Iceberg Lettuce Conclusion Report

[redacted] – [redacted] Farms
Santa Maria Trial, Summer 2020

Project Overview

Crop & Acreage: Conventional Iceberg Lettuce, grown from seed
- Growth cycle: 70 days; seeded May 20-21

Design: Treated (T) and Untreated (U), approx. 12 acres split evenly
- To accelerate start, Trial moved from Ranch [redacted] to [redacted]
- Acreage of [redacted] equals 13.5 acres
- Soil sample analyses etc., available upon request

Treatments: One pre-bed soil app + 3 post-seeding soil apps (Days 21, 35 & 49)
- Combo of microbial fertilizer, Calcium & Phosphorus
- No foliar treatments

Cost: Total Product Cost: $1,195.70 or $180.08/acre (Ranch [redacted] acreage)

Trial Goal: Improve Yield

Treatment Deviation: Trial area was increased from 12 acres to 13.5, resulting in a reduced rate of approximately 10%.

Results

[redacted] -- Santa Maria, CA
Ranch [redacted], July 2020

Lot	Cases per Bed	Cases per Acre	T vs. U Change
Urth Treated	103.3	903	+27%
Untreated	81.3	711	

Data *Source: harvest data from* [redacted]

Harvest data: Treated exceeded Untreated by an average of +27%
- T vs U yield compared in terms of cases.
- Crop harvested for processing and as packed cases.
- Treated Case count extrapolated from processed weights and field packed cases.
- Average case weight 44 pounds.

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Notes

- Urth Product Treatment Included
  - Microbial and Calcium/Phosphorus components.
  - 4 applications, throughout the 70-day cycle.
  - First treatment applied 2 weeks before planting.

Urth Products	***Microbial Applications*** *(Ounces per Acre)*			
	App. 1	*App. 2*	*App. 3*	*App. 4*
Nano-Ag Answer®	24	12	8	8
Bio-N-Liven Answer®	10	10	6	6
Pro Energy™	10	10	6	6
Calcium/Phosphorus Applications *(grams per Acre)*				
GSR Dormant Calcium	60	0	0	0
GSR Growing Calcium	0	40	40	40
MSR Phosphate	227	227	227	227
Sugar	454	454	454	454

More U failed the density test

High density & small seeder

Urth apps address compaction issues, Like this!

Optimal size in fewer days with Urth

Client Observations

"The Treated heads have better size and shape… They are larger & denser… There are fewer 'botellas.' We could have harvested the Treated on [Day 61, four days earlier]."

[redacted], Supervisor, [redacted]
Day 65, the first day of harvest

"Treated developed earlier, had consistently better shape and density…. Our harvest manager chose the Treated for processing and his choice told me that qualitatively, the Treated had value characteristics it would retain despite more field time."

[redacted], Field Manager, [redacted]
Post-harvest assessment

"What can I say. These results look amazing."

[redacted], Agronomist, [redacted]
Post-harvest results review.

Urth Field Technician Observations

Day 14 *"Germination started , U and T block very similar, no variation yet"*

Day 28 *"T block- germination got off to a good start – bigger taller leaves relative to U block."*

Day 45 *"T block advanced significantly, much bigger, more foliage. U block- slow to fully germinate, uneven and smaller heads."*

Day 55 *"T block - bigger, more Consistent in size, very green color. Heads…heads have closed. U block- smaller heads, very fluffy Inside, lighter green color to the leaf tissue, not as consistent compared to T block."*