

EMSL Analytical, Inc.
Microbiology Special Projects Division
8700 Jameel Rd, Ste 190
Houston, TX 77040

Certificate of Analysis

Client: RD Fresh

Contact: Steve Gerson

Project: Zeolite Product

EMSL NO: 151005908

Start date: December 6, 2010

Completion Date: December 15, 2010

Experimental Summary:

Three refrigerators were set up with replicate samples of Ground Beef (85/15) and unsalted butter to test the efficacy of Zeolite product on extending freshness of refrigerated foods. Unwrapped samples of beef and butter were stored in each refrigerator. One refrigerator served as the "Treated" refrigerator, one as the "Untreated" refrigerator and one as the "Control" refrigerator. All three units were maintained at temperatures between 35 and 41°F (2 and 5°Celsius). Three times per day for four days, the "Treated" and "Untreated" refrigerators were opened until the "Untreated" refrigerator reached 50°F (10°C). At that time, the temperatures of both "Treated" and "Untreated" refrigerators were recorded. The ground beef and the butter samples were tested for bacteria using Aerobic Plate Counts at baseline, Day 1 and Day 4.

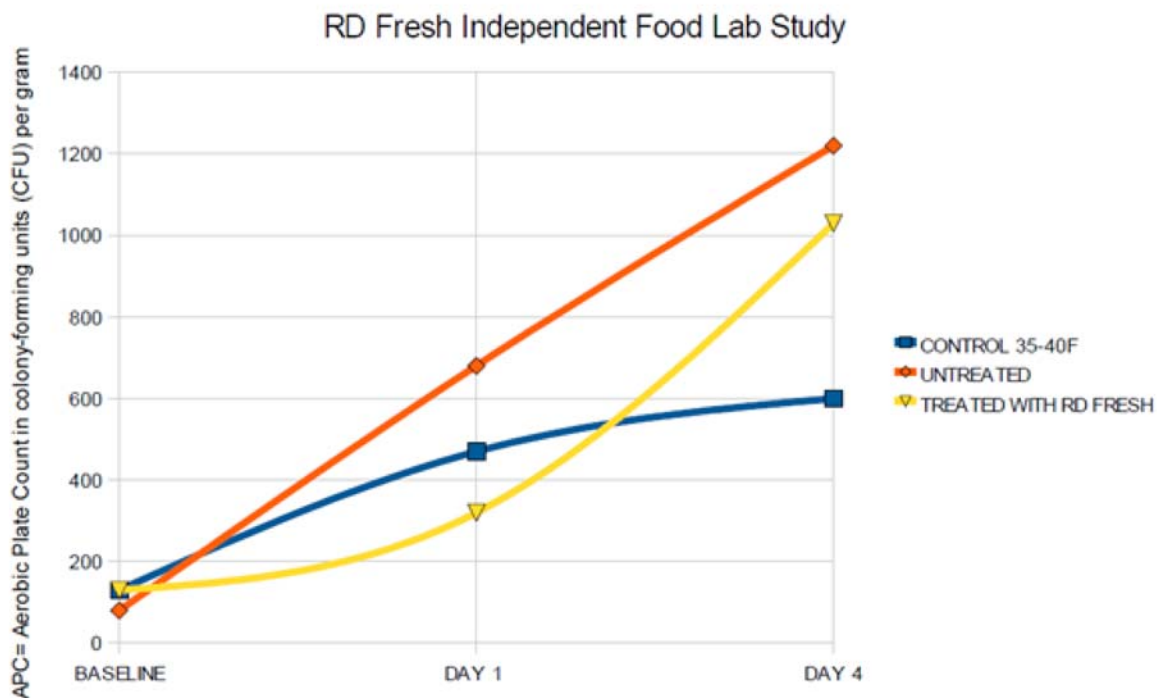
Experimental Results:

Time Point	Test	Control		Treated		Untreated	
		Beef	Butter	Beef	Butter	Beef	Butter
Baseline	APC	3,000	<10	130	<10	80	<10
Day 1	APC	470	<10	320	<10	680	<10
Day 4	APC	600	<10	1,030	<10	1,220	<10

APC= Aerobic Plate Count in colony-forming units (CFU) per gram

Conclusions/Observations:

The bacterial counts for treated and untreated samples are increased at Day 4 of the test, with the untreated sample showing higher counts than the treated sample and both showing higher counts than the control at Day 4. Butter sample counts remained low throughout the test.



Without RD FRESH

8.50x rise in APC Baseline to Day 1 From 80 to 680 APC

1.79x rise in APC Day 1 to Day 4 From 680 to 1220 APC

15.25x rise in APC from Baseline to Day 4

With RD FRESH

2.46x rise in APC Baseline to Day 1 From 130 to 320 APC

3.21x rise in APC Day 1 to Day 4 From 320 to 1030 APC

7.92x rise in APC from Baseline to Day 4

INTERPRETATION:

What the CONTROL REFRIGERATOR shows is a very small rise in bacterial counts - 1.42x rise in APC Day 1 to Day 4, (as expected with the temperature staying below the 40 degree mark). Also as expected, butter, with a much longer natural shelf life than meat, showed no significant change in APC. The CONTROL REFRIGERATOR Baseline count must be considered an error either in count (perhaps 300) or in test protocol (sampled too close to the surface or contaminated by touch). Most of the bacteria proliferation occurs at the outset (day 1) and “treated” or “untreated” any and all foods would eventually spoil finally resulting in a similar APC, so it is to be expected that the graph shows a convergence as the test moved forward.

SUMMARY:

- RD FRESH sample started out with an APC (bacterial count) 1.625x higher (130 to 80) than the sample in the refrigerator without RD FRESH.
- Baseline to day 1 bacteria proliferation is 3.45x (8.5/2.46) higher without RD FRESH than with RD FRESH
- Over a 4 day period, Baseline to day 4 bacteria proliferation is 1.925x higher without RD FRESH than with RD FRESH. (15.25/7.92 - the APC without RD FRESH is almost double that of the APC with RD FRESH). Tests were concluded on day 4 based on the assumption that no food service facility should be keeping ground beef beyond 4 days.

OF NOTE:

Though there is no specific corresponding data relating the APC proliferation to percentages of the transfer of food odors and food tastes, there is no question that odors and flavor are carried by the same moisture molecules that carry the VOC's (Volatile Organic Compounds – nitrogen, ammonia, carbon dioxide, hydrogen sulfide, ethylene) and APC's (Aerobic Plate Count – bacteria).

FINAL ANALYSIS:

Results will vary depending upon conditions present; particular foods, refrigeration temperatures and handling procedures, but regardless of those conditions, RD FRESH will in fact keep food fresher, longer.

**THE SCIENCE OF ZEOLITES IS IRREFUTABLE...
BUT INDEPENDENT TEST RESULTS WERE EVEN BETTER THAN EXPECTED!!!**



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RD FRESH: BERRY TEST REPORT
Mold & Yeast Count (CFU/gram)
CFU: COLONY-FORMING UNITS

REDUCED MOLD & YEAST COUNTS BY 2 AND 3 TIMES!

<u>Product</u>	<u>RD FRESH Day 3</u>	<u>No RD FRESH Day 3</u>
Raspberries	5,100	12,700
Blackberries	36,000	107,000
Strawberries	19,000	39,000
Blueberries	28,000	75,000



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RD FRESH: GROUND BEEF TEST REPORT
Ground beef tested for bacteria proliferation using APC
AEROBIC PLATE COUNTS

REDUCED BACTERIA PROLIFERATION BY ALMOST 50%!

<u>WITH RD FRESH</u>	<u>WITHOUT RD FRESH</u>
2.46x rise in APC Day 1	8.50x rise in APC Day 1
7.92x rise in APC to Day 4	15.25x rise in APC to Day 4

