857						
19N04W	9	0.0553	0.2264	0.0553	0.0553	0.1067	0.1067	0.1306	1
20N01W	1	0.0278	0.0278						
20N02W	1	0.0833	0.0833						
20N03W	3	0.047	0.2186	0.0576	0.0733	0.0997	0.1591	0.1948	1
21N01E	1	0.13	0.13						
21N02W	4	0.0833	0.133	0.0982	0.1206	0.133	0.133	0.133	0

Table XXXI-2. A/R Summary Statistics for SUNFLOWER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N01E	6	0.9864	5.1756	1.0604	1.6123	3.0635	4.299	4.9403	1
06N01W	3	2.9345	4.313	2.9638	3.0076	3.0807	3.6969	4.0665	1
07N01E	41	1.0713	5.5453	1.5241	1.8306	2.1557	3.3016	5.1912	4
07N01W	1	1.2053	1.2053						
07N02E	39	0.1672	10.427	1.2395	1.331	1.7991	3.593	6.4624	4
07N03E	10	1.1335	2.712	1.6334	1.7576	2.2355	2.6313	2.712	0
08N01E	31	1.0848	5.5917	1.5225	2.0538	2.2057	2.7706	2.9077	3
08N01W	2	1.8946	1.8946						
08N02E	34	0.9902	4.4236	1.0626	1.2509	1.5156	2.2057	3.7864	1
08N03E	5	1.2458	3.782	1.4015	1.6351	2.275	2.3921	3.226	1
09N01E	7	2.227	5.0229	2.227	3.0883	3.9496	5.0229	5.0229	0
09N02E	34	0.0	8.1331	1.2366	1.7472	2.472	3.0807	3.8899	4
09N03E	4	2.1125	3.1276	2.1125	2.1125	2.463	2.892	3.0334	1
09N04E	4	3.3916	7.2294	3.3916	3.3916	5.3105	7.2294	7.2294	0
10N01E	24	0.845	5.6848	0.947	0.947	0.947	2.0087	3.0457	3
10N01W	17	0.947	6.3375	0.947	2.0607	2.1759	2.8603	2.9181	2
10N02E	12	0.0	3.9966	0.1933	1.9871	2.4093	3.0807	3.4554	2
10N02W	1	3.2851	3.2851						
10N03E	10	2.6406	46.2107	3.0367	3.0807	3.0807	5.6447	10.4243	1
10N03W	1	48.0591	48.0591						
11N02E	25	0.0	12.1095	0.947	3.0807	3.0807	3.6969	3.6969	2
11N03E	33	2.5154	4.0988	2.618	3.0595	3.0739	3.1355	3.6969	1
12N01E	10	0.0	3.6969	0.0	2.3105	3.6969	3.6969	3.6969	0
12N01W	4	0.0	3.304	0.805	2.0124	2.6832	2.8384	3.1178	1
12N02E	16	0.6161	8.448	0.6161	3.3547	3.6969	3.7401	6.0946	2
12N03E	1	4.7035	4.7035						
12N04E	1	12.4461	12.4461						
13N01E	11	0.0	3.0517	0.7394	2.5608	2.5608	2.8987	3.0517	0
13N01W	1	2.8753	2.8753						
13N02E	7	3.0517	8.3113	3.0517	3.1022	3.5599	3.5599	5.4605	1
13N03E	8	2.2846	3.3608	2.6267	2.7733	3.0318	3.1527	3.2151	1
14N01E	9	0.0	4.9734	0.0	0.604	1.9378	2.7726	3.2128	1
14N01W	14	1.1605	8.3179	1.5482	2.0457	2.2223	3.4504	4.5165	2
14N02E	3	0.0	3.3008	0.6602	1.6504	3.3008	3.3008	3.3008	0
14N02W	2	4.4362	4.4362						

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
15N01E	10	3.1527	3.1527	3.1527	3.1527	3.1527	3.1527	3.1527	0
15N01W	21	0.6454	3.6969	1.9169	2.1205	2.5859	2.929	3.6969	0
15N03E	1	4.6211	4.6211						
15N03W	6	2.2338	15.8437	2.7511	3.2685	3.3514	12.7413	15.8437	0
15N04E	1	12.4674	12.4674						
16N01W	12	1.6273	2.6239	1.6273	1.6273	1.8274	2.5479	2.6239	0
16N02W	5	1.8921	3.6969	2.2931	2.8946	3.6969	3.6969	3.6969	0
17N01W	9	2.1717	6.4386	2.704	2.8371	3.5776	6.4386	6.4386	0
17N02W	3	3.6809	4.6211	3.6809	3.6809	3.6809	4.151	4.433	1
18N01W	10	1.3571	7.024	1.6348	2.5673	4.1076	6.5619	7.024	0
19N01W	5	1.2323	5.1756	1.2323	1.2323	1.2323	1.2323	3.5983	1
19N03W	2	1.1091	3.1687						
19N04W	9	2.0432	8.3702	2.0432	2.0432	3.9433	3.9433	4.8287	1
20N01W	1	1.0269	1.0269						
20N02W	1	3.0807	3.0807						
20N03W	3	1.7389	8.0806	2.1279	2.7114	3.684	5.8823	7.2012	1
21N01E	1	4.8059	4.8059						
21N02W	4	3.0807	4.9168	3.6315	4.4578	4.9168	4.9168	4.9168	0

Table XXXI-3. A-R Summary Statistics for SUNFLOWER management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
06N01E	7	-1.3785	112.95	-0.5514	6.8107	67.54	102.1435	111.327	1
06N01W	3	46.1462	107.54	50.425	56.8431	67.54	87.54	99.54	1
06N02E	1	100.0	100.0						
07N01E	41	7.658	122.95	24.4153	46.8408	57.3632	84.0876	113.0312	4
07N01W	1	19.5849	19.5849						
07N02E	39	-108.581	146.7001	11.015	17.6625	64.85	92.6339	98.5962	4
07N03E	10	7.654	69.425	27.1977	32.897	55.7233	63.3022	64.556	1
08N01E	31	9.767	94.9076	20.2476	52.8652	71.0437	88.1046	90.3363	3
08N01W	2	33.88	33.88						
08N02E	34	-0.592	80.9483	3.2944	12.015	23.5962	53.0224	80.9483	0
08N03E	5	15.7833	88.2703	25.7833	40.7833	44.835	64.015	78.5682	1
09N01E	7	55.097	80.0912	55.097	64.8891	74.6812	80.0912	80.0912	0
09N02E	35	-47.3375	125.0	23.9141	44.5454	65.7817	67.54	84.573	4
09N03E	4	42.13	68.0269	42.13	42.13	53.2932	65.349	66.9557	1
09N04E	4	70.5155	113.7412	70.5155	70.5155	92.1284	113.7412	113.7412	0
10N01E	24	-5.87	278.79	-2.9665	-2.9665	-2.9665	47.5437	66.1875	3
10N01W	17	-2.9665	101.065	-2.9665	39.8621	41.1776	52.0312	58.5298	2
10N02E	12	-65.837	149.9575	-54.3993	51.9662	61.3379	68.4544	119.5815	2
10N02W	1	52.1698	52.1698						
10N03E	10	62.13	126.737	66.999	67.54	67.54	91.512	126.737	0
10N03W	1	127.295	127.295						
11N02E	25	-22.3631	106.4208	-2.9665	67.54	67.54	72.95	75.704	3
11N03E	33	56.8715	109.425	58.1423	66.8215	80.7775	87.13	93.3064	3
12N01E	10	-44.2808	72.95	-44.2808	61.2688	72.95	72.95	72.95	0
12N01W	4	-22.3631	62.7606	1.2832	36.7527	56.458	58.0337	60.8699	1
12N02E	16	-93.45	220.4073	-93.45	72.95	74.479	93.4825	165.1597	2
12N03E	1	90.5499	90.5499						
12N04E	1	92.885	92.885						
13N01E	11	-54.1	87.4001	-42.3	58.8925	70.0916	70.0916	87.4001	0
13N01W	1	68.4825	68.4825						
13N02E	7	66.4373	219.9204	79.015	87.4001	93.4825	93.4825	144.0577	1
13N03E	8	53.0805	70.245	60.6838	63.9424	66.0419	66.4373	67.5796	1
14N01E	9	-27.05	71.9036	-27.05	-13.925	43.5552	57.54	60.4127	1
14N01W	16	0.0	79.18	4.7722	39.1432	48.9094	69.5445	70.724	2
14N02E	3	-54.1	87.13	-25.854	16.515	87.13	87.13	87.13	0

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
14N02W	2	81.3312	81.3312						
15N01E	11	0.0	66.4373	66.4373	66.4373	66.4373	66.4373	66.4373	0
15N01W	21	-9.8886	87.54	33.4825	45.9715	71.097	73.097	87.54	0
15N03E	1	58.77	58.77						
15N03W	6	44.1858	140.5325	46.0376	47.8894	54.0693	120.4617	140.5325	0
15N04E	1	105.776	105.776						
16N01W	12	32.7664	53.8433	32.7664	32.7664	39.392	52.8443	53.8433	0
16N02W	5	30.6465	87.54	41.1656	56.9442	87.54	87.54	87.54	0
17N01W	9	46.939	101.3626	60.6722	64.1055	86.458	101.3626	101.3626	0
17N02W	3	67.0058	97.95	67.0058	67.0058	67.0058	82.4779	91.7612	1
18N01W	11	0.0	169.425	22.6319	42.8392	75.655	114.065	114.065	1
19N01W	5	9.425	169.425	9.425	9.425	9.425	9.425	105.425	1
19N03W	2	7.375	82.13						
19N04W	9	38.2932	105.6635	38.2932	38.2932	65.6838	65.6838	73.6797	1
20N01W	1	1.31	1.31						
20N02W	1	67.54	67.54						
20N03W	3	53.965	175.2492	72.3141	99.8378	145.7106	160.4799	169.3415	1
21N01E	1	102.95	102.95						
21N02W	4	67.54	105.95	79.063	96.3475	105.95	105.95	105.95	0
25N02W	1	100.0	100.0						

Table XXXI-4. Summary Statistics for SUNFLOWER management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	535	0.0	1.3	0.0298	0.0494	0.0737	0.0939	0.133	52
A/R	535	0.0	48.0591	1.1034	1.8274	2.724	3.4702	4.9168	52
A-R	535	-108.581	278.79	7.6556	39.4085	65.6838	80.0912	97.2877	54

Figure XXXI-2. Scatter plot of A vs. Y for SUNFLOWER with all T-R together.
Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
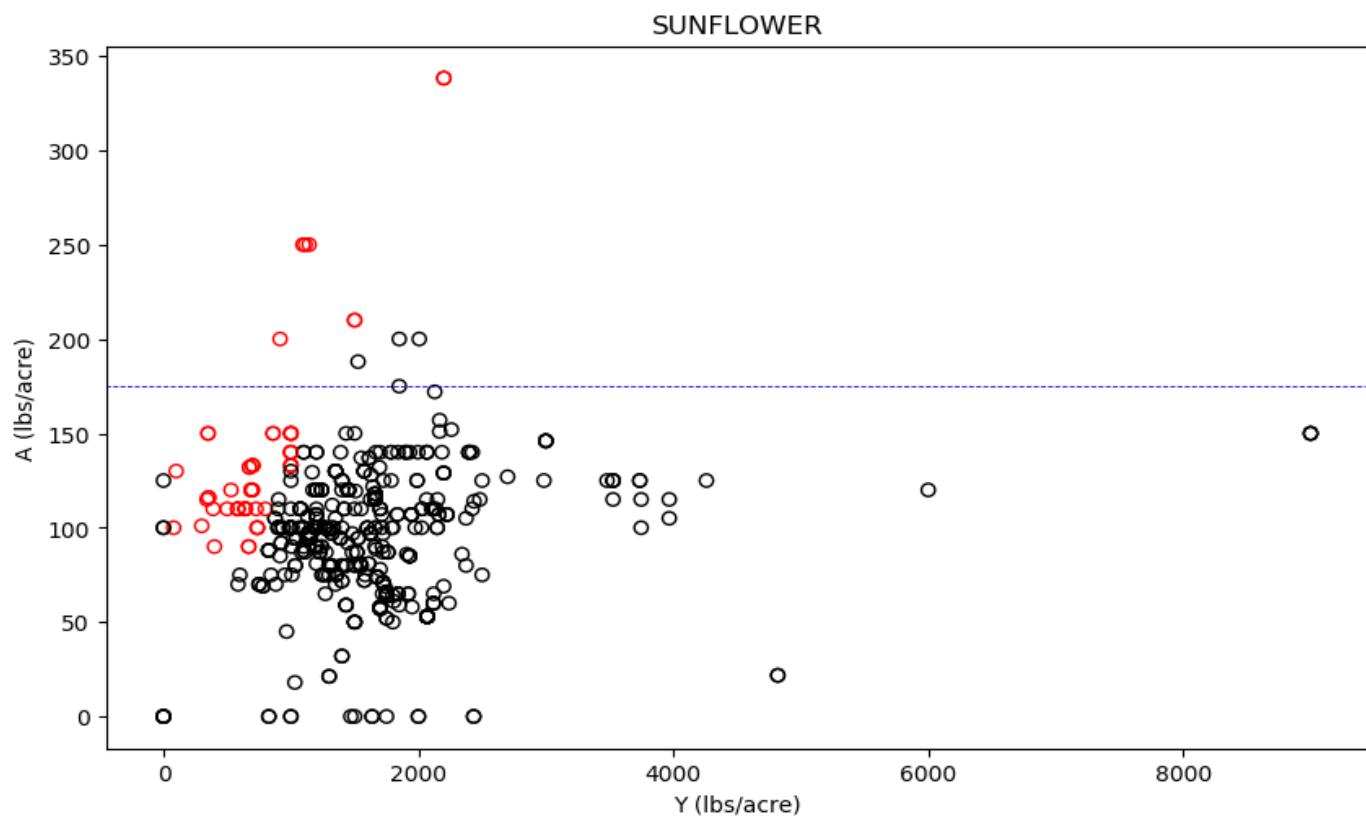
XXXII. TOMATO - PROCESSING

Figure XXXII-1. Box and Whisker plots of A/Y for TOMATO - PROCESSING management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.

Grouped Boxplots by Township for TOMATO - PROCESSING
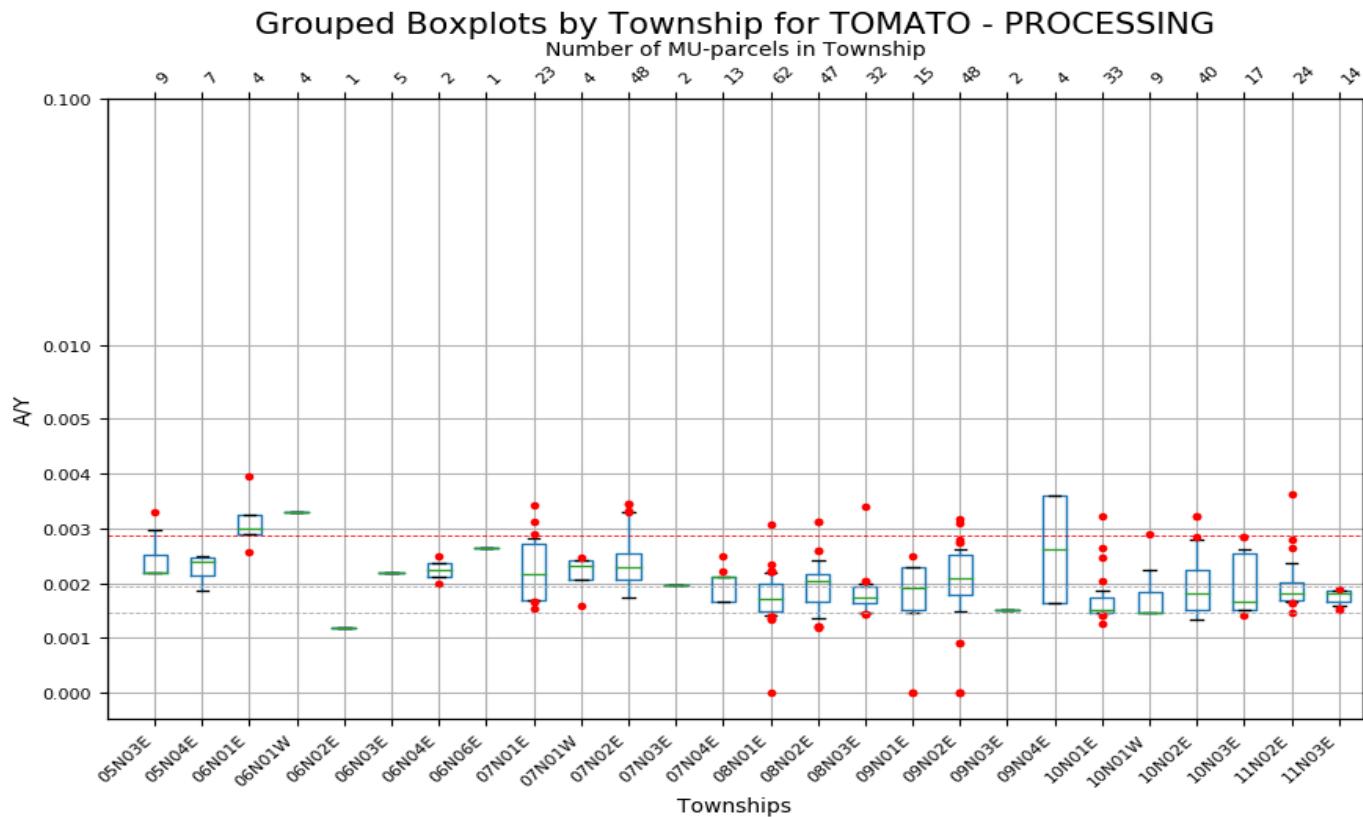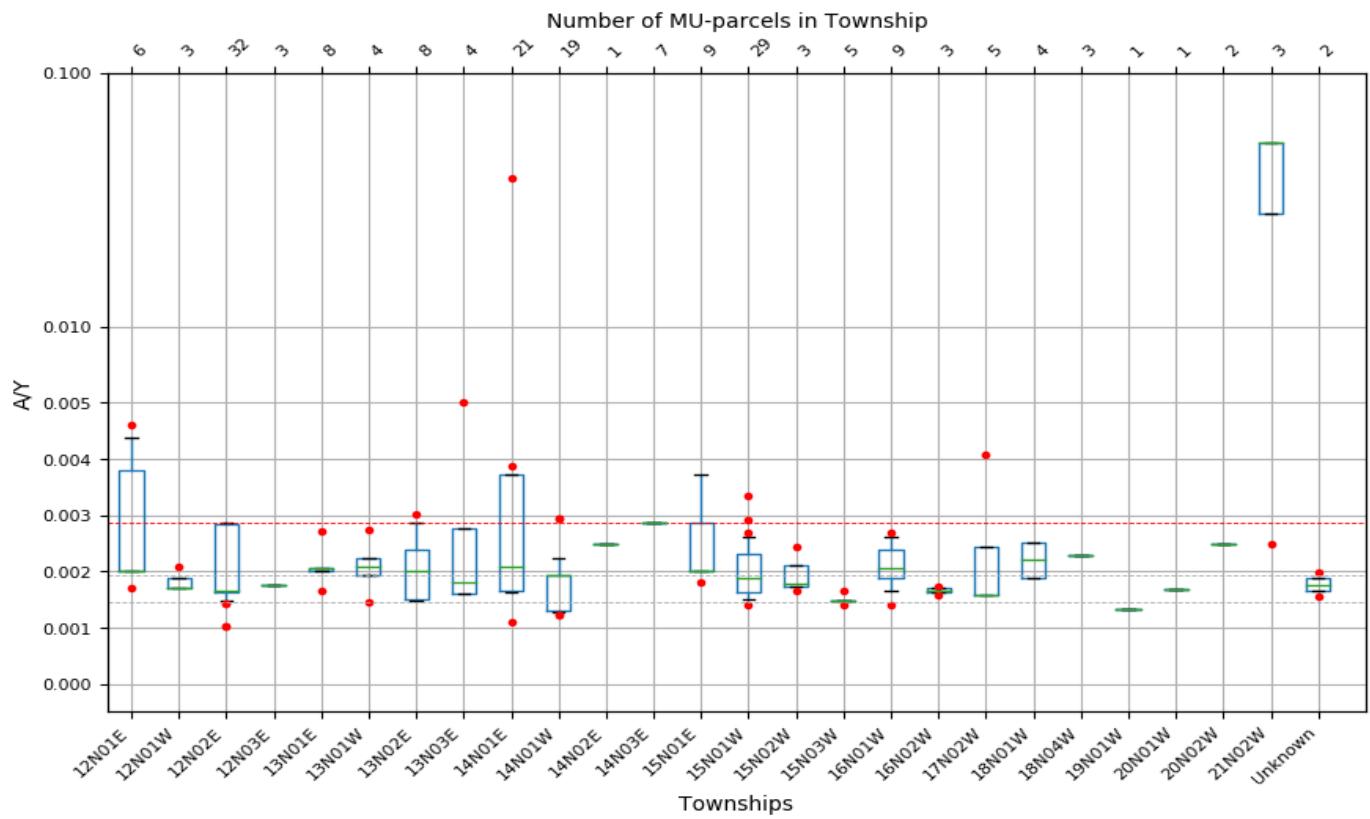
Table XXXII-1. A/Y Summary Statistics for TOMATO - PROCESSING management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N03E	9	0.0022	0.0033	0.0022	0.0022	0.0022	0.0025	0.003	1
05N04E	7	0.0019	0.0025	0.0019	0.0021	0.0024	0.0025	0.0025	0
06N01E	4	0.0026	0.004	0.0027	0.0029	0.003	0.0032	0.0037	1
06N01W	4	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0
06N02E	1	0.0012	0.0012						
06N03E	5	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0.0022	0
06N04E	2	0.002	0.0025						
06N06E	1	0.0026	0.0026						
07N01E	23	0.0015	0.0034	0.0017	0.0017	0.0022	0.0027	0.0029	3
07N01W	4	0.0016	0.0025	0.0018	0.0021	0.0023	0.0024	0.0024	1
07N02E	48	0.0017	0.0035	0.0017	0.0021	0.0023	0.0025	0.0033	4
07N03E	2	0.002	0.002						
07N04E	13	0.0017	0.0025	0.0017	0.0017	0.0021	0.0021	0.0022	2
08N01E	62	0.0	0.0031	0.0014	0.0015	0.0017	0.002	0.0022	7
08N02E	47	0.0012	0.0031	0.0013	0.0017	0.002	0.0022	0.0024	4
08N03E	32	0.0014	0.0034	0.0015	0.0016	0.0017	0.0019	0.002	3
09N01E	15	0.0	0.0025	0.0006	0.0015	0.0019	0.0023	0.0023	1
09N02E	48	0.0	0.0032	0.0013	0.0018	0.0021	0.0025	0.0027	5
09N03E	2	0.0015	0.0015						
09N04E	4	0.0016	0.0036	0.0016	0.0016	0.0026	0.0036	0.0036	0
10N01E	33	0.0013	0.0032	0.0015	0.0015	0.0015	0.0017	0.002	4
10N01W	9	0.0015	0.0029	0.0015	0.0015	0.0015	0.0018	0.0024	1
10N02E	40	0.0013	0.0032	0.0013	0.0015	0.0018	0.0022	0.0028	3
10N03E	17	0.0014	0.0028	0.0015	0.0015	0.0017	0.0026	0.0027	2
11N02E	24	0.0015	0.0036	0.0016	0.0017	0.0018	0.002	0.0026	3
11N03E	14	0.0015	0.0019	0.0016	0.0017	0.0018	0.0019	0.0019	1
12N01E	6	0.0017	0.0046	0.0019	0.002	0.002	0.0038	0.0045	1
12N01W	3	0.0017	0.0021	0.0017	0.0017	0.0017	0.0019	0.002	1
12N02E	32	0.001	0.0029	0.0014	0.0016	0.0017	0.0028	0.0029	0
12N03E	3	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0
13N01E	8	0.0017	0.0027	0.0019	0.002	0.0021	0.0021	0.0023	1
13N01W	4	0.0015	0.0027	0.0016	0.0019	0.0021	0.0023	0.0025	1
13N02E	8	0.0015	0.003	0.0015	0.0015	0.002	0.0024	0.0029	1
13N03E	4	0.0016	0.005	0.0016	0.0016	0.0018	0.0028	0.0041	1
14N01E	21	0.0011	0.0387	0.0016	0.0017	0.0021	0.0037	0.0037	2
14N01W	19	0.0012	0.003	0.0013	0.0013	0.0019	0.0019	0.0024	2

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
14N02E	1	0.0025	0.0025						
14N03E	7	0.0029	0.0029	0.0029	0.0029	0.0029	0.0029	0.0029	0
15N01E	9	0.0018	0.0037	0.002	0.002	0.002	0.0029	0.0037	0
15N01W	29	0.0014	0.0034	0.0015	0.0016	0.0019	0.0023	0.0026	3
15N02W	3	0.0017	0.0024	0.0017	0.0017	0.0018	0.0021	0.0023	1
15N03W	5	0.0014	0.0017	0.0014	0.0015	0.0015	0.0015	0.0016	1
16N01W	9	0.0014	0.0027	0.0016	0.0019	0.0021	0.0024	0.0026	1
16N02W	3	0.0016	0.0017	0.0016	0.0016	0.0017	0.0017	0.0017	1
17N02W	5	0.0016	0.0041	0.0016	0.0016	0.0016	0.0024	0.0034	1
18N01W	4	0.0019	0.0025	0.0019	0.0019	0.0022	0.0025	0.0025	0
18N04W	3	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0.0023	0
19N01W	1	0.0013	0.0013						
20N01W	1	0.0017	0.0017						
20N02W	2	0.0025	0.0025						
21N02W	3	0.0025	0.0532	0.0126	0.0278	0.0532	0.0532	0.0532	0
Unknown	2	0.0016	0.002						

Table XXXII-2. A/R Summary Statistics for TOMATO - PROCESSING management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N03E	9	1.6026	2.4153	1.6026	1.6026	1.6026	1.8536	2.2315	1
05N04E	7	1.3736	1.8315	1.3736	1.559	1.7443	1.8092	1.8315	0
06N01E	4	1.8773	2.8944	1.9734	2.1177	2.1978	2.372	2.6854	1
06N01W	4	2.4099	2.4099	2.4099	2.4099	2.4099	2.4099	2.4099	0
06N02E	1	0.8682	0.8682						
06N03E	5	1.6026	1.6026	1.6026	1.6026	1.6026	1.6026	1.6026	0
06N04E	2	1.4652	1.8315						
06N06E	1	1.9323	1.9323						
07N01E	23	1.1187	2.5131	1.2248	1.2398	1.5908	1.9986	2.11	3
07N01W	4	1.1693	1.8072	1.3069	1.5133	1.6945	1.7725	1.7933	1
07N02E	48	1.2758	2.5316	1.2758	1.511	1.6838	1.8541	2.4099	4
07N03E	2	1.4459	1.4459						
07N04E	13	1.221	1.8315	1.221	1.221	1.5587	1.5587	1.6141	2
08N01E	62	0.0	2.2583	1.0266	1.0943	1.2509	1.4608	1.6259	7
08N02E	47	0.8688	2.2799	0.9497	1.2091	1.4945	1.5921	1.7634	4
08N03E	32	1.0515	2.4834	1.0675	1.1911	1.2734	1.4178	1.4549	3
09N01E	15	0.0	1.8315	0.4289	1.0989	1.3981	1.6832	1.6832	5
09N02E	48	0.0	2.3224	0.9642	1.3126	1.5322	1.8402	1.946	5
09N03E	2	1.0989	1.0989						
09N04E	4	1.1988	2.6298	1.1988	1.1988	1.9143	2.6298	2.6298	0
10N01E	33	0.9191	2.3548	1.0723	1.0723	1.0989	1.2702	1.4723	4
10N01W	9	1.0723	2.1187	1.0723	1.0723	1.0723	1.3456	1.7424	1
10N02E	40	0.9768	2.3548	0.9768	1.1074	1.3223	1.6415	2.0428	3
10N03E	17	1.0256	2.0829	1.0989	1.0989	1.2116	1.8697	1.9888	2
11N02E	24	1.0723	2.6634	1.2064	1.232	1.3315	1.4814	1.8748	3
11N03E	14	1.1092	1.3818	1.1398	1.2212	1.3355	1.3736	1.3736	1
12N01E	6	1.2501	3.3812	1.3576	1.4652	1.4652	2.7785	3.2988	1
12N01W	3	1.2537	1.5216	1.2537	1.2537	1.2537	1.3876	1.468	1
12N02E	32	0.7541	2.0972	1.0449	1.1988	1.217	2.0771	2.0972	0
12N03E	3	1.2973	1.2973	1.2973	1.2973	1.2973	1.2973	1.2973	
13N01E	8	1.221	1.9847	1.397	1.4724	1.5126	1.5126	1.6542	1
13N01W	4	1.0635	2.0059	1.2032	1.4129	1.5294	1.6486	1.863	1
13N02E	8	1.0916	2.2161	1.0916	1.0971	1.4724	1.7453	2.1329	1
13N03E	4	1.1737	3.663	1.1737	1.1737	1.323	2.02	3.0058	1
14N01E	21	0.808	28.3587	1.2049	1.221	1.5318	2.735	2.735	2

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
14N01W	19	0.9007	2.1618	0.938	0.9639	1.421	1.421	1.7411	2
14N02E	1	1.8315	1.8315						
14N03E	7	2.0972	2.0972	2.0972	2.0972	2.0972	2.0972	2.0972	0
15N01E	9	1.3219	2.735	1.4423	1.4724	1.4724	2.0972	2.735	0
15N01W	29	1.0367	2.4552	1.0989	1.1919	1.3823	1.7041	1.9219	3
15N02W	3	1.221	1.7896	1.2384	1.2646	1.3082	1.5489	1.6934	1
15N03W	5	1.0294	1.221	1.0519	1.0856	1.0856	1.0856	1.1668	1
16N01W	9	1.0268	1.978	1.1731	1.3903	1.5113	1.7479	1.9286	1
16N02W	3	1.169	1.2778	1.1794	1.195	1.221	1.2494	1.2664	1
17N02W	5	1.1567	2.9827	1.1567	1.1567	1.1567	1.7896	2.5055	1
18N01W	4	1.3885	1.8396	1.3885	1.3885	1.6141	1.8396	1.8396	0
18N04W	3	1.6683	1.6683	1.6683	1.6683	1.6683	1.6683	1.6683	0
19N01W	1	0.9849	0.9849						
20N01W	1	1.2327	1.2327						
20N02W	2	1.8315	1.8315						
21N02W	3	1.8315	38.9681	9.2588	20.3998	38.9681	38.9681	38.9681	0
Unknown	2	1.1355	1.4527						

Table XXXII-3. A-R Summary Statistics for TOMATO - PROCESSING management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N03E	9	19.341	123.64	19.341	65.8	65.8	65.8	102.408	1
05N04E	7	40.8	90.8	40.8	63.07	85.34	89.435	90.8	0
06N01E	4	95.8	153.8098	106.3	122.05	130.8	136.5525	146.9069	1
06N01W	4	146.26	146.26	146.26	146.26	146.26	146.26	146.26	0
06N02E	1	-13.5115	-13.5115						
06N03E	5	65.8	65.8	65.8	65.8	65.8	65.8	65.8	0
06N04E	2	63.5	90.8						
06N06E	1	110.972	110.972						
07N01E	23	16.7139	198.687	34.574	42.55	66.9125	130.755	158.387	2
07N01W	4	22.8018	132.654	39.1063	63.563	100.5845	126.1778	130.0635	1
07N02E	48	40.4899	240.933	49.5025	57.4218	82.8426	129.1552	180.5362	5
07N03E	2	46.26	46.26						
07N04E	13	36.2	90.8	36.2	36.2	71.69	71.69	76.058	2
08N01E	62	-150.15	111.4388	4.074	16.3111	34.4886	59.4563	76.4144	7
08N02E	47	-21.4451	89.61	-6.6884	29.6245	65.77	75.34	82.34	4
08N03E	32	5.9305	119.465	8.8834	19.4167	29.3714	43.3146	46.26	3
09N01E	15	-131.04	99.88	-73.9038	16.2	56.948	85.239	85.239	1
09N02E	48	-169.26	148.04	-2.4318	51.2	73.9832	98.975	110.4178	5
09N03E	2	16.2	16.2						
09N04E	4	29.85	173.53	29.85	29.85	101.69	173.53	173.53	0
10N01E	33	-13.1994	207.12	11.8006	11.8006	16.2	45.74	77.292	4
10N01W	9	11.8006	95.0424	11.8006	11.8006	11.8006	46.23	75.6485	1
10N02E	40	-3.8	207.12	-3.8	12.61	51.2	107.09	158.799	4
10N03E	17	3.5	150.77	16.2	16.2	37.55	102.337	139.6406	2
11N02E	24	11.8006	148.04	28.4162	29.7868	48.47	65.5238	125.74	4
11N03E	14	17.94	53.04	20.267	37.9025	43.7468	53.04	53.04	0
12N01E	6	43.01	253.53	50.08	57.15	57.15	200.34	250.8	1
12N01W	3	46.544	78.8399	46.544	46.544	46.544	62.692	72.3807	1
12N02E	32	-45.64	134.42	6.5513	29.85	29.85	93.1243	93.1243	1
12N03E	3	38.96	38.96	38.96	38.96	38.96	38.96	38.96	0
13N01E	9	0.0	134.954	21.72	65.77	77.939	77.939	89.342	1
13N01W	4	10.74	115.34	28.2879	54.6098	69.233	80.7598	101.5079	1
13N02E	8	12.5	132.8	12.5	15.275	65.77	81.1436	105.027	1
13N03E	4	23.23	65.77	23.23	23.23	44.33	65.515	65.668	1
14N01E	21	-35.64	463.074	27.15	27.15	60.8	213.15	213.15	2

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
14N01W	23	-16.53	193.47	-8.34	-5.61	30.77	66.66	89.405	2
14N02E	1	90.8	90.8						
14N03E	7	93.1243	93.1243	93.1243	93.1243	93.1243	93.1243	93.1243	0
15N01E	9	48.7034	213.15	62.3567	65.77	65.77	93.1243	213.15	2
15N01W	38	0.0	146.99	0.0	8.0325	49.691	75.661	109.405	4
15N02W	3	27.15	75.45	28.788	31.245	35.34	55.395	67.428	1
15N03W	5	4.66	27.15	7.936	12.85	12.85	12.85	21.43	1
16N01W	9	4.47	133.5	29.286	58.6	70.485	79.1579	113.1512	1
16N02W	3	21.69	32.61	23.506	26.23	30.77	31.69	32.242	1
17N02W	5	16.26	113.67	16.26	16.26	16.26	75.45	98.382	1
18N01W	4	45.61	103.15	45.61	45.61	74.38	103.15	103.15	0
18N04W	3	92.135	92.135	92.135	92.135	92.135	92.135	92.135	0
19N01W	1	-1.85	-1.85						
20N01W	1	33.04	33.04						
20N02W	2	113.5	113.5						
21N02W	3	113.5	243.5845	139.5169	178.5422	243.5845	243.5845	243.5845	0
Unknown	2	18.5	62.3261						

Table XXXII-4. Summary Statistics for TOMATO - PROCESSING management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	665	0.0	0.0532	0.0015	0.0016	0.0019	0.0023	0.0029	50
A/R	665	0.0	38.9681	1.0723	1.1988	1.4178	1.6838	2.0972	50
A-R	665	-169.26	463.074	11.1642	27.9101	56.12	84.207	128.8886	67

**Figure XXXII-2. Scatter plot of A vs. Y for TOMATO - PROCESSING with all T-R together.**

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
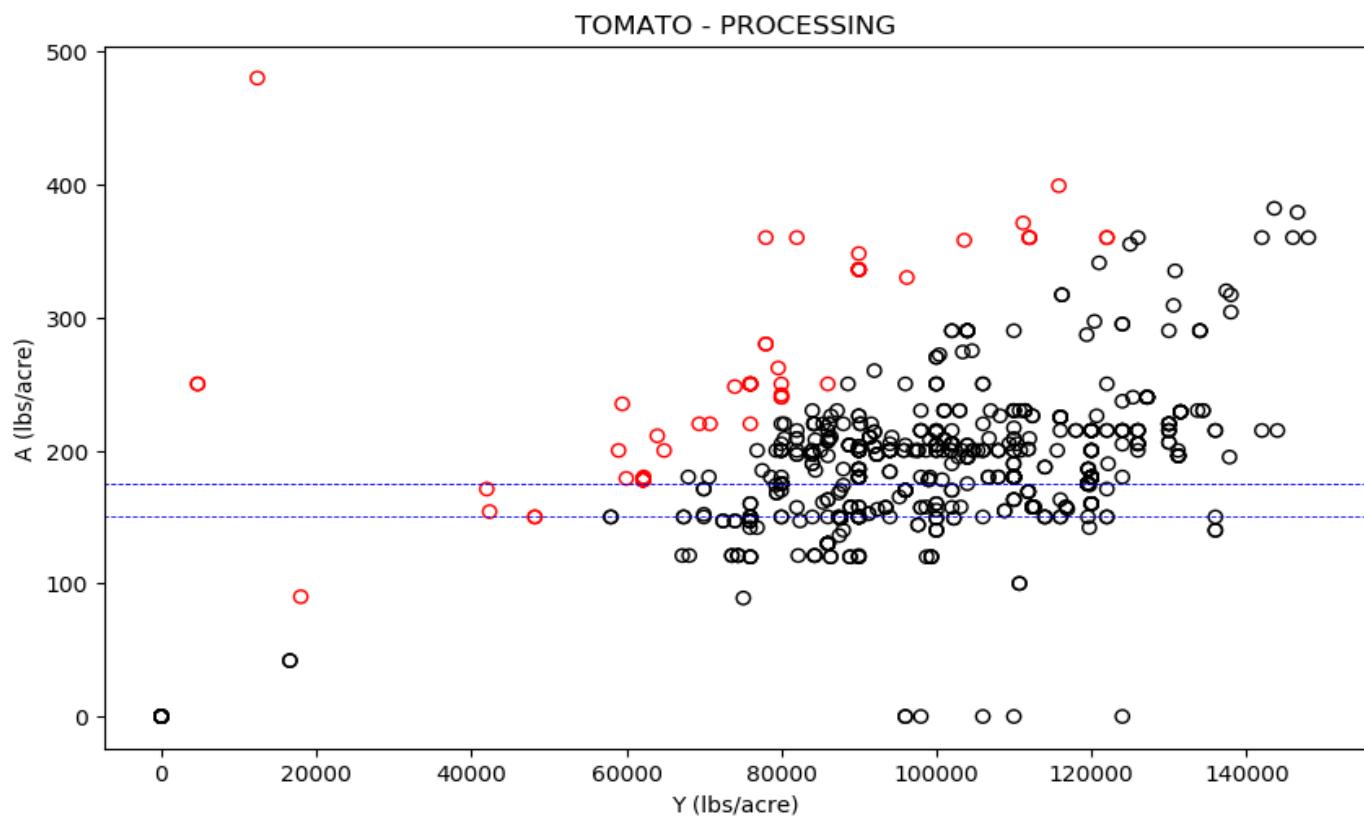
XXXIII. TRITICALE

Figure XXXIII-1. Box and Whisker plots of A/Y for TRITICALE management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
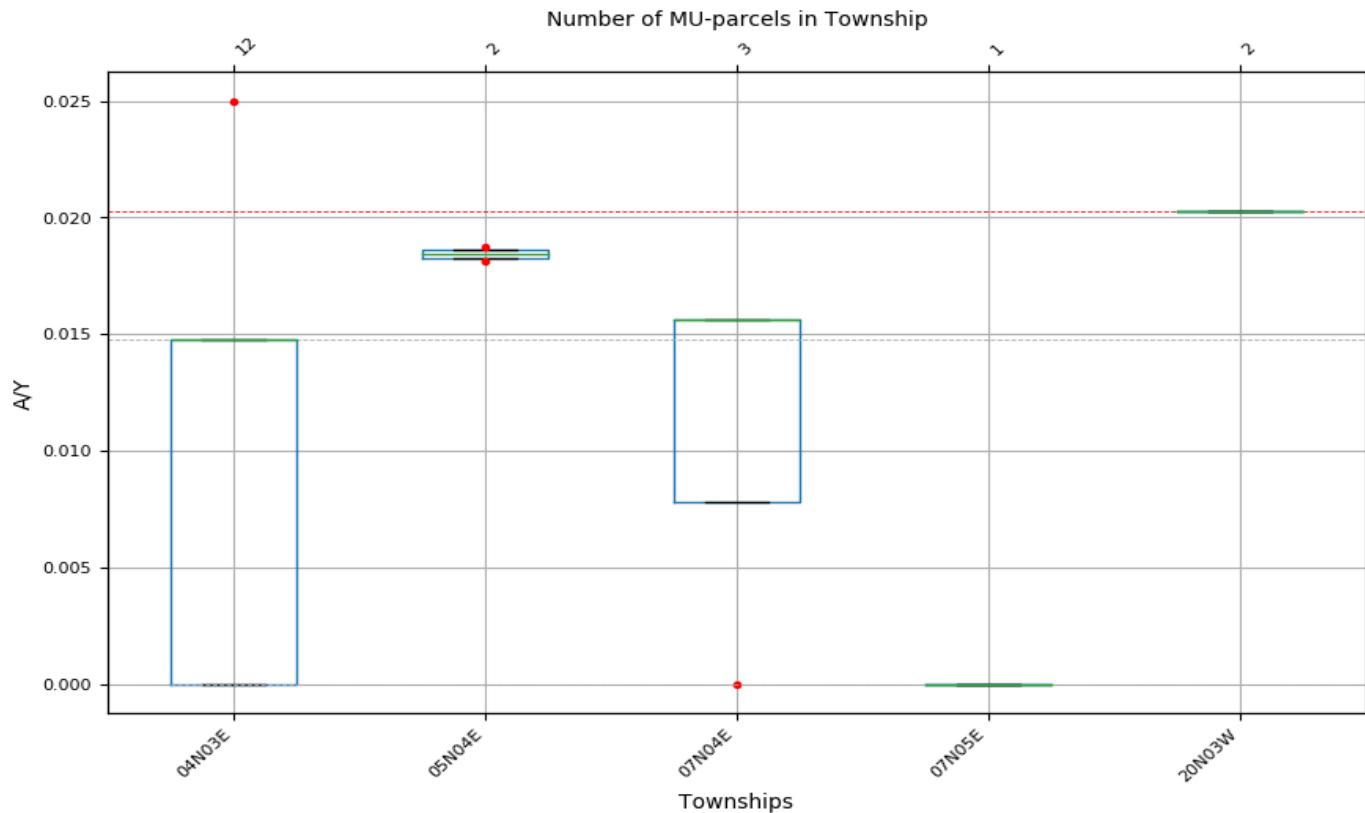
Table XXXIII-1. A/Y Summary Statistics for TRITICALE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	12	0.0	0.025	0.0	0.0	0.0147	0.0147	0.0147	1
05N04E	2	0.0181	0.0188						
07N04E	3	0.0	0.0156	0.0031	0.0078	0.0156	0.0156	0.0156	0
07N05E	1	0.0	0.0						
20N03W	2	0.0203	0.0203						

Table XXXIII-2. A/R Summary Statistics for TRITICALE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	12	0.0	5.5371	0.0	0.0	3.2655	3.2655	3.2655	1
05N04E	2	4.0124	4.1528						
07N04E	3	0.0	3.4607	0.6921	1.7303	3.4607	3.4607	3.4607	0
07N05E	1	0.0	0.0						
20N03W	2	4.4895	4.4895						

Table XXXIII-3. A-R Summary Statistics for TRITICALE management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N03E	12	-26.6385	122.91	-26.6385	-26.6385	79.783	79.783	79.783	1
05N04E	2	56.94	93.8465						
07N04E	3	-37.926	88.88	-12.5648	25.477	88.88	88.88	88.88	0
07N05E	1	-9.03	-9.03						
14N03E	1	0.0	0.0						
20N03W	2	58.2945	58.2945						

Table XXXIII-4. Summary Statistics for TRITICALE management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	20	0.0	0.025	0.0	0.0	0.0147	0.0162	0.0203	1
A/R	20	0.0	5.5371	0.0	0.0	3.2655	3.5986	4.4895	1
A-R	20	-37.926	122.91	-26.6385	-13.4321	79.783	79.783	89.3767	2

Figure XXXIII-2. Scatter plot of A vs. Y for TRITICALE with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
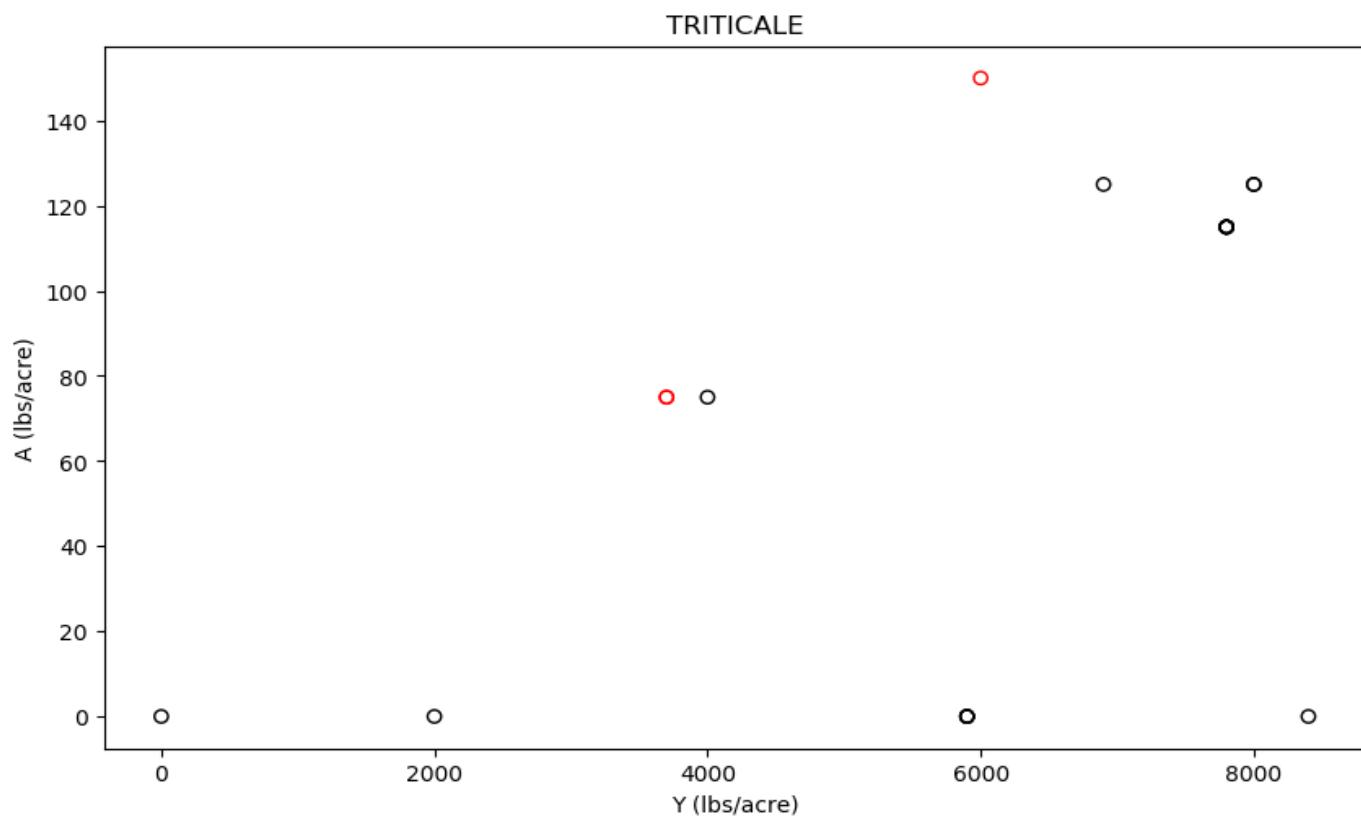
XXXIV. VINE SEED

Figure XXXIV-1. Box and Whisker plots of A/Y for VINE SEED management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
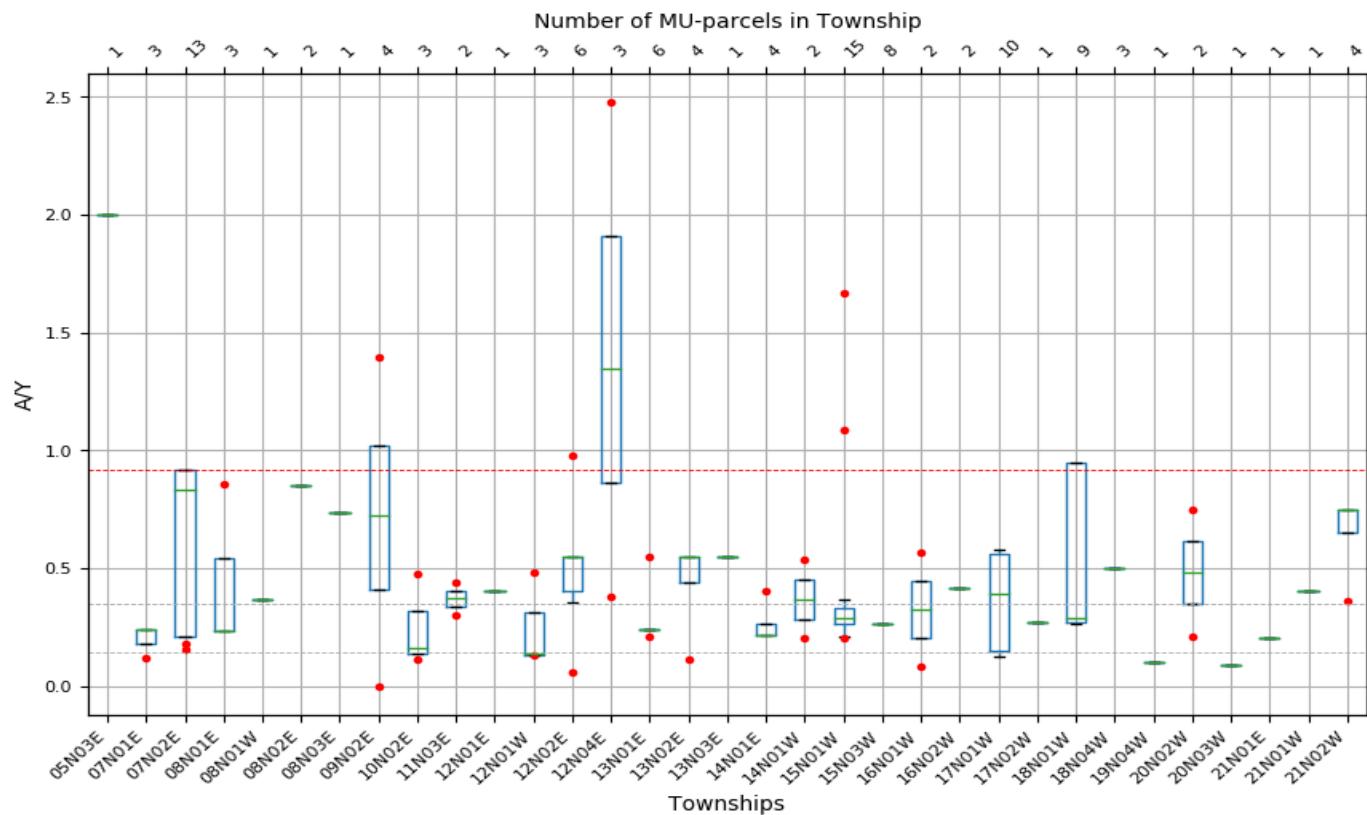
Table XXXIV-1. A/Y Summary Statistics for VINE SEED management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

| T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N03E	1	2.0	2.0						
07N01E	3	0.1198	0.2421	0.1443	0.181	0.2421	0.2421	0.2421	0
07N02E	13	0.1562	0.9174	0.1852	0.2113	0.8333	0.9174	0.9174	0
08N01E	3	0.233	0.8562	0.233	0.233	0.233	0.5446	0.7315	1
08N01W	1	0.3668	0.3668						
08N02E	2	0.8475	0.8475						
08N03E	1	0.7353	0.7353						
09N02E	4	0.0	1.3953	0.1645	0.4112	0.7206	1.0185	1.2446	1
10N02E	3	0.1134	0.4733	0.1234	0.1384	0.1634	0.3184	0.4113	1
11N03E	2	0.2997	0.4391						
12N01E	1	0.4	0.4						
12N01W	3	0.1279	0.4818	0.1298	0.1327	0.1375	0.3097	0.413	1
12N02E	6	0.06	0.9757	0.2065	0.4017	0.548	0.548	0.7619	1
12N04E	3	0.3792	2.4754	0.5727	0.8629	1.3467	1.911	2.2497	1
13N01E	6	0.2083	0.548	0.223	0.2377	0.2377	0.2377	0.3928	1
13N02E	4	0.112	0.548	0.2428	0.439	0.548	0.548	0.548	0
13N03E	1	0.548	0.548						
14N01E	4	0.2143	0.4	0.2143	0.2143	0.2153	0.2622	0.3449	1
14N01W	2	0.2	0.5364						
15N01W	15	0.2	1.6667	0.208	0.2658	0.2899	0.328	0.7996	2
15N03W	8	0.2651	0.2651	0.2651	0.2651	0.2651	0.2651	0.2651	0
16N01W	2	0.0812	0.5632						
16N02W	2	0.4167	0.4167						
17N01W	10	0.1266	0.5793	0.1266	0.1509	0.3919	0.5604	0.5793	0
17N02W	1	0.2667	0.2667						
18N01W	9	0.2647	0.946	0.2647	0.269	0.2872	0.946	0.946	0
18N04W	3	0.4988	0.4988	0.4988	0.4988	0.4988	0.4988	0.4988	0
19N04W	1	0.0971	0.0971						
20N02W	2	0.2113	0.75						
20N03W	1	0.0861	0.0861						
21N01E	1	0.2	0.2						
21N01W	1	0.4	0.4						
21N02W	4	0.3595	0.75	0.4766	0.6524	0.75	0.75	0.75	0

Table XXXIV-4. Summary Statistics for VINE SEED management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	123	0.0	2.4754	0.1413	0.2353	0.3509	0.5557	0.9174	10
A/R	0								
A-R	0								

Figure XXXIV-2. Scatter plot of A vs. Y for VINE SEED with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
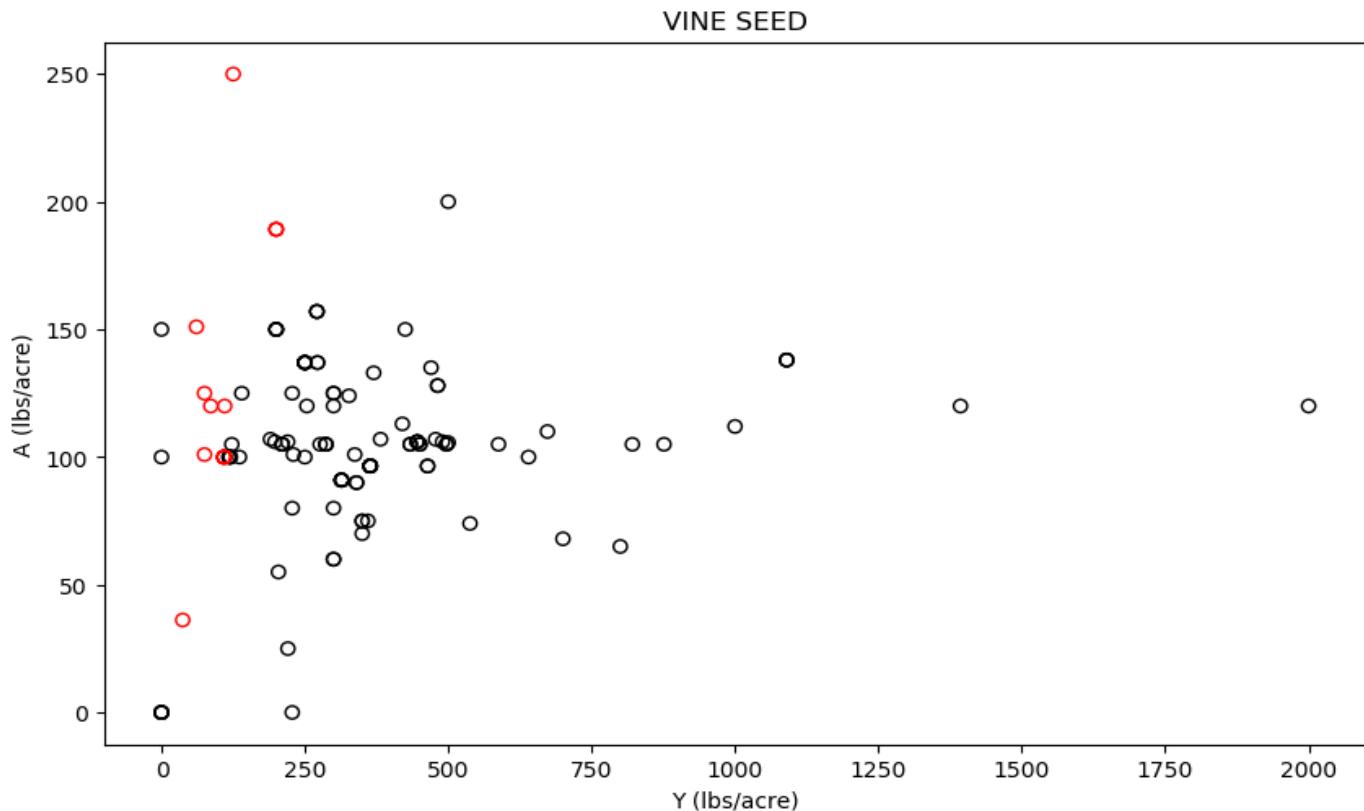
XXXV. WALNUT

Figure XXXV-1. Box and Whisker plots of A/Y for WALNUT management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
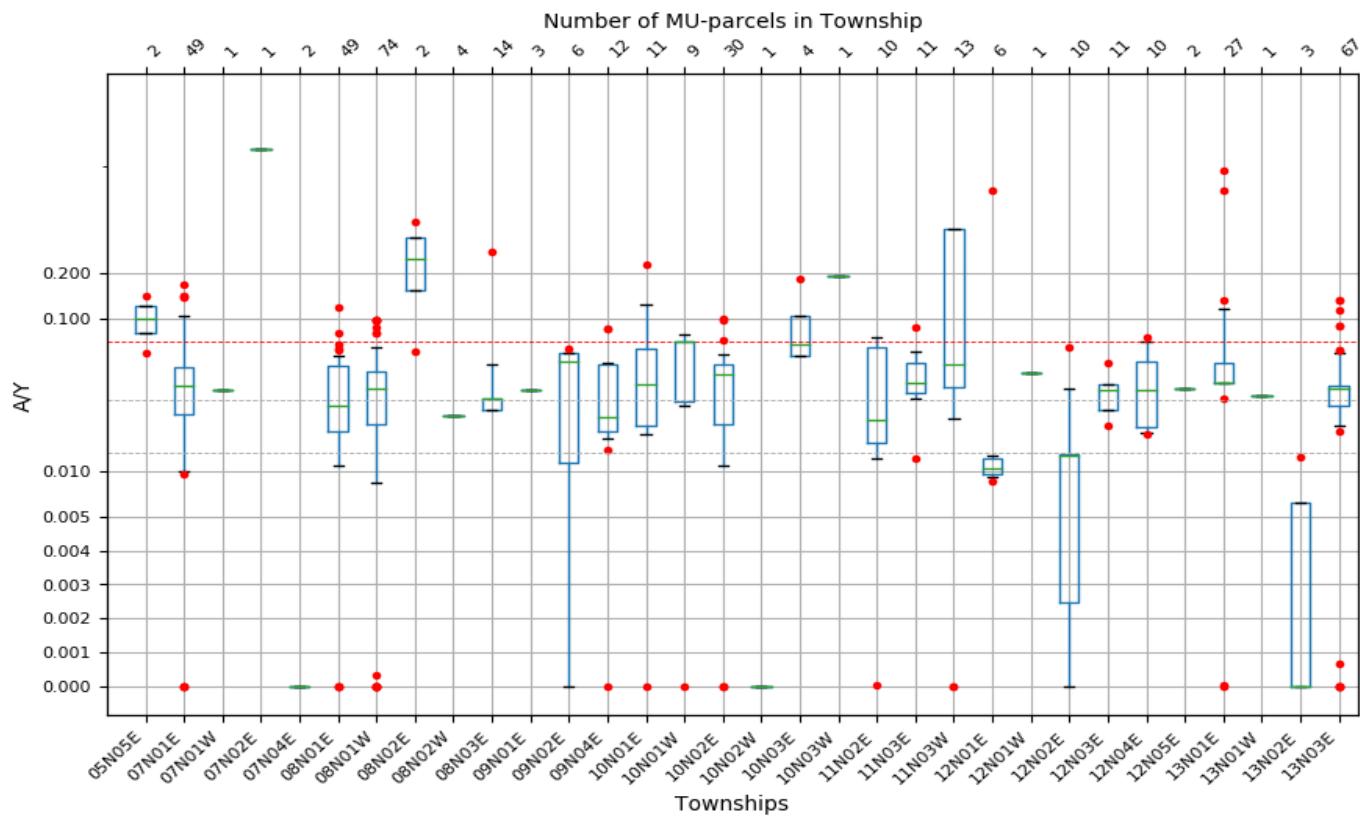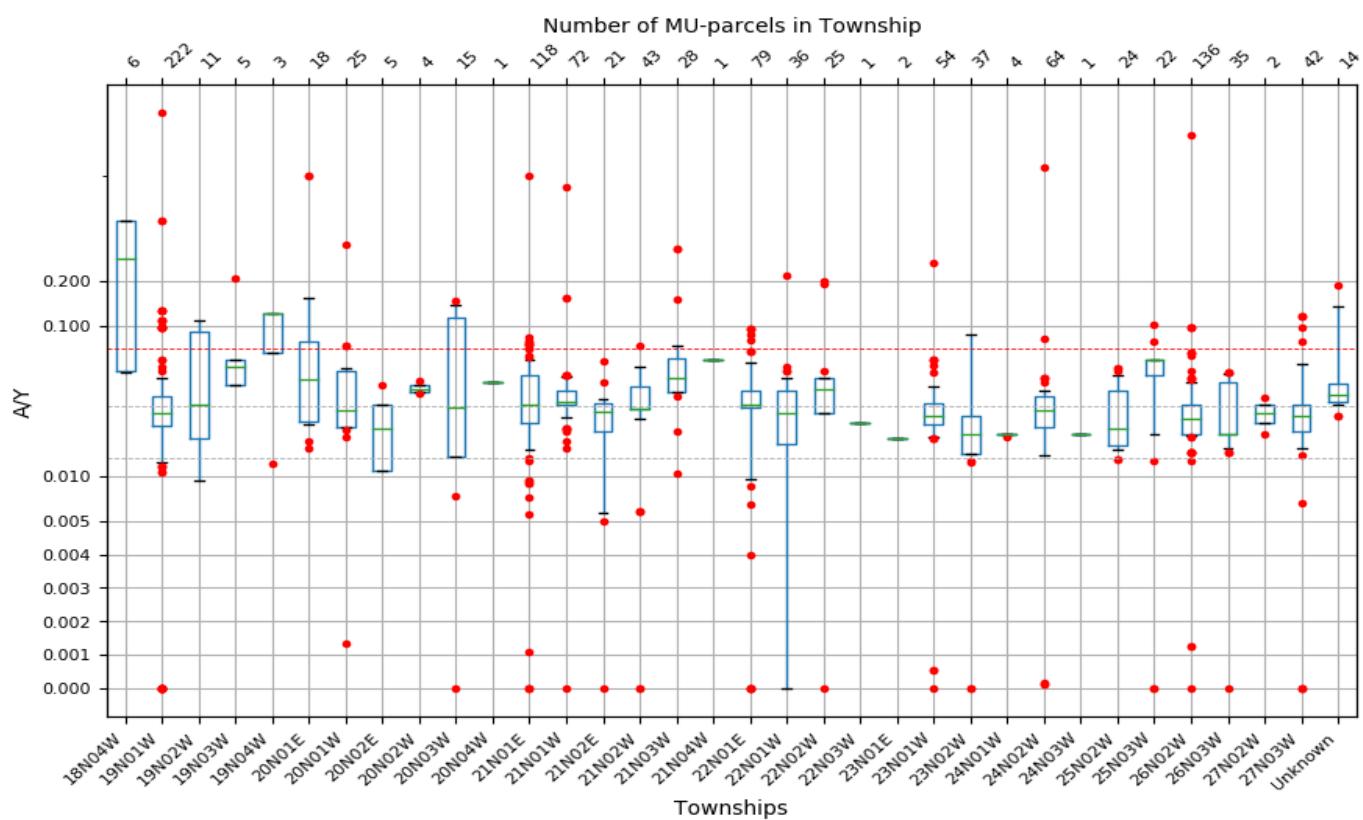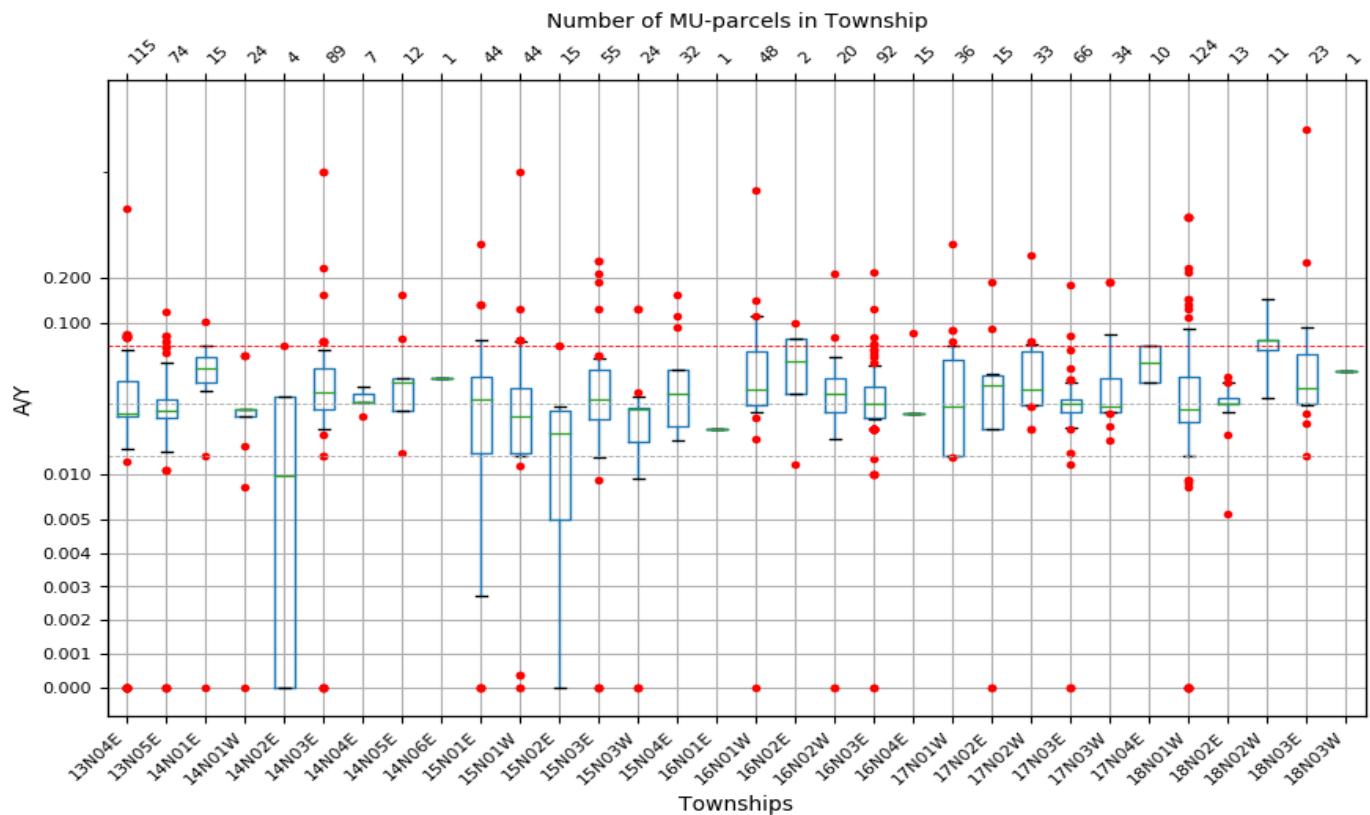
NOTE: 11 record(s) with A/Y value > 10 not shown to avoid skewing of box plot.

Table XXXV-1. A/Y Summary Statistics for WALNUT management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N05E	2	0.06	0.141						
07N01E	49	0.0	0.1655	0.0098	0.0236	0.0362	0.0483	0.1051	4
07N01W	1	0.0342	0.0342						
07N02E	1	1.2941	1.2941						
07N04E	2	0.0	0.0						
08N01E	49	0.0	0.1174	0.0108	0.018	0.0269	0.049	0.0584	5
08N01W	74	0.0	0.0969	0.0027	0.02	0.035	0.0449	0.0752	8
08N02E	2	0.061	0.4338						
08N02W	4	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0
08N03E	14	0.025	0.275	0.025	0.025	0.03	0.03	0.05	1
09N01E	3	0.034	0.034	0.034	0.034	0.034	0.034	0.034	0
09N02E	6	0.0	0.0636	0.0	0.0113	0.0517	0.0595	0.0618	1
09N04E	12	0.0	0.0866	0.014	0.0182	0.0227	0.0504	0.0831	2
10N01E	11	0.0	0.2267	0.0175	0.02	0.0372	0.0638	0.1232	1
10N01W	9	0.0	0.079	0.0213	0.0283	0.07	0.07	0.079	0
10N02E	30	0.0	0.1	0.0098	0.0203	0.0427	0.05	0.0596	3
10N02W	1	0.0	0.0						
10N03E	4	0.0563	0.181	0.0563	0.0563	0.067	0.1035	0.15	1
10N03W	1	0.19	0.19						
11N02E	10	0.0	0.0749	0.0108	0.0153	0.0216	0.0643	0.0749	0
11N03E	11	0.012	0.0875	0.03	0.0327	0.0375	0.0508	0.0603	1
11N03W	13	0.0	0.3856	0.0044	0.0352	0.0496	0.3856	0.3856	0
12N01E	6	0.0085	0.6933	0.0089	0.0095	0.0105	0.0122	0.353	1
12N01W	1	0.0441	0.0441						
12N02E	10	0.0	0.0643	0.0	0.0025	0.0126	0.0127	0.0378	1
12N03E	11	0.02	0.051	0.025	0.025	0.034	0.037	0.037	1
12N04E	10	0.0172	0.075	0.0176	0.0192	0.0341	0.0523	0.0705	1
12N05E	2	0.035	0.035						
13N01E	27	0.0	0.9346	0.0345	0.0375	0.0375	0.0513	0.1233	3
13N01W	1	0.0314	0.0314						
13N02E	3	0.0	0.0123	0.0	0.0	0.0	0.0061	0.0098	1
13N03E	67	0.0	0.1312	0.0193	0.0267	0.035	0.0361	0.061	7
13N04E	115	0.0	0.5757	0.013	0.024	0.025	0.041	0.0749	12
13N05E	74	0.0	0.1176	0.0116	0.0235	0.0259	0.0313	0.0545	7
14N01E	15	0.0	0.1023	0.022	0.0403	0.05	0.059	0.07	1
14N01W	24	0.0	0.0604	0.0178	0.024	0.0269	0.0269	0.0504	3

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
14N02E	4	0.0	0.07	0.0	0.0	0.0098	0.0322	0.0549	1
14N03E	89	0.0	1.0	0.0194	0.0267	0.035	0.05	0.0683	9
14N04E	7	0.024	0.0375	0.0276	0.03	0.03	0.0338	0.0375	0
14N05E	12	0.0136	0.1538	0.0259	0.0259	0.04	0.0429	0.0757	2
14N06E	1	0.0429	0.0429						
15N01E	44	0.0	0.3333	0.0008	0.0137	0.0309	0.0443	0.0767	4
15N01W	44	0.0	1.0	0.0118	0.0137	0.024	0.037	0.0766	5
15N02E	15	0.0	0.07	0.0	0.005	0.0186	0.0259	0.0531	2
15N03E	55	0.0	0.26	0.013	0.023	0.0312	0.0487	0.0609	7
15N03W	24	0.0	0.1228	0.0028	0.0163	0.0267	0.0275	0.0343	3
15N04E	32	0.0167	0.1533	0.0167	0.0208	0.0338	0.0493	0.0493	3
16N01E	1	0.02	0.02						
16N01W	48	0.0	0.75	0.0259	0.0284	0.0365	0.065	0.1102	3
16N02E	2	0.0117	0.1						
16N02W	20	0.0	0.21	0.0153	0.0255	0.0336	0.043	0.0613	2
16N03E	92	0.0	0.2143	0.02	0.0237	0.0294	0.0375	0.0538	10
16N04E	15	0.025	0.0857	0.025	0.025	0.025	0.025	0.025	1
17N01W	36	0.0128	0.3333	0.0131	0.0131	0.028	0.0571	0.0731	4
17N02E	15	0.0	0.1875	0.008	0.02	0.039	0.0453	0.0731	2
17N02W	33	0.0198	0.278	0.0281	0.0286	0.0363	0.0648	0.072	3
17N03E	66	0.0	0.1801	0.0201	0.0256	0.0294	0.0309	0.0409	7
17N03W	34	0.0167	0.1856	0.0257	0.0257	0.028	0.0431	0.0833	3
17N04E	10	0.04	0.0699	0.04	0.04	0.0549	0.0699	0.0699	0
18N01W	124	0.0	0.5	0.0132	0.0218	0.0268	0.044	0.0917	12
18N02E	13	0.0055	0.0439	0.0196	0.0289	0.0293	0.0316	0.0405	2
18N02W	11	0.0315	0.1453	0.0315	0.0659	0.0776	0.0776	0.1453	0
18N03E	23	0.0132	1.9231	0.0257	0.0292	0.0368	0.0615	0.0933	2
18N03W	1	0.0482	0.0482						
18N04W	6	0.0489	0.5	0.0489	0.0504	0.2775	0.5	0.5	0
19N01W	222	0.0	2.6154	0.0123	0.0216	0.026	0.0339	0.045	22
19N02W	11	0.0093	0.1075	0.0093	0.0179	0.03	0.0907	0.1075	0
19N03W	5	0.04	0.2087	0.04	0.04	0.0536	0.06	0.1492	1
19N04W	3	0.012	0.12	0.0336	0.066	0.12	0.12	0.12	0
20N01E	18	0.0154	1.0	0.0204	0.0232	0.0443	0.0785	0.4073	2
20N01W	25	0.0013	0.3471	0.0205	0.0211	0.0271	0.05	0.0649	3
20N02E	5	0.0108	0.0402	0.0108	0.0108	0.0208	0.03	0.0361	1
20N02W	4	0.0355	0.0434	0.036	0.0366	0.0382	0.0404	0.0422	1
20N03W	15	0.0	0.1466	0.0097	0.0133	0.0285	0.1123	0.1389	1
20N04W	1	0.0419	0.0419						

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
21N01E	118	0.0	1.0	0.0145	0.0224	0.0296	0.0468	0.0598	12
21N01W	72	0.0	0.8511	0.0211	0.0296	0.0312	0.0369	0.0463	7
21N02E	21	0.0	0.0577	0.0057	0.0197	0.027	0.0302	0.0326	2
21N02W	43	0.0	0.0736	0.0095	0.0278	0.028	0.0391	0.0532	1
21N03W	28	0.0104	0.3255	0.0354	0.036	0.045	0.0605	0.0963	3
21N04W	1	0.06	0.06						
22N01E	79	0.0	0.0954	0.0093	0.0288	0.0296	0.0373	0.0593	8
22N01W	36	0.0	0.2143	0.0	0.0163	0.0262	0.0373	0.0475	4
22N02W	25	0.0	0.2	0.0262	0.0262	0.038	0.045	0.0479	3
22N03W	1	0.0225	0.0225						
23N01E	2	0.0176	0.0176						
23N01W	54	0.0	0.2625	0.0179	0.022	0.0249	0.0302	0.0458	6
23N02W	37	0.0	0.0875	0.0134	0.014	0.0191	0.0249	0.0875	0
24N01W	4	0.0183	0.0191	0.0185	0.0189	0.0191	0.0191	0.0191	0
24N02W	64	0.0001	1.15	0.0136	0.021	0.0276	0.0336	0.0367	6
24N03W	1	0.0191	0.0191						
25N02W	24	0.0129	0.0527	0.0151	0.0159	0.0208	0.0371	0.0491	3
25N03W	22	0.0	0.1008	0.0132	0.0472	0.06	0.06	0.06	2
26N02W	136	0.0	1.875	0.0187	0.0191	0.024	0.0301	0.0422	13
26N03W	35	0.0	0.049	0.0147	0.0189	0.0191	0.0419	0.0484	3
27N02W	2	0.0191	0.0333						
27N03W	42	0.0	0.1167	0.014	0.0196	0.0251	0.0301	0.0768	5
Unknown	14	0.025	0.1875	0.0265	0.031	0.0346	0.041	0.1336	1

Table XXXV-2. A/R Summary Statistics for WALNUT management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
05N05E	2	3.7595	8.8412						
07N01E	49	0.0	10.3765	0.6124	1.4818	2.2673	3.0256	6.59	4
07N01W	1	2.1467	2.1467						
07N02E	1	81.1359	81.1359						
07N04E	2	0.0	0.0						
08N01E	49	0.0	7.3609	0.6785	1.1285	1.6854	3.0699	3.6619	5
08N01W	74	0.0	6.0755	0.1697	1.2546	2.1937	2.8181	4.7136	8
08N02E	2	3.8264	27.1971						
08N02W	4	1.445	1.445	1.445	1.445	1.445	1.445	1.445	0
08N03E	14	1.5674	17.2414	1.5674	1.5674	1.8809	1.8809	3.1348	1
09N01E	3	2.1302	2.1302	2.1302	2.1302	2.1302	2.1302	2.1302	0
09N02E	6	0.0	3.9895	0.0	0.7075	3.2389	3.7333	3.8756	1
09N04E	12	0.0	5.4289	0.8802	1.1397	1.4236	3.1578	5.2087	2
10N01E	11	0.0	14.2125	1.0972	1.2539	2.3328	3.9996	7.7223	1
10N01W	9	0.0	4.9538	1.3375	1.7764	4.3887	4.3887	4.9538	0
10N02E	30	0.0	6.2696	0.6129	1.2717	2.678	3.1348	3.7394	3
10N02W	1	0.0	0.0						
10N03E	4	3.5315	11.3477	3.5315	3.5315	4.1998	6.488	9.4038	1
10N03W	1	11.9122	11.9122						
11N02E	10	0.0005	4.695	0.6772	0.9622	1.3571	4.0305	4.695	0
11N03E	11	0.7524	5.4859	1.8809	2.0481	2.3511	3.1865	3.7834	1
11N03W	13	0.0	24.1774	0.2739	2.2074	3.1084	24.1774	24.1774	4
12N01E	6	0.5357	43.4692	0.5551	0.5945	0.6562	0.7624	22.1332	1
12N01W	1	2.7633	2.7633						
12N02E	10	0.0	4.0305	0.0	0.1544	0.7929	0.7987	2.37	1
12N03E	11	1.2539	3.1975	1.5674	1.5674	2.1317	2.3197	2.3197	1
12N04E	10	1.0802	4.7022	1.1014	1.2063	2.1374	3.2818	4.4201	1
12N05E	2	2.1944	2.1944						
13N01E	27	0.0	58.5943	2.1631	2.3511	2.3511	3.2173	7.7325	3
13N01W	1	1.9673	1.9673						
13N02E	3	0.0	0.7694	0.0	0.0	0.0	0.3847	0.6156	1
13N03E	67	0.0	8.2228	1.2083	1.6719	2.1944	2.264	3.8245	7
13N04E	115	0.0	36.0914	0.8154	1.5047	1.5674	2.57	4.6948	12
13N05E	74	0.0	7.3735	0.7282	1.4763	1.6267	1.9604	3.4143	7
14N01E	15	0.0	6.411	1.3768	2.5257	3.1348	3.7015	4.3887	1

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
14N01W	24	0.0	3.7874	1.117	1.506	1.6857	1.6857	3.1569	3
14N02E	4	0.0	4.3887	0.0	0.0	0.6136	2.0176	3.4403	1
14N03E	89	0.0	62.6959	1.2194	1.6719	2.1944	3.1348	4.283	9
14N04E	7	1.5047	2.3511	1.7304	1.8809	1.8809	2.116	2.3511	0
14N05E	12	0.852	9.6455	1.6267	1.6267	2.5078	2.6871	4.7446	2
14N06E	1	2.6871	2.6871						
15N01E	44	0.0	20.8986	0.0512	0.8568	1.9395	2.7784	4.8067	4
15N01W	44	0.0	62.6959	0.7376	0.8568	1.5058	2.3183	4.8045	5
15N02E	15	0.0	4.3887	0.0	0.3135	1.1644	1.6251	3.3298	2
15N03E	55	0.0	16.3005	0.8127	1.442	1.9542	3.0512	3.8163	5
15N03W	24	0.0	7.6972	0.1742	1.0237	1.6719	1.7271	2.1521	3
15N04E	32	1.0449	9.6134	1.0449	1.302	2.1187	3.093	3.093	3
16N01E	1	1.2539	1.2539						
16N01W	48	0.0	47.0219	1.6209	1.7835	2.2864	4.077	6.9107	3
16N02E	2	0.7315	6.2696						
16N02W	20	0.0	13.1661	0.9624	1.5959	2.1068	2.6982	3.8421	2
16N03E	92	0.0	13.4348	1.2539	1.4875	1.844	2.3511	3.3758	10
16N04E	15	1.5674	5.3739	1.5674	1.5674	1.5674	1.5674	1.5674	1
17N01W	36	0.8028	20.8986	0.8229	0.8229	1.7578	3.5826	4.5823	4
17N02E	15	0.0	11.7555	0.5016	1.2539	2.4467	2.8412	4.5811	2
17N02W	33	1.2442	17.432	1.7621	1.7913	2.2744	4.0632	4.5172	3
17N03E	66	0.0	11.2898	1.2603	1.6074	1.844	1.9397	2.5672	7
17N03W	34	1.0449	11.6343	1.6122	1.6122	1.7572	2.7007	5.2247	3
17N04E	10	2.5078	4.3813	2.5078	2.5078	3.4446	4.3813	4.3813	0
18N01W	124	0.0	31.348	0.8307	1.3694	1.6831	2.7586	5.7471	12
18N02E	13	0.3437	2.7498	1.2312	1.8112	1.8361	1.9799	2.5407	2
18N02W	11	1.9749	9.1109	1.9749	4.1339	4.8677	4.8677	9.1109	0
18N03E	23	0.8258	120.5691	1.609	1.8322	2.305	3.8558	5.8516	2
18N03W	1	3.0208	3.0208						
18N04W	6	3.0651	31.348	3.0651	3.1609	17.3981	31.348	31.348	0
19N01W	222	0.0	163.974	0.7734	1.3512	1.6324	2.126	2.8201	22
19N02W	11	0.5805	6.74	0.5805	1.1243	1.8809	5.6845	6.74	0
19N03W	5	2.5078	13.0858	2.5078	2.5078	3.3587	3.7618	9.3562	1
19N04W	3	0.7524	7.5235	2.1066	4.1379	7.5235	7.5235	7.5235	0
20N01E	18	0.9646	62.6959	1.2777	1.4546	2.779	4.9191	25.5381	2
20N01W	25	0.0836	21.7622	1.2862	1.3233	1.7017	3.1348	4.0679	3
20N02E	5	0.6745	2.5206	0.6745	0.6745	1.3057	1.8809	2.2647	1
20N02W	4	2.2284	2.724	2.2541	2.2925	2.3925	2.5344	2.6482	1
20N03W	15	0.0	9.191	0.6076	0.8333	1.784	7.0409	8.7078	1

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
20N04W	1	2.6292	2.6292						
21N01E	118	0.0	62.6959	0.906	1.4043	1.8578	2.9345	3.7493	12
21N01W	72	0.0	53.3582	1.3219	1.8578	1.9592	2.3146	2.9031	7
21N02E	21	0.0	3.6161	0.3574	1.2328	1.6917	1.891	2.0444	2
21N02W	43	0.0	4.6142	0.596	1.7416	1.7543	2.4533	3.3349	1
21N03W	28	0.6531	20.4075	2.2194	2.2571	2.8213	3.7953	6.0397	3
21N04W	1	3.7592	3.7592						
22N01E	79	0.0	5.9785	0.5839	1.804	1.8578	2.3362	3.7178	8
22N01W	36	0.0	13.4348	0.0	1.0246	1.643	2.3416	2.9781	4
22N02W	25	0.0	12.5392	1.643	1.643	2.3824	2.8213	3.0047	3
22N03W	1	1.4104	1.4104						
23N01E	2	1.1049	1.1049						
23N01W	54	0.0	16.4577	1.1223	1.3777	1.5633	1.8903	2.8732	6
23N02W	37	0.0	5.4859	0.8401	0.8777	1.1955	1.5633	5.4859	0
24N01W	4	1.1478	1.1955	1.1621	1.1836	1.1955	1.1955	1.1955	0
24N02W	64	0.0078	72.1003	0.8549	1.3177	1.7324	2.1047	2.2989	6
24N03W	1	1.1955	1.1955						
25N02W	24	0.8117	3.3042	0.9446	0.9955	1.3067	2.3243	3.0787	3
25N03W	22	0.0	6.3172	0.8249	2.9563	3.7618	3.7618	3.7618	2
26N02W	136	0.0	117.5549	1.1701	1.1955	1.5047	1.889	2.645	13
26N03W	35	0.0	3.0733	0.919	1.1854	1.1955	2.6269	3.0337	3
27N02W	2	1.1955	2.0899						
27N03W	42	0.0	7.3165	0.8778	1.2314	1.5705	1.887	4.8166	5
Unknown	14	1.5674	11.7555	1.6614	1.9427	2.1683	2.5705	8.3776	1

Table XXXV-3. A-R Summary Statistics for WALNUT management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
04N04E	1	50.0	50.0						
05N05E	2	122.1388	147.579						
07N01E	56	-47.85	192.6321	-9.9037	28.4874	52.0	91.0774	147.8874	6
07N01W	1	83.3318	83.3318						
07N02E	5	4.0	195.5596	4.0	4.0	4.0	7.0	120.1358	1
07N04E	2	-18.7732	-18.7732						
08N01E	57	-47.85	228.872	-19.8942	5.125	40.666	95.9314	105.0238	6
08N01W	78	-78.15	196.7461	-23.5424	7.5911	74.2565	89.8366	109.8792	8
08N02E	15	0.0	174.0	0.0	10.0	10.0	47.7936	134.153	2
08N02W	4	29.81	29.81	29.81	29.81	29.81	29.81	29.81	0
08N03E	16	0.0	70.25	34.05	47.862	54.3	70.25	70.25	0
09N01E	7	20.0	50.4038	20.0	20.0	20.0	50.4038	50.4038	0
09N02E	12	-79.431	123.6416	-0.0072	15.0	20.0	68.2275	111.1367	2
09N04E	21	-49.445	142.765	0.0	1.526	19.383	70.0	70.0	2
10N01E	18	-87.725	303.9921	2.17	5.6089	21.075	52.8668	88.5177	2
10N01W	11	-19.14	108.1	0.0	16.075	37.15	103.9336	108.1	0
10N02E	32	-23.4178	168.1	-3.6337	8.0124	30.541	78.604	135.4025	4
10N02W	1	-4.4341	-4.4341						
10N03E	4	52.4425	109.4252	63.3588	79.7331	88.83	93.9788	103.2466	1
10N03W	1	69.62	69.62						
11N02E	10	-19.13	169.175	-10.8005	1.2255	30.0315	115.6902	169.175	0
11N03E	15	-9.875	143.1	0.0	3.56	63.225	88.1938	128.745	1
11N03W	17	-15.312	364.2829	-1.914	8.0	18.488	145.799	364.2829	0
12N01E	8	-45.5048	104.0	-40.859	-30.3986	-20.3141	25.4019	102.3253	1
12N01W	2	0.8615	120.0						
12N02E	11	-121.22	169.175	-121.22	-23.355	-13.1583	-1.26	107.404	1
12N03E	20	0.0	105.25	14.958	15.0	49.7125	93.3116	105.25	0
12N04E	11	6.827	120.917	11.9975	16.2668	54.05	82.41	118.1	1
12N05E	2	47.3529	47.3529						
13N01E	37	-31.9	181.29	0.0	86.2	86.2	101.6075	137.476	4
13N01W	1	34.4175	34.4175						
13N02E	3	-63.8	-24.27	-63.8	-63.8	-63.8	-44.035	-32.176	1
13N03E	72	-63.8	299.53	1.2275	38.1738	72.365	76.2	146.994	8
13N04E	129	-58.377	182.0626	-4.769	29.9166	40.25	75.791	133.211	12
13N05E	76	-58.377	151.2664	-12.4712	26.675	36.985	61.0781	120.917	6

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
14N01E	18	-31.9	164.9987	34.1378	54.05	72.005	107.685	146.4725	2
14N01W	29	-33.8024	120.0	-0.5502	26.0533	41.4286	50.1533	50.1533	1
14N02E	4	-63.8	54.05	-63.8	-63.8	-23.3825	26.2888	42.9455	1
14N03E	94	-63.8	165.7825	0.0	34.7975	68.1	86.2	143.9705	10
14N04E	7	40.25	129.3	41.39	49.175	56.2	92.75	129.3	0
14N05E	14	-1.322	358.53	11.0955	36.985	94.185	120.25	225.544	2
14N06E	1	94.185	94.185						
15N01E	47	-47.85	284.644	-39.69	-6.85	42.8	75.005	100.6105	5
15N01W	52	-34.716	254.334	-11.3	-6.85	30.034	89.865	141.614	6
15N02E	16	-21.2668	53.225	-19.5584	-12.5208	8.4582	39.5423	52.6723	2
15N02W	1	60.0	60.0						
15N03E	65	-53.7143	214.1	-10.619	24.3	53.225	113.4666	141.2855	7
15N03W	29	-31.7625	130.5123	-16.588	0.0	32.15	32.15	39.477	3
15N04E	38	4.3	388.3936	4.3	31.025	92.025	135.3387	135.3387	3
16N01E	1	10.125	10.125						
16N01W	53	-47.85	293.3	7.6689	50.236	79.91	139.709	158.6119	6
16N02E	3	-25.7	84.05	-18.56	-7.85	10.0	47.025	69.24	1
16N02W	22	-35.4409	277.4734	0.3461	32.4	53.01	134.3	166.0945	3
16N03E	99	-51.8375	217.4142	0.0	25.1875	48.96	64.175	78.5	10
16N04E	15	24.4175	36.2	36.2	36.2	36.2	36.2	36.2	0
17N01W	49	-12.895	177.15	-11.3	0.0	29.62	124.1444	144.175	1
17N02E	17	-15.8543	147.56	-6.3417	20.25	68.0655	94.605	133.7583	2
17N02W	37	2.0	264.732	26.7252	53.01	77.5115	138.5508	168.9958	4
17N03E	80	-127.6	273.4273	4.7	25.257	45.77	71.9816	101.144	8
17N03W	40	0.0	161.72	0.0	34.175	34.175	84.1982	161.72	0
17N04E	10	72.15	77.1756	72.15	72.15	74.6628	77.1756	77.1756	0
18N01W	136	-56.4949	242.025	-8.99	16.6744	41.0083	67.465	110.54	13
18N02E	15	-38.1856	93.35	14.838	20.645	57.06	90.5822	93.35	0
18N02W	11	31.1	158.9128	31.1	56.922	158.9128	158.9128	158.9128	0
18N03E	25	-25.835	178.2	27.4588	46.81	65.645	95.6249	125.035	2
18N03W	1	177.275	177.275						
18N04W	8	80.0	169.4175	80.0	131.1688	152.2125	169.4175	169.4175	0
19N01W	226	-90.8193	436.2	-14.5916	29.1721	54.3003	68.9012	97.275	22
19N02W	13	-36.13	425.8166	-30.6223	21.89	70.557	250.0	425.8166	0
19N03W	10	12.06	158.01	12.06	12.06	36.0925	88.3313	134.736	1
19N04W	3	-9.875	78.0375	7.7075	34.0812	78.0375	78.0375	78.0375	0
20N01E	21	-1.8375	275.555	34.7355	40.318	81.019	164.86	229.938	2
20N01W	26	-0.2192	113.87	21.0925	25.25	46.9875	72.7534	78.35	1
20N02E	5	-25.8812	70.25	-25.8812	-25.8812	30.4401	57.3102	65.0741	1

| T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
20N02W	7	0.0	102.2079	0.0	0.0	16.0742	59.5813	100.4189	1
20N03W	25	-33.248	110.645	-10.5025	0.0	40.0	54.9316	105.455	3
20N04W	4	69.0	80.555	70.8	73.5	75.0	76.3888	78.8885	1
21N01E	124	-67.9151	216.5258	-3.5345	19.7472	50.3089	80.8265	143.3635	13
21N01W	77	-63.8	196.2517	28.51	63.7791	69.2611	94.175	122.4	6
21N02E	22	-116.5626	154.3	-15.9727	11.005	52.2677	75.0903	78.35	2
21N02W	47	-63.8	175.035	-4.115	53.9175	62.56	106.45	175.035	0
21N03W	28	-31.872	139.39	38.6084	77.1725	100.25	120.505	134.322	3
21N04W	1	66.059	66.059						
22N01E	85	-59.75	254.2	-11.484	27.157	68.2	71.25	105.046	9
22N01W	37	-71.775	170.25	-71.775	0.0	43.8975	86.2	113.4282	4
22N02W	31	-17.0027	366.505	0.0	36.2374	43.0157	116.2	128.225	3
22N03W	3	30.8436	40.26	32.7269	35.5518	40.26	40.26	40.26	0
23N01E	2	8.0486	8.0486						
23N01W	54	-69.375	163.9912	10.25	32.8582	37.545	57.0302	121.2625	4
23N02W	40	-21.692	143.1	-9.75	-8.9444	37.545	69.3	143.1	0
24N01W	4	11.5898	23.5008	15.1631	20.5231	23.5008	23.5008	23.5008	0
24N02W	69	-63.3	92.4872	-10.18	23.5008	38.3757	48.494	64.2174	7
24N03W	1	23.5008	23.5008						
25N02W	34	-13.6841	210.4676	-0.4949	0.6225	27.2375	54.0	83.254	3
25N03W	32	-55.825	176.2	0.0	0.0	86.494	176.2	176.2	0
26N02W	149	-29.4	178.218	0.0	23.5008	35.5494	62.275	74.6571	15
26N03W	35	-7.975	101.193	-5.1126	11.5798	23.5008	92.899	100.752	3
27N02W	2	23.5008	52.15						
27N03W	48	-103.037	163.1	-4.044	3.93	23.5008	40.0658	68.4269	5
Unknown	16	30.842	271.2352	30.842	36.2	69.9766	130.7894	223.1176	2

Table XXXV-4. Summary Statistics for WALNUT management units in Coalition.

| Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	2722	0.0	2.6154	0.0131	0.0219	0.0293	0.0426	0.0712	272
A/R	2722	0.0	163.974	0.8229	1.3731	1.8356	2.6679	4.4623	272
A-R	2722	-127.6	436.2	-10.1677	24.3	52.15	84.5513	135.3387	264

Figure XXXV-2. Scatter plot of A vs. Y for WALNUT with all T-R together.

Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
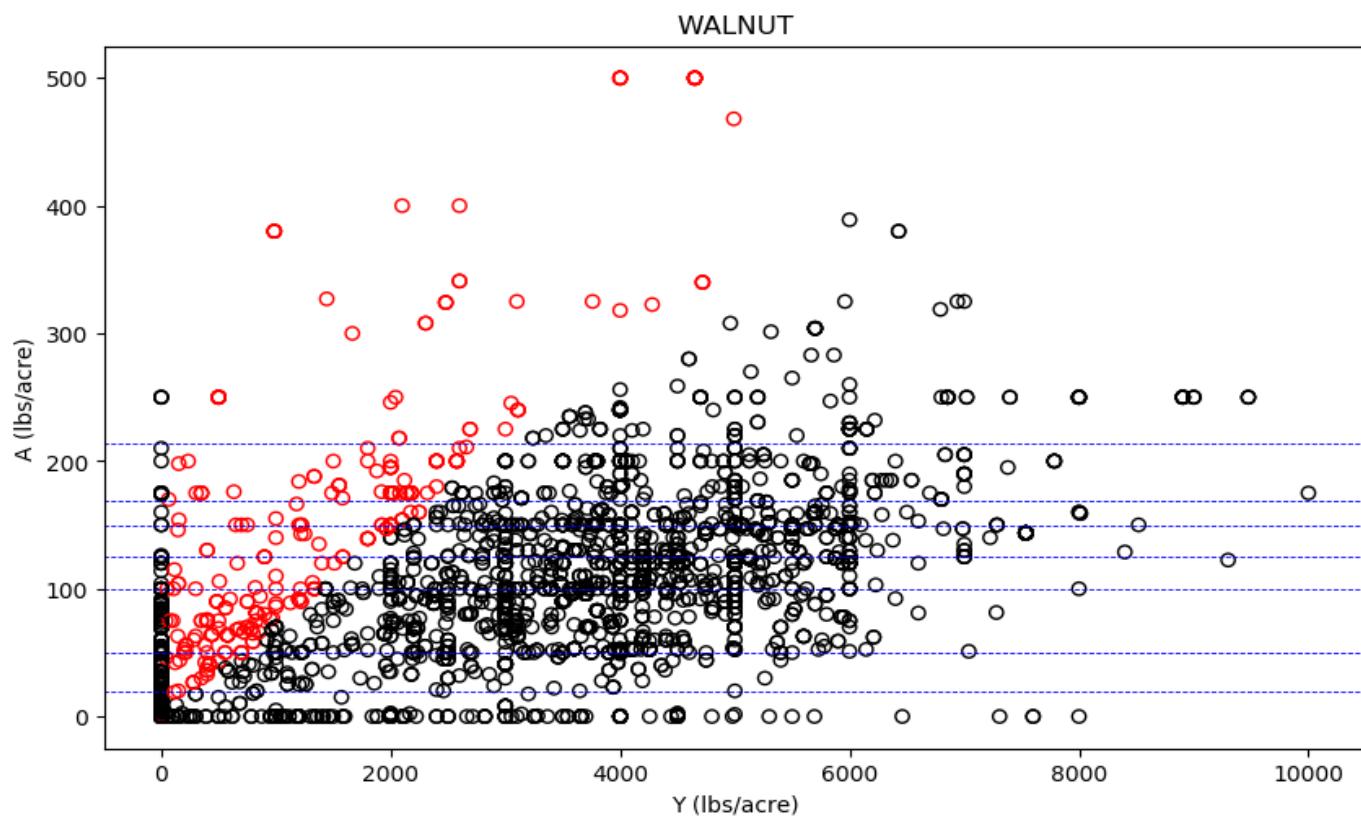
Figure XXXV-3. Box and Whisker plots of A/Y for WALNUT management units grouped by Age.

Numbers at the top indicate the number of MU-parcels within each age group. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each age group. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
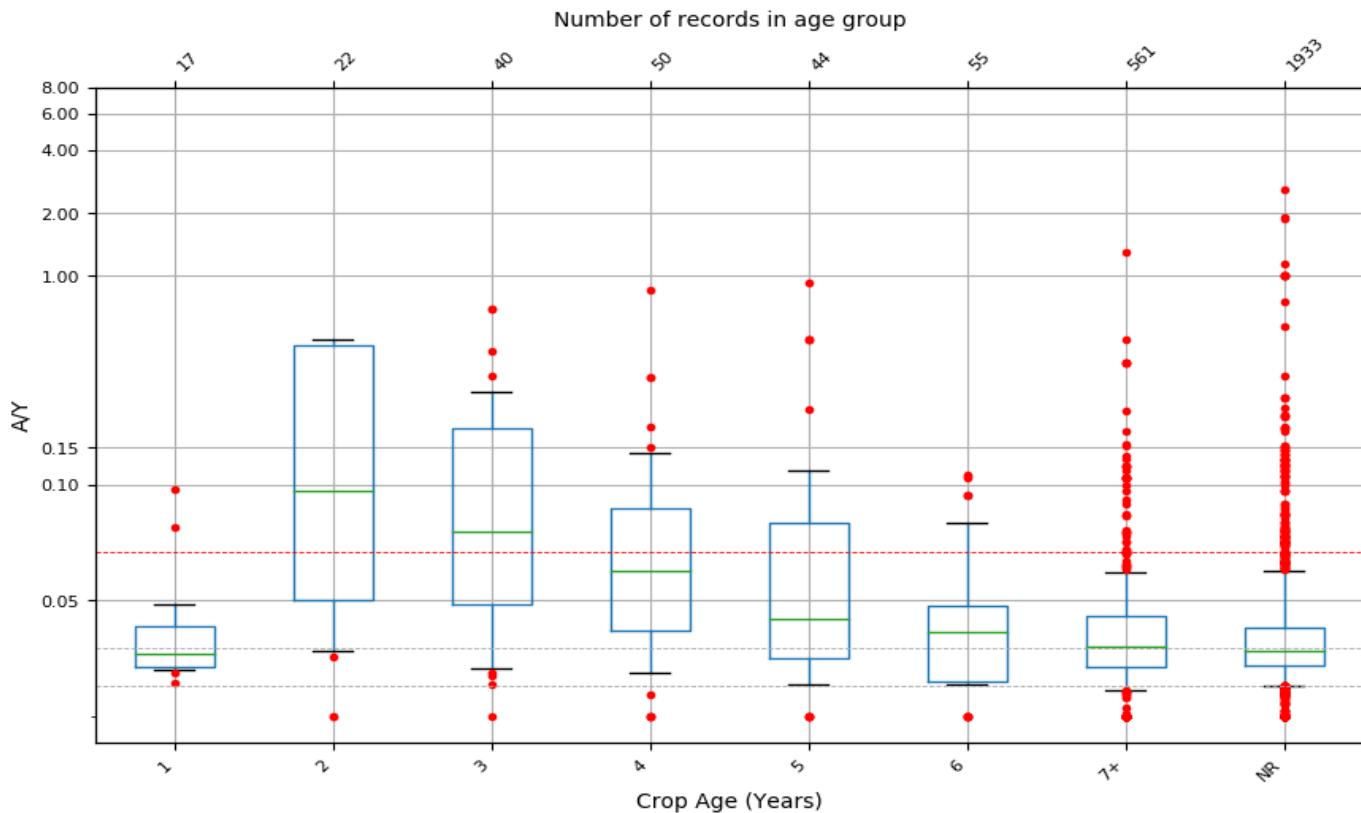
NOTE: 11 record(s) with A/Y value > 10 not shown to avoid skewing of box plot.

Table XXXV-5. A/Y Summary Statistics for WALNUT management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	17	0.0144	0.0982	0.0196	0.021	0.0267	0.039	0.0618	2
2	22	0.0	0.5	0.0259	0.0505	0.0972	0.4618	0.5	0
3	40	0.0	0.6933	0.0206	0.048	0.0797	0.1856	0.2836	4
4	50	0.0	0.8511	0.018	0.0371	0.0626	0.0897	0.1419	5
5	44	0.0	0.9346	0.0042	0.0252	0.0418	0.0833	0.1968	5
6	55	0.0	0.1107	0.0054	0.0147	0.0362	0.0478	0.0905	6
7+	561	0.0	1.2941	0.0112	0.0211	0.03	0.043	0.0621	56
NR	1933	0.0	2.6154	0.0131	0.022	0.0281	0.0383	0.063	194

Table XXXV-6. A/R Summary Statistics for WALNUT management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	17	0.9006	6.1556	1.2265	1.3166	1.6757	2.4467	3.8723	2
2	22	0.0	31.348	1.6233	3.1647	6.0933	28.9515	31.348	0
3	40	0.0	43.4692	1.2927	3.0103	4.9948	11.6343	17.7787	4
4	50	0.0	53.3582	1.1267	2.3268	3.9261	5.6252	8.8975	5
5	44	0.0	58.5943	0.2633	1.5773	2.6195	5.2247	12.3361	5
6	55	0.0	6.9425	0.3372	0.923	2.2673	2.995	5.677	6
7+	561	0.0	81.1359	0.7031	1.3233	1.8809	2.6942	3.8924	56
NR	1933	0.0	163.974	0.8229	1.3793	1.764	2.4033	3.9488	194

Table XXXV-7. A-R Summary Statistics for WALNUT management units grouped by Age.

For age groups with only one management unit, no summary statistics could be calculated.

Age (Years)	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
1	17	-0.2869	210.4676	16.7819	25.257	59.275	94.605	130.3808	2
2	22	-18.7732	242.025	29.6171	34.001	65.1528	210.0938	242.025	0
3	40	-87.725	264.732	10.0253	22.39	46.28	95.8446	142.3285	4
4	50	-19.13	293.3	6.4131	26.0533	61.8412	113.36	176.2	4
5	44	-19.14	169.4175	-8.1552	33.6973	58.274	89.8366	161.72	3
6	55	-44.979	425.8166	-13.4126	-4.42	36.2071	89.175	120.4818	6
7+	561	-121.22	425.8166	-16.4878	20.25	61.0106	94.58	139.709	50
NR	1933	-127.6	436.2	-10.18	25.7	48.494	77.175	131.569	194

XXXVI. WHEAT

Figure XXXVI-1. Box and Whisker plots of A/Y for WHEAT management units grouped by T-R.

Numbers at the top indicate the number of MU-parcels within each T-R. Red dots above boxplot are local outliers (A/Y > 90% percentile) within each T-R. Red dots below the boxplot are below the 10% percentile. Horizontal dashed lines represent the 10% and 50% percentiles (grey lines), and 90% percentiles (red line) for all records in the Coalition.
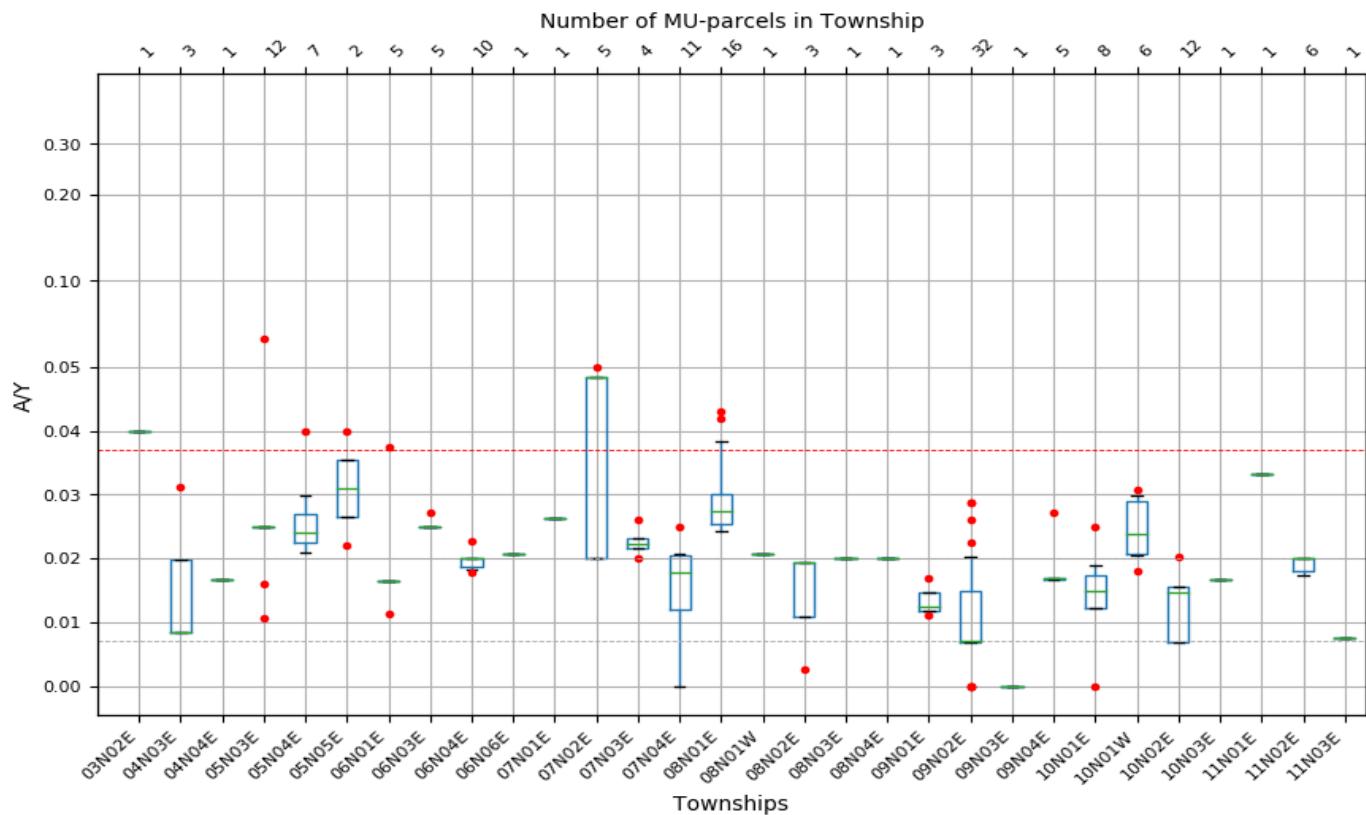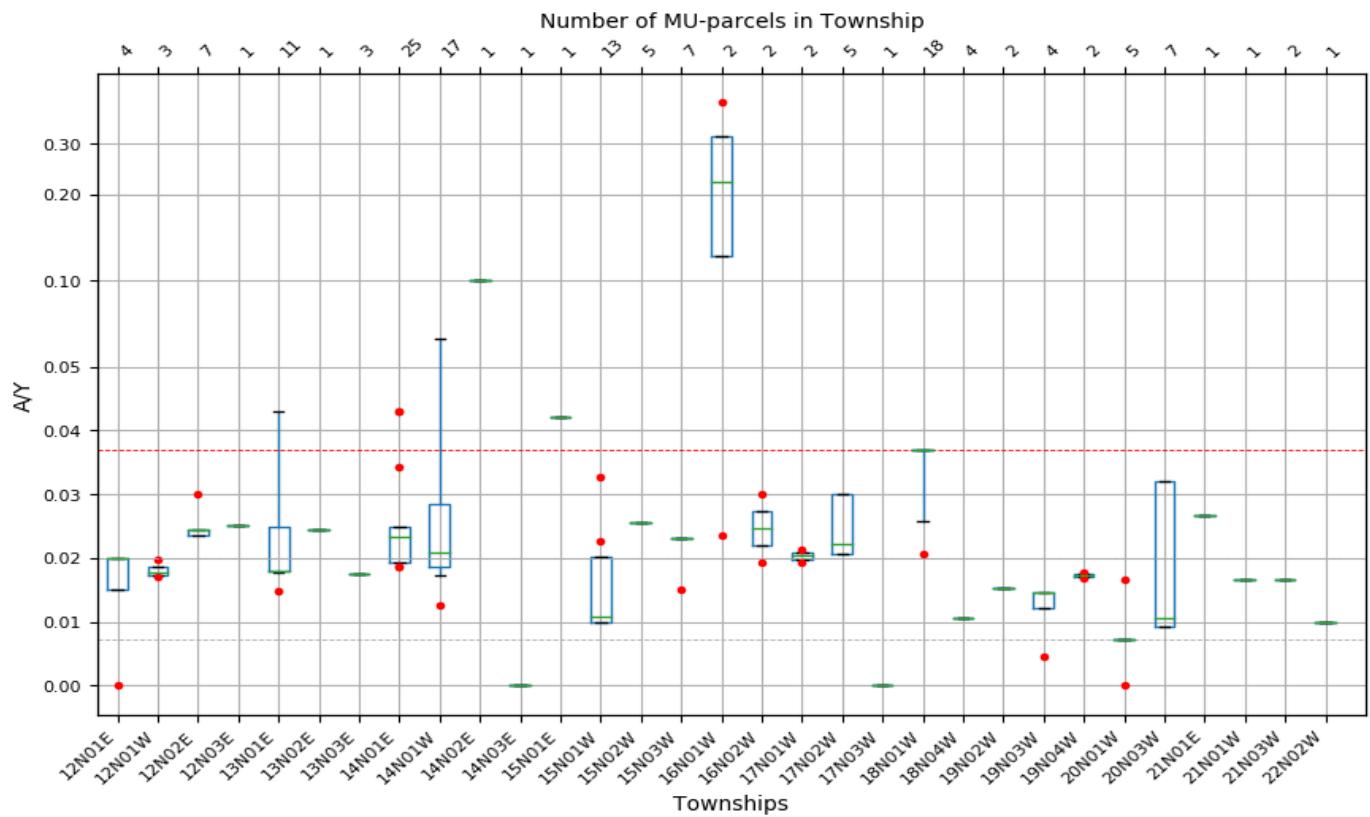
Table XXXVI-1. A/Y Summary Statistics for WHEAT management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
03N02E	1	0.04	0.04						
04N03E	3	0.0085	0.0312	0.0085	0.0085	0.0085	0.0199	0.0267	1
04N04E	1	0.0167	0.0167						
05N03E	12	0.0107	0.0625	0.0169	0.025	0.025	0.025	0.025	1
05N04E	7	0.0208	0.04	0.0208	0.0224	0.024	0.0269	0.0339	1
05N05E	2	0.0221	0.04						
06N01E	5	0.0112	0.0375	0.0134	0.0165	0.0165	0.0165	0.0291	1
06N03E	5	0.025	0.0273	0.025	0.025	0.025	0.025	0.0264	1
06N04E	10	0.0179	0.0227	0.0181	0.0186	0.02	0.02	0.0203	1
06N06E	1	0.0208	0.0208						
07N01E	1	0.0263	0.0263						
07N02E	5	0.02	0.05	0.02	0.02	0.0485	0.0485	0.0494	1
07N03E	4	0.02	0.0261	0.0207	0.0217	0.0222	0.0232	0.0249	1
07N04E	11	0.0	0.025	0.0	0.0119	0.0179	0.0206	0.0206	1
08N01E	16	0.0243	0.0431	0.0243	0.0253	0.0274	0.0301	0.0402	2
08N01W	1	0.0207	0.0207						
08N02E	3	0.0025	0.0194	0.0059	0.0109	0.0194	0.0194	0.0194	0
08N03E	1	0.02	0.02						
08N04E	1	0.02	0.02						
09N01E	3	0.011	0.017	0.0113	0.0117	0.0123	0.0147	0.0161	1
09N02E	32	0.0	0.0287	0.0007	0.0069	0.0071	0.0149	0.0223	4
09N03E	1	0.0	0.0						
09N04E	5	0.0167	0.0273	0.0167	0.0167	0.017	0.017	0.0232	1
10N01E	8	0.0	0.025	0.0086	0.0122	0.015	0.0172	0.0208	1
10N01W	6	0.0181	0.0307	0.0193	0.0207	0.0237	0.029	0.0303	1
10N02E	12	0.0069	0.0202	0.0069	0.0069	0.0147	0.0156	0.0156	1
10N03E	1	0.0167	0.0167						
11N01E	1	0.0332	0.0332						
11N02E	6	0.0173	0.02	0.0173	0.018	0.02	0.02	0.02	0
11N03E	1	0.0075	0.0075						
12N01E	4	0.0	0.02	0.006	0.015	0.02	0.02	0.02	0
12N01W	3	0.017	0.0198	0.0171	0.0174	0.0177	0.0187	0.0194	1
12N02E	7	0.0236	0.03	0.0236	0.0236	0.0245	0.0245	0.0267	1
12N03E	1	0.0252	0.0252						
13N01E	11	0.0149	0.0429	0.0179	0.0179	0.018	0.0248	0.0429	0
13N02E	1	0.0245	0.0245						

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
13N03E	3	0.0176	0.0176	0.0176	0.0176	0.0176	0.0176	0.0176	0
14N01E	25	0.0187	0.0429	0.0192	0.0192	0.0233	0.025	0.0306	3
14N01W	17	0.0127	0.0625	0.0174	0.0188	0.0208	0.0285	0.0625	0
14N02E	1	0.1	0.1						
14N03E	1	0.0	0.0						
15N01E	1	0.0421	0.0421						
15N01W	13	0.01	0.0328	0.01	0.01	0.0108	0.0203	0.0222	2
15N02W	5	0.0255	0.0255	0.0255	0.0255	0.0255	0.0255	0.0255	0
15N03W	7	0.015	0.0231	0.0198	0.0231	0.0231	0.0231	0.0231	0
16N01W	2	0.0235	0.4167						
16N02W	2	0.0194	0.03						
17N01W	2	0.0192	0.0214						
17N02W	5	0.0208	0.03	0.0208	0.0208	0.0222	0.03	0.03	0
17N03W	1	0.0	0.0						
18N01W	18	0.0208	0.037	0.0258	0.037	0.037	0.037	0.037	0
18N04W	4	0.0105	0.0105	0.0105	0.0105	0.0105	0.0105	0.0105	0
19N02W	2	0.0153	0.0153						
19N03W	4	0.0047	0.0147	0.0077	0.0122	0.0147	0.0147	0.0147	0
19N04W	2	0.0168	0.0177						
20N01W	5	0.0	0.0167	0.0029	0.0071	0.0071	0.0071	0.0129	1
20N03W	7	0.0093	0.0321	0.0093	0.0093	0.0106	0.0321	0.0321	0
21N01E	1	0.0267	0.0267						
21N01W	1	0.0167	0.0167						
21N03W	2	0.0167	0.0167						
22N02W	1	0.01	0.01						

Table XXXVI-2. A/R Summary Statistics for WHEAT management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
03N02E	1	1.8605	1.8605						
04N03E	3	0.3953	1.4535	0.3953	0.3953	0.3953	0.9244	1.2419	1
04N04E	1	0.7752	0.7752						
05N03E	12	0.4983	2.907	0.7871	1.1628	1.1628	1.1628	1.1628	1
05N04E	7	0.969	1.8605	0.969	1.0426	1.1163	1.2503	1.5748	1
05N05E	2	1.0274	1.8605						
06N01E	5	0.5233	1.7442	0.6218	0.7696	0.7696	0.7696	1.3543	1
06N03E	5	1.1628	1.2678	1.1628	1.1628	1.1628	1.1628	1.2258	1
06N04E	10	0.8306	1.0571	0.8442	0.8668	0.9302	0.9302	0.9429	1
06N06E	1	0.9653	0.9653						
07N01E	1	1.2231	1.2231						
07N02E	5	0.9302	2.3256	0.9302	0.9302	2.2548	2.2548	2.2973	1
07N03E	4	0.9302	1.2118	0.9612	1.0078	1.0336	1.0781	1.1583	1
07N04E	11	0.0	1.1628	0.0	0.5541	0.8306	0.9574	0.9592	1
08N01E	16	1.1289	2.0029	1.1289	1.179	1.2741	1.3989	1.868	2
08N01W	1	0.9647	0.9647						
08N02E	3	0.1163	0.901	0.2732	0.5086	0.901	0.901	0.901	0
08N03E	1	0.9302	0.9302						
08N04E	1	0.9302	0.9302						
09N01E	3	0.5124	0.7907	0.5245	0.5427	0.5731	0.6819	0.7472	1
09N02E	32	0.0	1.3365	0.0323	0.323	0.3322	0.6919	1.0349	4
09N03E	1	0.0	0.0						
09N04E	5	0.7752	1.2685	0.7752	0.7752	0.791	0.791	1.0775	1
10N01E	8	0.0	1.1628	0.3979	0.5685	0.6955	0.8019	0.9663	1
10N01W	6	0.8396	1.4267	0.8963	0.9622	1.1036	1.3488	1.4097	1
10N02E	12	0.323	0.9403	0.323	0.323	0.6846	0.7267	0.7267	1
10N03E	1	0.7752	0.7752						
11N01E	1	1.5443	1.5443						
11N02E	6	0.8037	0.9302	0.8037	0.8354	0.9302	0.9302	0.9302	0
11N03E	1	0.3488	0.3488						
12N01E	4	0.0	0.9302	0.2791	0.6977	0.9302	0.9302	0.9302	0
12N01W	3	0.7907	0.9194	0.7973	0.8072	0.8236	0.8715	0.9003	1
12N02E	7	1.0994	1.3953	1.0994	1.0994	1.1418	1.1418	1.2432	1
12N03E	1	1.1726	1.1726						
13N01E	11	0.6936	1.9974	0.8306	0.8339	0.8372	1.1554	1.9974	0

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
13N02E	1	1.1418	1.1418						
13N03E	3	0.8193	0.8193	0.8193	0.8193	0.8193	0.8193	0.8193	0
14N01E	25	0.8687	1.9974	0.8945	0.8945	1.0839	1.1628	1.4219	3
14N01W	17	0.5916	2.907	0.8089	0.8721	0.9661	1.3249	2.907	0
14N02E	1	4.6512	4.6512						
14N03E	1	0.0	0.0						
15N01E	1	1.9584	1.9584						
15N01W	13	0.4651	1.5268	0.4651	0.4651	0.5035	0.9433	1.0311	2
15N02W	5	1.1875	1.1875	1.1875	1.1875	1.1875	1.1875	1.1875	0
15N03W	7	0.6977	1.0733	0.9231	1.0733	1.0733	1.0733	1.0733	0
16N01W	2	1.0944	19.3798						
16N02W	2	0.9002	1.3953						
17N01W	2	0.8945	0.9967						
17N02W	5	0.966	1.3953	0.966	0.966	1.0336	1.3953	1.3953	0
17N03W	1	0.0	0.0						
18N01W	18	0.966	1.7209	1.2021	1.7209	1.7209	1.7209	1.7209	0
18N04W	4	0.49	0.49	0.49	0.49	0.49	0.49	0.49	
19N02W	2	0.7106	0.7106						
19N03W	4	0.2171	0.684	0.3571	0.5673	0.684	0.684	0.684	0
19N04W	2	0.78	0.8217						
20N01W	5	0.0	0.7752	0.1329	0.3322	0.3322	0.3322	0.598	1
20N03W	7	0.433	1.495	0.433	0.433	0.4922	1.495	1.495	0
21N01E	1	1.2403	1.2403						
21N01W	1	0.7752	0.7752						
21N03W	2	0.7752	0.7752						
22N02W	1	0.4651	0.4651						

Table XXXVI-3. A-R Summary Statistics for WHEAT management units grouped by T-R.

For T-R blocks with less than three unique values, no outliers can be determined.

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
03N02E	1	46.25	46.25						
04N03E	3	-156.0	39.0	-156.0	-156.0	-156.0	-58.5	0.0	1
04N04E	1	-29.0	-29.0						
05N03E	12	-151.0	82.0	-29.344	14.0	14.0	21.0	21.0	1
05N04E	7	-4.0	46.25	-4.0	4.25	12.5	23.6	39.32	1
05N05E	2	2.93	46.25						
06N01E	5	-102.5	64.0	-72.4	-27.25	-27.25	-27.25	27.5	1
06N03E	5	21.0	33.16	21.0	21.0	21.0	21.0	28.296	1
06N04E	10	-25.5	5.4	-18.975	-15.5625	-7.5	-7.5	-6.21	1
06N06E	1	-3.95	-3.95						
07N01E	2	25.1	25.9						
07N02E	5	-7.5	114.0	-7.5	-7.5	12.41	12.41	73.364	1
07N03E	4	-8.25	22.49	-4.8	0.375	3.25	8.06	16.718	1
07N04E	11	-214.66	17.5	-86.0	-55.75	-25.5	-4.375	-4.21	1
08N01E	16	11.42	90.13	11.42	25.0301	34.0	40.78	76.85	2
08N01W	1	-3.79	-3.79						
08N02E	3	-304.0	-13.1925	-245.8385	-158.5962	-13.1925	-13.1925	-13.1925	2
08N03E	1	-8.25	-8.25						
08N04E	1	-7.5	-7.5						
09N01E	3	-85.655	-22.5	-81.9312	-76.3455	-67.036	-44.768	-31.4072	1
09N02E	34	-172.0	150.0	-104.8	-104.8	-75.2925	-22.5	33.2535	4
09N03E	1	-116.96	-116.96						
09N04E	5	-29.0	25.4	-29.0	-29.0	-26.42	-26.42	4.672	1
10N01E	8	-83.5	14.0	-83.5	-55.525	-33.14	-12.3687	0.4375	1
10N01W	6	-19.11	29.91	-12.015	-3.9525	8.41	25.61	29.05	1
10N02E	12	-104.8	-9.53	-104.8	-104.8	-46.2	-37.6	-37.6	1
10N03E	1	-29.0	-29.0						
11N01E	1	29.96	29.96						
11N02E	6	-29.79	-7.5	-29.79	-24.2175	-7.5	-7.5	-7.5	0
11N03E	1	-56.0	-56.0						
11N03W	1	0.0	0.0						
12N01E	4	-32.25	-7.5	-24.825	-13.6875	-7.5	-7.5	-7.5	0
12N01W	3	-22.5	-7.45	-21.64	-20.35	-18.2	-12.825	-9.6	1
12N02E	7	11.75	34.0	11.75	11.75	19.7445	19.7445	25.4467	1
12N03E	1	23.5535	23.5535						

T-R	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
13N01E	14	-50.808	84.49	-25.5	-24.5	-16.75	0.0	73.138	2
13N02E	2	0.0	19.7445						
13N03E	3	-28.67	-28.67	-28.67	-28.67	-28.67	-28.67	-28.67	0
14N01E	25	-19.2	89.5	-14.75	-14.75	10.4505	21.0	59.094	3
14N01W	17	-89.73	65.6	-18.9	-17.6	-0.7365	41.49	65.6	0
14N02E	1	78.5	78.5						
14N03E	1	-215.0	-215.0						
15N01E	2	0.0	39.15						
15N01W	14	-51.75	52.1	-51.75	-51.75	-22.805	-7.815	4.235	2
15N02E	1	0.0	0.0						
15N02W	5	18.95	18.95	18.95	18.95	18.95	18.95	18.95	0
15N03W	7	-52.0	8.2	-15.88	8.2	8.2	8.2	8.2	0
16N01W	2	10.35	118.55						
16N02W	3	-13.3	34.0	-10.64	-6.65	0.0	17.0	27.2	1
17N01W	2	-14.75	-0.4						
17N02W	7	-4.75	34.0	-4.75	-2.375	0.0	18.95	34.0	0
17N03W	3	-51.6	0.0	-41.28	-25.8	0.0	0.0	0.0	0
18N01W	18	-4.75	62.0	28.25	62.0	62.0	62.0	62.0	0
18N04W	4	-67.655	-67.655	-67.655	-67.655	-67.655	-67.655	-67.655	0
19N01W	1	0.0	0.0						
19N02W	2	-44.8	-44.8						
19N03W	4	-151.5	-34.65	-116.445	-63.8625	-34.65	-34.65	-34.65	0
19N04W	2	-22.99	-11.5						
20N01W	5	-402.0	-29.0	-402.0	-402.0	-402.0	-64.5	-43.2	1
20N03W	7	-73.14	59.6	-73.14	-73.14	-65.5	59.6	59.6	0
21N01E	1	31.0	31.0						
21N01W	1	-29.0	-29.0						
21N03W	2	-29.0	-29.0						
22N02W	1	-115.0	-115.0						

Table XXXVI-4. Summary Statistics for WHEAT management units in Coalition.

Parameter	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
A/Y	325	0.0	0.4167	0.0071	0.0156	0.02	0.025	0.037	22
A/R	325	0.0	19.3798	0.3322	0.7267	0.9302	1.1628	1.7209	22
A-R	325	-402.0	118.55	-88.238	-32.25	-7.5	21.0	59.6	32

Figure XXXVI-2. Scatter plot of A vs. Y for WHEAT with all T-R together.
Each dot represents one MU-parcel. Red dots represent regional outliers (A/Y > 90% for all T-R together). Blue lines represent recommended or typical N application rates as described in Appendix B. Plot includes records with no yield.
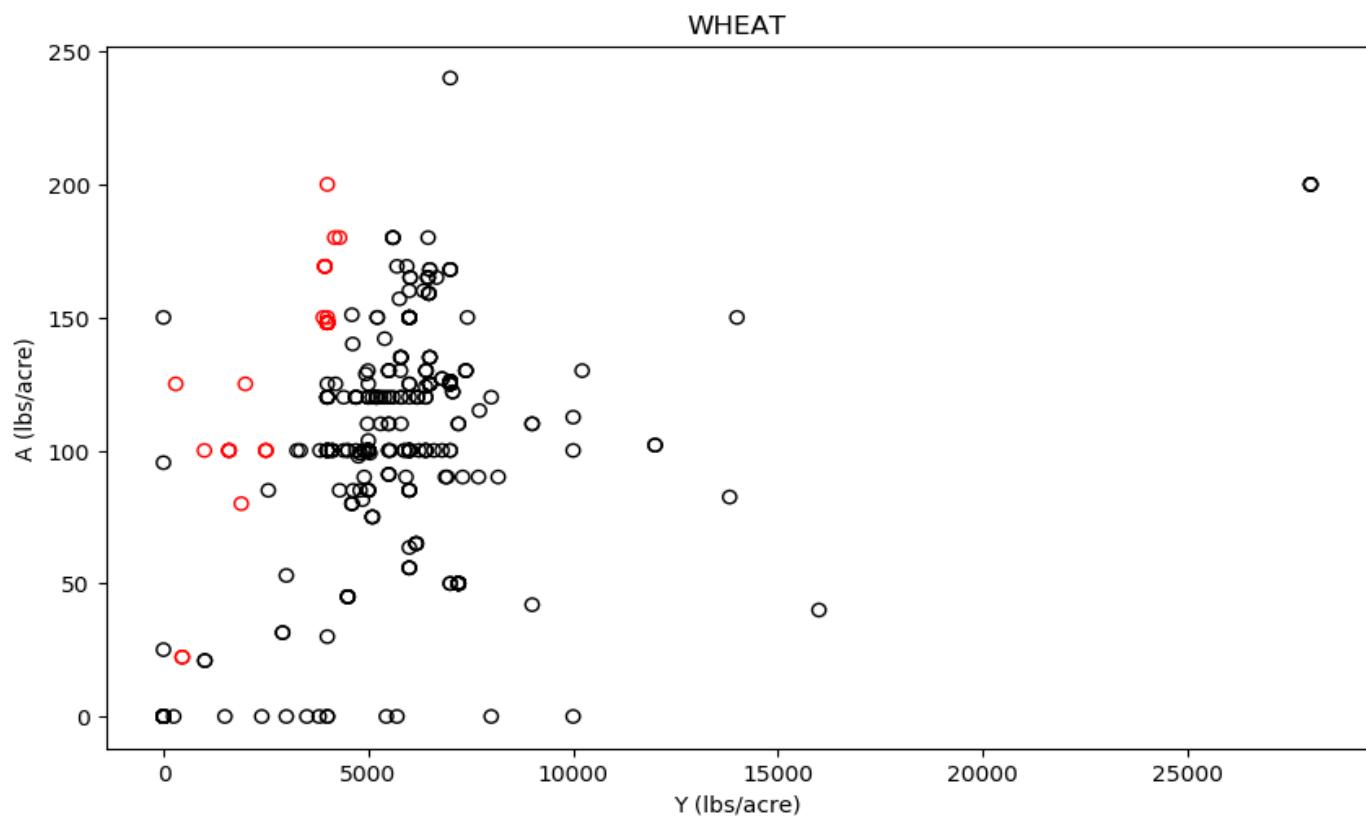
XXXVII. OTHER CROPS

Table XXXVII-1. A/Y summary statistics for crops with limited representation in the SVWQC region.

Summary statistics are reported across the Coalition rather than each township due to limited representation of these crops. For crops with only one MU, no summary statistics could be calculated.

Crop	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
APPLE	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
APRICOT/APRIUM	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
ASPARAGUS	2	0.0045	0.225						
BARLEY - FODDER/SILAGE	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
BEAN - GREEN	2	0.0	0.0092						
BERRY	1	0.0	0.0						
CABBAGE	1	0.0013	0.0013						
CANOLA	1	0.0454	0.0454						
CARROT	3	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026	0
CHESTNUT	2	0.0196	0.0196						
CHRISTMAS TREES	1	0.0179	0.0179						
CILANTRO	2	0.0477	0.1						
CORN - NR	10	0.0064	0.0409	0.0064	0.0064	0.021	0.0295	0.0321	1
CORN - POPCORN	2	0.0011	0.0011						
CORN - SWEET	7	0.0185	0.1781	0.0242	0.028	0.1781	0.1781	0.1781	1
COVER CROP	1	0.0	0.0						
DICHONDRA	2	0.0526	0.189						
FIG	1	0.0008	0.0008						
GRAPE - OTHER	2	0.0	0.0004						
GRAPE - ROOTSTOCK	6	0.0061	0.1467	0.0061	0.0061	0.0168	0.031	0.0894	1
HERB/SPICE	2	0.0	0.0191						
HOPS	2	0.0	0.1211						
KALE	1	0.0017	0.0017						
LAVENDER	1	0.0	0.0						
LEEKS	1	0.0022	0.0022						
MELON	7	0.0022	0.08	0.0022	0.0036	0.0075	0.01	0.0395	2
MILLET	2	0.0	0.0212						
MISC NUT TREE	7	0.0487	0.1258	0.0493	0.0503	0.0512	0.0904	0.1258	1
MISC TRUCK CROP	7	0.0	0.0073	0.0007	0.0012	0.0038	0.0056	0.0073	0
MISC VEGETABLE	18	0.0	18.9	0.0028	0.0054	0.0126	0.0347	0.058	2
NURSERY	1	0.0037	0.0037						
OAT	12	0.0	70.0	0.0	0.0038	0.0111	0.0212	0.049	2
OKRA	3	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0

Crop	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
ONION	1	0.0014	0.0014						
OTHER	2	0.075	1.0						
PEA	5	0.0	0.0441	0.0	0.0	0.0	0.0	0.0265	1
PERSIMMON	14	0.0	0.024	0.0	0.0	0.0064	0.011	0.0126	2
PLUM/PLUOT	32	0.0	0.036	0.0075	0.009	0.016	0.0257	0.0355	6
POMEGRANATE	1	0.0154	0.0154						
POTATO	1	0.004	0.004						
PUMPKIN	12	0.0012	0.5	0.0022	0.0035	0.0041	0.0144	0.4505	4
RESEARCH	4	0.0	0.181	0.0	0.0	0.0	0.0453	0.1267	1
RICE - WILD	4	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0
TOMATO - FRESH MARKET	1	0.0025	0.0025						
TOMATO - NR	10	0.0018	0.0621	0.0036	0.0051	0.0057	0.0059	0.0115	2
TURF	3	0.0008	0.001	0.0008	0.0009	0.0009	0.001	0.001	2
TURNIP	2	0.0014	0.0014						
WATERMELON	8	0.0021	0.7258	0.0027	0.003	0.2107	0.4668	0.5657	2

Table XXXVII-1. A/R summary statistics for crops with limited representation in the SVWQC region.

Summary statistics are reported across the Coalition rather than each township due to limited representation of these crops. For crops with only one MU, no summary statistics could be calculated.

Crop	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
APPLE	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
APRICOT/APRIUM	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
ASPARAGUS	2	1.5385	76.9231						
BEAN - GREEN	2	0.0	3.1884						
CARROT	3	1.5551	1.5551	1.5551	1.5551	1.5551	1.5551	1.5551	0
CORN - SWEET	7	5.1604	49.6862	6.7503	7.8103	49.6862	49.6862	49.6862	1
FIG	1	0.5906	0.5906						
MELON	7	0.8832	32.8542	0.8984	1.4809	3.0801	4.1068	16.2218	2
OAT	12	0.0	3713.5279	0.0	0.1989	0.591	1.1273	2.5995	2
ONION	1	0.7252	0.7252						
PLUM/PLUOT	32	0.0	25.4417	5.3075	6.3821	11.3074	18.1726	25.0715	6
POMEGRANATE	1	2.0243	2.0243						
POTATO	1	1.2821	1.2821						
PUMPKIN	12	0.3284	135.8696	0.6106	0.9573	1.1014	3.9184	122.4202	4
TOMATO - FRESH MARKET	1	1.9157	1.9157						
WATERMELON	8	3.0832	1044.2521	3.9466	4.3165	303.186	671.6161	813.9445	2

Table XXXVII-1. A-R summary statistics for crops with limited representation in the SVWQC region.

Summary statistics are reported across the Coalition rather than each township due to limited representation of these crops. For crops with only one MU, no summary statistics could be calculated.

Crop	No. MU-parcels	Min	Max	10%	25%	50%	75%	90%	No. Outliers
APPLE	4	-21.3192	-0.4536	-21.3192	-21.3192	-20.3796	-14.6934	-6.1495	1
APRICOT/APRIUM	5	-17.0692	-0.2085	-17.0692	-17.0692	-3.475	-3.058	-1.3483	1
ASPARAGUS	2	4.725	177.66						
BEAN - GREEN	2	-5.78	54.909						
CARROT	3	54.971	54.971	54.971	54.971	54.971	54.971	54.971	0
CORN - SWEET	7	59.66	279.264	170.354	244.15	279.264	279.264	279.264	1
FIG	1	-2.08	-2.08						
MELON	7	-7.355	116.3475	-6.9103	2.7321	46.17	81.04	95.163	1
OAT	12	-332.4	69.9812	-109.39	-59.62	-43.83	-0.975	60.3	2
ONION	1	-7.58	-7.58						
PLUM/PLUOT	32	-0.4245	374.209	48.4545	74.6212	79.7702	95.755	98.9438	6
POMEGRANATE	1	101.2	101.2						
POTATO	1	8.8	8.8						
PUMPKIN	12	-59.84	135.988	-27.386	-6.92	1.96	91.8512	100.6952	2
TOMATO - FRESH MARKET	1	7.17	7.17						
WATERMELON	8	7.9888	136.7915	7.9913	69.3808	108.3	115.4645	122.313	2

APPENDIX B

FERTILIZER RECOMMENDATIONS

Appendix B: Fertilizer Recommendations

Crop	Min (lbs/ac)	Max (lbs/ac)	Notes	Source
Hay, Alfalfa (established)	0	0	In general, N applications after stand establishment are only effective when nodulation and N fixation are restricted.	CDFA
Hay, Alfalfa (planting)	20	40	A starter application may be beneficial when the residual nitrate concentration is below 3-4 ppm NO3-N. Larger amounts of N may inhibit symbiotic N fixation.	CDFA
Almonds - Year 1	6.25	18.75	Suggested rates for drip-irrigated trees on non-fertile soils. Values converted from ounces/tree to lbs/acre assuming 100 trees/acre	CDFA
Almonds - Year 2	12.5	37.5		
Almonds - Year 3	25	75		
Almonds - Year 4	37.5	100		
Almonds - Year 5	100	200		
Almonds - Year > 4	95	380	Fertilization rate dependent on desired yield. Minimum value for 1000 lbs/acre yield; max for 4000 lbs/acre yield. Fertigation via low volume irrigation.	
Apples - Years 1 - 3	20	60	Values are from cost study, not recommendations, but rates considered typical. Assumes 14-30 tons/acre granny smith variety. Density of 340 trees/acre and fertigation via micro-sprinkler.	UC Davis
Apples - Year 4+	80	80		
Asparagus (planting)	16.8	16.8	Values are from cost study, not recommendations, but rates considered	UC Davis
Asparagus (established)	90	90		

Appendix B: Fertilizer Recommendations

Crop	Min (lbs/ac)	Max (lbs/ac)	Notes	Source
Beans, Blackeye	0	0	Blackeye beans fix all N from atmosphere, but a small amount of starter N can sometimes increase yield	CDFA
Beans, Common	65	125	Estimated N applications for dry bean crops with a yield goal of 2500 lbs/acre	
Beans, Garbanzo	35	110		
Beans, Lima	55	125		
Corn	150	270	Rates dependent on yield goal and pre-sidedress nitrate test (PSNT). Values are from other states and have not been tested in California. These values are for a PSNT < 10 ppm and yields of 150 bu/ac - grain (25 tons/ac - silage) to 225 bu/ac - grain (38 tons/ac)	CDFA
Cucumber	80	150	Values dependent on soil type and nutrient carryover. Slicing cucumbers may require 300 lbs/ac N or more.	UCANR
Garlic		256	Values are from cost study, not recommendations, but rates considered typical.	UC Davis
Grapes - Raisin	0	60	Values dependent on irrigation type, vine vigor, and soil type. Lower values recommended for drip irrigation compared to furrow and for vigorous vines. Higher values for weak vigor and sandy soils.	CDFA
Grapes - Wine	0	40	Same considerations as above. Wine grape yield is lower compared to raisins, requiring less N.	
Kiwi		150	For fullbearing vines, use 1 lb of N per plant. Younger plants (yrs 1 - 4) should receive less.	UC Davis

Appendix B: Fertilizer Recommendations

Crop	Min (lbs/ac)	Max (lbs/ac)	Notes	Source
Melon - Cantaloupe/Honeydew	50	250	Values vary based on yield goal. Numbers are for cantaloupe; honeydew likely requires less N/acre.	CDFA
Melon - Watermelon		160	Values vary based on yield goal.	UCANR
Milo/Sorghum		140	Values are from cost study, not recommendations, but rates considered typical.	UC Davis
Oat Hay	50	75	Values are from cost study, not recommendations, but rates considered typical.	UC Davis
Olive	40	100	Varies based on fruit load, variety, orchard spacing, and pruning. Values are for California oil variety in irrigated, super-high density system. Application rates should be adjusted for N residue in prunings and alternate bearing years.	CDFA
Pasture	32	42	Values are from cost study, not recommendations, but rates considered typical.	UC Davis
Peach	63	155	Minimum value for 6 ton/ac yield, max for 30 ton/ac yield. Assumes prunings are not removed from the orchard. For young trees, recommended rates are lower	CDFA

Appendix B: Fertilizer Recommendations

Crop	Min (lbs/ac)	Max (lbs/ac)	Notes	Source
Pear - Years 1 -6	35	75	Values are from cost study, not recommendations, but rates considered typical. Varies based on tree nitrogen status	UC Davis
Pear - Year 7+	120	150		
Pecan - Years 1 -6	6	100	Values are from cost study, not recommendations, but rates considered	UC Davis
Pecan - Years 7+		200		
Peppers - Fresh		275	Values are from cost study, not recommendations, but rates considered typical.	UC Davis
Peppers - Processing		200	Values are from cost study, not recommendations, but rates considered typical.	UC Davis
Persimmon - Year 1	10	21	Varies based on tree age and variey. 2oz N per year of tree age per tree. Values converted from oz/tree to lbs/acre assuming 170 trees/acre for Fuyu and 75 trees/acre for Hachiya.	UCANR
Persimmon - Year 10	94	212		
Pistachio - 1st Leaf	0	150	Based on optimal leaf N concentration for rapidly growing immature trees and a density of 120 tree/acre.	CDFA
Pistachio - 2nd Leaf	18	24		
Pistachio - 3rd Leaf	30	42		
Pistachio - 4th Leaf	60	72		
Pistachio - 5th Leaf	100	120		
Pistachio - 6th Leaf	120	130		
Pistachio - 7th Leaf	135	150		
Pistachio - Year > 9 (Drip)	40	240	Values vary based on yield goal. Minimum value is for 1000 lbs/ac yield, max for 6000 lb/ac yield	
Pistachio - Year >10 (Furrow)	56	336		
Plum/Pluot	100	150		CDFA
Prunes - Year 1	5	10	Assumes density of 183 trees/acre	

Appendix B: Fertilizer Recommendations

Crop	Min (lbs/ac)	Max (lbs/ac)	Notes	Source
Prunes - Year 2		25		
Prunes - Year 3		30		
Prunes - Year 4		40		
Prunes - Year 5		75		CDFA
Prunes - Year >5	65	150	Varies based on yield. Assumes N application through drip or microsprinklers and an N use efficiency of 70%	
Ryegrass		200	Values are from cost study, not recommendations, but rates considered typical.	UC Davis
Safflower	40	180	Varies based on yield goal. Minimum is for 1000 lb/ac yield, max is for 3000 lb/ac yield	CDFA
Squash	80	150	Values are for summer squash	UC Davis
Strawberries		158	Value is for second year of production from cost study, not recommendations, but rates considered typical.	UC Davis
Sudan Grass		140	Values are from cost study, not recommendations, but rates considered typical.	UC Davis
Sunflower	45	175	Varies based on yield goal. Minimum is for 1000 lb/ac yield, max is for 2500 lb/ac yield	CDFA

Appendix B: Fertilizer Recommendations

Crop	Min (lbs/ac)	Max (lbs/ac)	Notes	Source
Tomato - Fresh	100	180	Typical grower rates for bush-grown are 125-250 lbs N/ac and for pole-grown 150-350 lbs N/ac. Values shown are UC recommended rates.	UCANR
Tomato - Processing	150	175	For drip-irrigated tomatoes	CDFA
Tomato - Processing	100	150	For furrow irrigated tomatoes	
Walnuts - Year 1	10	20	Lower rate is for N applied through drip or microsprinkler on fertile soils. Assumes density of 65 trees/ac	CDFA
Walnuts - Year 2	25	50		
Walnuts - Year 3	50	100		
Walnuts - Year 4	63	125		
Walnuts - Year 5	75	150		
Walnuts - Year >5 (Fertigation)	68	169	Varies based on yield goal. Minimum is for 1 ton/ac yield, max is for 2.5 tons/ac yield.	
Walnuts - Year >5 (Split broadcast)	86	214		
Wheat	150	200	Values are from study producing 4-4.6 tons/ac. Does not include residual soil N (30-80 lbs/acre)	CDFA
Durum Wheat		240	Split into preplant, tillering, and boot stage applications	

APPENDIX C

EXAMPLE MEMBER FEEDBACK REPORT

Owner ID: **Owner Name:**

Reporter ID: **Reporter Name:**

Crop: ALMOND

These results represent information you provided on your 2018 Nitrogen Management Plan Summary Report comparing your Nitrogen *Applied* divided by your *Yield* (A/Y) to other fields of the same crop in the whole Coalition and your Township(s).

For more detailed information, please refer to the cover letter included with your 2018 Nitrogen Management Plan Summary Results.

Table 1 below shows the average results for the whole Sacramento Valley Coalition for fields of the same crop:

Table 1. Coalition Results (Sacramento Valley)

Coalition Average lbs. of N Applied per Acre	Coalition Average[1] A/Y	Coalition Average A/R	# of Parcels in Coalition
150	0.0881	1.2962	1462

Table 2 below shows your results which include:

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

Table 2. Your Results

APN	# of Irrigated Acres	(1) lbs. of N Applied per Acre	(2) Township Average lbs. of N Applied per Acre	(3) A/Y	(4) Township Average[1] A/Y	(5) A/R[3]	(6) Township Average A/R	Township	# of Parcels in Township[2]
	100	120	120	0.0709	0.0709	1.043	1.043		209

A/Y and A/R Status Color Key

🟥 Outlier in Coalition[4] (>90% of parcels in Coalition)   🟧 Outlier in Township[5] (>90% of parcels in Township and not a Coalition Outlier)   🟪 High in Township (>75% of parcels)   🟩 Average in Township (<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 and across the whole Coalition. If your A/Y or A/R values are greater than 90% of all parcels in the Township or in the Coalition, 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.

Each parcel within a management unit (MU) was analyzed separately. 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.
3   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.
4   Coalition outliers have an Applied Nitrogen over Yield value (A/Y) that is greater than 90% of other high vulnerability (HVA) parcels of the same crop in the Coalition. Some Coalition outliers may not be an outlier within the Township.
5   Township outliers have an A/Y value that is greater than 90% of other HVA parcels of the same crop in your Township. Parcels that are outliers in both the Township and Coalition are only shown as Coalition outliers.
6   NR = Not Reported

Sacramento Valley Water Quality Coalition
2018 Nitrogen Management Plan Summary Report Results

Owner ID: **Owner Name:**

Reporter ID: **Reporter Name:**

Crop: WALNUT

These results represent information you provided on your 2018 Nitrogen Management Plan Summary Report comparing your Nitrogen *Applied* divided by your *Yield* (A/Y) to other fields of the same crop in the whole Coalition and your Township(s).

For more detailed information, please refer to the cover letter included with your 2018 Nitrogen Management Plan Summary Results.

Table 1 below shows the average results for the whole Sacramento Valley Coalition for fields of the same crop:

Table 1. Coalition Results (Sacramento Valley)

Coalition Average lbs. of N Applied per Acre	Coalition Average[1] A/Y	Coalition Average A/R	# of Parcels in Coalition
120	0.0293	1.8397	2733

Table 2 below shows your results which include:

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

Table 2. Your Results

APN	# of Irrigated Acres	(1) lbs. of N Applied per Acre	(2) Township Average lbs. of N Applied per Acre	(3) A/Y	(4) Township Average[1] A/Y	(5) A/R[3]	(6) Township Average A/R	Township	# of Parcels in Township[2]
	48	120	119	0.0711	0.0296	4.4597	1.8578		118
	5	100	132	0.0571	0.0296	3.5785	1.8578		79
	7	100	132	0.0325	0.0296	2.0382	1.8578		79

A/Y and A/R Status Color Key

🟥 Outlier in Coalition[4] (>90% of parcels in Coalition)   🟧 Outlier in Township[5] (>90% of parcels in Township and not a Coalition Outlier)   🟪 High in Township (>75% of parcels)   🟩 Average in Township (<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 and across the whole Coalition. If your A/Y or A/R values are greater than 90% of all parcels in the Township or in the Coalition, 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.

Each parcel within a management unit (MU) was analyzed separately. 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.
3   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.
4   Coalition outliers have an Applied Nitrogen over Yield value (A/Y) that is greater than 90% of other high vulnerability (HVA) parcels of the same crop in the Coalition. Some Coalition outliers may not be an outlier within the Township.
5   Township outliers have an A/Y value that is greater than 90% of other HVA parcels of the same crop in your Township. Parcels that are outliers in both the Township and Coalition are only shown as Coalition outliers.
6   NR = Not Reported

APPENDIX D

MAXIMUM YIELDS BY CROP TYPE FOR DATA EXCLUSION

Appendix E: Maximum Yields by Crop for Data Exclusion

Crop	Max Yield (Lbs)
Alfalfa	20,000
Alfalfa - Seed	2,000
Almond	10,000
Apple	50,000
Apricot/Aprium	20,000
Asparagus	10,000
Barley	10,000
Barley - Fodder/Silage	50,000
Beans - Black	10,000
Beans - Garbanzo	10,000
Bean - Green	50,000
Beans - Kidney	10,000
Bean Dry	10,000
Berry	50,000
Blackberry	50,000
Cabbage	50,000
Canola	10,000
Cantaloupe - Seed	2,000
Carrot	75,000
Cherry	30,000
Chestnut	30,000
Cilantro	50,000
Citrus	50,000
Corn - Fodder/Silage	90,000
Corn - Grain	20,000
Corn - Sweet	50,000
Cotton	10,000
Cucumber	50,000
Fig	50,000
Grain Hay	50,000
Grape - Wine	30,000
Grass Hay	50,000
Hay/Forage	50,000
Herb/Spice	50,000
Hops	50,000
Kale	50,000
Kiwi	50,000
Leeks	50,000
Melon	60,000
Millet	10,000
Misc Fruit Tree	50,000
Misc Row Crop	50,000
Misc Truck Crop	50,000

Note:
Maximum yield thresholds estimated from a variety of sources including CDFA production statistics, UCCE cost studies and literature, and previous years NMP data

Appendix E: Maximum Yields by Crop for Data Exclusion

Crop	Max Yield (Lbs)
Misc Vegetable	75,000
Oat	50,000
Okra	50,000
Olive	50,000
Onion	60,000
Onion - Seed	2,000
Orange	30,000
Pea	50,000
Peach/Nectarine	50,000
Pear	75,000
Pecan	10,000
Pepper	75,000
Peppers - Bell	75,000
Persimmon	50,000
Pistachio	10,000
Plum/Pluot	50,000
Pomegranate	60,000
Potato	60,000
Prune	20,000
Pumpkin	60,000
Rice	5,000
Rice - Wild	10,000
Ryegrass	20,000
Safflower	10,000
Seed Crop	3,000
Sorghum/Milo	10,000
Squash	50,000
Squash - Seed	2,000
Strawberry	90,000
Sudan Grass	50,000
Sunflower	10,000
Tomato - Fresh Market	50,000
Tomato - Processing	150,000
Tomato - Seed	2,000
Triticale	50,000
Vegetable Seed	2,000
Vetch - Seed	2,000
Vine Seed	2,000
Walnut	10,000
Watermelon	75,000
Watermelon - Seed	2,000
Wheat	50,000

Note:

Maximum yield thresholds estimated from a variety of sources including CDFA production statistics, UCCE cost studies and literature, and previous years NMP data

TOWNSHIP-LEVEL AGGREGATED AR DATA TABLE

Excel spreadsheet provided electronically