

# Full-Scale, Mixed Load Container Testing with Air Cleaned by Bluezone® Model 2400

*Bluezone's ultraviolet enhanced oxidation technology is a breakthrough approach to air purification; Bluezone kills or converts chemical and biological impurities inside a self-contained reaction chamber using both oxidation and ultraviolet irradiation.*

## Objective

To quantify the effectiveness of the Bluezone Model 2400 in maintaining quality and extending the shelf life of FF&V stored or shipped in mixed loads.

## Methods and Materials

We conducted a side-by-side test of a mixed produce load over a 21 day storage period.

### Configuration

- Two, 8'X8'X20' Refrigerated Containers, each set to 34°F with ventilation sufficient to maintain CO<sub>2</sub> below 1%.
- Mixed produce load of ethylene sensitive and ethylene producing FF&V.
- Temperature, humidity, carbon dioxide and ethylene measurements taken at regular intervals.
- One container with Bluezone, second container without Bluezone.

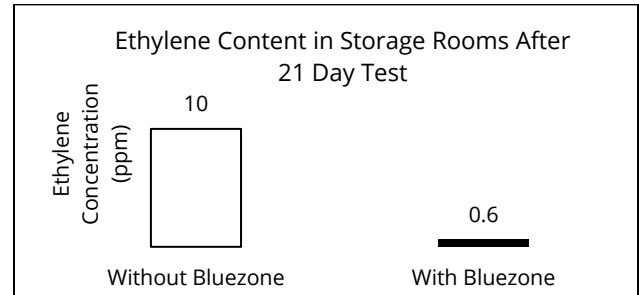
### Duration

- 21 Days of Refrigerated Storage
- 5-10 Additional days of ambient temp storage for specified FF&V

## Test Results for Ethylene

The Bluezone Model 2400 maintained ethylene concentration in the mixed load container at 0.6ppm throughout the 21-day test. Uncontrolled ethylene concentration was 10ppm.

This dramatic reduction in ethylene concentration had a significant impact on the quality of ethylene sensitive produce.



## Test Results for Produce

Produce test results show dramatic differences in produce quality between Bluezone and non-Bluezone mixed load containers.

Produce Category	Effect of Storing with Bluezone
Lettuce	Decreased russet spotting by 78%
Garlic	Reduced cracking by 39%, sprouting by 4% and surface mold by 2%
Asparagus	Reduced red tip by 43%, tip rot by 47%, curved spear by 35% and shrinkage by 76%
Cantaloupe	Reduced stem mold by 28%, surface mold by 55% and decay by 37%
Peaches	Increased firmness by 150%

## Conclusion:

Use of the Bluezone Fresh Preservation Technology significantly improved produce quality in a mixed load test across a variety of ethylene producing and ethylene sensitive FF&V.