Yuma Celery Trial

Fall 2024

Maximum H20

Robert Masson
Assistant Ag Extension Agent

THE UNIVERSITY OF ARIZONA
Cooperative Extension
Yuma County

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Transplanted: 10/21/24
Wet Date: 10/22
Harvest: 3/18 – 3/19

Fertilizer application dates:
Phos-Acid (Drip): 10/29 (13.3 Gal/AC)
50/25# N – UAN-32 (Drip) 11/12
50/25# N – UAN-32 (Drip) 11/25
50/25# N – UAN -32 (Drip) 12/18
50/25# N – UAN -32 (Drip) 1/31

Cleanup crop of sudangrass grown during the summer with no ferts. Mown and biomass removed.

42” Raised Beds
Twin plant lines 6” spacing
Transplanted Celery
Variety: Enterprise Organic KC241379

Bed shaper removed at transplanting to prevent plot to plot contamination

Initially crop was irrigated uniformly without the units installed. MaximumH20Units were installed on 11/25.

Field gradient observed in 1700 row. Data dropped from later analysis.

REPORT NUMBER
24-276-0217
COMPLETED DATE
Oct 8, 2024
ACCOUNT
57161
RECEIVED DATE
Oct 2, 2024

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TODAY'S DATE
Oct 08, 2024

Robert Masson

2200 W 28th St
Suite 102
Yuma AZ 85364-6928

IDENTIFICATION
THE UNIVERSITY OF ARIZONA COOP
YAC
ICEBERG LETTUCE

SOIL ANALYSIS REPORT

INFO SHEET: 1726219

LAB NUMBER	SAMPLE IDENTIFICATION	ORGANIC MATTER L.O.I.	PHOSPHORUS			POTASSIUM (NEUTRAL AMMONIUM ACETATE EXCHANGEABLE)	MAGNESIUM (NEUTRAL AMMONIUM ACETATE EXCHANGEABLE)	CALCIUM (NEUTRAL AMMONIUM ACETATE EXCHANGEABLE)	SODIUM (NEUTRAL AMMONIUM ACETATE EXCHANGEABLE)	pH		CATION EXCHANGE CAPACITY C.E.C.	PERCENT BASE SATURATION (COMPUTED)				
			P_1 (WEAK BRAY) 1:7	P_2 (STRONG BRAY) 1:7	OLSEN BICARBONATE P	K	Mg	Ca	Na	SOIL pH 1:1	BUFFER INDEX		% K	% Mg	% Ca	% H	% Na
436		percent RATE	ppm RATE	ppm RATE	ppm RATE	ppm RATE	ppm RATE	ppm RATE	ppm RATE			meq/100g					
83123	Southwest	1.4 VL	5 VL	107 VH	13 M	408 VH	892 VH	4118 M	356 VH	8.4		30.6	3.4	24.3	67.2	0.0	5.1
83124	SouthEast	1.6 L	9 L	115 VH	12 M	390 VH	804 VH	3948 H	415 VH	8.2		29.2	3.4	22.9	67.5	0.0	6.2
83125	Northeast	1.5 VL	13 L	106 VH	13 M	420 VH	911 VH	4322 M	418 VH	8.3		32.1	3.4	23.7	67.2	0.0	5.7
83126	Northwest	1.6 L	9 L	114 VH	12 M	418 VH	915 VH	4268 H	368 VH	8.3		31.6	3.4	24.1	67.4	0.0	5.1

LAB NUMBER	NITRATE-N (FIA) SURFACE			SUBSOIL 1			SUBSOIL 2			Total lbs/A	SULFUR S ICAP	ZINC Zn DTPA	MANGANESE Mn DTPA	IRON Fe DTPA	COPPER Cu DTPA	BORON B SORB. DTPA	EXCESS LIME RATE	SOLUBLE SALTS 1:1	
436	ppm	lbs/A	depth (in)	ppm	lbs/A	depth (in)	ppm	lbs/A	depth (in)		ppm RATE	ppm RATE	ppm RATE	ppm RATE	ppm RATE	ppm RATE		mmhos/cm RATE	
83123	5	12	0-8							12	86 VH	2.7 M	6 L	38 VH	2.0 VH	0.9 M	H	1.0 L	
83124	37	89	0-8							89	124 VH	1.8 M	3 VL	20 H	1.9 VH	1.1 M	H	1.4 M	
83125	21	50	0-8							50	105 VH	1.5 M	12 M	41 VH	1.7 H	1.0 M	H	1.3 M	
83126	4	10	0-8							10	96 VH	2.6 M	6 L	21 H	1.7 H	0.9 M	H	1.1 M	

REV.10/17

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ADDITIONAL SOIL ANALYSIS

Labnum *436*	Sample ID	Total Nitrogen LECO ppm
83123	Southwest *Depth: 0-8*	578
83124	SouthEast *Depth: 0-8*	567
83125	Northeast *Depth: 0-8*	771
83126	Northwest *Depth: 0-8*	698

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SODIUM ADSORPTION RATIO REPORT

Method Lab Number	Sample Id	CALCULATED Sodium Adsorption Ratio	SATURATED PASTE EXTRACTION Sodium (Water Soluble) mg/L	Magnesium (Water Soluble) mg/L	Calcium (Water Soluble) mg/L
Units					
43683123	Southwest	3.1	86	12	37
43683124	SouthEast	3.8	156	25	87
43683125	Northeast	2.3	51	7	24
43683126	Northwest	3.2	89	12	40

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SOIL FERTILITY RECOMMENDATIONS (POUNDS PER ACRE)

YOUR SAMPLE NUMBER (LAB NUMBER)	INTENDED CROP	YIELD GOAL	PREVIOUS CROP	SOIL AMENDMENTS					N NITROGEN	P_2O_5 PHOSPHATE	K_2O POTASH	Mg MAGNE-SIUM	S SULFUR	Zn ZINC	Mn MANGA-NESE	Fe IRON	Cu COPPER	B BORON
				LIME LBS/A OF	LIME TON	GYPSUM TONS/A		ELEMENTAL SULFUR LBS/A										
Southwest (43683123)	LETTUCE	BEST	RYE- bu			0.9	OR	160	125	100	--	--	--	--	1.7	--	--	--

REV. 12/03

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LAWN AND GARDEN

ANALYTICAL LABORATORY FINDINGS

SAMPLE IDENTIFICATION		Southwest				
LABORATORY NUMBER		43683123				
ANALYTE	UNITS	RESULTS	LOW	MEDIUM	OPTIMUM	V. HIGH
NITROGEN						
ORGANIC MATTER	%	1.4				
NITRATE-N	ppm	5				
PHOSPHORUS	ppm	18				
POTASSIUM	ppm	408				
MAGNESIUM	ppm	892				
MICRO-NUTRIENTS						
SULFUR	ppm	86				
ZINC	ppm	2.7				
MANGANESE	ppm	6				
IRON	ppm	38				
COPPER	ppm	2.0				
BOORON	ppm	0.9				
CALCIUM	ppm	4118				
SODIUM	ppm	356				
SOLUBLE SALTS	mmhos/cm	1.0				
EXCESS LIME RATE		H				
pH		8.4				
BUFFER INDEX						
C.E.C.	meq/100g	30.6				

MIDWEST SUGGESTIONS FOR LETTUCE

POUNDS PER	100 sq. ft.	1000 sq. ft.	Acre	
SUGGESTED FERTILITY GUIDELINES				
NITROGEN (N)	0.29	2.87	125	
PHOSPHATE (P_2O_5)	0.23	2.30	100	
POTASH (K_2O)	--	--	--	
MAGNESIUM (Mg)	--	--	--	
SULFUR (S)	--	--	--	
ZINC (Zn)	--	--	--	
MANGANESE (Mn)	0.00	0.04	1.7	
IRON (Fe)	--	--	--	
COPPER (Cu)	--	--	--	*Surface Nitrate Depth: 0-8*
BORON (B)	--	--	--	
SUGGESTED AMENDMENT GUIDELINES				
LIME				
ELEMENTAL SULFUR	0.4 OR	4 OR	160 OR	
GYPSUM	4.1	41.3	1800	

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SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

SAMPLE IDENTIFICATION		Southwest	
LABORATORY NUMBER		43683123	
ANALYTE	UNITS	RESULTS	LOW MEDIUM OPTIMUM VERY HIGH
H3A EXTRACTION			
ORTHOPHOSPHATE-P	ppm	39.7	
PHOSPHORUS	ppm	43	
POTASSIUM	ppm	125	
MAGNESIUM	ppm	441	
CALCIUM	ppm	4172	
SODIUM	ppm	331	
IRON	ppm	22	
ALUMINUM	ppm	58	
WATER SOLUBLE			
NITRATE-N	ppm	7	
AMMONIACAL-N	ppm	1.2	
ORTHOPHOSPHATE-P	ppm	3.19	
CARBON	ppm	207.0	
TOTAL NITROGEN	ppm	14.6	
1 DAY CO_2C BURST		14.00	
ORGANIC CARBON	ppm	207.0	
ORGANIC NITROGEN	ppm	6.4	
ORGANIC C/N RATIO		32.3	

ADDITIONAL NITROGEN CREDIT IDENTIFIED VIA HANEY TEST: **N/A. Sample depth not 0-6"**

NITROGEN RECOMMENDATIONS MAY INCLUDE ADDITIONAL NITROGEN CREDITS BASED ON PREVIOUS CROPS AND NITROGEN MINERALIZATION RATES.

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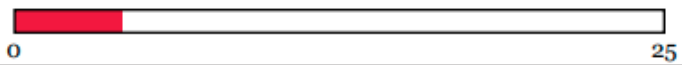
SOIL HEALTH CALCULATION



The **H3A Soil Extractant** was developed by Haney*. This extract is designed to mimic organic acids produced by living plant root systems. These organic acids increase nutrient availability in the root zone.

The **Water Soluble Extract** provides a snapshot of nutrients that are immediately available to the plants.

The **CO_2 Burst** test is very good indicator of soil health. This test measures the amount of CO_2 naturally released from the soil due to the activity of the soil microbes through microbial respiration. This test is very dependent on the amount of carbon that is available to the soil microbes and the form that the carbon is in. As the available carbon increases in your soil the Microbial respiration will increase.

Organic Carbon is the available total water extractable organic carbon from your soil. This pool of carbon is roughly 80 times smaller than the Soil Organic Matter. The organic carbon pool reflects the energy/food source that is driving the soil microbes.

The **Organic Nitrogen** pool is replenished by fresh plant residues, manure, composts, and dying soil microbes.

The **Organic C/N ratio** is a critical component of the nutrient cycle. A soil C/N ratio above 20 generally indicates that Nitrogen will be tied up and not available to plants. The ideal range for the Organic C/N ratio will be from 8:1 to 15:1.

The **Soil Health Calculation** uses the CO_2 Burst, Organic Carbon, Organic Nitrogen, and the C/N ratio to generate the soil health number. This calculation looks at the balance of soil carbon and nitrogen and their relationship to microbial activity. This number represents the overall health of your system. Soil values will range from 0 to 25. A soil with a value below 7 would be considered low. You want to see this number increase as you make changes and adjustments. Keeping track of this number will allow you to gauge the effects of your management practices over time.

*Modifications to the New Soil Extractant H3A-1: A Multinutrient Extractant
R.L. Haney (a); E.B. Haney (b); L.R. Hossner (c); J.G. Arnold (a)

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SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

SAMPLE IDENTIFICATION		SouthEast	
LABORATORY NUMBER		43683124	
ANALYTE	UNITS	RESULTS	LOW MEDIUM OPTIMUM VERY HIGH
H3A EXTRACTION			
ORTHOPHOSPHATE-P	ppm	38.6	
PHOSPHORUS	ppm	42	
POTASSIUM	ppm	135	
MAGNESIUM	ppm	450	
CALCIUM	ppm	4352	
SODIUM	ppm	419	
IRON	ppm	21	
ALUMINUM	ppm	60	
WATER SOLUBLE			
NITRATE-N	ppm	46	
AMMONIACAL-N	ppm	1.1	
ORTHOPHOSPHATE-P	ppm	2.28	
CARBON	ppm	178.9	
TOTAL NITROGEN	ppm	58.7	
1 DAY CO_2C BURST		11.00	
ORGANIC CARBON	ppm	178.9	
ORGANIC NITROGEN	ppm	11.6	
ORGANIC C/N RATIO		15.4	

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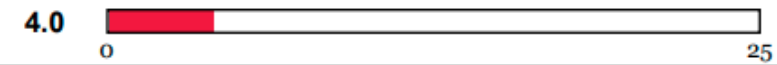

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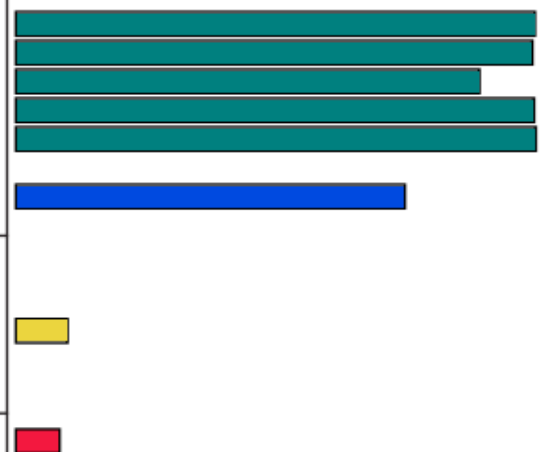
SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

SAMPLE IDENTIFICATION	Northeast
LABORATORY NUMBER	43683125

ANALYTE	UNITS	RESULTS
H3A EXTRACTION		
ORTHOPHOSPHATE-P	ppm	35.9
PHOSPHORUS	ppm	39
POTASSIUM	ppm	135
MAGNESIUM	ppm	469
CALCIUM	ppm	4331
SODIUM	ppm	407
IRON	ppm	23
ALUMINUM	ppm	67
WATER SOLUBLE		
NITRATE-N	ppm	28
AMMONIACAL-N	ppm	1.0
ORTHOPHOSPHATE-P	ppm	2.32
CARBON	ppm	182.9
TOTAL NITROGEN	ppm	38.1
1 DAY CO_2C BURST		8.00
ORGANIC CARBON	ppm	182.9
ORGANIC NITROGEN	ppm	9.1
ORGANIC C/N RATIO		20.1



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SOIL HEALTH CALCULATION

3.5

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SOIL HEALTH ASSESSMENT

ANALYTICAL LABORATORY FINDINGS

SAMPLE IDENTIFICATION		Northwest				
LABORATORY NUMBER		43683126				
ANALYTE	UNITS	RESULTS	LOW	MEDIUM	OPTIMUM	VERY HIGH
H3A EXTRACTION						
ORTHOPHOSPHATE-P	ppm	38.2				
PHOSPHORUS	ppm	41				
POTASSIUM	ppm	134				
MAGNESIUM	ppm	462				
CALCIUM	ppm	4213				
SODIUM	ppm	362				
IRON	ppm	22				
ALUMINUM	ppm	66				
WATER SOLUBLE						
NITRATE-N	ppm	5				
AMMONIACAL-N	ppm	1.1				
ORTHOPHOSPHATE-P	ppm	3.07				
CARBON	ppm	218.6				
TOTAL NITROGEN	ppm	12.9				
1 DAY CO_2C BURST		12.00				
ORGANIC CARBON	ppm	218.6				
ORGANIC NITROGEN	ppm	6.8				
ORGANIC C/N RATIO		32.2				

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Trial Details

Celery grown with Maximum H2O and without. Full and reduced water
Trt 1: UTC Full water
Trt 2: Maximum H20 Treatment Full water
Trt 3: UTC Reduced water
Trt 4: Maximum H20 Treatment Reduced water

Dec-21-2024 (T10 MaximumH20 Celery Fall 24)

University of Arizona

Trial ID: T10_MaximumH20_Celery_Fall_24
Protocol ID: T10 MaximumH20 Celery Fall 24 Location: Yuma Arizona Trial Year: 2024
Project ID: T10 MaximumH20 Celery Fall 24
Study Director: Robert Masson Sponsor Contact:
Investigator:

Trial Map Treatment Description

Trt	Code	Description
1	CHK	Full Water UTC
2		Full Water + MaximumH20
3		Reduced Water UTC
4		Reduced Water + MaximumH20

Trt No.	Type	Treatment Name	Form Conc	Form Unit	F T
1	CHK	Full Water UTC			
2	ADDI	Full Water + MaximumH20			
3	CHK	Reduced Water UTC			
4	ADDI	Reduced Water + Maximum			

Irrigation

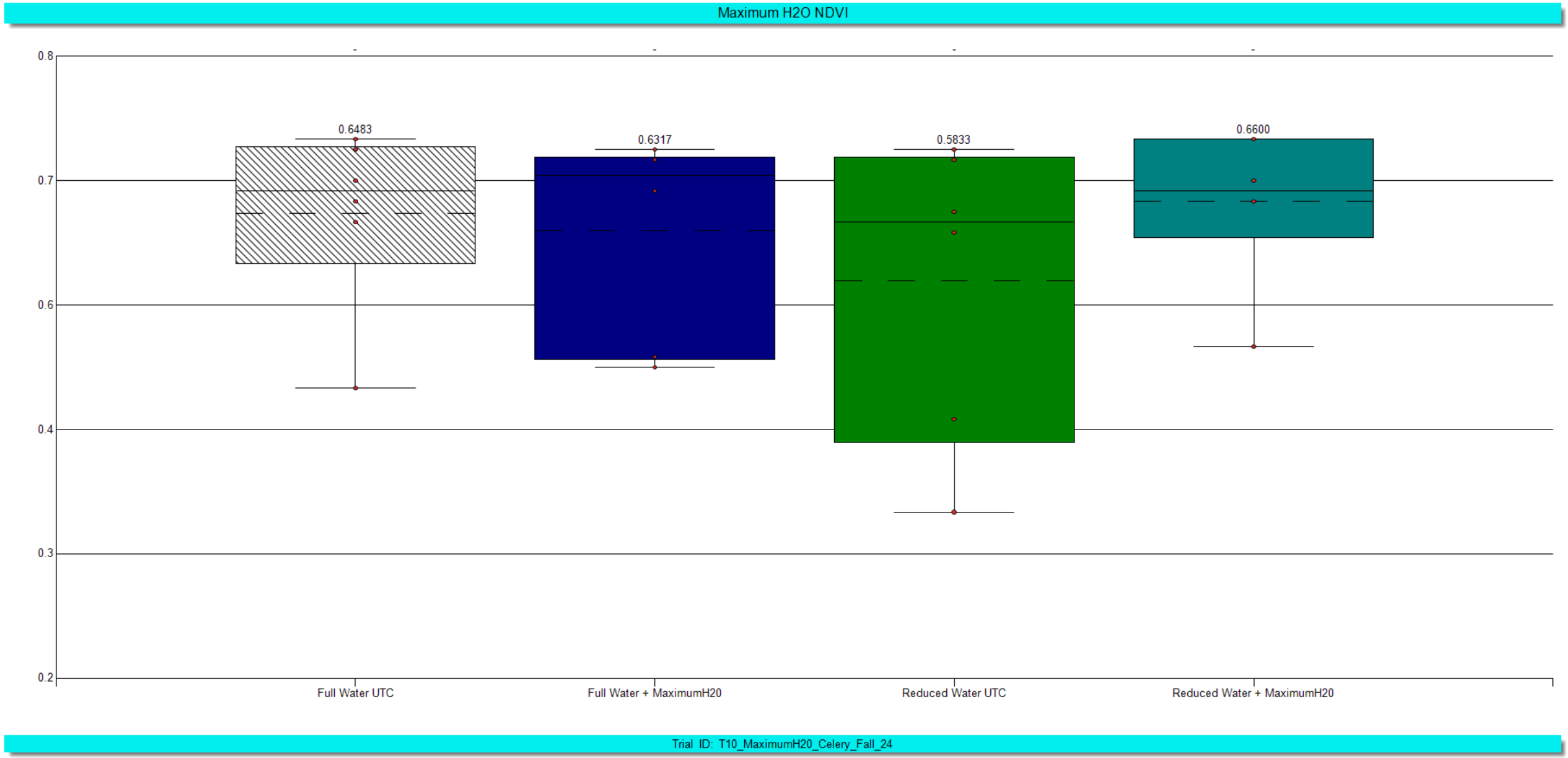
Irrigation Date	Type	Irrigation Hours	Full or Skip Irrigation Applied	Water Used in Full Water Trts (AC IN)	Total Water Used in Reduced Water Trts	
10/21	Sprinkler	12	Full	1.2	1.2	
10/22	Sprinkler	12	Full	1.2	1.2	
10/23	Sprinkler	8	Full	0.8	0.8	
10/29	Drip	3	Full	0.6	0.6	
10/31	Sprinkler	4	Full	0.4	0.4	
11/11	Drip	5	Full	0.9	0.9	
11/19	Drip	5	Full	0.9	0.9	
11/25	Manifold installation					
11/25	Drip	2	Full	0.4	0.4	
12/1	Drip	4	Start Skip	0.7		
15/5	Drip	6	Full	1.1	1.1	
12/9	Drip	5	Skip	0.9		
12/13	Drip	4	Full	0.7	0.7	
12/17	Drip	5	Full	0.9	0.9	
12/25	Drip	4	Skip	0.7		
Page Total		**79**		**11.4**	**8.2**	

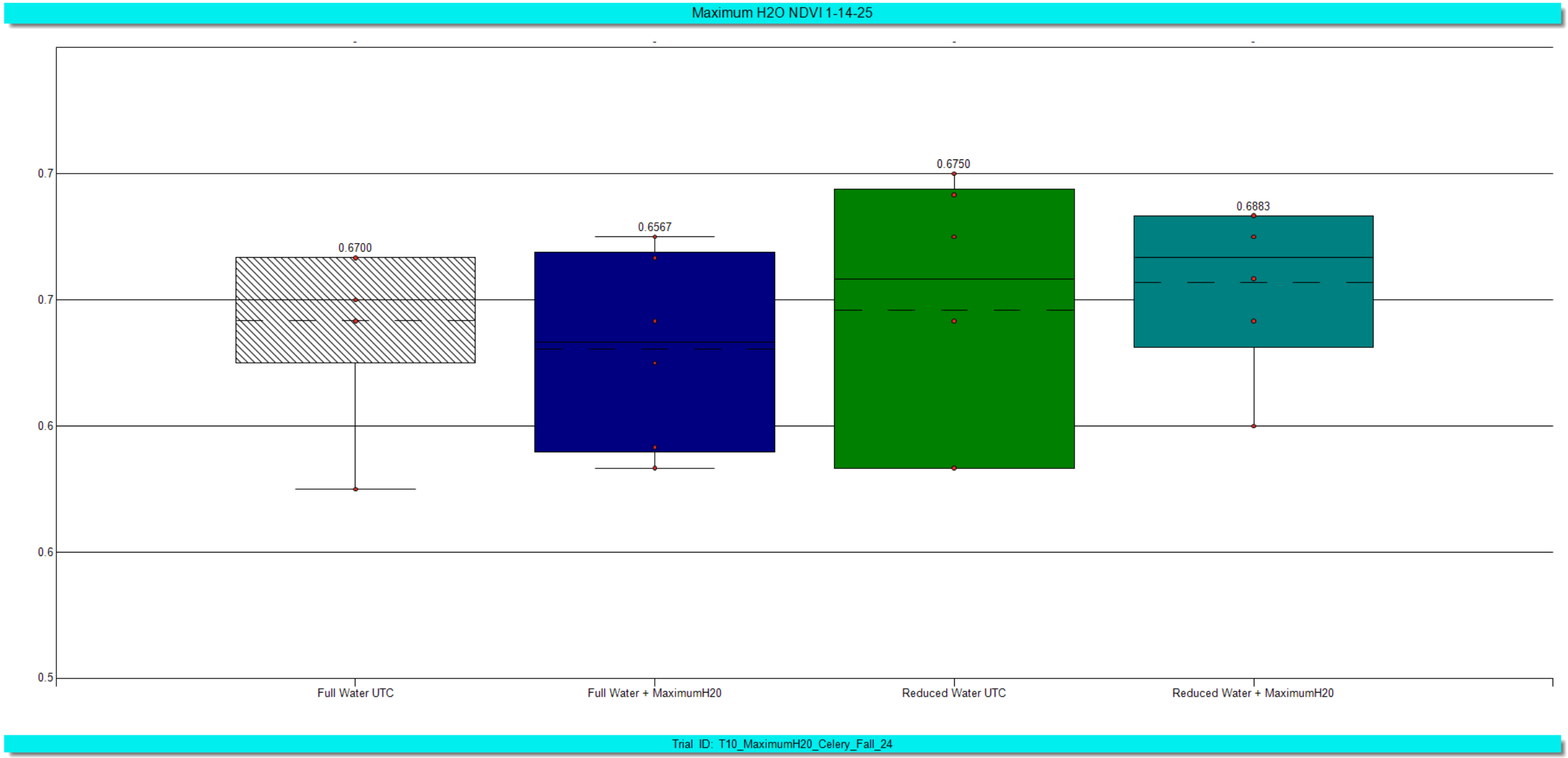
Sprinkler rate 0.1 IN/HR
Drip rate 0.186 Acre IN/HR

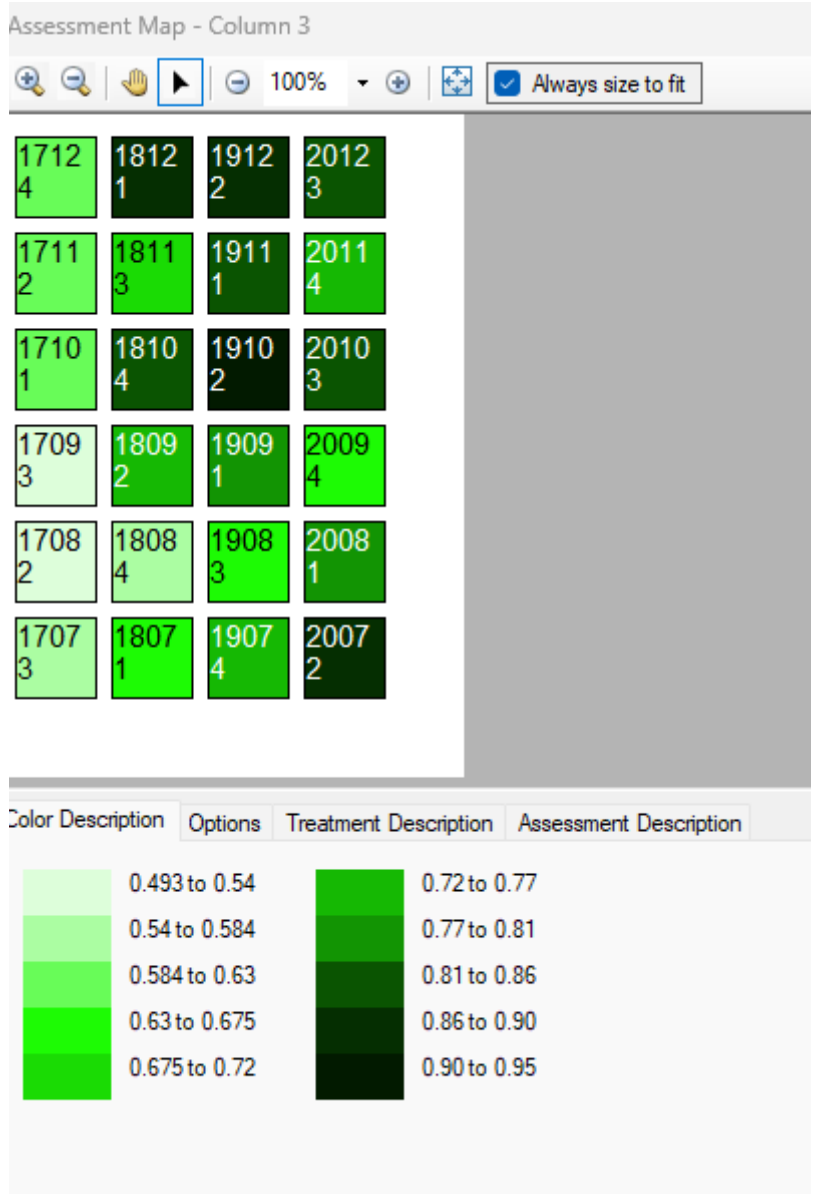
Irrigation

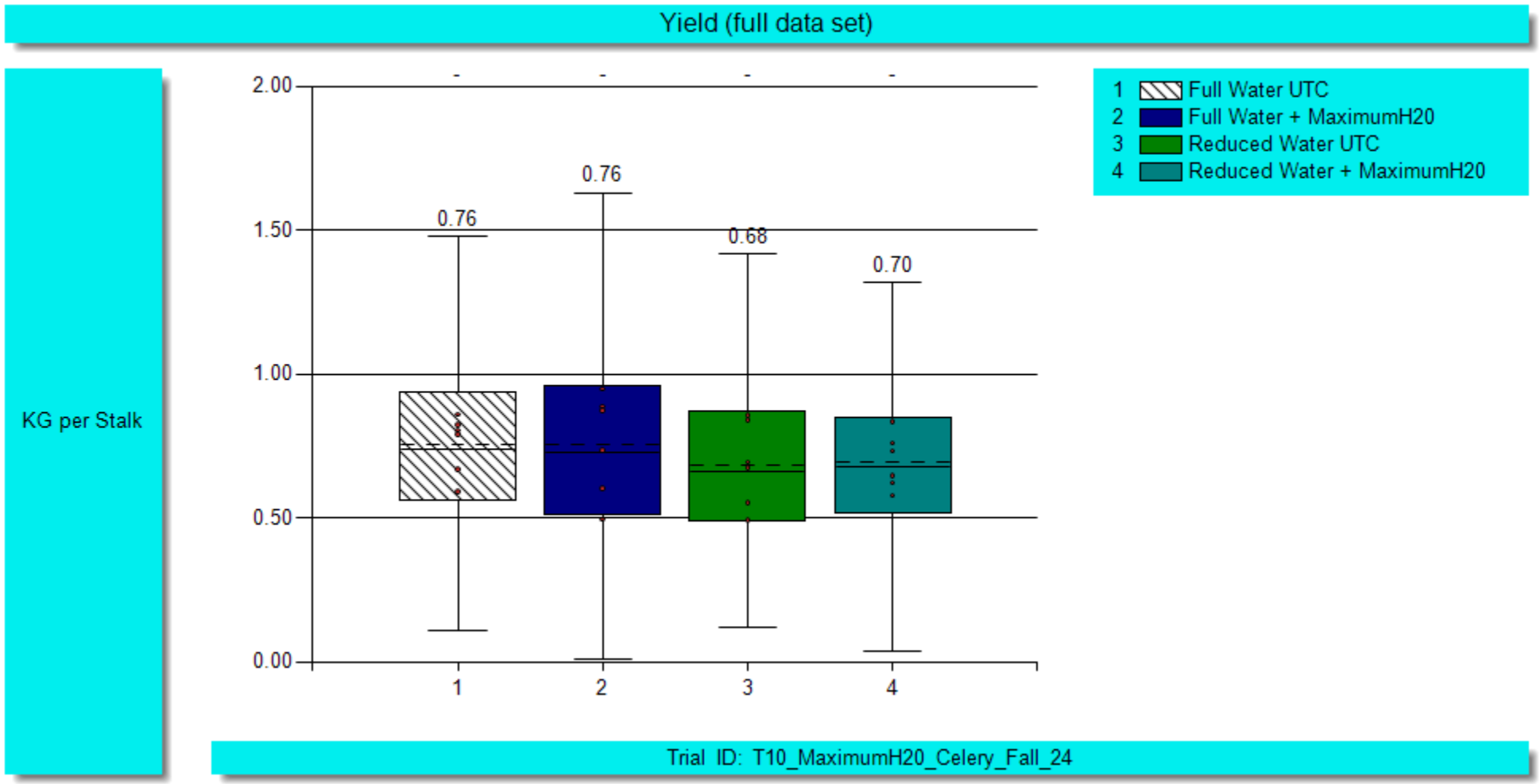
Irrigation Date	Type	Irrigation Hours	Full or Skip Irrigation Applied	Water Used in Full Water Trts (AC IN)	Total Water Used in Reduced Water Trts	
1/3/25	Drip	4	Full	0.7	0.7	
1/13	Drip	4	Skip	0.7		
1/20	Drip	4	Full	0.7	0.7	
1/24	Drip	6	Skip	1.1		
1/30	Drip	4	Full	0.7	0.7	
2/7	Drip	4	Skip	0.7		
2/13	Drip	4	Skip	0.7		
2/18	Drip	4	Full	0.7	0.7	
2/26	Drip	4	Skip	0.7		
3/4/25	Drip	4	Full	0.7	0.7	
3/6	Drip	4	Full	0.7	0.7	
3/13	Drip	4	Full	0.7	0.7	
Page Sum		**50**		**8.8**	**4.9**	
Grand Total		**129**		**20.2**	**13.1**	

Sprinkler rate 0.1 IN/HR
Drip rate 0.186 Acre IN/HR

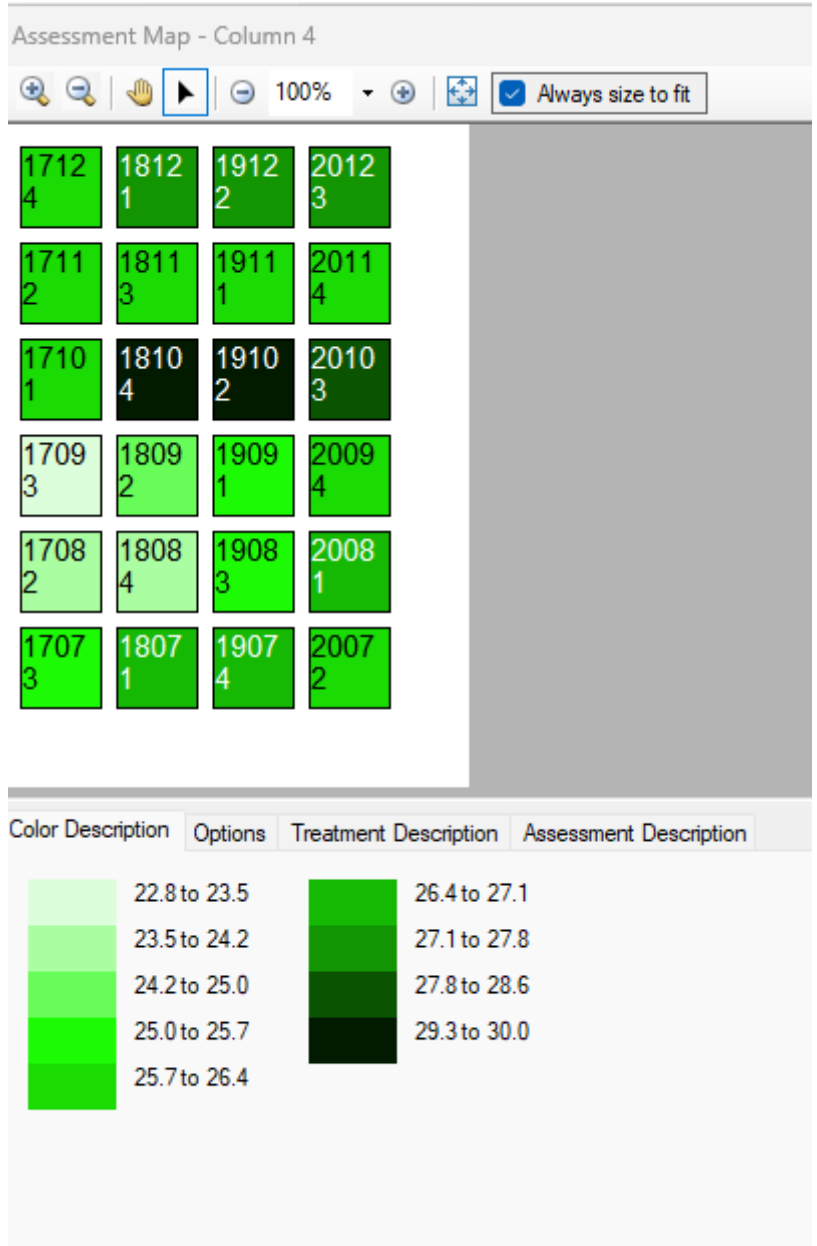

Maximum H2O NDVI
0.8
0.7
0.6
0.4
0.3
0.2
0.6483
0.6317
0.5833
0.6600
Full Water UTC
Full Water + MaximumH20
Reduced Water UTC
Reduced Water + MaximumH20
Trial ID: T10_MaximumH20_Celery_Fall_24

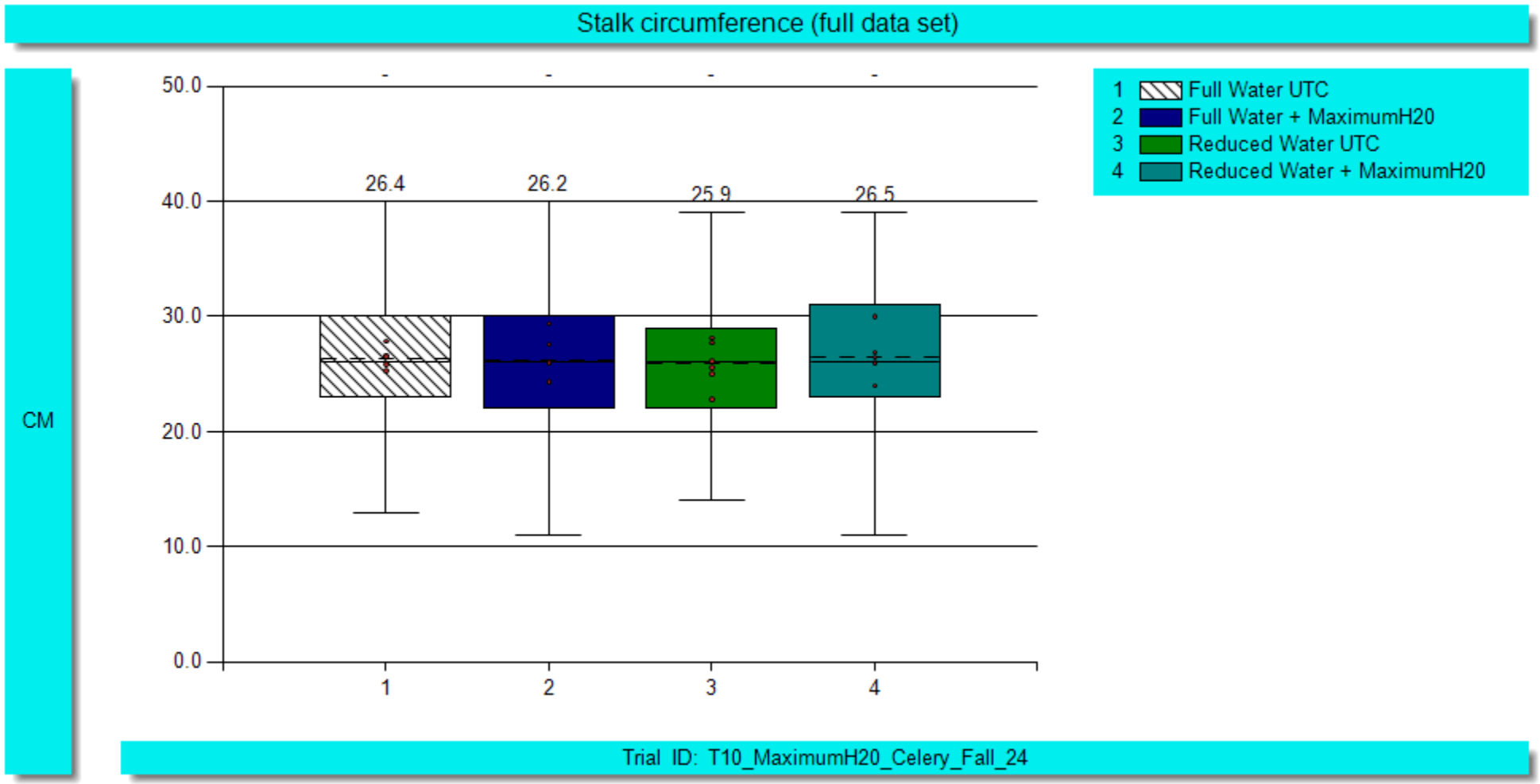

Maximum H2O NDVI 1-14-25
0.7
0.7
0.6
0.6
0.5
0.6700
0.6567
0.6750
0.6883
Full Water UTC
Full Water + MaximumH20
Reduced Water UTC
Reduced Water + MaximumH20
Trial ID: T10_MaximumH20_Celery_Fall_24


Assessment Map - Column 3
100%
Always size to fit
17124
18121
19122
20123
17112
18113
19111
20114
17101
18104
19102
20103
17093
18092
19091
20094
17082
18084
19083
20081
17073
18071
19074
20072
Color Description
Options
Treatment Description
Assessment Description
0.493 to 0.54
0.54 to 0.584
0.584 to 0.63
0.63 to 0.675
0.675 to 0.72
0.72 to 0.77
0.77 to 0.81
0.81 to 0.86
0.86 to 0.90
0.90 to 0.95

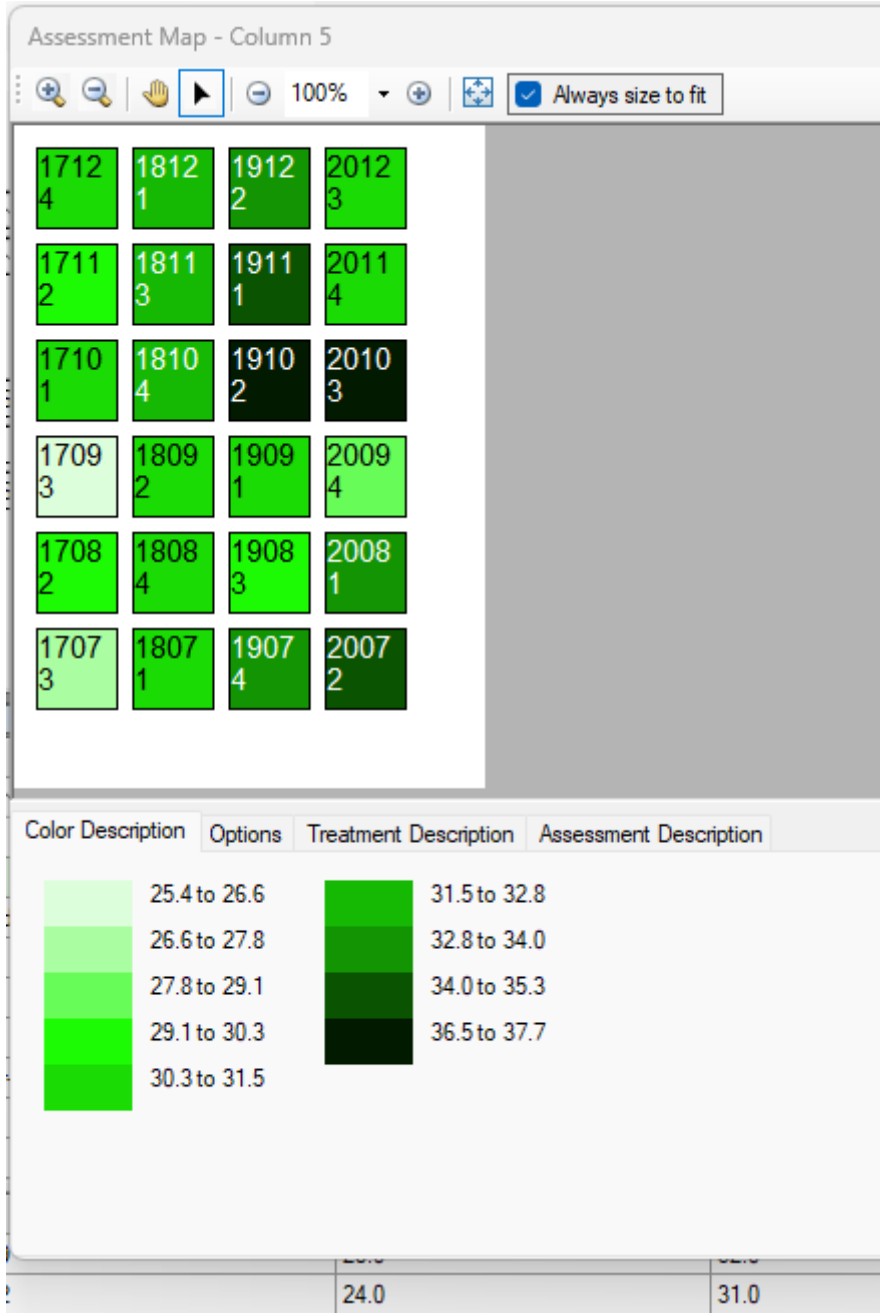

Yield (full data set)
KG per Stalk
2.00
1.50
1.00
0.50
0.00
0.76
0.76
0.68
0.70
1
2
3
4
1 Full Water UTC
2 Full Water + MaximumH20
3 Reduced Water UTC
4 Reduced Water + MaximumH20
Trial ID: T10_MaximumH20_Celery_Fall_24

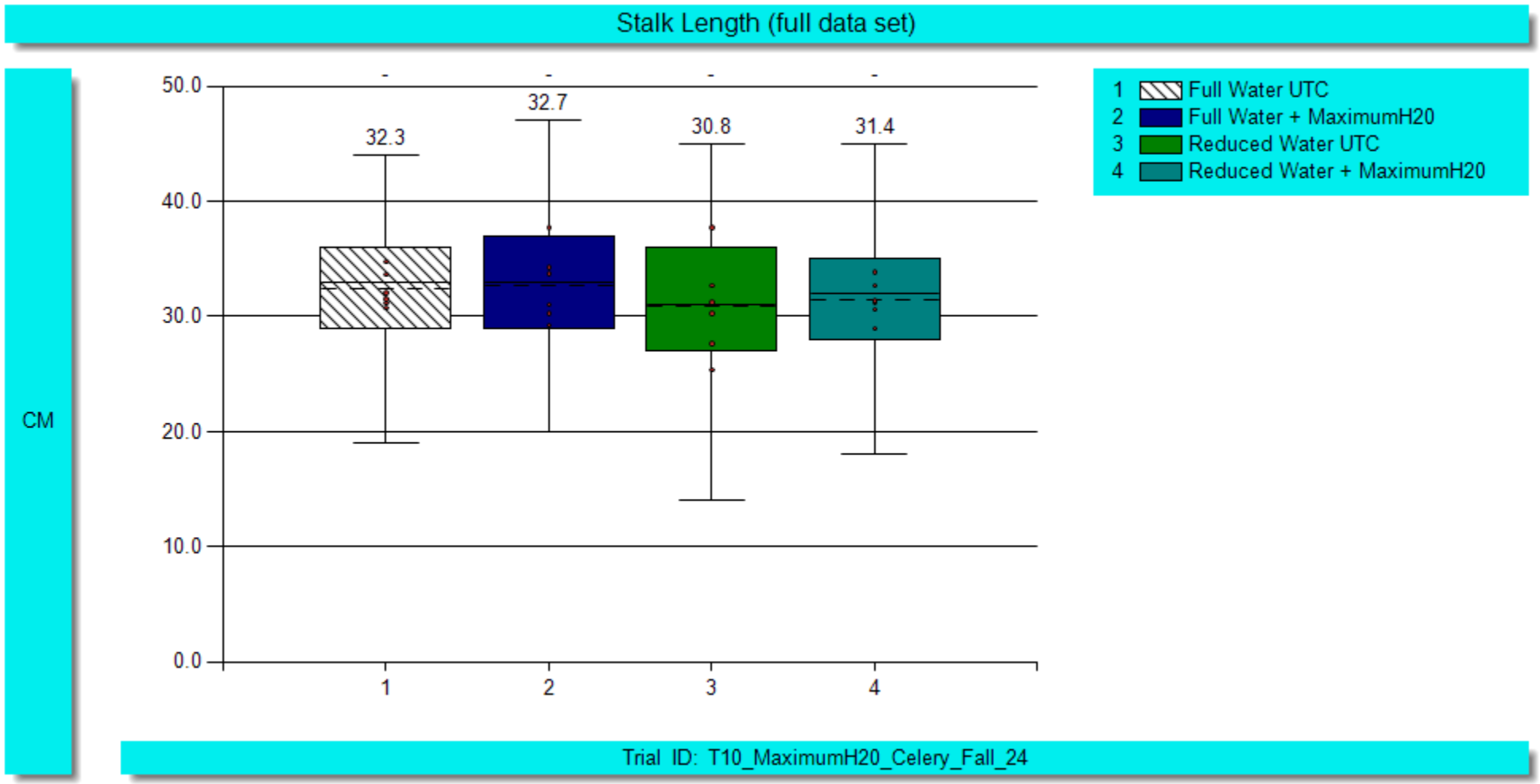
C3


Assessment Map - Column 4
100%
Always size to fit
17124
18121
19122
20123
17112
18113
19111
20114
17101
18104
19102
20103
17093
18092
19091
20094
17082
18084
19083
20081
17073
18071
19074
20072
Color Description
Options
Treatment Description
Assessment Description
22.8 to 23.5
23.5 to 24.2
24.2 to 25.0
25.0 to 25.7
25.7 to 26.4
26.4 to 27.1
27.1 to 27.8
27.8 to 28.6
29.3 to 30.0


Stalk circumference (full data set)
CM
50.0
40.0
30.0
20.0
10.0
0.0
26.4
26.2
25.9
26.5
1
2
3
4
1 Full Water UTC
2 Full Water + MaximumH20
3 Reduced Water UTC
4 Reduced Water + MaximumH20
Trial ID: T10_MaximumH20_Celery_Fall_24

C4

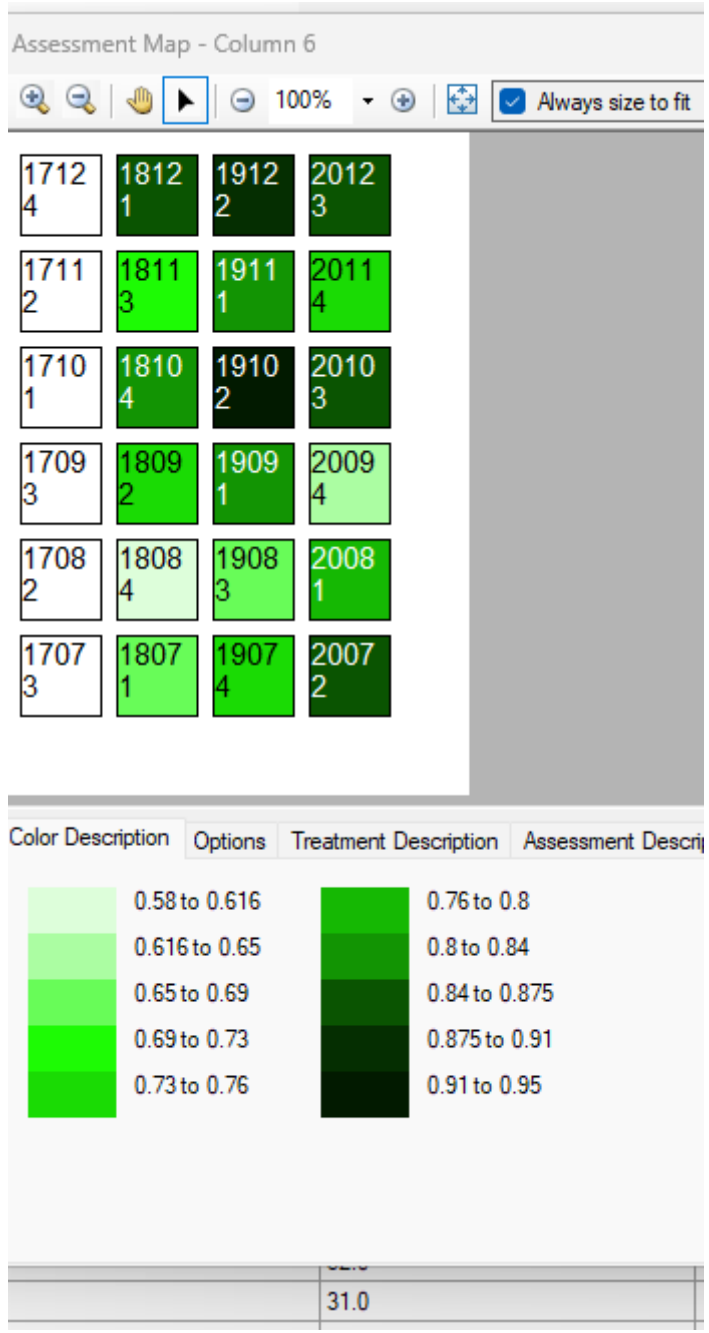

Assessment Map - Column 5
100%
Always size to fit
17124
18121
19122
20123
17112
18113
19111
20114
17101
18104
19102
20103
17093
18092
19091
20094
17082
18084
19083
20081
17073
18071
19074
20072
Color Description
Options
Treatment Description
Assessment Description
25.4 to 26.6
26.6 to 27.8
27.8 to 29.1
29.1 to 30.3
30.3 to 31.5
31.5 to 32.8
32.8 to 34.0
34.0 to 35.3
36.5 to 37.7
24.0
31.0

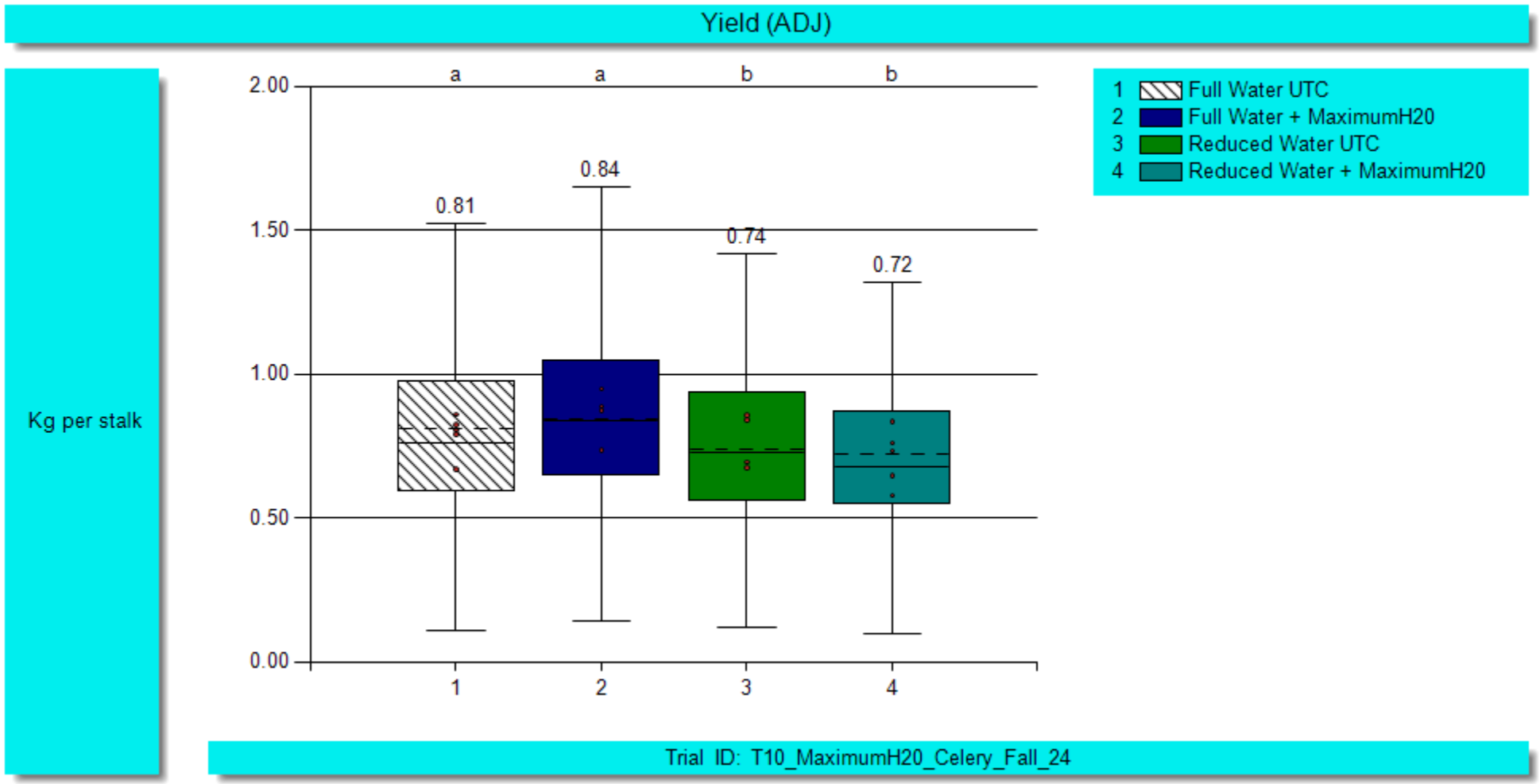

Stalk Length (full data set)
CM
50.0
40.0
30.0
20.0
10.0
0.0
32.3
32.7
30.8
31.4
1
2
3
4
1 Full Water UTC
2 Full Water + MaximumH20
3 Reduced Water UTC
4 Reduced Water + MaximumH20
Trial ID: T10_MaximumH20_Celery_Fall_24

C5

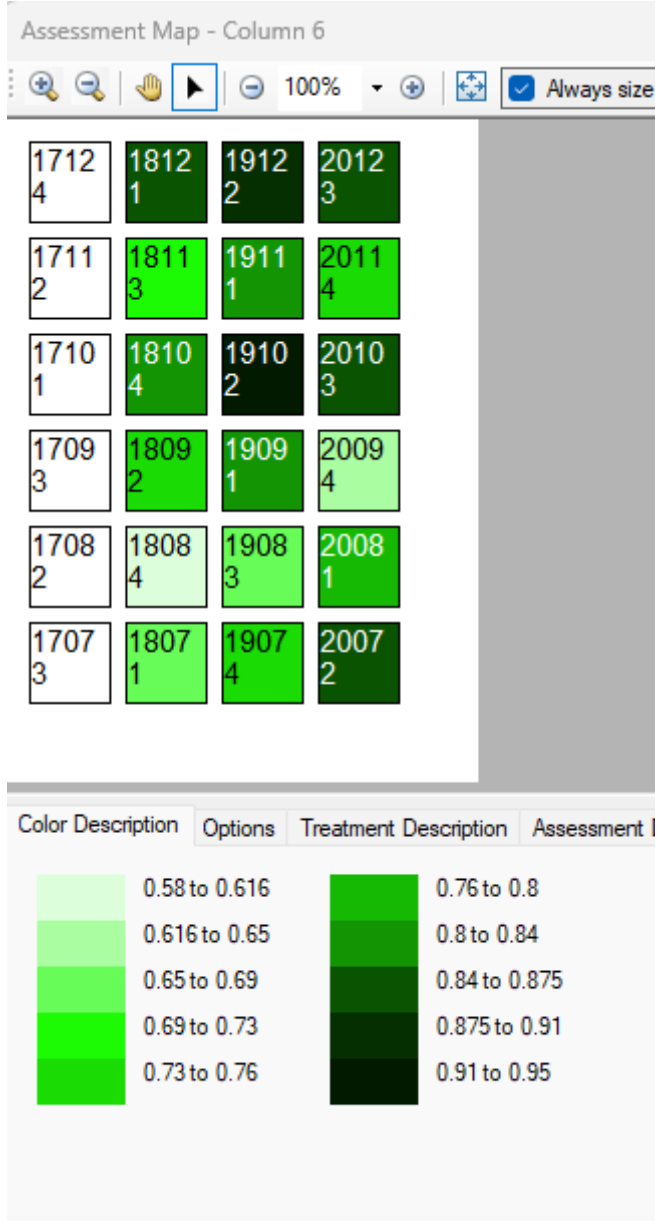
Data Removal

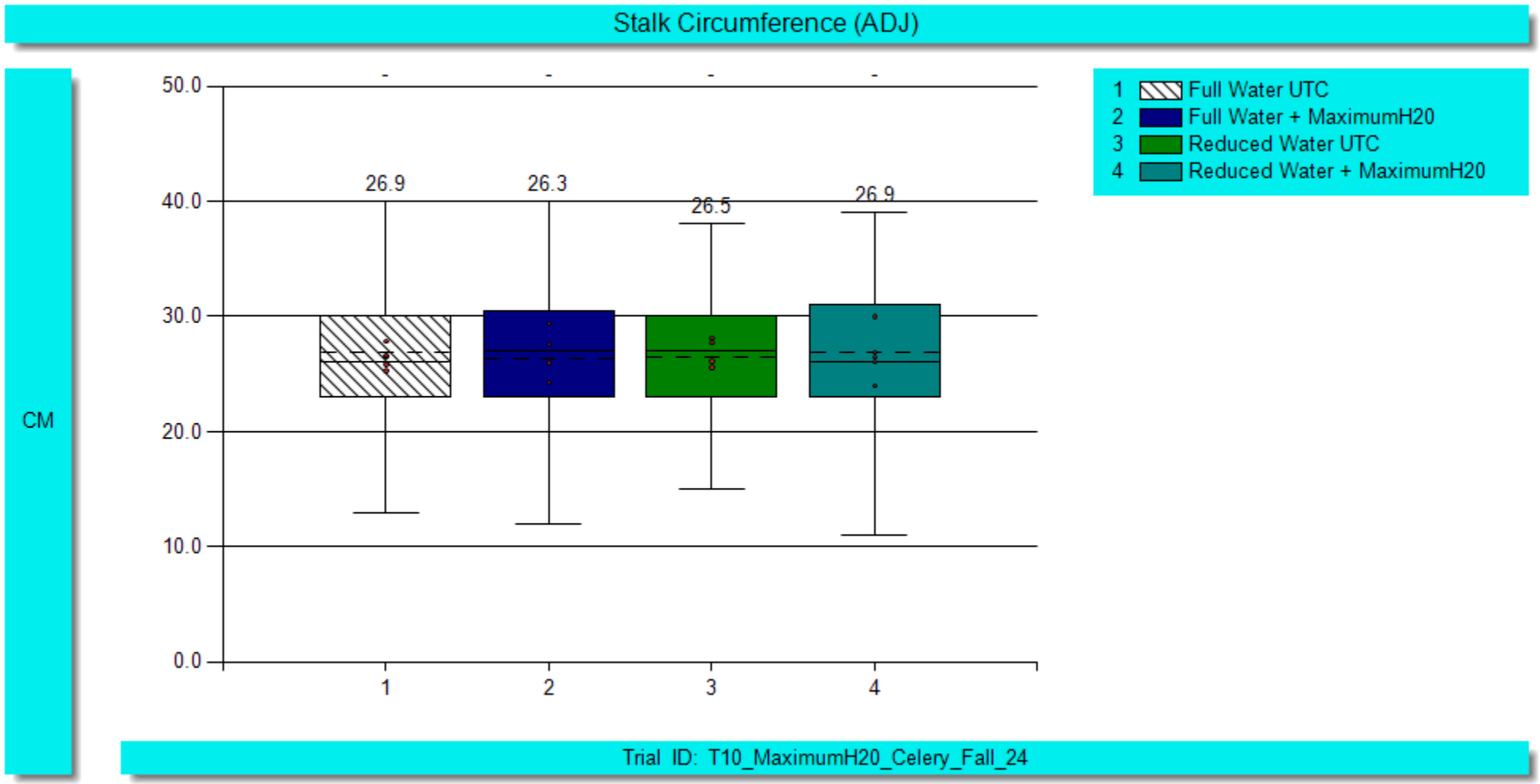
- There appears to be a gradient in the field affecting the 1700 column
- Data from this column was dropped and analysis rerun.


Assessment Map - Column 6
100%
Always size to fit
1712 4
1812 1
1912 2
2012 3
1711 2
1811 3
1911 1
2011 4
1710 1
1810 4
1910 2
2010 3
1709 3
1809 2
1909 1
2009 4
1708 2
1808 4
1908 3
2008 1
1707 3
1807 1
1907 4
2007 2
Color Description
Options
Treatment Description
Assessment Descri
0.58 to 0.616
0.616 to 0.65
0.65 to 0.69
0.69 to 0.73
0.73 to 0.76
0.76 to 0.8
0.8 to 0.84
0.84 to 0.875
0.875 to 0.91
0.91 to 0.95
31.0

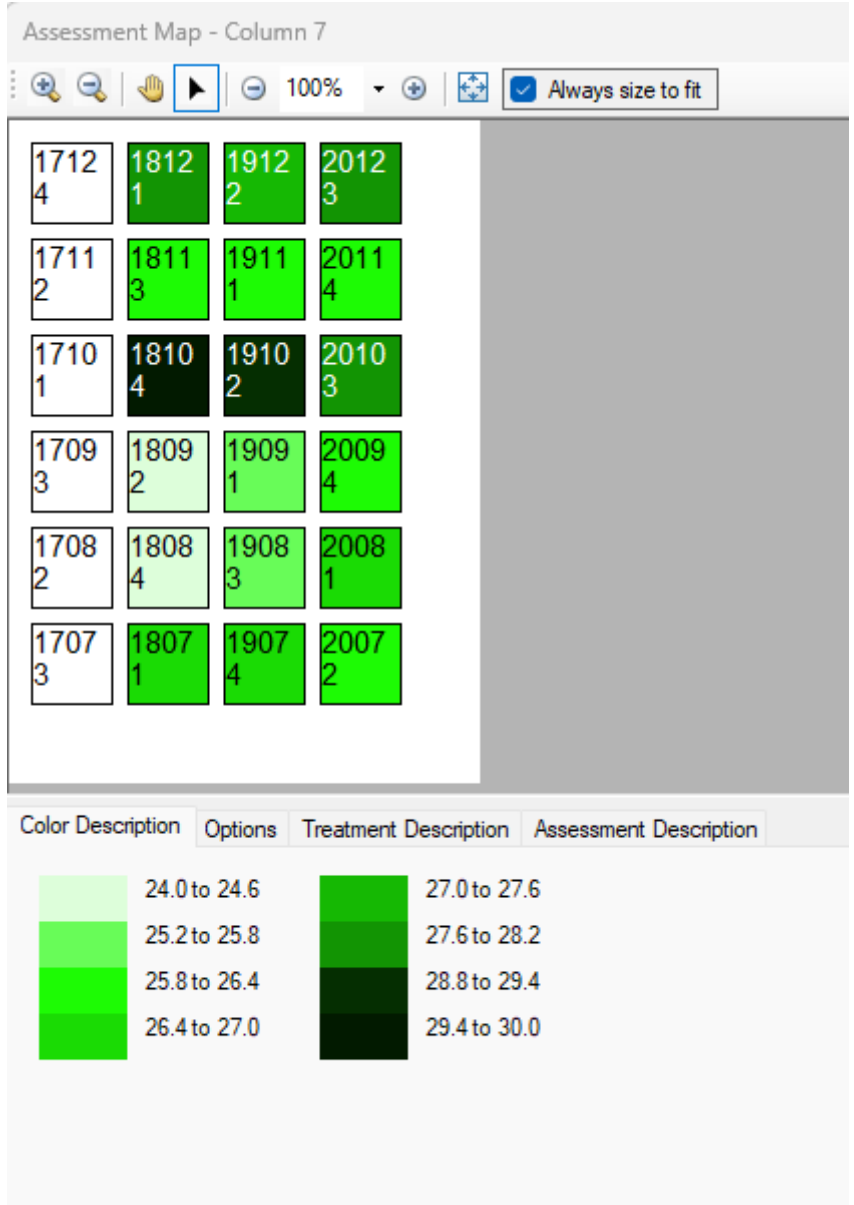

Yield (ADJ)
Kg per stalk
a
a
b
b
2.00
1.50
1.00
0.50
0.00
0.81
0.84
0.74
0.72
1
2
3
4
1 Full Water UTC
2 Full Water + MaximumH20
3 Reduced Water UTC
4 Reduced Water + MaximumH20
Trial ID: T10_MaximumH20_Celery_Fall_24

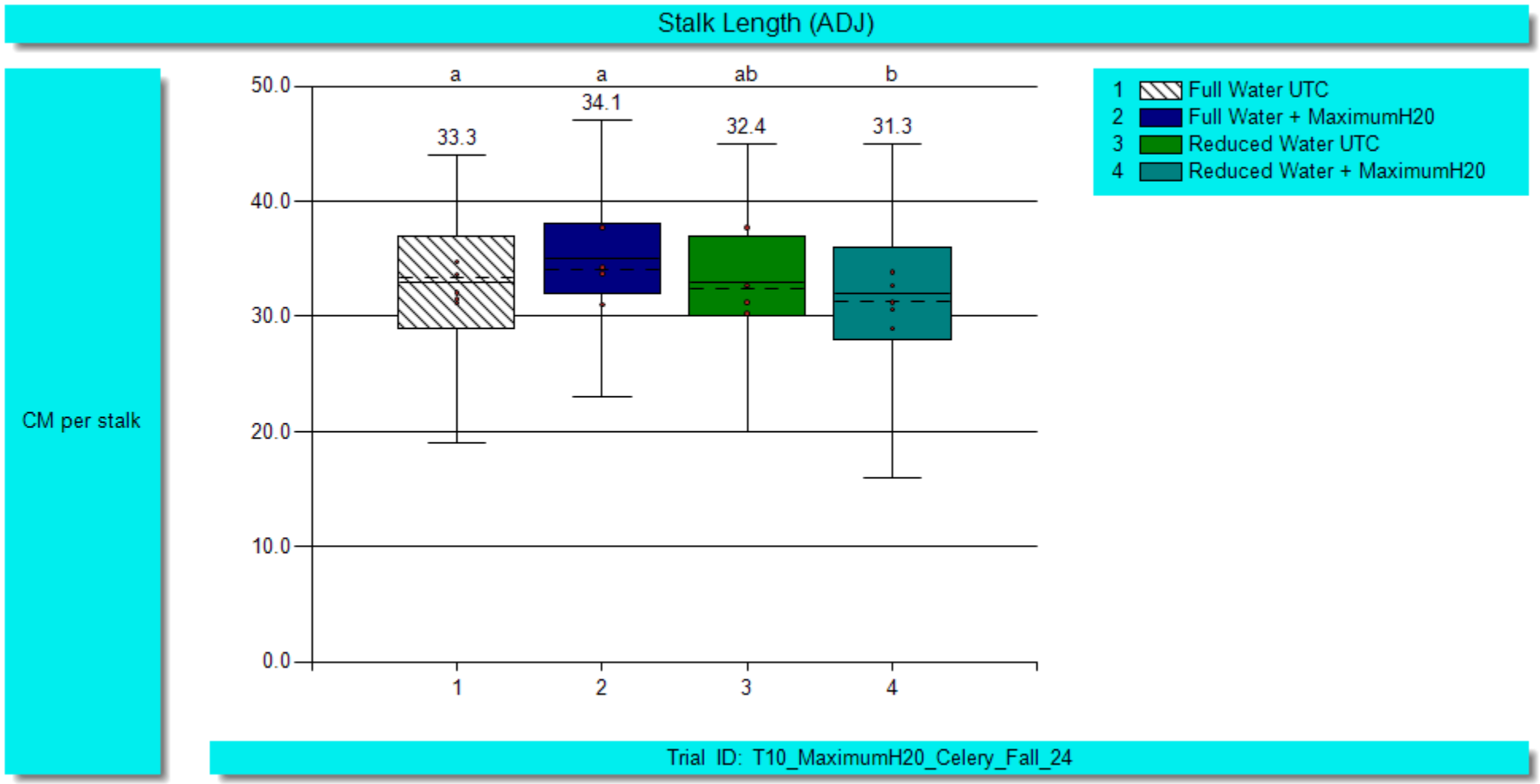
C6


Assessment Map - Column 6
100%
Always size
17124
18121
19122
20123
17112
18113
19111
20114
17101
18104
19102
20103
17093
18092
19091
20094
17082
18084
19083
20081
17073
18071
19074
20072
Color Description
Options
Treatment Description
0.58 to 0.616
0.616 to 0.65
0.65 to 0.69
0.69 to 0.73
0.73 to 0.76
0.76 to 0.8
0.8 to 0.84
0.84 to 0.875
0.875 to 0.91
0.91 to 0.95

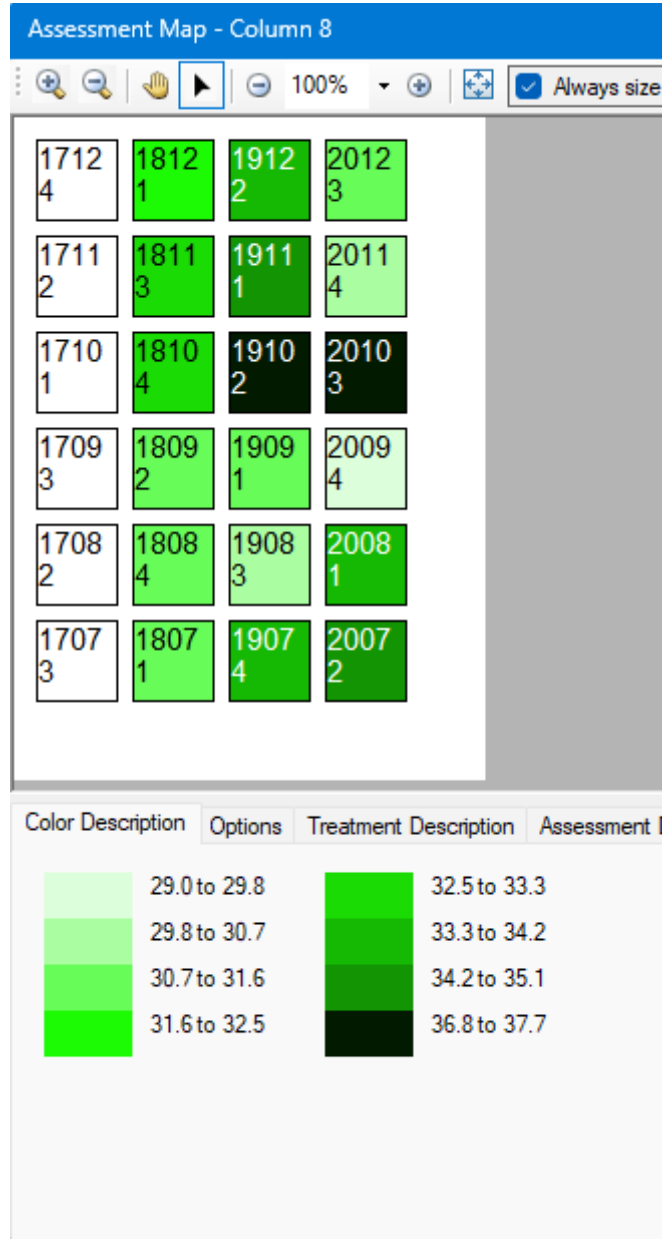

Stalk Circumference (ADJ)
CM
50.0
40.0
30.0
20.0
10.0
0.0
26.9
26.3
26.5
26.9
1
2
3
4
1 Full Water UTC
2 Full Water + MaximumH20
3 Reduced Water UTC
4 Reduced Water + MaximumH20
Trial ID: T10_MaximumH20_Celery_Fall_24

C7


Assessment Map - Column 7
100%
Always size to fit
17124
18121
19122
20123
17112
18113
19111
20114
17101
18104
19102
20103
17093
18092
19091
20094
17082
18084
19083
20081
17073
18071
19074
20072
Color Description
Options
Treatment Description
Assessment Description
24.0 to 24.6
25.2 to 25.8
25.8 to 26.4
26.4 to 27.0
27.0 to 27.6
27.6 to 28.2
28.8 to 29.4
29.4 to 30.0


Stalk Length (ADJ)
CM per stalk
50.0
40.0
30.0
20.0
10.0
0.0
a
a
ab
b
33.3
34.1
32.4
31.3
1
2
3
4
1 Full Water UTC
2 Full Water + MaximumH20
3 Reduced Water UTC
4 Reduced Water + MaximumH20
Trial ID: T10_MaximumH20_Celery_Fall_24

C8


Assessment Map - Column 8
100%
Always size
17124
18121
19122
20123
17112
18113
19111
20114
17101
18104
19102
20103
17093
18092
19091
20094
17082
18084
19083
20081
17073
18071
19074
20072
Color Description
Options
Treatment Description
29.0 to 29.8
29.8 to 30.7
30.7 to 31.6
31.6 to 32.5
32.5 to 33.3
33.3 to 34.2
34.2 to 35.1
36.8 to 37.7

University of Arizona

Trial ID: T10_MaximumH20_Celery_Fall_24
Protocol ID: T10_MaximumH20_Celery_Fall_24 Location: Yuma Arizona Trial Year: 2024
Project ID: T10 MaximumH20 Celery Fall 24
Study Director: Robert Masson Sponsor Contact:
Investigator:

Rating Date		Mar-18-2025	Mar-18-2025				
SE Group No.		1	2	3	4	5	6
Rating Unit		KG	CM	CM			
Rating Min/Max/Interval		0.01, 2, -	1, 50, -	1, 50, -			
Number of Subsamples		77	77	77	77	77	77
Description		Yield	Stalk Circumfer>	Stalk Length	Yield Adj	Stalk Cir Adj	Stalk Length Adj
Number of Decimals		2	1	1	2	1	1
Data Entry Date		Mar-24-2025	Mar-24-2025	Mar-24-2025	Mar-24-2025	Mar-24-2025	Mar-24-2025
Trt No.	Treatment Name	Plot	3	4	5	6	7	8
1	Full Water UTC	1807	0.67	26.4	31.2	0.67	26.4	31.2
		2008	0.79	26.5	33.6	0.79	26.5	33.6
		1909	0.80	25.3	31.5	0.80	25.3	31.5
		1710	0.59	26.4	30.8	0.92*	29.5*	36.7*
		1911	0.83	25.9	34.7	0.83	25.9	34.7
		1812	0.86	27.8	32.0	0.86	27.8	32.0
		Mean =	0.76	26.4	32.3	0.81	26.9	33.3
2	Full Water + MaximumH20	2007	0.87	26.0	34.3	0.87	26.0	34.3
		1708	0.50	24.1	29.2	0.76*	24.9*	33.5*
		1809	0.73	24.3	31.0	0.73	24.3	31.0
		1910	0.95	29.4	37.7	0.95	29.4	37.7
		1711	0.60	25.8	30.3	0.84*	25.5*	34.4*
		1912	0.89	27.6	33.7	0.89	27.6	33.7
		Mean =	0.76	26.2	32.7	0.84	26.3	34.1
3	Reduced Water UTC	1707	0.55	25.0	27.6	0.71*	26.2*	32.7*
		1908	0.67	25.6	30.3	0.67	25.6	30.3
		1709	0.49	22.8	25.4	0.68*	25.1*	30.0*
		2010	0.85	28.1	37.7	0.85	28.1	37.7
		1811	0.70	26.1	32.7	0.70	26.1	32.7
		2012	0.84	27.7	31.3	0.84	27.7	31.3
		Mean =	0.68	25.9	30.8	0.74	26.5	32.4
4	Reduced Water + MaximumH20	1907	0.73	26.8	33.9	0.73	26.8	33.9
		1808	0.58	24.0	31.2	0.58	24.0	31.2
		2009	0.65	26.3	29.0	0.65	26.3	29.0
		1810	0.84	30.0	32.7	0.84	30.0	32.7
		2011	0.76	26.0	30.6	0.76	26.0	30.6
		1712	0.62	25.8	31.2	0.79*	28.0*	30.3*
		Mean =	0.70	26.5	31.4	0.72	26.9	31.3

Rating Unit
KG, 0.01, 2, = kilogram
CM, 1, 50, = centimeter

University of Arizona

Trial ID: T10_MaximumH20_Celery_Fall_24
Protocol ID: T10 MaximumH20 Celery Fall 24 Location: Yuma Arizona Trial Year: 2024
Project ID: T10 MaximumH20 Celery Fall 24
Study Director: Robert Masson Sponsor Contact:
Investigator:

Rating Date	Mar-18-2025	Mar-18-2025				
SE Group No.	1	2	3	4	5	6
Rating Unit	KG	CM	CM			
Rating Min/Max/Interval	0.01, 2, -	1, 50, -	1, 50, -			
Number of Subsamples	77	77	77	77	77	77
Description	Yield	Stalk Circumfer>	Stalk Length	Yield Adj	Stalk Cir Adj	Stalk Length Adj
Number of Decimals	2	1	1	2	1	1
Data Entry Date	Mar-24-2025	Mar-24-2025	Mar-24-2025	Mar-24-2025	Mar-24-2025	Mar-24-2025
Trt Treatment No. Name	3	4	5	6	7	8
1 Full Water UTC	0.76 -	26.4 -	32.3 -	0.81 a	26.9 -	33.3 a
2 Full Water + MaximumH20	0.76 -	26.2 -	32.7 -	0.84 a	26.3 -	34.1 a
3 Reduced Water UTC	0.68 -	25.9 -	30.8 -	0.74 b	26.5 -	32.4 ab
4 Reduced Water + MaximumH20	0.70 -	26.5 -	31.4 -	0.72 b	26.9 -	31.3 b
LSD P=.10	0.135	1.23	2.66	0.066	0.90	1.79
Standard Deviation	0.133	1.22	2.62	0.063	0.85	1.69
CV	18.4	4.65	8.25	8.06	3.2	5.16
Levene's F	1.183	0.78	1.929	0.425	0.816	0.394
Skewness	-0.1948	0.3066	0.1676	-0.3291	0.4601	0.8351
Kurtosis	-1.0265	0.5274	0.9294	-0.5336	0.2294	0.4925
Replicate F	1.100	5.385	1.849	5.572	14.134	5.297
Replicate Prob(F)	0.4010	0.0049	0.1636	0.0130	0.0005	0.0152
Treatment F	0.515	0.270	0.635	4.903	0.778	3.082
Treatment Prob(F)	0.6782	0.8458	0.6040	0.0274	0.5353	0.0829

Rating Unit
KG, 0.01, 2, = kilogram
CM, 1, 50, = centimeter

Leaf Analytical Report

Robert Masson

Attn: Robert Masson
Client or PO: Yuma County Coop Extension

JMLord, Inc.
4184 N. Knoll Drive
Fresno, CA 93722
(559) 268-9755
jmlord@jmlordinc.com

Group: **39257** | Date Received: 3/6/2025 | Report Date: 3/7/2025

Sample	Field Name	Percentages (%)								Parts Per Million (ppm)							%
		N	P	K	Ca	Mg	Na	Cl	S	B	Cu	Fe	Mn	Zn	NO3	PO4	K(ext)
Crop: **Celery**																	
39257 - 1	S1-T9-1	4.08	0.55	3.68	2.06	0.54	1.120	2.81	1.38	47	10	106	71	70	1,167	3,564	3.76
39257 - 2	S2-T9-2	4.37	0.58	3.75	1.81	0.49	0.983	2.59	1.19	51	10	97	61	63	569	3,198	3.65
39257 - 3	S3-T9-3	4.05	0.53	3.49	2.36	0.59	1.450	2.91	1.72	37	9	93	87	73	2,312	3,650	4.13
39257 - 4	S4-T9-4	3.94	0.55	3.39	2.21	0.56	1.200	2.95	1.45	38	10	100	85	75	2,554	3,393	4.16
39257 - 5	S5-T10-1	4.26	0.67	4.15	1.14	0.41	0.751	2.04	0.90	69	13	119	42	69	1,009	3,745	3.49
39257 - 6	S6-T10-2	4.43	0.65	4.03	1.35	0.43	0.757	2.19	0.98	65	12	133	49	68	867	2,840	3.56
39257 - 7	S7-T10-3	4.21	0.63	3.67	1.61	0.48	0.884	2.35	1.18	51	11	114	60	71	1,319	3,254	3.74
39257 - 8	S8-T10-4	3.99	0.60	3.56	1.46	0.43	0.959	2.50	1.07	53	11	100	56	71	2,217	3,724	3.61
39257 - 9	S9-T11-1	4.38	0.62	3.90	1.28	0.45	0.715	1.82	0.94	58	12	106	53	71	877	3,585	3.24
39257 - 10	S10-T11-2	4.24	0.65	3.67	1.11	0.42	0.714	1.74	0.91	59	14	118	47	73	1,181	3,860	3.32
39257 - 11	S11-T11-3	4.30	0.65	3.86	1.58	0.44	0.833	2.32	1.16	58	11	111	61	71	1,685	3,728	3.97
39257 - 12	S12-T11-4	4.10	0.54	3.52	2.63	0.62	1.270	2.76	1.70	45	11	130	91	78	1,647	3,807	3.93
39257 - 13	S13-T12-1	4.27	0.78	4.13	1.36	0.48	0.775	1.99	1.10	68	15	140	62	86	1,767	4,094	3.47
39257 - 14	S14-T12-2	4.41	0.74	4.25	1.60	0.48	0.885	2.32	1.16	61	14	124	67	86	2,411	4,286	3.68
39257 - 15	S15-T12-3	4.21	0.72	4.28	1.30	0.42	0.810	2.16	0.99	60	13	114	52	80	2,290	3,953	3.56
39257 - 16	S16-T12-4	4.24	0.71	4.15	1.09	0.41	0.804	2.15	0.77	63	13	139	47	74	1,866	3,754	3.41

Group: **39257** Date Received: 3/6/2025 Report Date: 3/7/2025

Sample	Field Name	Percentages (%)								Parts Per Million (ppm)							%
		N	P	K	Ca	Mg	Na	Cl	S	B	Cu	Fe	Mn	Zn	NO3	PO4	K(ext)
Recommended levels for Celery																	
	Low	0.7	0.25	7.0	2.20	0.30				25	5	22	10				
	High	1.5	0.50	9.5	3.50	0.60				60	15	100	100				

Trial 10 –Maximum H2O (Celery)

Plot Photos 12/16


T10 · Maximum H_2O
Celery
Plot 1
1707
Trt 3


T10 · Maximum H_2O
Celery
Plot 2
1807
Trt 1


T10-Maximum H_2O
Celery
Plot 3
1907
Trt 4


T10 · Maximum H_2O
Celery
Plot 4
2007
Trt 2


T10-Maximum H_2O
Celery
Plot 5
1708
Trt 2


T10-Maximum H_2O
Celery
Plot 6
1808
Trt 4


T10 · Maximum H_2O
Celery
Plot 7
1908
Trt 3


T10-Maximum H_2O
Celery
Plot 8
2008
Trt 1


T10 · Maximum H_2O
Celery
Plot 9
1709
Trt 3


T10 · Maximum H_2O
Celery
Plot 10
1809
Trt 2


T 10 - Maximum H_2O
Celery
Plot 11
1909
Trt 1


T 10 · Maximum H_2O
Celery
Plot 12
2009
Trt 4


T10 · Maximum H_2O
Celery
Plot 13
1710
Trt 1


T 10 - Maximum H_2O
Celery
Plot 14
1810
Trt 4


T10 · Maximum H_2O
Celery
Plot 15
1910
Trt 2


T 10 · Maximum H_2O
Celery
Plot 16
2010
Trt 3


T10 · Maximum H_2O
Celery
Plot 17
1711
Trt 2


T10-Maximum H_2O
Celery
Plot 18
1811
Trt 3


T10 · Maximum H_2O
Celery
Plot 19
1911
Trt 1


T10-Maximum H_2O
Celery
Plot 20
2011
Trt 4


T10-Maximum H_2O
Celery
Plot 21
1712
Trt 4


T10-Maximum H_2O
Celery
Plot 22
1812
Trt 1


T10-Maximum H_2O
Celery
Plot 23
1912
Trt 2


T10 · Maximum H_2O
Celery
Plot 24
2012
Trt 3

Trial 10 –Maximum H2O (Celery)

Plot Photos 1/13/25


T10 - Maximum H2O
Celery
Plot 1707


T10 - Maximum H_2O
Celery
Plot 1708


T10 - Maximum H2O
Celery
Plot 1709


T10 - Maximum H2O
Celery
Plot 1710


T10 - Maximum H2O
Celery
Plot 1711


T10 - Maximum H_2O
Celery
Plot 1712


T10 - Maximum H_2O
Celery
Plot 1807


T10 - Maximum H_2O
Celery
Plot 1808


T10 - Maximum H_2O
Celery
Plot 1809


T10 - Maximum H_2O
Celery
Plot 1810


T10 - Maximum H_2O
Celery
Plot 1811


T10 - Maximum H_2O
Celery
Plot 1812


T10 - Maximum H_2O
Celery
Plot 1907


T10 - Maximum H_2O
Celery
Plot 1908


T10 - Maximum H_2O
Celery
Plot 1909


T10 - Maximum H_2O
Celery
Plot 1910


T10 - Maximum H_2O
Celery
Plot 1911


T10 - Maximum H_2O
Celery
Plot 1912


T10 - Maximum H_2O
Celery
Plot 2007


T10 - Maximum H_2O
Celery
Plot 2008


T10 - Maximum H_2O
Celery
Plot 2009


T10 - Maximum H_2O
Celery
Plot 2010


T10 - Maximum H_2O
Celery
Plot 2011


T10 - Maximum H_2O
Celery
Plot 2012