Yuma Cantaloupe Trial

Spring 2024

LIDA: Signalin

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THE UNIVERSITY OF ARIZONA
Cooperative Extension
Yuma County

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Planted: 3/15/24
Harvest 1: 6/14
Harvest 2: 6/20

Fert
Phos Acid added through drip at seeding 13.3 GAL/AC
UAN-32
Application A: 15# N, 3/25/24
Application B: 35# N, 4/9/24
Application C: 50# N, 5/16/24

Stand Count: 4/18
NDVI_1: 4/24
NDVI_2: 5/8
NDVI_3: 5/20

Photos 1: 5/20

Rye grass cover crop grown without nutrition. Mown and biomass removed.
Drip tape cut 3/18 and manifolds installed.

UAN-32 In-season (100% N values below)
App A: 15 #N
App B: 35 #N
App C: 50 #N

Cantaloupe Variety: Harris Moran Deluxe F1

Trial Summary

- Thinning: Thinning was not done correctly on this trial. An average of 3 plant difference between plots of treatment 1 and 4 observed. Next trial we will be thinning with research staff. This resulted in lower NDVI values in higher plant count plots. Lower yield on treatment 4
- No differences in individual melon weights and sizes among treatment groups

Trial Details

Four Treatments:

1. UTC
2. Signalin, foliar spray
3. Experimental Mix 1: Foliar
4. Experimental Mix 2: Foliar

Replications: 6

App dates:
A: 4/8 : Signalin
B: 5/1 : Siglanin
C: 5/13 : Signalin, Mix 1
D: 5/27 : Signalin, Mix 1, Mix 2

Drop 1301 for low stand count
Drop 1303 for low stand count

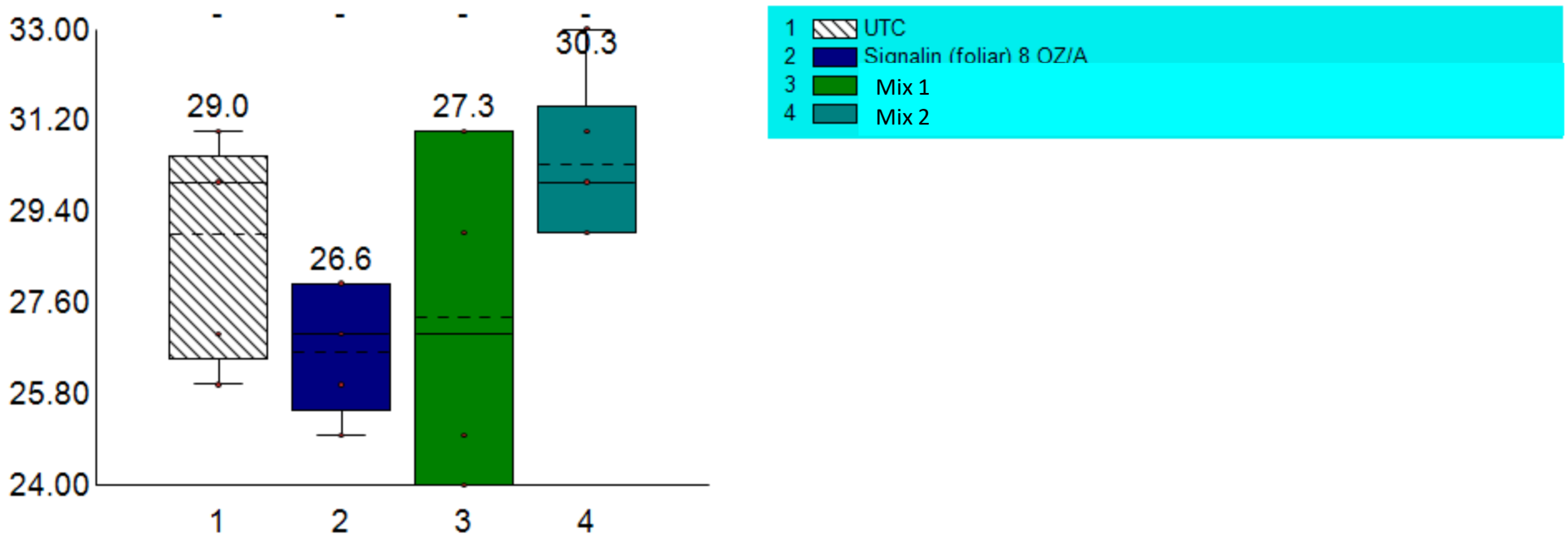
1	CHK	UTC
2		Signalin (foliar) 8 OZ/A
3		Mix 1
4		Mix 2

Irrigation

Irrigation Date	Amount	Unit	Method
Mar-15-2024	0.5	IN	Sprinkler (set herbicide)
Mar-18-2024	0.372	IN	Drip irrigation system (phos)
Mar-26-2024	0.465	IN	drip irrigation system
Mar-30-2024	0.18	IN	rain
Mar-31-2024	0.129	IN	rain
Apr-1-2024	0.14	IN	rain
Apr-4-2024	0.186	IN	drip irrigation system
Apr-8-2024	0.186	IN	drip irrigation system
Apr-12-2024	0.186	IN	drip irrigation system
Apr-18-2024	0.186	IN	drip irrigation system
Apr-23-2024	0.186	IN	drip irrigation system
Apr-26-2024	0.186	IN	drip irrigation system
Apr-30-2024	0.186	IN	drip irrigation system
May-7-2024	0.372	IN	drip irrigation system
May-13-2024	0.372	IN	drip irrigation system
May-14-2024	0.372	IN	drip irrigation system
May-20-2024	0.372	IN	drip irrigation system
May-21-2024	0.372	IN	drip irrigation system
May-25-2024	0.744	IN	drip irrigation system
May-28-2024	0.744	IN	drip irrigation system
May-31-2024	0.744	IN	drip irrigation system
June-1-2024	0.744	IN	drip irrigation system
June-4-2024	0.744	IN	drip irrigation system
Total Water Use	**8.66**	**IN**	

Drip tape dug on 31’ increments and cut to form 30’ beds one row wide
Injections made with battery pump and 15 gallon tank filled to 5 gallon mark.

LIDA Spray Trial. Stand Count



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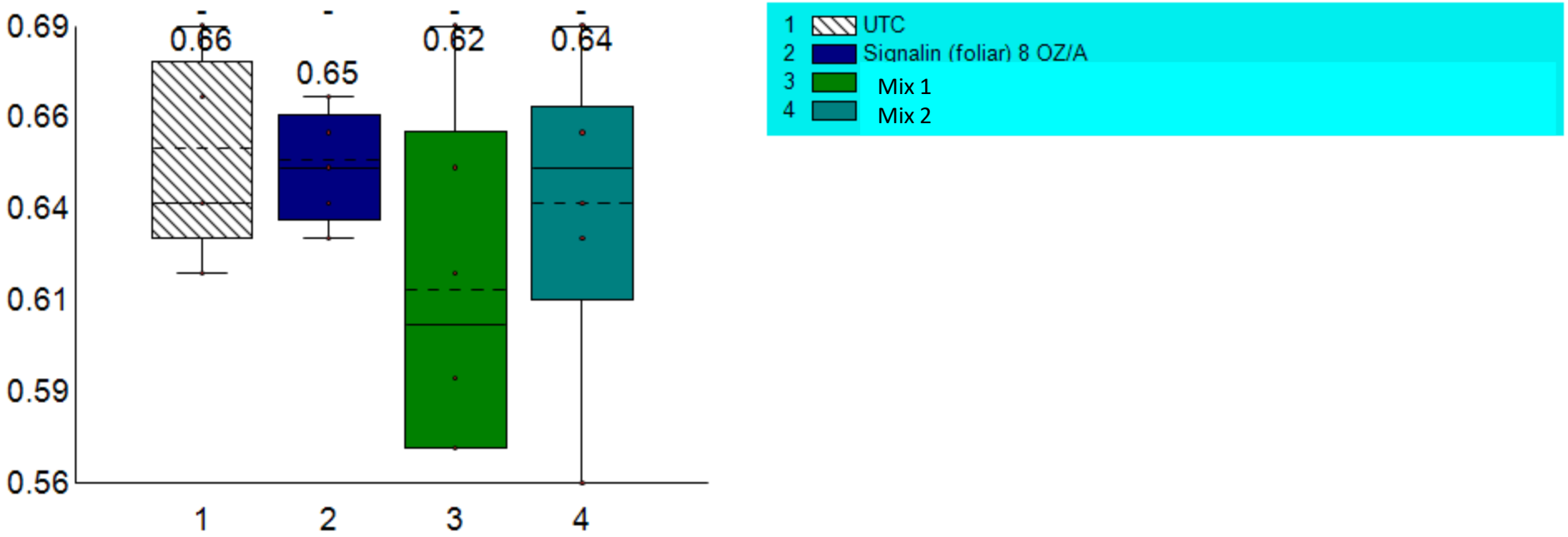
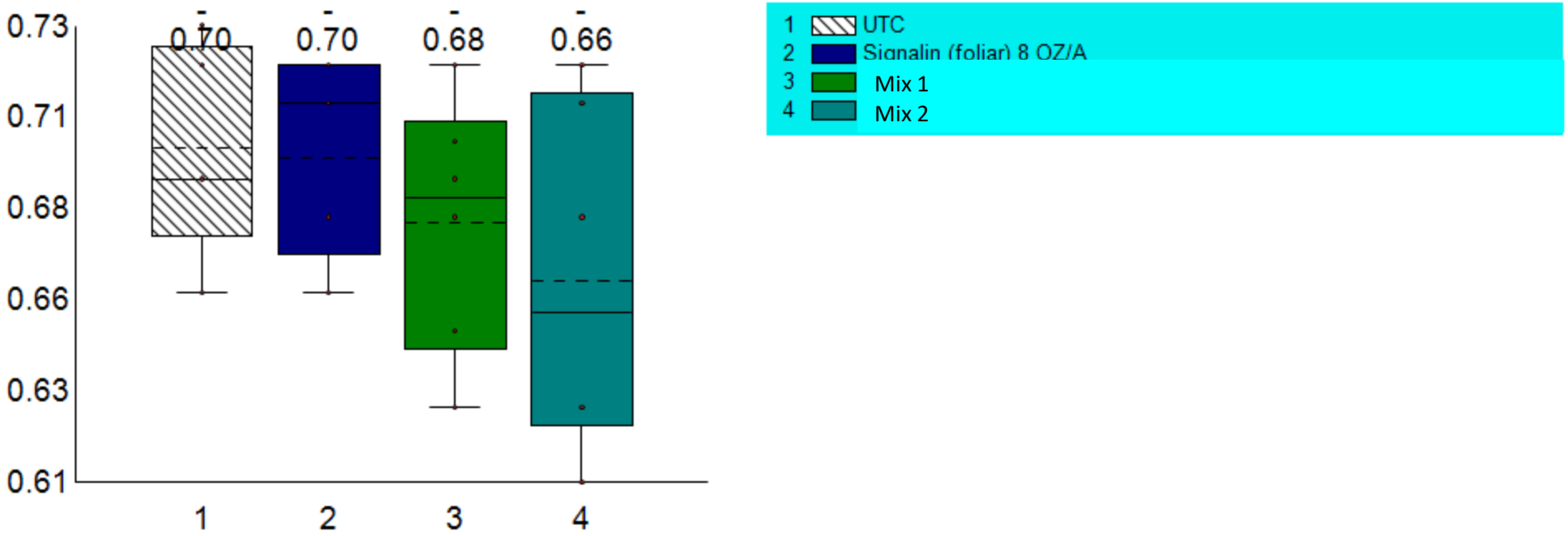
LIDA Spray Trial. NDVI_1



Trial ID: T5_LIDA_Cantaloupe_2024

LIDA Spray Trial. NDVI_2



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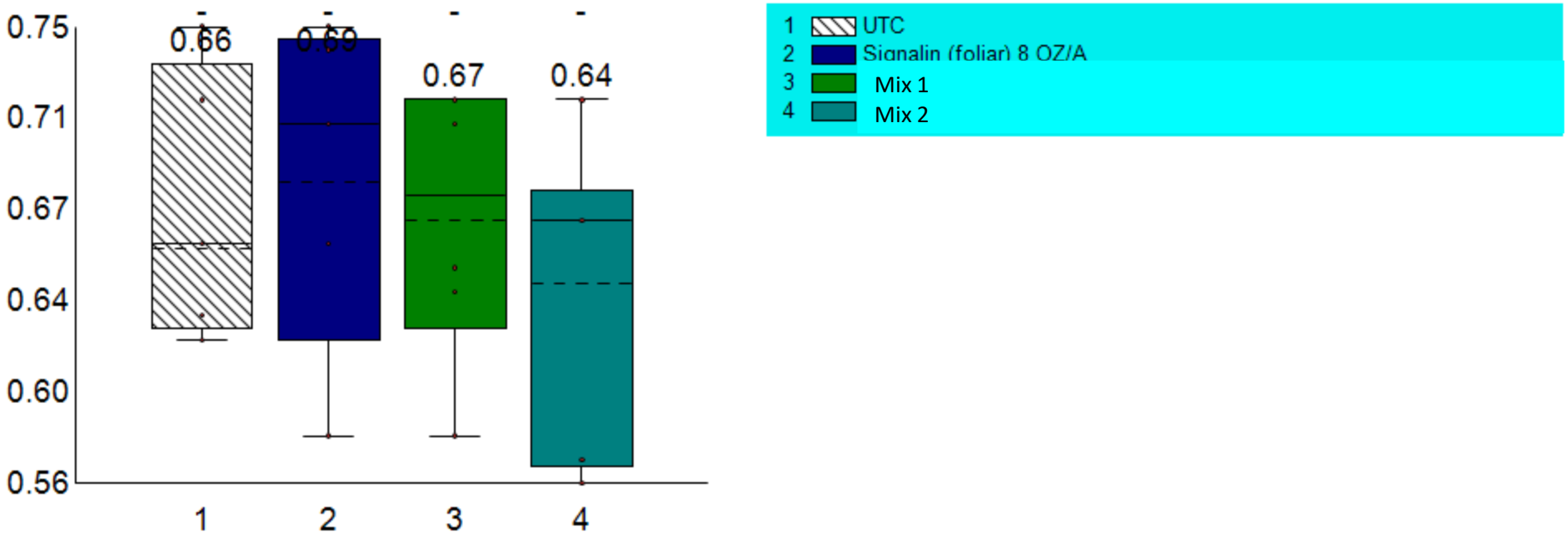
LIDA Spray Trial. NDVI_3



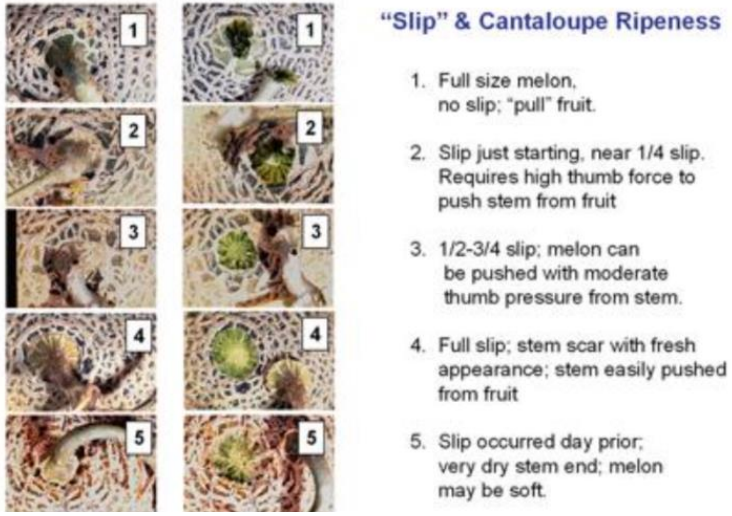
Trial ID: T5_LIDA_Cantaloupe_2024

Harvest

- Two picking dates
- All ripe fruit was picked in the plot on the first harvest.
- All fruit ripe or unripe was picked on second harvest,
- Each fruit was individually weighed, sized, and rated for maturity
- A subsample of three melons per plot were tested for brix
- Yield reported as cartons per acre of marketable fruit broken into carton size grades.

Harvest (Cont.)

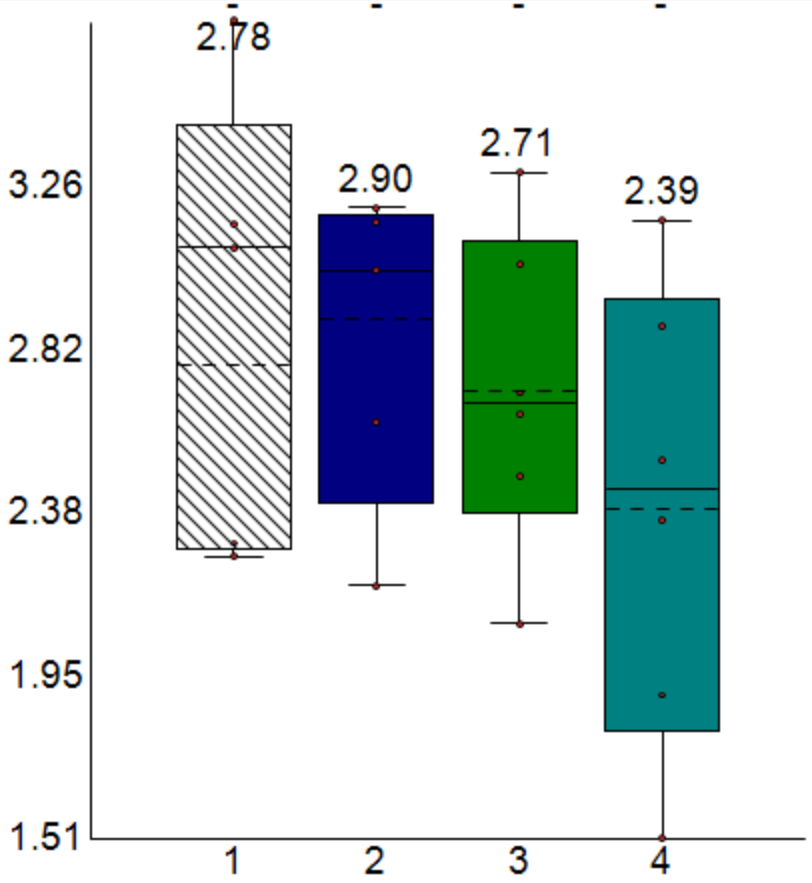
- Slip measures ripeness:
  - 0 = No slip (not ripe)
  - 1 = ¼ slip
  - 2 = ½ slip
  - 3 = ¾ slip
  - 4 = full slip (very ripe)



https://postharvest.ucdavis.edu/produce-facts-sheets/cantaloupe

- The number of fruit with blemishes on them, either ground spots or sunburn, were counted and reported as sunburn
- The number of visually marketable fruit was counted and reported as 'keepers'
- The final carton yield was calculated based on formula that converted melon circumference into carton grade size.

Lida Fertilizer Yuma Cantaloupe Trial. Individual Melon Weight



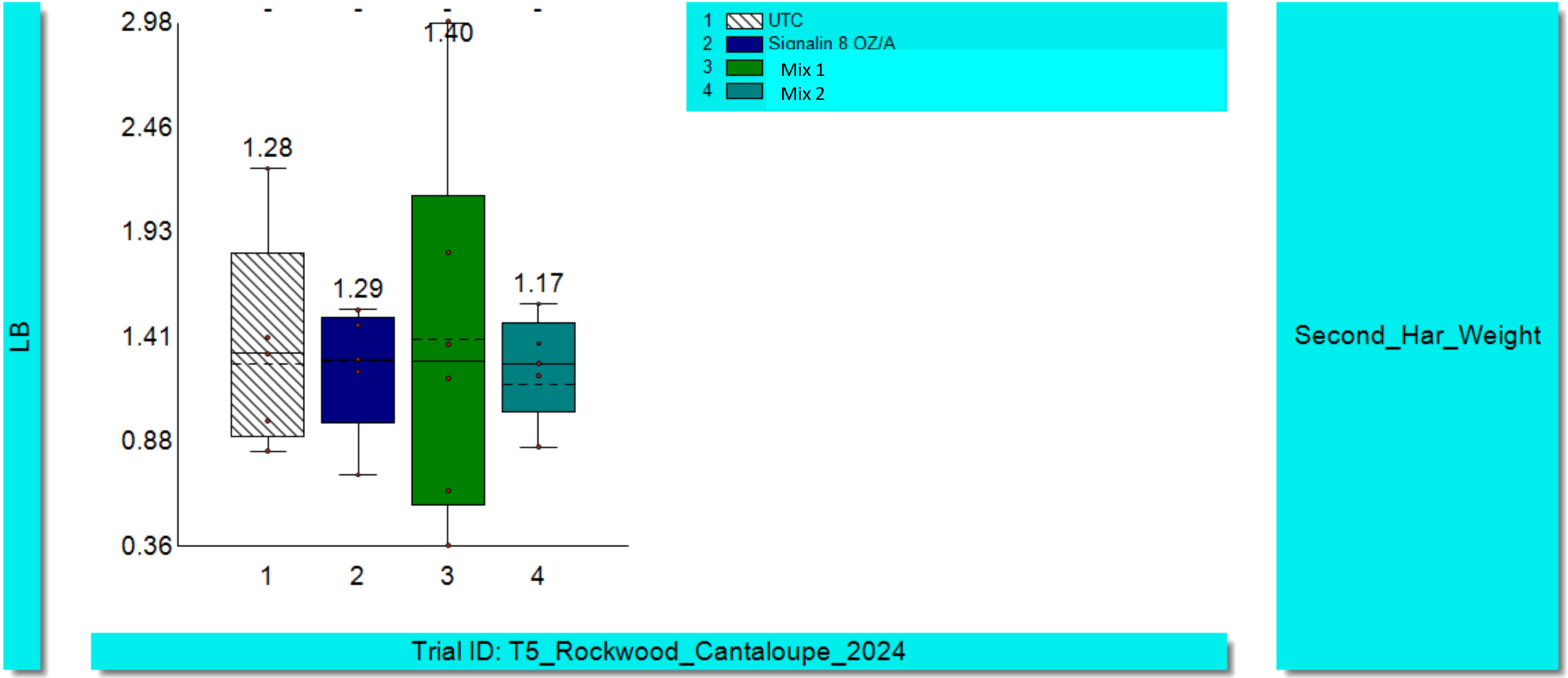
1 UTC
2 Signalin 8 OZ/A
3 Mix 1
4 Mix 2

LB

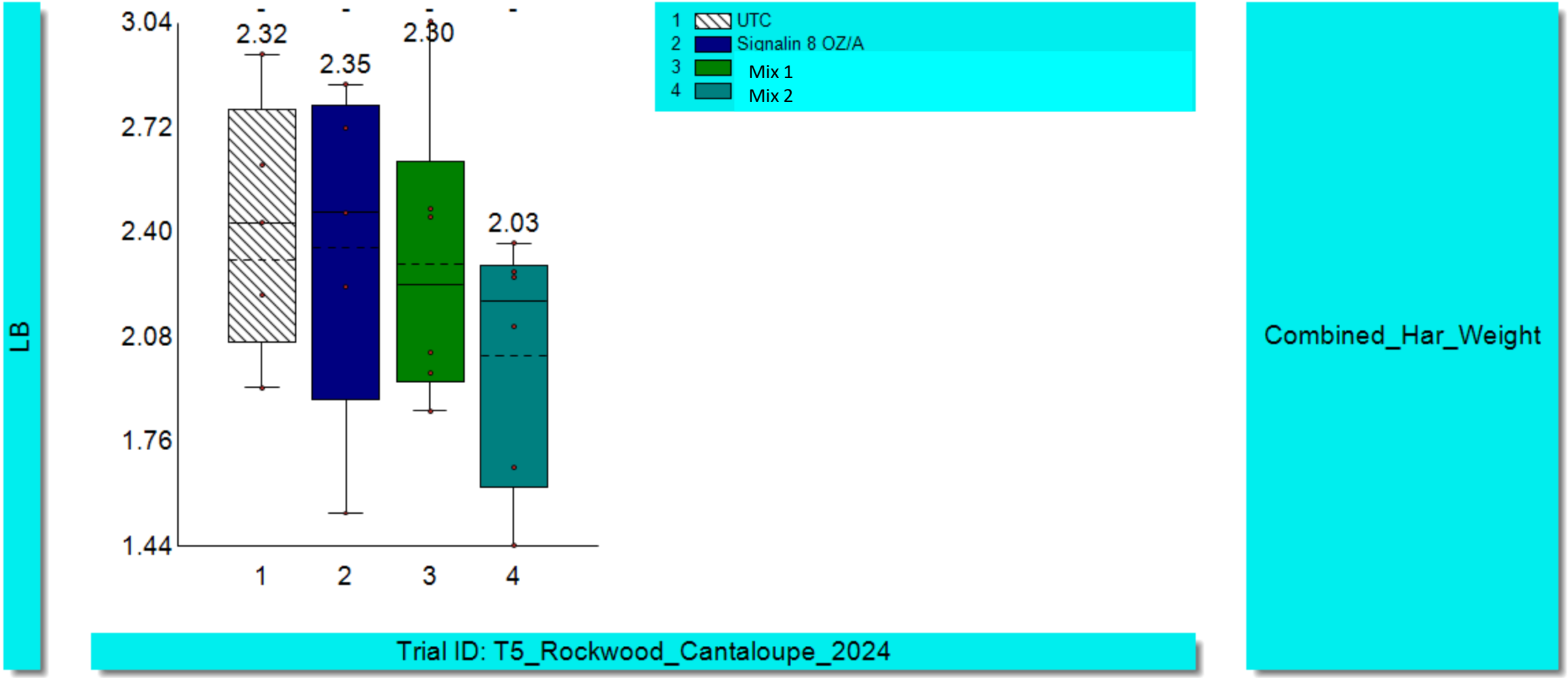
First_Har_Weight

Trial ID: T5_Rockwood_Cantaloupe_2024

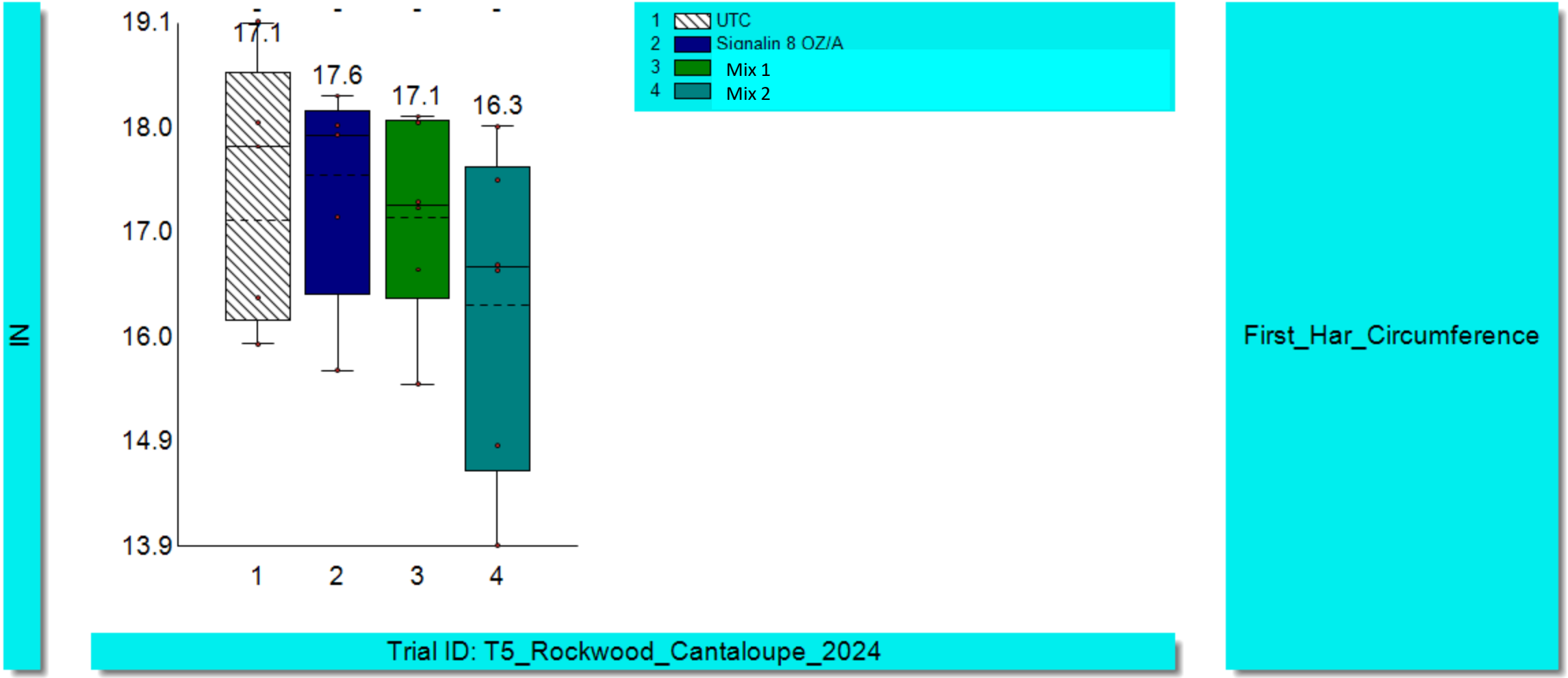
Lida Fertilizer Yuma Cantaloupe Trial. Individual Melon Weight



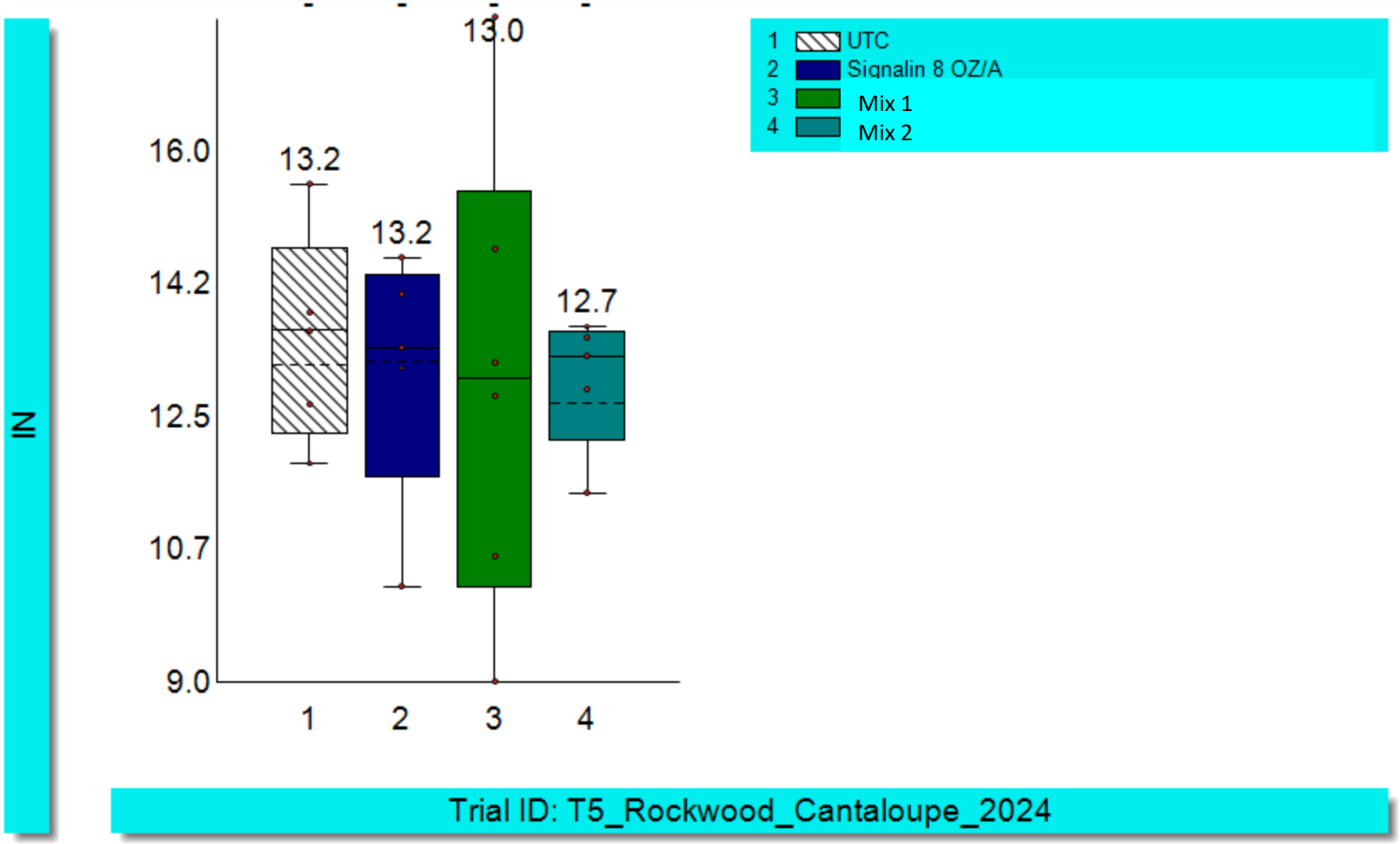
Lida Fertilizer Yuma Cantaloupe Trial. Individual Melon Weight



Lida Fertilizer Yuma Cantaloupe Trial. Individual Melon Size



Lida Fertilizer Yuma Cantaloupe Trial. Individual Melon Size



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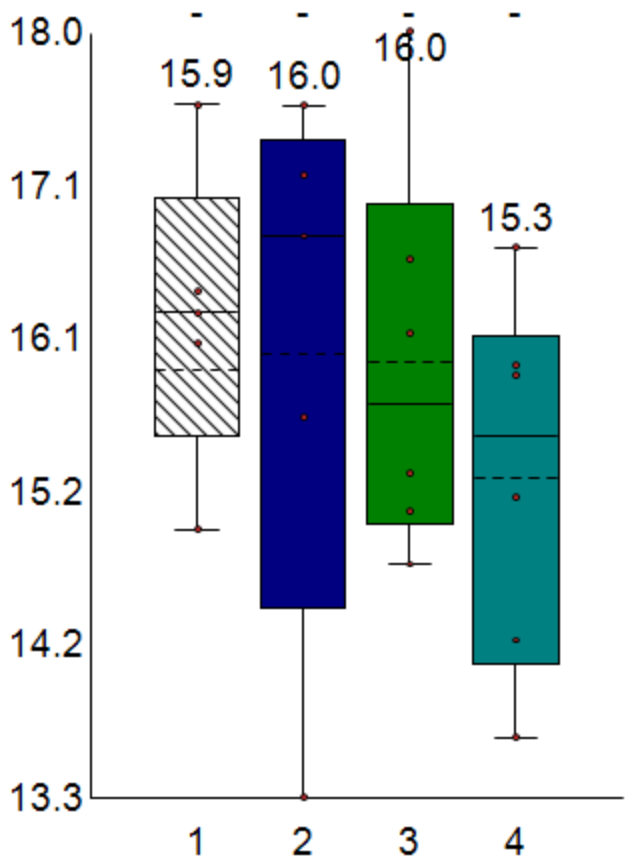
Second_Har_Circumference

Lida Fertilizer Yuma Cantaloupe Trial. Individual Melon Size



1 UTC
2 Signalin 8 OZ/A
3 Mix 1
4 Mix 2

N

Combined_Har_Circumference

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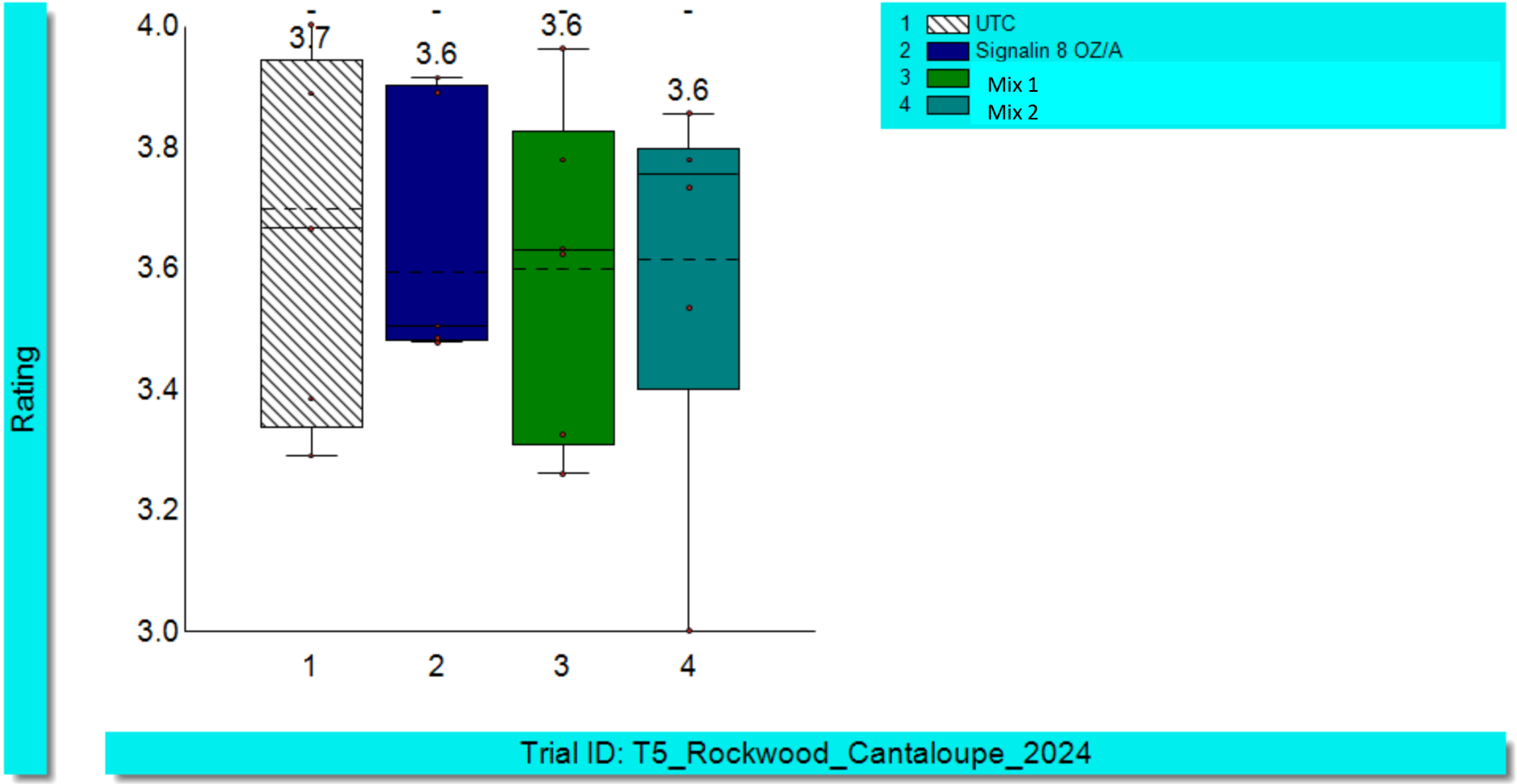
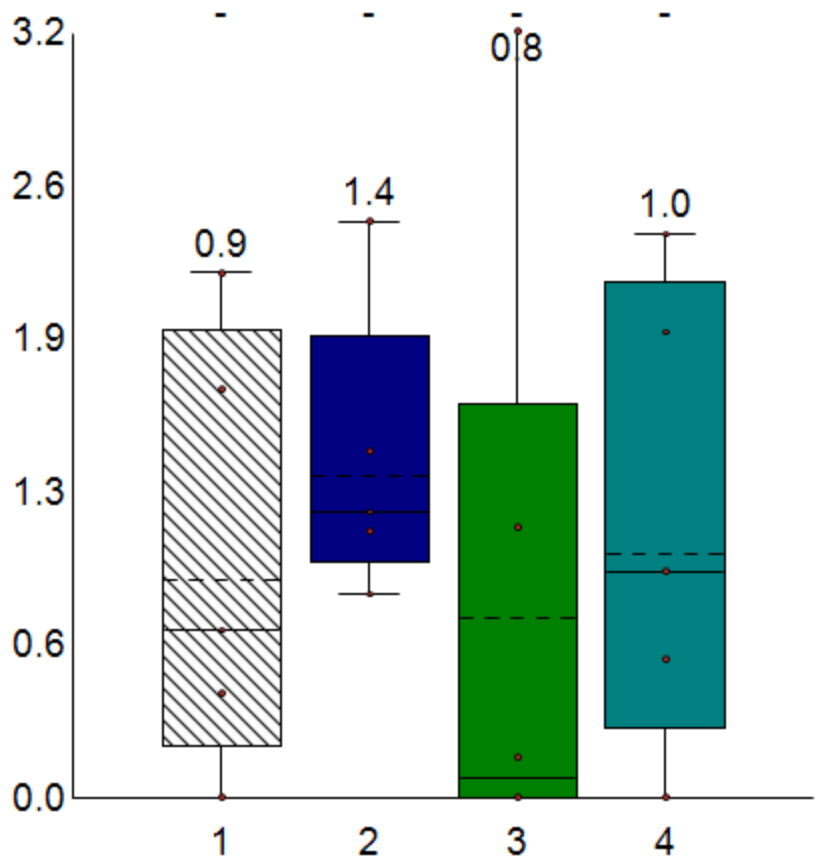
Lida Fertilizer Yuma Cantaloupe Trial. Individual Melon Maturity



Lida Fertilizer Yuma Cantaloupe Trial. Individual Melon Maturity

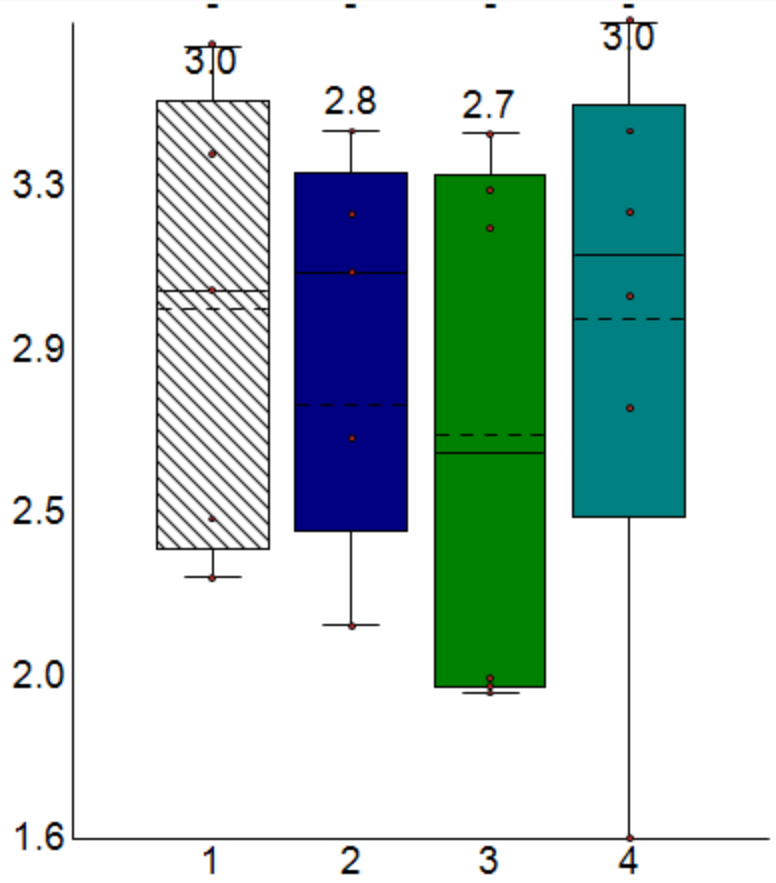


1 UTC
2 Signalin 8 OZ/A
3 Mix 1
4 Mix 2

Second_Har_Slip

Trial ID: T5_Rockwood_Cantaloupe_2024

Lida Fertilizer Yuma Cantaloupe Trial. Individual Melon Maturity

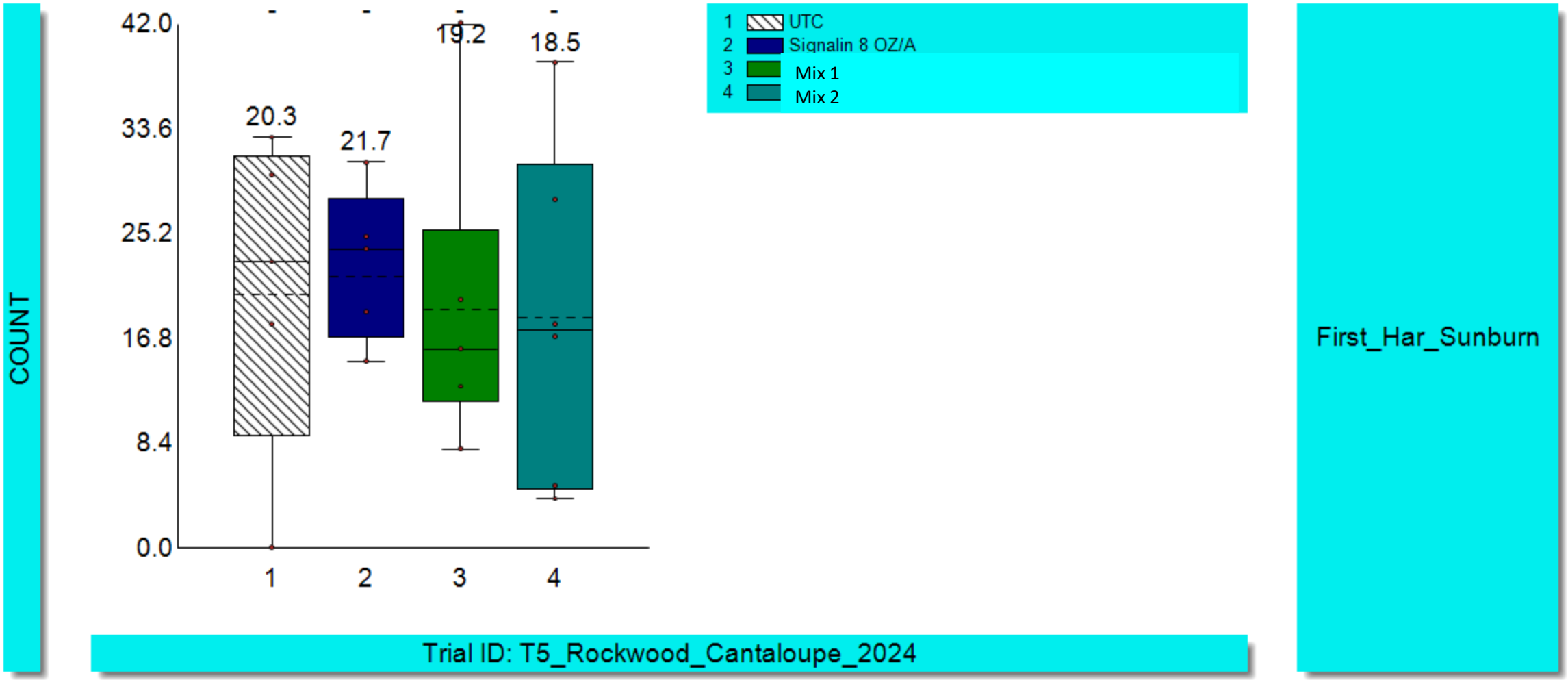


1 UTC
2 Signalin 8 OZ/A
3 Mix 1
4 Mix 2

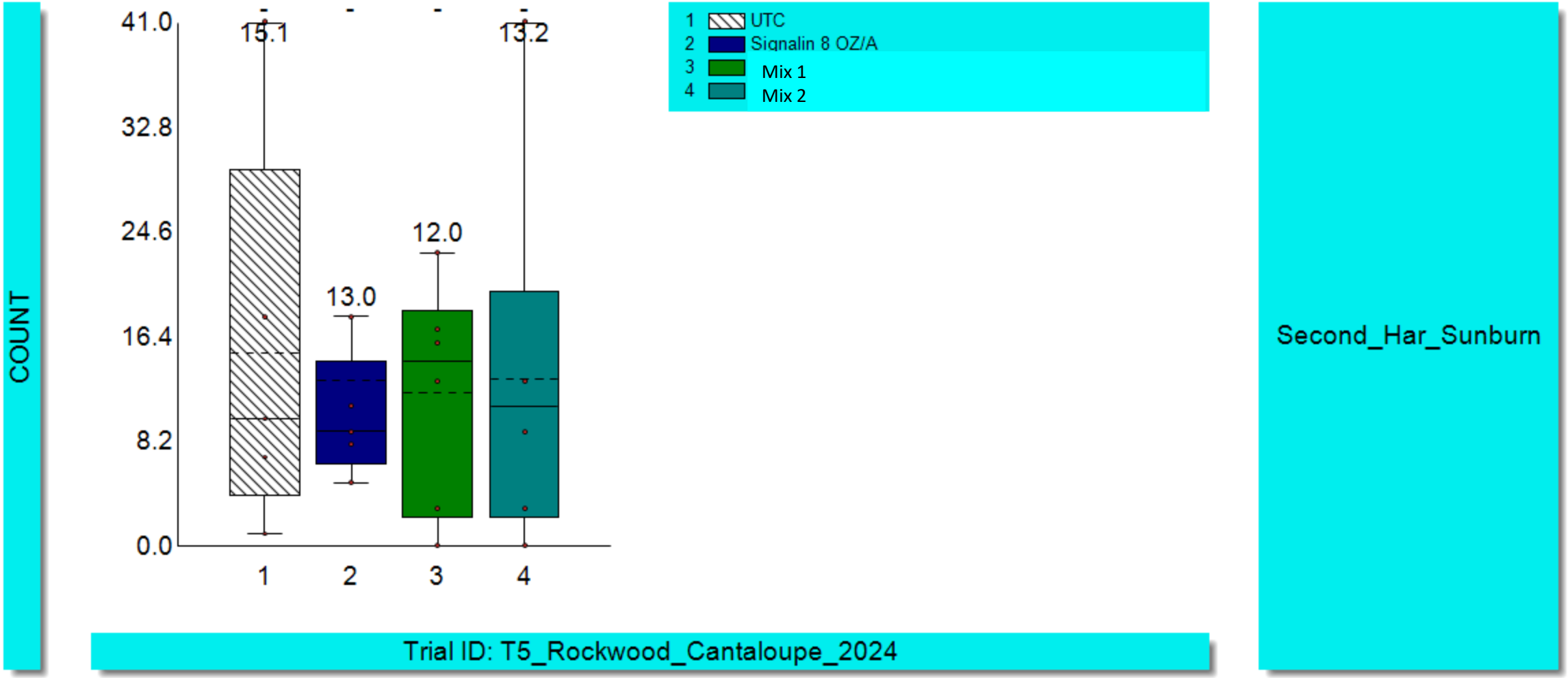
Combined_Har_Slip

Trial ID: T5_Rockwood_Cantaloupe_2024

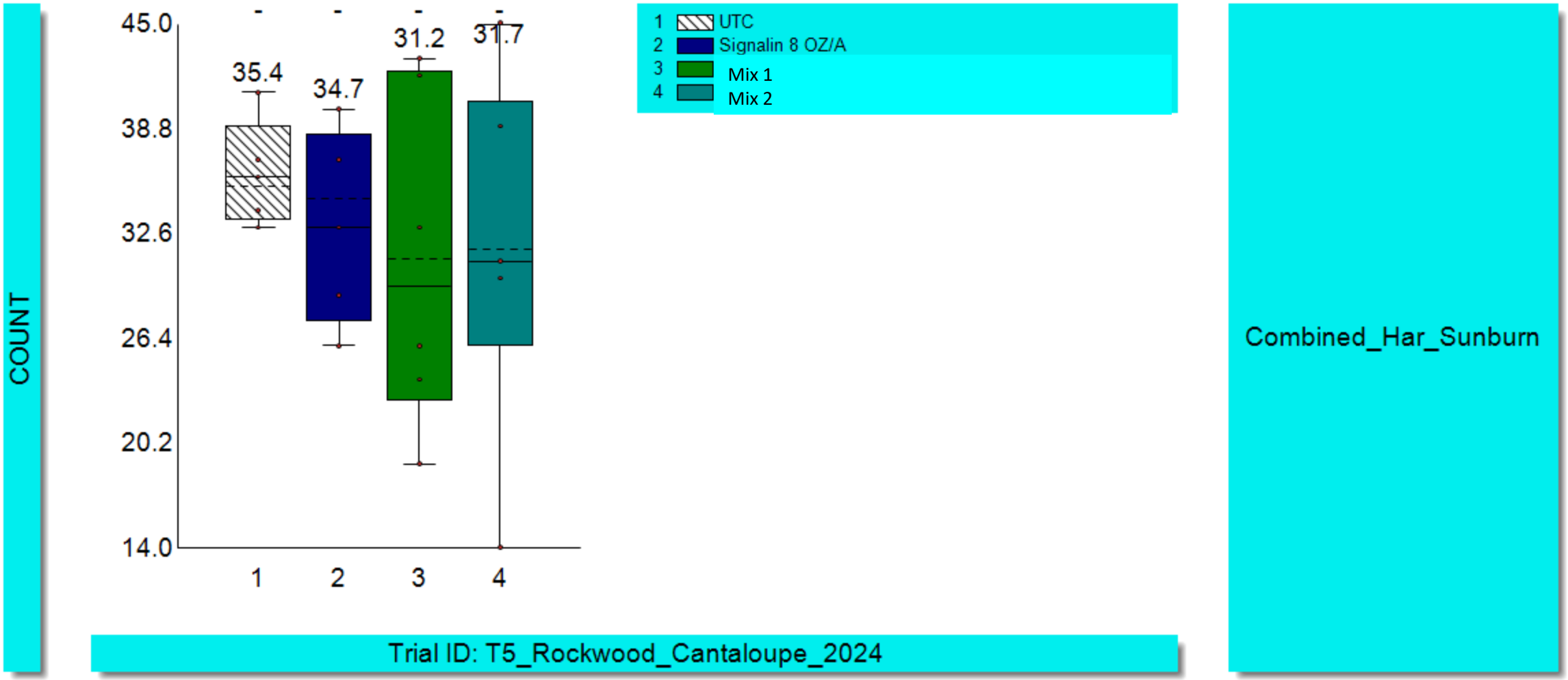
Lida Fertilizer Yuma Cantaloupe Trial. Number of Sunburned in Plot



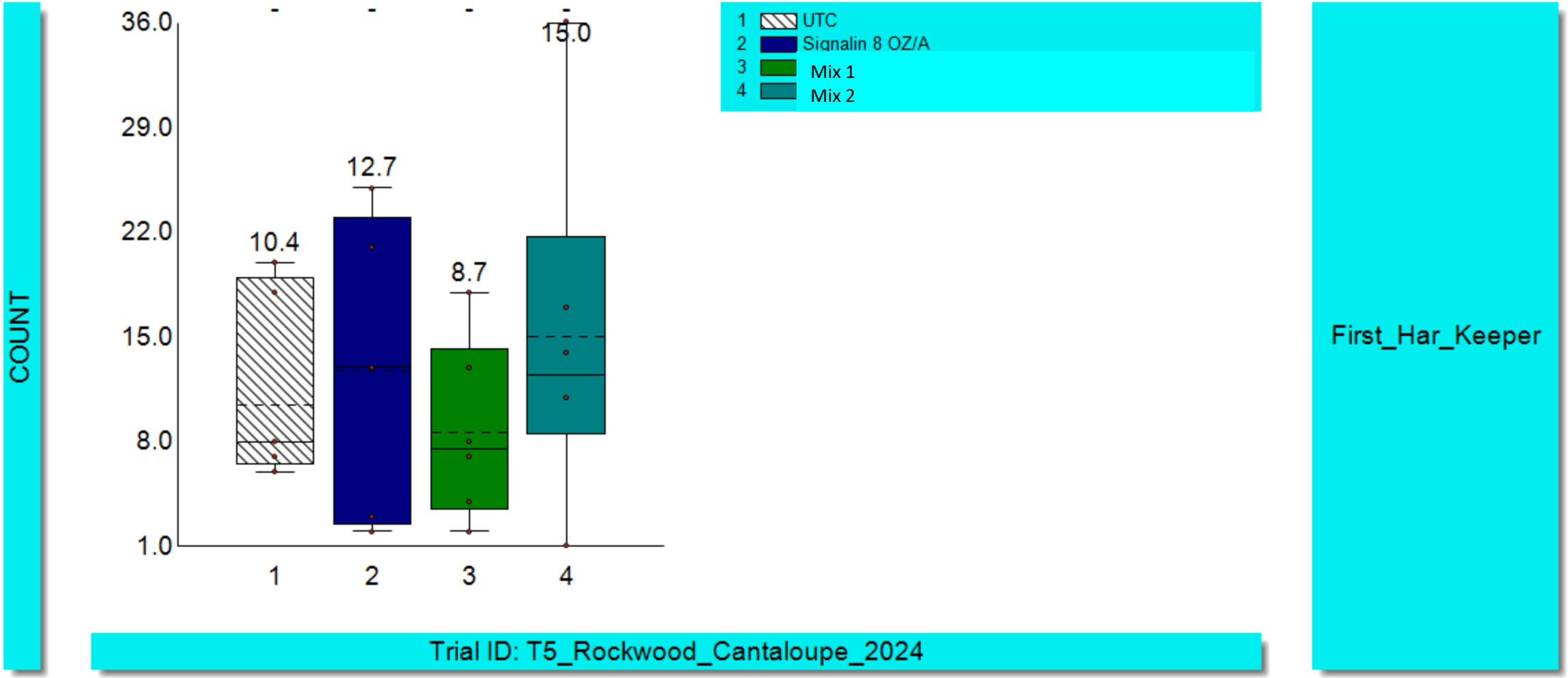
Lida Fertilizer Yuma Cantaloupe Trial. Number of Sunburned in Plot

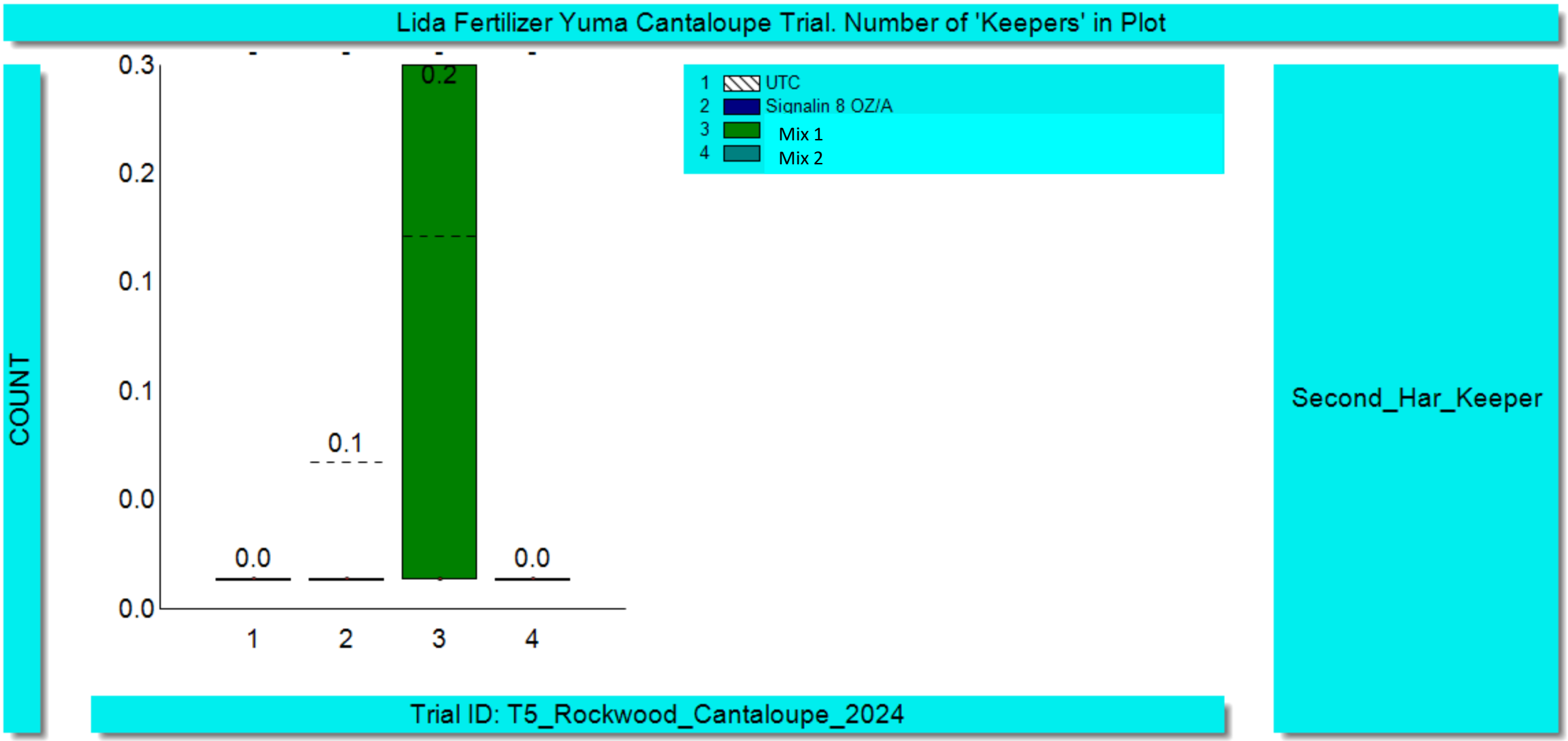


Lida Fertilizer Yuma Cantaloupe Trial. Number of Sunburned in Plot

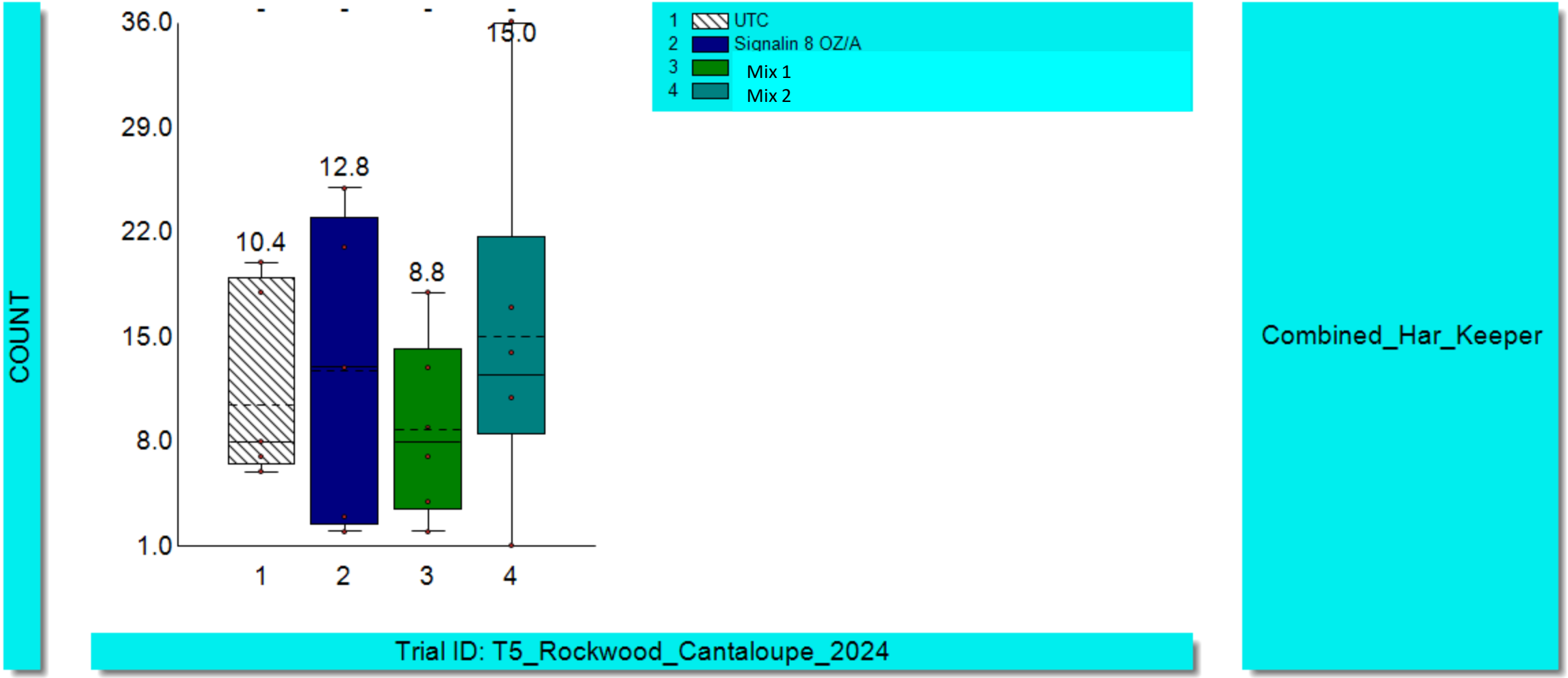


Lida Fertilizer Yuma Cantaloupe Trial. Number of 'Keepers' in Plot

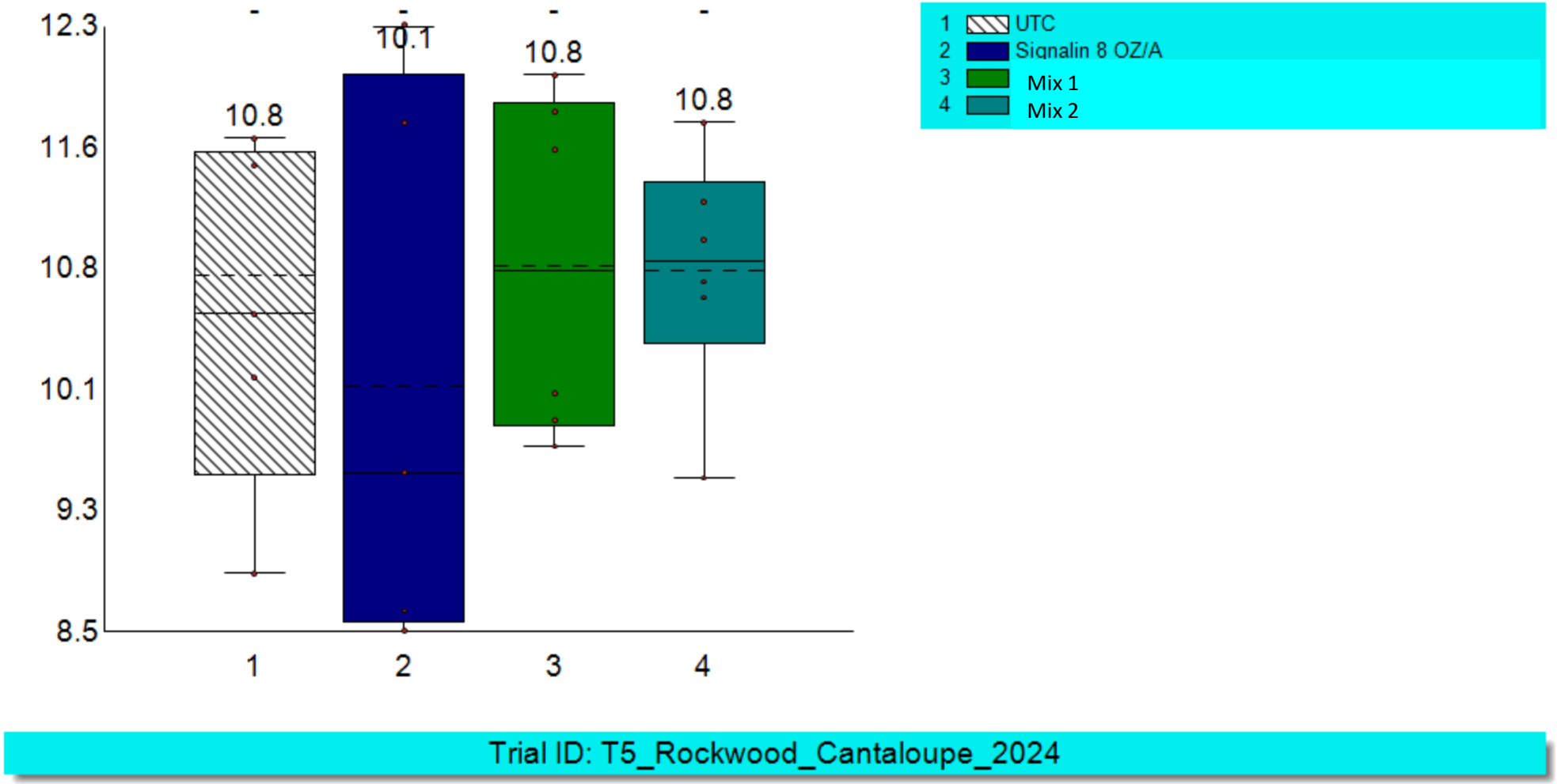



Lida Fertilizer Yuma Cantaloupe Trial. Number of 'Keepers' in Plot
COUNT
0.3
0.2
0.1
0.1
0.0
0.0
0.2
0.1
0.0
0.0
1
2
3
4
1 UTC
2 Signalin 8 OZ/A
3 Mix 1
4 Mix 2
Second_Har_Keeper
Trial ID: T5_Rockwood_Cantaloupe_2024

Lida Fertilizer Yuma Cantaloupe Trial. Number of 'Keepers' in Plot



Lida Fertilizer Yuma Cantaloupe Trial. Sugar of 3 Melons per Plot



Trial ID: T5_Rockwood_Cantaloupe_2024

Carton Size Grade

Carton Size Grades	Circumference (IN)	
	min	max
above std	24.38	.
5	22.81	24.35
6	20.45	22.78
9	18.47	20.42
12	16.9	18.44
15	15.74	16.87
18	14.95	15.71
22	14.17	14.92
under std		14.137

Trt 1 - UTC	**abv_std**	**5**	**6**	**9**	**12**	**15**	**18**	**22**	**under_std**	0.028926	Acres per trt
Number per Trt	0	0	11	47	80	32	30	3	67	270	Total number per trt
Cartons per Trt	NA	0.0	1.8	5.2	6.7	2.1	1.7	0.1	NA	17.7	Marketable Cartons per trt
Cartons per AC	NA	0	63	181	230	74	58	5	NA	**610**	**T1: Marketable Cartons per ac**
Trt 2 Signalin	**abv_std**	**5**	**6**	**9**	**12**	**15**	**18**	**22**	**under_std**	0.028926	Acres per trt
Number per Trt	0	0	8	68	76	45	29	3	78	307	Total number per trt
Cartons per Trt	NA	0.0	1.3	7.6	6.3	3.0	1.6	0.1	NA	20.0	Marketable Cartons per trt
Cartons per AC	NA	0	46	261	219	104	56	5	NA	**690**	**T2: Marketable Cartons per ac**
Trt 3 - Mix 1	**abv_std**	**5**	**6**	**9**	**12**	**15**	**18**	**22**	**under_std**	0.028926	Acres per trt
Number per Trt	0	1	9	50	75	35	26	2	65	263	Total number per trt
Cartons per Trt	NA	0.2	1.5	5.6	6.3	2.3	1.4	0.1	NA	17.4	Marketable Cartons per trt
Cartons per AC	NA	7	52	192	216	81	50	3	NA	**601**	**T3: Marketable Cartons per ac**
Trt 4- Mix 2	**abv_std**	**5**	**6**	**9**	**12**	**15**	**18**	**22**	**under_std**	0.028926	Acres per trt
Number per Trt	0	0	1	35	65	50	32	6	100	289	Total number per trt
Cartons per Trt	NA	0.0	0.2	3.9	5.4	3.3	1.8	0.3	NA	14.9	Marketable Cartons per trt
Cartons per AC	NA	0	6	134	187	115	61	9	NA	**514**	**T4: Marketable Cartons per ac**

Plot Photos


Plot 1301
Trt 1


Plot 1401
Trt 4


Plot 1501
Trt 2


Plot 1601
Trt 3


Plot 1602
Trt 2


Plot 1502
Trt 1


Plot 1402
Trt 4


Plot 1302
Trt 3


Plot 1303
Trt 2


Plot 1403
Trt 1


Plot 1503
Trt 4


Plot 1603
Trt 3


Plot 1604
Trt 4


Plot 1504
Trt 2


Plot 1404
Trt 3


Plot 1304
Trt 1


Plot 1305
Trt 3


Plot 1405
Trt 4


Plot 1505
Trt 2


Plot 1605
Trt 1


Plot 1606
Trt 4


Plot 1506
Trt 3


Plot 1406
Trt 1


Plot 1306
Trt 2