

Re: Dryer Validation

To Graceland Fruit Customers,

Through studies performed internally and by Summit Laboratory, LLC of the drying operations for Graceland Fruit, Inc. we have determined that they are achieving a thermal profile capable of a 5-Log reduction in pathogens such as salmonella and listeria monocytogenes. The studies performed cover the following operations:

- Frankfort, MI Dry Line 2, (National System) which produces Dried Cranberries *Validated 10/14/16*
- Frankfort, MI Dry Line 3, (Century System) which produces Dried Apples, Dried Cherries, Dried Cranberries, Dried Cultivated Blueberries, Dried Wild Blueberries *Validated 10/14/16*

Study data confirms that the products are heat dried for 100 – 500+ minutes at a temperature range of 71°C – 96.1°C resulting in internal product temperatures of 62.8°C – 89.7°C.

Based on this data our products have exceeded the heat treatment requirement for a 5-log reduction in pathogens, and given their low water activity (less than 0.600) they can be classified as a low risk, shelf stable, safe food product.

There have been no changes to the drying operations that would affect the capability of our operations.

References:

- Penn State Extension, Juice HACCP Resources, Juice HACCP Regulations and Guidance, Process parameters necessary to meet a 5-log reduction in pathogens
- Acidified Foods: Principles of Handling and Preservation 1977 (North Carolina State University, fbns.ncsu.edu/USDAARS/ Acrobatpubs/P322-328/P328)

Respectfully,



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(This statement does not expire and will only be updated if changes are required)