



A Practical and Effective Sanitizing Wash for Cantaloupe and a New Monitoring Tool

2026 California Melon Research Symposium

Thursday, January 8, 2026,

Cantaloupe Can Be Challenging

Ongoing outbreaks related to whole and fresh cut cantaloupe

The netted rind provides harborage for pathogens that can contaminate the edible portion

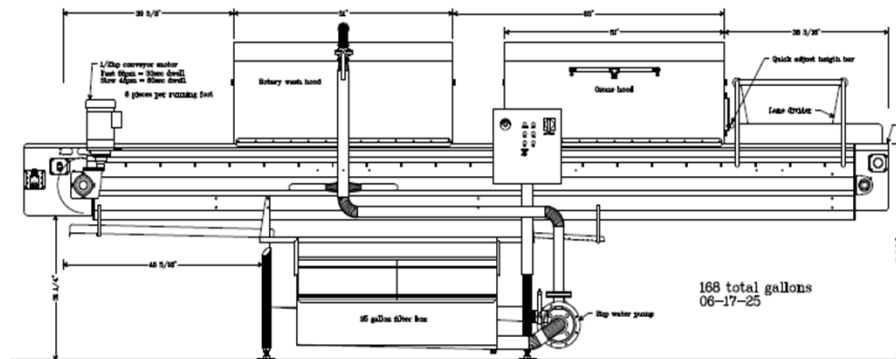
Normal wash system with chlorine and other typical sanitizers are inadequate

Better Processing Options

- USDA reported on the effectiveness of steam and a Nisin based sanitizer which have not gained traction (Ukuku et al 2015 & 2016)
- A “jacuzzi” hot water bath with chlorine @145° F was also inadequate (never reported, 2013)
- Lettuce processing with silver ions presents a new option



Silver Ion Processing Parameters



- Silver ion at 25-30 ppm
- Contact time ~30 seconds
- Ensure complete coverage
- Regulatory required removal with chlorine/chloride treatment
- Protect silver solutions from light
- Avoid wasting chemistry

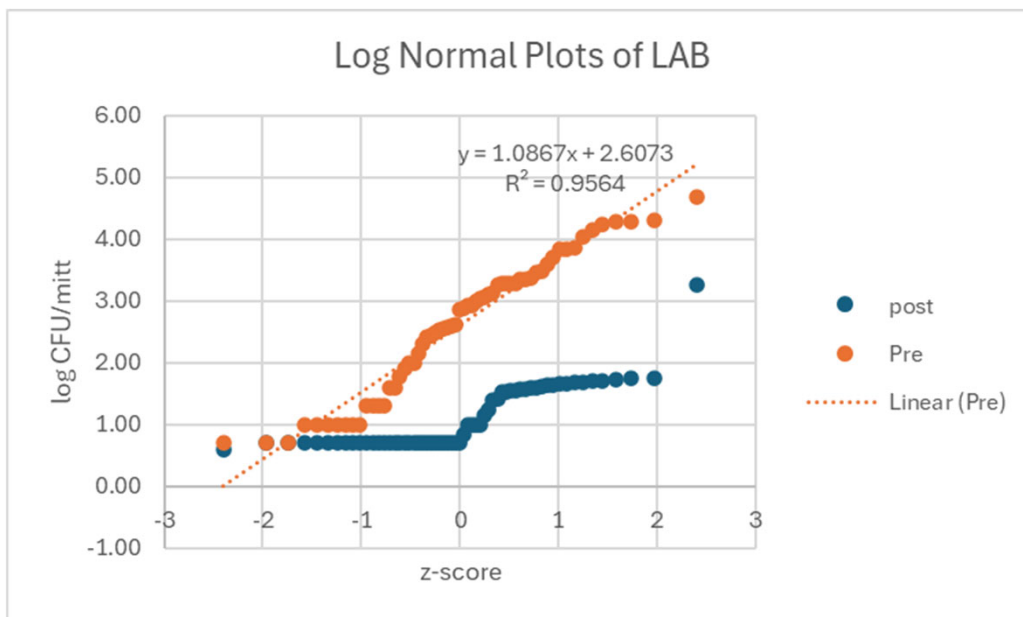
MicroTally® Mitt sampling of Cantaloupe



- Cloth-based sampling is comparable to rinsing.
- 16S metagenomics showed that cloth-based aggregated sampling enhanced the detection of pathogens
- Cloth-based aggregated sampling with MicroTally® Mitt samplers is more efficient, convenient, and non-destructive.
- Studies supported the use of lactic acid bacteria as more resistant proxy for pathogens.

(Zhang et al, 2024)

Verification of Commercial Silver Ion Process



- Sampling/testing from 3/11/2025 to 5/16/2025 generated 61 pairs of pre and post process samples from 21 separate days.
- Each sample was a 5-melon aggregate.
- The expected ~ 1.5 log reduction in LAB was observed.
- It also showed simple pre and post process pairs for LAB are not a simple metric for tracking process performance due to variation.



In Conclusion

- The silver ion process expected to have a large impact on the pathogen has been commercialized.
- Lactic acid bacteria have proven to be a useful natural surrogate that has been found across geographically different sources as well as seasonal times.
- And finally, a cloth-based sampling technique and statistical analysis has been shown to overcome the inherent variation of the natural surrogate in the proposed process at commercial scale.

Acknowledgements



AEMTEK
Laboratories

Analytical Testing and methods development

SmartWashSolutions

the science of food safety

Fruit Boost™ and research support

MicroTally®

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MicroTally® Mitt samplers and sampling support