



hygiena

Rapid Solutions for Food Safety

Level of Detection Chart for Pro-Clean, SpotCheck Plus and ATP Bioluminescence Focus on Supermarkets

PRODUCT	Detected By:			Lowest Dilution Detected:		
	Pro-Clean	SpotCheck Plus	ATP	Pro-Clean	SpotCheck Plus	ATP
<u>Deli/ Meat & Cheese</u>						
Turkey- Deli Sliced	✓	✓	✓	Neat	1:5	1:10
Ham- Deli Sliced	✓	✓	✓	1:5	1:10	Neat
Roast Beef- Deli Slice	✓	✓	✓	1:10	Neat	1:100
Cheese(lowfat swiss)	✓	ND	✓	1:5	ND	1:100
Cheese (provolone)	✓	ND	✓	1:10	ND	Neat
<u>Butcher/ Meat</u>						
Steak Cubes	✓	✓	✓	1:10	Neat	1:100
Chicken (raw)	✓	ND	✓	1:10	ND	1:1000
Fish (raw)	✓	ND	✓	1:10	ND	1:1000
Blood (bovine)	✓	✓	✓	1:100	Neat	1:1000
<u>Bakery</u>						
Bread (sourdough)	✓	ND	✓	Neat	ND	1:5
Pita	✓	✓	✓	Neat	Surface	1:100
Cake (crumb)	✓	ND	✓	1:5	ND	Surface
<u>Produce</u>						
Tomato	✓	✓	✓	Neat	1:10	1:10
Onion (red)	✓	✓	✓	Neat	1:10	1:10
Bell Pepper (green)	✓	✓	✓	1:5	1:10	1:10
Zucchini	✓	✓	✓	Neat	1:10	1:5
Apple (Wash-red)	✓	✓	✓	Neat	1:10	1:10
Apple (Smith-green)	✓	✓	✓	Neat	1:5	1:10
Pear (Colum. Gorge)	✓	✓	✓	Neat	1:10	1:5
100% Orange Juice	✓	✓	✓	1:10	1:100	1:100

Legend

ND = Not Detected

Surface= Only the contact surface (ie; cutting board) where product was processed had positive results

Neat= 25g of product into 225mL of Water

1:5 Dilution= 1ml neat (25g → 225ml PFW) + 4ml (PFW) Pyrogen Free Water

1:10 dilution = 0.5ml neat (25g → 225ml PFW) + 4.5ml PFW

1:100 dilution = 0.5ml of 1:10 dilution + 4.5ml PFW

1:1000 dilution = 0.5ml of 1:100 dilution + 4.5ml PFW

Procedure

This study was performed to determine the level of sensitivity for Pro-Clean, SpotCheck Plus and ATP bioluminescence devices when used with food items purchased at supermarkets. Each food was tested in two ways. The first way was to cut the food item then test the contact surface upon which it was cut. The second way called for the preparation of four dilutions for each item (made according to the legend above- Neat, 1:5, 1:10, 1:100 and 1:1000). 10µL of each dilution was pipetted onto the swab tip of individual devices (ProClean, SpotCheck Plus, and ATP). Following sampling, each device was tested according to specification. Pro-Clean devices were timed for color change for up to 10 minutes. SpotCheck Plus, 1-2 minutes, and ATP devices were inserted into the SystemSURE II Luminometer and read within 1 minute.

*Orange Juice was an exception as it was already in liquid form, therefore Neat was 100% OJ and serial dilutions were performed accordingly.